SCHIZOPHRENIA: FROM THE INSIDE LOOKING OUT

AN EDUCATIONAL INTERVENTION BASED ON THE DYNAMIC INTERACTIVE COGNITIVE AND AFFECTIVE MODEL (DICAM) FOR COGNITIVE RESTRUCTURING AND ATTITUDE CHANGE.

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This thesis is presented for the degree of Doctor of Philosophy of Murdoch University, 1998.
I declare that this thesis is my own account of my research and contains, as its main content, work which has not previously been submitted for any degree at any tertiary education institution.

..............................................

Kerris M. Myers
For

Ben White
I would like to thank the people who have made this work possible.

My chief supervisor, Dr. Simone Volet not only for her enthusiastic and invaluable critical contribution but also for her guidance, forbearance and perpetual good humour; my supporting supervisor A/Prof Ralph Stratton for his patient and meticulous attention to detail; Veronica White for her inspiration and encouragement, her critical theoretical contribution and for proof reading this dissertation; Harriet Pears, Prof. David Andrich, Dr. Alan Honeyman and Dr. Luo Guanzhong for their contribution to the methodology; Prof. Assen Jablensky, Prof. E. Fuller Torrey, Prof. Tim Lambert, Dr. Jeremy Hyde; Anne Deveson, the Schizophrenia Fellowship WA, the Richmond Fellowship WA, the June O'Connor Drop In Centre, A.R.A.F.M.I., LORIKEET Clubhouse and Sandal Wilmot for contributing to my study of schizophrenia; Ben White, David Longworth, Robin Milhouse and my many friends with schizophrenia for sharing with me the experience of their illness; Edith Cowan University, School of Nursing and Rosemary Allen for providing a sample population and making the experimental study possible; Curtin University School of Communication and Cultural studies, Dick Beilby, Tim Lambert, Richard Mahoney, Juliet Ludbrooke and the cast and crew of 'Schizophrenia: From the Inside Looking Out' for their extraordinary generosity and, last but by no means least, my patient and long suffering children, Kitty Myers and Dylan West.
ABSTRACT

Schizophrenia: From the Inside Looking Out.

An educational intervention based on the Dynamic Interactive Cognitive and Affective Model (DICAM) for cognitive restructuring and attitude change.

Despite public education campaigns and academic training, the public in general and mental health professionals in particular continue to embrace beliefs and attitudes towards schizophrenia, which adversely affect people with schizophrenia and their families. This dissertation reports both a personal and an academic journey which led to the development and trial of an educational intervention, a 60 minute documentary/drama, designed to reduce the stigma associated with schizophrenia by generating accurate schizophrenia schemata and equitable attitudes towards people with schizophrenia and their families.

The conceptual model underlying the intervention was initially developed from a synthesis of schema theory and social cognitive theory. The final model, the Dynamic Interactive Cognitive and Affective Model for cognitive restructuring and attitude change (DICAM) was developed and refined during the period of the research. The DICAM proposes an integration of theories of learning, persuasion and attitude change, with recent psychobiological and neurological research findings. Consistent with neuroscientific and biological evidence the DICAM views emotion and emotional information as playing a critical role in the process of rational thought and thus in the formation and change of schemata and attitudes. It proposes that emotional responses are stronger and more memorable than cognitive responses and that they serve as a 'trigger' for more detailed and accurate cognitive responses in both 'on line' and 'memory based' schema and attitude change.
The DICAM also proposes that rapid 'on line' cognitive restructuring and attitude change can be achieved through the technique of 'chaining'.

This technique involves:

a) creating a zone of potential change (ZPC) through cognitive and/or emotional arousal;

b) providing textured repetition of cognitive and emotional data through direct information and simulated experience; and

c) validating that data through further cognitive information and emotional experience.

In addition it is suggested that the dynamic interaction of emotion and cognition produces an effect that is greater than the sum of the effects of either emotional or cognitive strategies when introduced independently.

'Schizophrenia: From the Inside Looking Out', the 60 minute documentary/drama aimed at changing participants' mental representations of schizophrenia (schemata) and their attitudes of social distance, fear, culpability and justice towards people with schizophrenia and their families is an integral part of this dissertation. It is grounded in the theoretical underpinnings of the DICAM, integrating the techniques of screen drama (the emotional component) with the techniques of screen documentary (the cognitive component) in order to provide a dynamic spiral of cognitive conflict and emotional experience which is continually textured, repeated and validated.
This 'integrated' film is designed to present a seamless and persistent, graphic enactment of the equilibration process as it takes place and thus it purports to mirror the actual activity of the human brain as it reacts to incoming sensory data. The 'marriage' of screen genres which it contains is unique, as the 'documentary' source, an academic and clinical psychiatrist chosen for his credibility, also plays the part of the fictional psychiatrist within the dramatic narrative.

The efficacy of the 'integrated' film based on the DICAM was examined in an empirical study, with a sample of 304 student health professionals. The study used an extended Solomon IV group design, with provision for a delayed post-test after a period of nine months. The effects of the 'integrated' film were compared with those of three other interventions: a) a documentary film about schizophrenia based on a cognitive model; b) a drama about schizophrenia based on an affective model; and c) an unrelated documentary which acted as a placebo. These four treatment groups were also compared to a 'no treatment' group.

The effects of these interventions were assessed on both a Knowledge of Schizophrenia Inventory (KOSI) and an Attitudes Towards Schizophrenia Inventory (ATSI), (measuring attitudes of social distance and fear, rights and blame and family culpability). These instruments were specifically developed for use in this study using the principles of Rasch measurement.

Only the 'integrated' film was found to have both an immediate effect and an enduring effect (at the nine-month follow up), on both knowledge of schizophrenia and attitudes towards people with schizophrenia and their families.
The Dynamic Interactive Cognitive and Affective Model for cognitive restructuring and attitude change (DICAM), complements and extends the two current dominant models of attitude change, the Elaboration Likelihood Model (ELM) and the Heuristic Systematic Model (HSM). By acknowledging the central role of emotion in the process of schema and attitude change, the DICAM provides a more comprehensive basis for the development of educational resources designed to combat prejudice and to promote healthy attitudes.

It is suggested that the DICAM may be used to generate effective educational interventions in areas such as moral education, drug abuse, cancer screening, sexual abuse of children, racial prejudice and attention deficit disorders. It is also suggested that the DICAM may be used not only as a model for attitude change but as a model for education in its broadest sense.

Keywords: Schizophrenia, Attitude Change, Video Intervention.
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CHAPTER 1. INTRODUCTION

I have decided to write selected passages of this dissertation in the first person because the conceptual model that I have developed and the intervention that is based upon it are the culmination of both an academic and a personal journey. I want to describe that journey as simply as possible so that other people, people who are not necessarily scholars or academics, people who are not necessarily experts or habitual readers and even people who are not necessarily sane, can follow it. I have spent seven years working out why, despite enlightened policy and extensive public education campaigns, certain groups of society remain marginalised and stigmatised and what, if anything, can be done about it. The results of that study are a conceptual model for attitude change and an educational tool based upon it.

The model is called the DICAM (the Dynamic Cognitive and Affective Model for cognitive restructuring and attitude change) and the 'tool' is a film. Throughout the text the film is referred to as the 'Integrated' film, integrated because it combines cognitive and emotional strategies of persuasion in an integrated whole. It is a 60-minute documentary/drama titled, 'Schizophrenia: From the Inside Looking Out'. I have tested the film and it works. I want everybody to be able to understand why it works, so that more programs will be made based upon the model; programs which may be used to generate accurate knowledge and promote fair and realistic attitudes towards other marginalised or misunderstood minority groups.

Four years ago I knew nothing about schizophrenia. Then I met someone whose life was decimated by it. She wasn't ill herself but her son was, and still is. I started my research and what I found was stigma, ignorance, fear and misunderstanding, not
only in the community but also among mental health professionals themselves. I found that even people with a good current factual knowledge about schizophrenia were poor at empathising with the people directly affected by the illness and that they had little concept of what it was actually like to suffer from the illness.

Common myths such as 'people with schizophrenia have split personalities', 'people with schizophrenia are violent and dangerous', 'schizophrenia cannot be treated', 'true schizophrenia is a rare illness', 'schizophrenia is a psychosocial disorder', and, 'schizophrenia is caused by bad parenting' remain prevalent and are remarkably resistant to extinction. This lack of basic knowledge about schizophrenia has led to misunderstanding and avoidance. A corresponding lack of understanding and consensus within the medical profession itself has served to compound the problem.

Books, magazine articles, lectures and television documentaries have had limited impact since they tend to attract only those people who are already committed or interested. I decided that if a wider audience was to be sought and an attempt made, not only to raise public awareness of the realities of the disorder but also to create a substantial change in attitudes towards those affected by the disorder, then a powerful and palatable method needed to be devised and tested.

I have spent over 20 years making film and television programs, the majority of which were specifically designed to promote psychological and emotional health. More recently I have been involved in researching educational models for integration and attitude change. Most recently I have studied schizophrenia. I decided to combine my academic study with my professional expertise in order to create a new and unique educational tool designed to reduce the stigma attached to schizophrenia.
Schizophrenia is the leprosy of the 20th century.

It lurks in closets and behind closed doors:

feared - avoided - misunderstood

Schizophrenia is a disease of the brain
which produces the symptom:

madness

Madness is a very bizarre experience.

This documentary drama will take you on a journey into madness.

A journey you will not be able to forget.
A journey you will not be able to dismiss,

as you experience

Schizophrenia:
From The Inside Looking Out
(A Journey into Madness)
Historically public education campaigns to demystify mental illness have had limited impact because they have tended to focus only on facts: cognition. I believe that the apparent success of 'Schizophrenia: From the Inside Looking Out' in replacing ignorance and fear with accurate knowledge and equitable attitudes lies in its scientific marriage of emotional experience and accurate information.

What it does is to recognise the overriding importance of emotion, not only in the formation of attitudes but in the whole process of thinking and learning.

It was my emotion that started me on this journey. This dissertation, like the educational model that it describes, will be an integration of emotional (personal) experience and cognitive information. Hopefully this interaction of cognition and affect will make the dissertation itself as powerful and persuasive as the model which it reports.
'What consoles me is that I am beginning to consider madness as an illness like any other, and that I accept it as such.' (Van Gogh 1889)

Stigma and Mental Illness

In 1993 a Commonwealth of Australia Government Report on Community Attitudes to Mental Illness concluded that knowledge and understanding of mental illness is extremely shallow; that there is 'considerable confusion and ignorance' about what constitutes mental illness; and, according to the authors of the report, mental illness is not a subject that people are anxious to discuss:

"There is almost a wall of silence about this issue. The consumer tries to keep it secret, the public would rather not discuss it, the employer keeps it out of the workplace, and the issue has been conspicuously ignored in our social and political institutions.... In conclusion, the negative attitudes surrounding mental illness are causing as much misery as the conditions themselves. There is an urgent need to break down the misconceptions and misinformation that currently prevail." (Australian Government Report, 1993 p.6 & 9).

In 1994 a British study of the fear associated with schizophrenia reported that:

'A substantial minority of both professional and lay people have negative and rejecting attitudes towards the mentally ill.' (Levey and Howells, 1994 Abstract)...(and)...'Negative attitudes towards the mentally ill are likely to find expression not just in the behaviours of the public and mental health professionals, but also those of policy makers, and those who fund psychiatric services.' (Levey and Howells, 1994 p.321)

It would seem little has changed in the twenty years since Judith Rabkin's (1974) excellent and comprehensive review of the literature on attitudes towards mental illness, which she introduced with the words:

'Mental patients have for years been regarded with more distaste and less sympathy than virtually any other disabled group in our society, and in fact their handicaps are partly attributable to public attitudes of rejection and avoidance.' (Rabkin, 1974 p.10)
Rabkin in turn was pointing out that very little had changed in the twenty years since the extensive surveys conducted in the 1940's and 1950's by Ramsay, Seip (1948a, 1948b) and Nunnally (1961).

**Causes of Stigma: Denial and Fear**

The reasons given for the rejection and avoidance of the mentally ill have also undergone little change over the past fifty years. Nunnally (1961), Rabkin (1974), the Commonwealth Report (1993) and Levey and Howells (1994) all emphasise denial and fear. People see mental illness, particularly schizophrenia, as a fearful thing that is alien and rare, something that could not possibly happen to them.

Levey and Howells (1994, 1995) who focus primarily on Schizophrenia, emphasise public fear of the schizophrenic person as the major factor in attitudes of avoidance, rather than fear of the illness itself. In their 1995 study, they found that people with schizophrenia are typically perceived as being 'dangerous, unpredictable and different'. They allege that,

> 'Schizophrenia is, in general, associated with violent and dangerous behaviour. (Levey and Howells, 1994 p.321)

an association which they demonstrate, is not supported by empirical evidence. It is their contention that rejecting attitudes towards people with schizophrenia are not simply based on inaccurate knowledge (cognitions) but that in addition to the cognitive component of the attitude (in this case the belief that people with schizophrenia are dangerous), there is a powerful and persuasive emotional component (in this case, fear) (Asch, 1976; Levey and Howells, 1994, 1995).
These two concepts: the inability or unwillingness of other people to identify with people suffering from schizophrenia; and, the interdependence of cognition and emotion in determining attitudes towards schizophrenia, are fundamental to the conceptual model developed in this study.

Inaccurate Cognitions

The inaccuracy and inadequacy of public knowledge about schizophrenia has been well documented (Douglas, 1992; Furnham and Bower, 1992; Barrowclough & Tarrier, 1992; Monahan). For example: in a 1984 study conducted by the Field Institute for the California Department of Mental Health, which surveyed a random sample of 1,500 representative Californian adults, 61 per cent of the sample maintained that,

'a person diagnosed with schizophrenia was more likely to commit a violent crime than a 'normal' person'. (Monahan, 1992);

In her study of 143 college students, Douglas (1992) found, that a significant majority of students still believed aggression, violence and multiple personalities to be predominant symptoms of schizophrenia and, that fewer than half the students thought drug therapy to be indicated as a treatment option; Furnham and Bower (1992) in a study of 106 subjects found a comparable ignorance of the medical model of schizophrenia and a similar rejection of drug therapy in favour of psycho-social treatments; Barrowclough and Tarrier (1992) found that a significant proportion of families of people with schizophrenia still experienced blame from others and often themselves felt guilty for causing schizophrenia in their relative. They also found that a significant proportion of families allocated blame to the person with schizophrenia for his or her illness; and finally, the pilot studies for the DICAM, conducted in 1995
and the pre-test scores for the experimental intervention, conducted in 1996, all confirm that the inaccurate perceptions of schizophrenia, outlined above, remain prevalent.

**Academic Discord**

This lack of accurate knowledge on the part of the public is hardly surprising since the history of the illness has been marked by a consistent lack of consensus as to diagnosis, course and treatment, within the medical profession, psychology and academia in general (Walsh, 1985; Gelder et al, 1989; Gottesman, 1991). Both Irving Gottesman (1991), in his comprehensive text 'Schizophrenia Genesis', and Gelder and his colleagues in 'The Oxford Textbook of Psychiatry', trace the conflicting theories governing the cause and treatment of schizophrenia throughout history, while Mary Ellen Walsh (1985), in her extremely readable book, 'Schizophrenia: Straight talk for Families', graphically describes the ongoing confusion that people with schizophrenia and their families face as a legacy of this academic discord. Despite differences in method the aim of all three texts is to re-evaluate the psychoanalytic and environmental theories which burgeoned in the sixties (Szasz, 1960; Laing, 1965) and replace them with the medical model of Schizophrenia. A model which, while recognising the important and complementary contribution of psychotherapy in the control and treatment of schizophrenia, regards the illness essentially as a chemical disorder with genetic implications, requiring chemical treatment.

A review and analysis of the history, diagnosis, cause, course, and treatment of schizophrenia can be found in Appendix A. The academic and scientific controversy that has raged between the proponents of the psychodynamic model and the
proponents of the medical model\(^1\) of schizophrenia is by no means over and the effect on public perceptions of schizophrenia continues. For people with schizophrenia and their families, perhaps the most damaging and confusing aspect of the academic discord, lies in arguments concerning the aetiology (causes) of schizophrenia.\(^2\)

**Message Certainty vs Accuracy**

The only absolutely sure statement that can be made about the aetiology of schizophrenia is that we do not know exactly what causes it. This is unfortunate given that the object of this research is to create a model for attitudinal change and that the importance of message certainty in influencing opinions about the mentally ill has been well established for over two decades (Nunnally, 1960). On the basis of six years of research by a team of highly qualified investigators Jum C. Nunnally concluded:

> The more certainty with which mental-health information is stated, the more favourable will be the attitudes towards concepts related to the message.... The destruction of information about mental illness without supplying new information results in negative attitudes towards related concepts ' (Nunnally, 1961 p. 164-5).

The dilemma is obvious: to be cautious in making statements concerning the nature and cause of schizophrenia is to invite public attitudes of fear and uncertainty; to be brazen, as were the psychodynamic theorists of the fifties and sixties, is to risk creating myths as resistant to extinction as Frieda Fromm-Reichman's (*1948*) *schizophrenogenic mother*.

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\(^1\)This research recognises the medical model of schizophrenia which is reviewed in Appendix A part 5.

\(^2\)The following section (5 paragraphs) is reproduced in Appendix A. Part 4. Aetiology.
Popular Misconceptions

It is thus acknowledged that the aetiology of schizophrenia is by no means 'set in stone'. As Irving Gottesman puts it in his excellent and definitive text on the genesis of schizophrenia,

By the time Kraepelin wrote the final (eighth) edition of his textbook in 1913, he had concluded that the causes of dementia praecox were wrapped "in impenetrable darkness". Such a balanced perspective did not protect the field of schizophrenia research from subsequent extremist pronouncements about the causes of schizophrenia, but three quarters of a century worth of data gathering have made the darkness much less impenetrable (Gottesman 1991 p.82).

Current research is based on far more than the 'educated guesses' of such popular theorists as: Trude Tietze (1949) who concluded that schizophrenia was caused by overanxious and obsessive mothers; Thomas Szasz (1960), who claimed schizophrenia to be a fake disease invented by psychiatrists; R.D. Laing (1965), who suggested that schizophrenia was the healthy reaction of the individual to an insane world and Gregory Bateson who, with Don Jackson, Jay Haley and John Weakland was responsible for the "double-bind, communication deviance" theory, about the cause of schizophrenia (Bateson et al, 1956). This theory alleged that the 'damned if you do and damned if you don't' method of communication, whereby children received ambivalent messages from their parents, literally drove them to schizophrenia. Despite the fact that this hypothesis was never empirically tested, it was accepted, seemingly without question, by a majority of clinicians, i.e.,

', by two generations of mental health professionals who proceeded to blame the family (especially the mother) for causing the disease' (E. Fuller-Torrey 1988 p.378).

The concept of parents as 'psycho-vermin' (Walsh, 1985) persists to this day. It was
the opinion given to this researcher in March 1994 by a senior teaching psychiatrist who currently controls the funding for a large proportion of schizophrenia research in Western Australia. It has been disproved but not entirely discredited. This is despite two decades of campaigning by self-help organisations such as the National Alliance for the Mentally Ill (NAMI), the Association for the Friends and Relatives of the Mentally Ill (ARAFMI) and the various Schizophrenia Fellowships around the world to promote a medical, as opposed to psychosocial, model of schizophrenia.

Contemporary Perception of Schizophrenia (Medical Model)

Schizophrenia is a disease of the brain. It has a biochemical component as demonstrated by the success of neuroleptic drugs in reducing positive symptoms. It may have other neurological and physiological components to be revealed through ongoing research such as PET, CT scanning and post mortem pathology\(^3\) and it is heavily influenced by both genetic and environmental factors. Why it is that 99 per cent of the population do not develop schizophrenia even when they are exposed to severe life-threatening or ego-shattering experiences and why it is that 54 per cent of children with two schizophrenic parents do not themselves develop schizophrenia, is not yet known. It can only be concluded that,

'..based on the cumulative credible evidence, a large, rather specific, and important genetic factor, in conjunction with putative, unspecified nongenetic factors in most cases, leads to the development, over varying lengths of time, of varying severities of schizophrenia' (Gottesman, 1991, p.216).

\(^3\) See Appendix A, part 5. The Medical Model.
Influence of the Media

The effect on public perceptions of schizophrenia of the long history of professional discord described above, has been exacerbated by a proliferation of inaccurate representations in film, television and popular fiction (Gabbard and Gabbard, 1992; Linter, 1979; Fuller-Torrey, 1988). Some classic examples are: 'I Never Promised you a Rose Garden' (Green, 1964), 'All about Eve' (20th Century Fox, 1957), 'One Flew over the Cuckoo's Nest' (United Artists, 1975) and 'Body of Evidence' (Cornwell, 1991). A content analysis performed for the National Institute of Mental Health in 1981 (Gerbner et al, 1981) found that:

'17 per cent of all prime time American television programs classified as dramas depicted a character as mentally ill, 73 per cent of these mentally ill characters were portrayed as violent compared with 40 per cent of the "normal" characters, and 23 per cent of the mentally ill characters were shown to be homicidal, compared with 10 percent of the "normal" characters.' (Monahan, 1992 p.192)

The print media are equally inclined to sensationalised and biased reporting. In a content analysis of stories from the United Press International database Gerbner and his colleagues (1981) found that:

'In 86 per cent of all print stories dealing with former mental patients, a violent crime, "usually murder or mass murder" (p.64), was the focus of the article.' (Monahan, 1992 p.192)

Despite the fact that the proportion of arrests for violence by people with schizophrenia has been estimated at less than 2 per cent of the total (Phillips et al, 1988) and that the risk of assault by someone with schizophrenia is considerably less than the risk posed by someone abusing substances (Swanson et al, 1990, Hodgins, 1992), Furnham and Rees (1988) found:
'a significant relationship between beliefs of dangerousness, amorality, egocentricity and vagrancy with an explanation of backwardness, which indicates that the (common) view of schizophrenia as stemming from 'low intelligence' and attentional deficits is preceded by a full range of negative beliefs.' (Furnham and Rees, 1988 p.21)

Studies which show the media to have a negative effect on perceptions of schizophrenia (Levey and Howells, 1994; Gabbard and Gabbard, 1992) attribute this partly to the tendency of the news media to sensationalise the bizarre, but comparatively few, crimes committed by schizophrenics; and partly to the fact that madness is seen as 'scary' (as evidenced by the 'denial' found in the Australian Government report, 1993) but 'intriguing', i.e., containing a tantalising element of personal risk. It therefore continues to be a profitable subject for popular fiction and screen drama. As Levey and Howells report:

'Media portrayals of violence and mental illness are likely to promote a perceived correlation between schizophrenia and violence because the media considerably over-report instances of violent crime relative to its true incidence in the criminal statistics (Home Office, 1989) and feature mentally disordered offenders to a disproportionate extent (Shian and Phillips, 1991). The media also tend to portray the mentally ill in negative and stereotypical ways (Hyler et al. 1991), overemphasising bizarre symptoms (Nunnally, 1961) and characterising them as violent and unpredictable (Gerbner et al., 1981; Appleby and Wessely, 1988; Signorielli, 1989).' (Levey and Howells, 1994)

This paves the way for a popular novelist like Patricia Cornwell to make it a 'schizophrenic' who has perpetrated the grisly and bizarre murders being investigated by her heroine, Dr. Kay Scarpetta, in 'Body of Evidence' (Cornwell, 1991); or for a movie company like 20th Century Fox (1957) to develop the extraordinary 'schizophrenic' character of Eve Black (and Eve White), who is not in fact 'schizophrenic' at all. It is symptomatic of media influence that the term 'schizophrenic' is used colloquially to mean 'split personality' despite the fact that a split personality is not, and never has been, a symptom of schizophrenia.
Split Personality: The Most Common Myth

It was Eugene Bleuler, Director of the Burghozi Clinic in Zurich at the beginning of this century, who re-named the disorder ‘Schizophrenia’, which literally means a splitting of the mind. Bleuler observed a loosening of mental associations in his patients and saw this fragmentation or disordering of thought processes as fundamental to the illness (Bleuler, 1911). His choice of the term schizophrenia was intended to denote the splitting and separating of normally integrated psychic functions. Later, and more poetically, R.D. Laing was to call it a ‘breaking of the soul or heart’. He referred to people with schizophrenia as literally "broken-hearted" (Laing, 1967). Unfortunately the misinterpretation of this concept has led to this most persistent myth in the history of mental illness i.e. that people with schizophrenia have a split or multiple personality. They do not (Gottesman 1991).

Public vs Professional Opinion

Three recent studies (Wahl, 1987, Furnham & Rees, 1988, Furnham & Bower, 1992) provide empirical evidence of continued public adherence to the popular myths surrounding schizophrenia. Wahl (1987) measured the strength of belief indices for symptoms and causes of schizophrenia, comparing the responses of 313 first year psychology students, 199 police officers and 30 middle class citizens with those of 18 doctoral level clinicians (psychiatrists and psychologists). Furnham and Rees (1988) surveyed 120 lay subjects on, 'Common Beliefs about Schizophrenia' and 'The Causes of Schizophrenia' while Furnham and Bower (1992) surveyed a further 106 lay subjects on, 'Common Beliefs about Schizophrenia'. All three studies demonstrated that, while academic and professional opinion now favours the medical model of schizophrenia as a diathesis stressor disease, characterised by neuro-chemical
imbalance, generally requiring drug therapy, i.e., a psycho\biological disorder, the
general public continues to conceptualise schizophrenia as a neurotic or emotional
disorder caused by social and environmental factors, requiring psychosocial treatment.

As a consequence people with schizophrenia are not necessarily afforded the
automatic compassion bestowed upon the purely 'physically' ill, physical illness
traditionally being accepted as being 'beyond the control' of either the sufferer or his or
her family. Of 487 family members surveyed by Wahl and Harman (1989) over 56
percent identified prejudicial attitudes as having a significant negative impact on
their lives.

In summary, it appears that the condition called schizophrenia is well known, (The
Australian Government report, 1993) found a 62 per cent awareness of schizophrenia)
but not well understood (Cheng et al, 1992; Penn et al, 1994; Bhugra 1989; Rabkin
1974; Wahl 1987). A lack of factual knowledge on the part of the public and overt
disagreement on the part of professionals, combined with misrepresentations of the
illness in the media, entertainment industry and popular fiction (Nunnally 1961;
Hyler et al, 1991, Wahl & Harman 1989) has given rise to a number of misconceptions
about the illness, most common of which are: that people with schizophrenia have split
or multiple personalities; that schizophrenia is caused by bad parenting; that
schizophrenia cannot be medically treated; that schizophrenia is usually treated with
shock therapy; and, that the majority of people with schizophrenia are unpredictable
and violent (Walsh 1985; E. Fuller-Torrey 1988; Monahan 1992; Furnham & Bower
Attitudes and Schemata

Levey and Howells (1994, 1995) suggest that misconceptions about the symptoms and causes of schizophrenia may well correlate with negative attitudes and rejecting behaviour. As mentioned earlier, attitudes are conceptualised as having both a cognitive and an emotional component (Asch 1987), broadly speaking, they are based upon what people know (or think they know), about a phenomenon and their personal integration of that knowledge, perception or belief. This research assumes that people's attitudes towards those who suffer from the illness schizophrenia are based upon a summary evaluation of their own 'schizophrenia schemata' or internal representation of schizophrenia, i.e. their knowledge and beliefs about the illness including its aetiology, diagnosis, treatment and prognosis (Rabkin 1974; 'Anonymous' in Schizophrenia Bulletin 1983.9.152-155; North 1988; Leete 1992; Murphy et al, 1993).

An analysis of what this research understands by the terms 'attitude' and 'schema' (plural 'schemata') can be found in Ch.7. where, after discussion, the following definitions are offered:

'An attitude is a mental and neural state of readiness, organised through experience, exerting a directive or dynamic influence upon the individual's response to all objects and situations to which it is related'. (Allport, 1935)

Schemata are dynamic knowledge structures which represent past experience, respond to new information and change accordingly. (adapted from Anderson, 1977; Rummelhart and Ortony, 1977)
Prejudicial Attitudes

The Burdekin Report into Human Rights and Mental Illness (Commonwealth Govt. 1993) corroborated the findings of Fink and Tasman (1992) and Berkowitz and his colleagues (1984) that people with schizophrenia are stigmatised. Presumably, this is because a majority of other people have schizophrenia schemata that result in attitudes of excessive fear and avoidance ('Anonymous' in Schizophrenia Bulletin 1980; Douglas 1992; 'Anonymous' in Fink & Tasman 1992; Penn et al 1994). Fear leads to prejudice and prejudice to stereotyping. This is exacerbated by the fact that while few people have, or know they have, direct experience of people with schizophrenia, most people have considerable experience of the distorted images of schizophrenia presented in the media, cinema and popular fiction. An excellent analysis of the fear and avoidance associated with schizophrenia can be found in Levey & Howells (1994) 'Accounting for the Fear of Schizophrenia'. In examining the effect of prejudicial attitudes towards people with schizophrenia both on the part of the general public and mental health professionals they conclude that:

'Prejudicial attitudes affect the individual with a mental illness both directly (in that they shape the social climate in which s/he lives) and indirectly through their influence on behaviour including the creation of mental health laws and Government policies, and the provision of funds for the care of the mentally ill.' (Levey & Howells 1994 p.322)

Attitudes and Emotion

So far, this chapter has focused on perceptions of schizophrenia that have resulted in negative attitudes. Because attitudes have a strong emotional component and because emotion is not always totally rational, it does not necessarily follow that accurate knowledge will always produce realistic attitudes. In a brief review of the 'contact hypothesis' (Amir, 1969) which holds that contact with people from
marginalised groups reduces prejudice by transforming the stereotypical relationship into a personal one, Levey and Howells (1994, 1995) found that mental health professionals, who are in regular contact with the mentally ill, often share the fearful and rejecting attitudes of the general public. This has a particular impact on people with schizophrenia and their families. The attitudes of mental health professionals will be reviewed in Ch.4. The Target Population.

The conceptual model offered in this dissertation recognises that, despite intensive educational campaigns to reduce fear and stigma, people with schizophrenia and their families are adversely affected by the beliefs and attitudes towards schizophrenia of the public in general and mental health professionals in particular. Levey and Howells (1994) point out that the major problem with most programs designed to promote community tolerance of the mentally is that they focus purely on the cognitive component of attitudes but that as Asch (1987) suggests, it is the emotional, rather than the cognitive component of attitudes which explains their persistence and resistance to change. The present research investigated a solution to that problem: a solution which proposed to create an intervention for cognitive restructuring and attitude change which addressed all three components of attitude as outlined by Asch (1987): cognitive, emotional and behavioural.

'T Realistic' as opposed to uniformly 'Positive' attitudes

It should be noted that stating an intention to change people's attitudes towards schizophrenia is not tantamount to stating an intention to replace assumed negative attitudes with positive ones. Schizophrenia is not pleasant and many of the behaviours associated with it are not pleasant. This research contends that most
people are ill informed about schizophrenia and that they have some attitudes and beliefs which are based upon misconceptions, misinformation and myth. Those attitudes and beliefs lead to unreasonable and unrealistic expectations

some of which are negative:

"people with schizophrenia are violent and dangerous";

some of which are positive:

"people with schizophrenia just need love and care to get better and fulfil their potential";

and some of which are neutral:

"people with schizophrenia have split or multiple personalities";

but all of which are wrong.

The aim of this research was for the illness to be accurately perceived but because it is an unpredictable and often unlovely disorder there was no expectation that attitudes of avoidance would be completely dispelled.

In Conclusion

In this study, the intervention (Schizophrenia: From the Inside Looking Out) was designed to promote the growth of an accurate schizophrenia schema in the individual participant whatever his or her current schema happened to be.
By giving participants an accurate factual profile of the illness and an opportunity to experience what it is like to have the disorder or to live with someone who has it, this research proposed: that where there was fear it would be replaced with compassion, where there was anger it would be replaced with tolerance, where expectations were unrealistic and demands unreasonable they would be replaced with realistic expectation, and where there was myth it would be replaced with truth.

This personal and somewhat emotional ending to what has essentially been an 'academic' chapter is deliberate. As indicated in the introduction, this dissertation recognises the role of emotion as being fundamental to the equilibration process both in terms of arousal and experience.

That the key to attitude formation and attitude change lies in emotional experience, whether direct or vicarious, is the first fundamental theoretical tenet of the conceptual model reported in this dissertation. That emotional experience is in a dynamic and ongoing interactive relationship with cognition is the second and that both require validation, either by further confirming experience and/or authentication by an undisputed expert is the last. The rest is a conceptual analysis of how to harness these tenets and apply them in a functional educational tool.
CHAPTER 3. A PERSONAL JOURNEY 1. THE HEAD

"The emotions of prejudice are formed in childhood while the beliefs used to justify them come later.... Later in life you may want to change your prejudice, but it is far easier to change your intellectual beliefs than your deep feelings" (New York Times. May 12th, 1987)

EQUITY

The impetus for this research sprung out of a three-year study of the integration of multiply disabled children into regular schools1. This might seem a far cry from a dissertation which focuses on changing people's schizophrenia schemata2,3 and attitudes towards people with schizophrenia and their families, by asking them to watch a film but, though the route was circuitous, the underlying principles proved to be the same.

In most countries, by law, all children are entitled to be educated at their local school and it is stated Education Department policy, in most countries, that disabled children have the right to be educated alongside their regular peers, however, in most cases they are not and such a practice is perceived to be extraordinary by most people (Myers, 1992).

Despite the law, despite the policy and despite extensive campaigns by government and non-government groups to educate the public about disability, what I found both in and out of the school community was that:

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2Throughout this text 'schema' will be used as the singular and 'schemata' as the plural. Thus, a person's schizophrenia schema is made up of a number of schemata.

3Schemata are dynamic knowledge structures which represent past experience, respond to new information and change accordingly (Anderson 1977; Rumelhart & Ortony 1977).
(a) people were ignorant and misinformed over basic facts;
(b) even where they were correctly informed their attitudes frequently did not reflect their intellectual knowledge; and
(c) their attitudes were markedly affected by any perceived cost to themselves.

Social Policy and Attitudes
The empirical evidence provided by my research into integration made three things very clear to me: changing laws and/or policy does not change attitudes; factual education alone is insufficient to change attitudes and, attitudes are frequently emotional and irrational (Asch, 1987).

Attitudes are the product of an interactive combination of knowledge and (emotional) experience (Asch 1984). A formal discussion and definition of 'attitudes' can be found in Ch. 7., what I want to make clear at this point is, that there is a functional difference between 'knowing' something to be true and believing it to be the truth. For example: while almost all people from policy makers to people in the street, seem to acknowledge integration to be the 'best' alternative for multiply disabled children, they still did not accept it as a 'real' alternative and, despite the fact that it is official educational policy in most Western countries, by and large, it doesn't happen.

Why? Because people's perceptions of what is normal and appropriate for multiply disabled children appear to be governed by schemata based in a historical tradition of segregation and avoidance, added to which, multiply disabled children can't do what other children can do and therefore they were not perceived to need (or deserve?) what other children need (Myers, 1992).
I could not ignore the fact that the people who were most committed to equity for disabled children were people with disabled children nor could I ignore the fact that other people were prepared to support integration only up to the point where it threatened to command resources that might otherwise be allocated to themselves or their own 'normal' children.

As Levine and Campbell (1972) point out in their discussion of realistic conflict theory, prejudice⁴ is ultimately a question of economics and scarcity of resources. The concept of distributive justice which is rooted in Hobbes' (1651) Social Contract, does not come naturally to people. Hobbes maintained that human beings are not born equal and that men are basically selfish and aggressive. He argued that in order to achieve a just society or even a modicum of equality, man's natural tendency to look after himself and his 'people' had to be curbed by some type of external power. This 'power', representing law and order in Hobbesian terms would be an agreed authority hence the Social Contract. Without social organisation, Hobbes claimed, that men would live in a state of self satisfaction and war; that they only form political societies with rules and norms because it is to their advantage to do so not because they are gregarious or altruistic; and, that without the agreed upon rules and regulations concerning conduct, human existence would be characterised by:

'continual fear and danger of violent death; and the life of man (would be) solitary, poor, nasty, brutish and short'. (Hobbes, 1962 (1651) p.100)

My experience with integration convinced me that changing laws and policies does not change attitudes. It also demonstrated that attitudes were functionally more powerful

⁴A discussion of what is meant by 'prejudice' can be found in Chapter 6.
than law or policy. I concluded that perhaps the only way to reduce stigma and prejudice was through social change and that the optimum way to achieve social change was through individual attitude change. This was somewhat nebulous. It is all very well to deplore attitudes that appear negative or unfair but if I was to develop and test a model for attitude change, I would need to be very specific as to what attitudes were to be generated in their place.

Defining the Goal: Equity (Social Change through Attitude Change)

Concepts of justice and fairness are problematic, as the current (1997) divided reaction to the inflammatory Australian politician Pauline Hanson makes only too clear. Is it 'fair' to give more to Aborigines, or to the mentally ill, or to any other disadvantaged group? Shouldn't everybody get the same?

Deutsch (1975) identified three different interpretations of fairness: equality, need and equity (rewarding people in proportion to their effort). Pure communism as inspired by Karl Marx claims that the first interpretation, 'equality', can be achieved by a combination of the other two:

"...from each according to his abilities, to each according to his needs" (Marx [Criticism of the Gotha Program])

It is difficult to argue with such a good idea but unfortunately history has shown that Hobbes was probably a better judge of human nature than Marx, because, in my view, all attempts to put Marxist communism into practice have led to massive oppression, with power and resources being controlled by a small minority group, as for example, in the former Soviet Union and the 'People's' Republic of China.
I don't intend to digress into a historico-political discourse. My point is, that in aiming for social change through attitudinal change I am not aiming for equality. People aren't born equal, but they are born integrated (Fullwood 1990). They are also born with varying needs and varying abilities to meet those needs. Equity recognises that people are born different, it adjusts for different needs but still expects some contribution, however limited that contribution may have to be. Thus equity recognises that nobody can do everything but that everybody can do something and that that 'something', however small or large, is all that should be required for that person's needs to be met, however great (proportionally) those needs may be. Equity and stigma cannot co-exist because equity assumes that being treated as a socially acceptable human being who is not to be blamed or punished for his or her disability, whether physical or mental, is a fundamental human need. It further assumes that meeting that need is our collective social responsibility.

I am a practical person. My approach to a problem is to find a practical solution. My perception was, that through no fault of their own some minority groups in society are adversely affected by the attitudes of the majority and that those attitudes needed to be changed in order to achieve equity. How was I to achieve this modest ambition? 

Moral Education

Well I wasn't going to be able to do it all at once. Although I did spend almost a year studying Moral Development and Moral Education in the hope of devising a blanket curriculum that would end up making everybody moral and thus achieve a just society. I changed direction because I became emotionally involved with the study of schizophrenia but I remain convinced that morality can and should be taught in schools.
The conceptual model for cognitive restructuring and attitude change reported in this dissertation is eminently suited to generating potent and persuasive educational interventions and I hope, in the future, that it will be used to develop powerful and effective tools for moral education. Aiming as it does to precipitate, facilitate and accelerate the process of equilibration, it might well be used to accelerate the progression through stages of moral reasoning as outlined by Piaget (1932) and Kohlberg (1969), in order to achieve the sort of personal moral autonomy advocated by Kamii (1985), Chaille (1983) and Power (1988).

But I am getting ahead of myself. Essentially my study of moral education furnished the basic concepts for the conceptual model of the DICAM, the same concepts that were to emerge during my introspective personal journey (Chs. 4 and 6) and the same concepts that would be gradually refined from a review of the literature on theories of learning, psychology, attitude change and persuasion (Chs. 7-10). Moral educators like Rest (1988) and Kohlberg (1969) postulated that real progress is made in measurable steps. They focussed on one issue at a time. Teaching by example, modelling, allowing the participants to identify with their subjects (fictional characters facing real moral dilemmas) and allowing them through vicarious experience and role-play, to flex their newly developing moral schemata. Clark Power (1988) went a step further. Replacing vicarious experience with real experience, he advocated the creation of 'just' schools where children could practice living in and subscribing to, 'moral' communities.

There is a moral here

If at some stage all people had to live for a while as a severely disabled child or as a person with a mental illness these groups would cease to be stigmatised.
Of course this isn't possible but the concept is fundamental to this dissertation. What the moral educators were advocating was the precipitation and facilitation of cognitive restructuring as a result of emotional reaction to accurately simulated experiences, i.e., an integration of cognition and emotion with identification as the key strategy.

**SCHIZOPHRENIA An Emotional Choice**

I didn't need to look for a specific contextual issue on which to focus my research because at that point one fell right into my lap. I was in conversation with a woman who, at the time, I didn't know very well. She was talking about Christmas and about families and about her son, Ben. She stopped, looked at me and said, "There is something I haven't told you, Ben has Schizophrenia". Well that didn't mean too much to me but it obviously was significant to her, so I sort of nodded and growled a bit and tried to look sympathetic and mature. She leant back with a sigh and taking her eyes back to herself she said softly,

"He was such a lovely artist."

Now, I don't know if you, the reader, have ever experienced one of those moments where time appears to stand still and the impression of that second is indelibly printed on your mind. Of course I am talking figuratively here, although in a later chapter\(^5\) when we look at Daniel Goleman's (1996) discussion of emotional intelligence we may get some psycho-biological insight into what happens at such moments. Suffice it to say that there was so much pain, so much love, so much pathos in that one moment and in that one statement, that even now, five years later, I can recall its impact on me with perfect clarity.

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\(^5\)Ch. 7. The Conceptual Model & Ch. 9. An Academic Journey Part 2. The Heart.
All the next week I mulled it over. What had schizophrenia got to do with being an artist? Why couldn't he be an artist? Why had there been such a chasm of agony behind her eyes. I had to know! and by the time I did, I was ready to begin this research project.

Facts and Attitudes

What I had found surprising during the three years that I spent studying 'Integration' and working with multiply disabled children was, that the discrepancies between factual knowledge and functional behaviour and consequently, between policy and action, applied across the board, i.e., they were just as prevalent among experts as among novices. Now, when I came to study attitudes towards schizophrenia, I found exactly the same phenomenon. Being trained in mental health and having been given precise information about the causes, symptoms and treatment of schizophrenia was no guarantee of understanding, empathy or even accurate knowledge. It was almost as if people were willfully blind to any information which challenged previously acquired attitudes, attitudes that were frequently based in fear and avoidance: emotive attitudes.

In retrospect, I can find all the elements of the conceptual model reported in this dissertation (the DICAM), through an introspective analysis of the changes in my own schizophrenia schemata that took place over the next two years. Today I claim that by using the educational tool that I have created (based on the DICAM), i.e., by watching the video, it is possible for other people to achieve in just one hour the bulk of what it took me nearly two years to accomplish.

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6See Ch.5. The Target Population.
My Own Schizophrenia Schemata: A Personal example of Cognitive Restructuring and Attitude Change

My own schizophrenia schemata had been formed by the usual myths and half-truths that make good news stories, dramatic films and popular novels. I 'knew' about split and multiple personalities, violent madmen who claimed that 'voices' told them to kill, and obsessive schizophrenogenic mothers who drove their own children crazy. I had two friends with schizophrenia whom I tended to avoid and, if I thought about it at all, which by and large I didn't, I accepted a psychodynamic model of schizophrenia. Therefore I 'knew' schizophrenia to be:

"an emotional\psychological disorder caused by poor parenting, trauma, stress and a sort of non specific 'weakness of character' which might possibly be treated with long term psychotherapy." (Myself in 1992).

That would have been my opinion at the cognitive or intellectual level, however my 'gut' reaction, which I believe represents the schizophrenia schemata upon which my attitudes were based was that people with schizophrenia were mad, incurable and doomed.

I began to read. I started with the public sector. I read everything that was available to the general public through the library system, everything. I was amazed by the fact that the vast majority of the literature available was written either by people with schizophrenia or by people who had relatives and/or friends with schizophrenia. I read on and on and as I read I was overwhelmed by my own ignorance. I think of myself as a reasonably aware, compassionate and well educated person, I was ashamed to find that I had classified people who were intelligent, creative and in terrible emotional pain as being: boring, inferior and beyond hope.
An academic rationale for choosing schizophrenia as the context for a model for attitude change has already been presented. It postulated that:


However my personal reason for choosing schizophrenia as the context was a product of my own experience, my own attitude change and my perception of what was involved in that change.

So what was involved?

Clearly knowledge was important. Once I had exhausted the public library system, I undertook an extensive review of the current academic literature on schizophrenia which can be found in Appendix A. I went to conferences and lectures organised by the Australian Society for Psychiatric Research, subscribed to the relevant journals, joined the appropriate organisations, became trained in the Schedules for Clinical Assessment in Neuro-psychiatry and finally was asked to present my work at the Medical Research foundation.

By this time I was quite clear that schizophrenia was not a psychosocial disorder. I now have 'knew' schizophrenia to be:

"a disease or group of diseases, which cause the brain to malfunction. This malfunctioning frequently takes the form of psychotic episodes which are florid and frightening. Schizophrenia cannot be cured but can be controlled with medication. It affects one person in every hundred and, while the cause is not known, a genetic pre-disposition is evident. Schizophrenia is a biological\chemical condition and therefore cannot be caused or cured by psychosocial factors." (Myself in 1994).
My knowledge of schizophrenia had changed radically but I was deeply aware that knowledge alone had not changed my attitude. To know the facts concerning any phenomenon is critical to an understanding of that phenomenon. It is part of the process, part of the picture. To understand the rest of the process as it occurred for me, to understand how I came to see the picture as I do now, I invite you to accompany me through the most crucial part of my journey. It begins with the heart:

"Schizophrenia lurks in the closets, hiding behind euphemisms like "nervous breakdowns" or "bad case of nerves." It stands quietly behind lace curtains but nobody bothers to mention it. It is the aunt who used to live with them but then moved; what they don't add is that she moved to the state hospital. It is the son who got into trouble in late adolescence and is now said to be living in Pennsylvania; what they don't add is that he is committed to the state hospital there. It is the sister who tragically committed suicide over, it is rumoured, a love affair; what they don't add is that she committed suicide because she was plagued by voices and chose not to live with her disease. We hide it, hoping nobody will tell, hoping nobody will find out. It is a stigma.

...people with schizophrenia are the lepers of the twentieth century." (E. Fuller-Torrey 1996)
CHAPTER 4. A PERSONAL JOURNEY 2. THE HEART

'I am not afraid to claim my madness
but I would not wish it upon anyone else.
Who would want to know the ache
of the isolation of fragmentation.'

(Sandy 40, in Clark, 1994)

Initially, because of the woman, who became my friend and her son, Ben, who also became my friend, I became preoccupied with the pain of the families of the people with schizophrenia. 'Tell Me I'm Here' is the story of Anne Deveson's son Jonathan, who develops schizophrenia at the age of seventeen and dies of a drug overdose at the age of twenty-four. Anne includes a poem written by her sixteen-year-old daughter Georgia and slipped under her bedroom door:

'SCHIZOPHRENIA

Your knife clatters,
And lies abandoned on the table.
All eyes stare
As your long fingers pick their way through the food
And total oblivion seems to shroud you.
Only animal hunger and a perplexed solitude
Gape through the matted hair.
You laugh,
Yellow teeth and a complete break from reality
Cause pain and perhaps
Just the smallest touch of disgust
To flicker through our eyes,
Still staring'
Conversation stilted,
And I watch tears form in her eyes,
For she is the only one
Who really understands his aching mind
Or is it her own that makes her cry?
It's hard to separate a mother from her son.'

(Deveson, 1991)
Nobody could have tried harder to ameliorate the effect of the illness on Jonathan and his siblings than Anne, nobody could have learned more or searched harder for a cure and yet the family suffered and the family was blamed:

'I (felt) angry: angry with Jonathan for hurting me, angry with the system for not helping him, angry with the illness. The hardest anger to deal with was the anger with Jonathan, because of its paradox. Can you be angry with someone if it is their illness that makes them so destructive? But I was angry, so angry that I felt like thumping anyone and everyone, so angry that I had to belt my rage out on some cushions, and even then I could not assuage it because I felt so powerless.' (Deveson, 1991)

Nobody could have tried harder to save her son and her family from the devastation of schizophrenia, but Jonathan died.

After Jonathan's funeral, Anne wrote:

'And then it was over. Or I thought it was over, until I looked up and saw through the rain, standing on the other side of the grave, .. a collection of people whose faces I did not know. I saw the people who were homeless, who were crazy, who were sick. They had come from the Talbot, from the other shelters, from the Cross, and they had come to say goodbye. They were Jonathan's friends.' (Deveson, 1991)

It is a heart-warming and a heart-breaking book. I couldn't understand why it hadn't been made into a film so I wrote to Anne and we started a conversation.

A conversation which did end up with me making a film but not that one.

**Emotional Arousal**

At this point I want to emphasise that what initially caught my attention was the emotional appeal of my friend's story, of Anne's story and of all the other people's stories that I was to go on to read and to hear:
"There is one profound change in personality that medical books acknowledge but pay little attention to. It is one of the saddest hallmarks of schizophrenia: the loss of pleasure. Anhedonia is the official word for it, a bland term for a devastating happening... It means that joy, affection, desire, pride, humour are all drained away. What makes life worth living disappears slowly, relentlessly until nothing seems to be left of the schizophrenic but a shell, a staring robot.

If this sounds terrible, it is. Nothing I can say will express the sheer horror of watching anhedonia creep in and claim the person who once laughed with you, who once hugged you, who once loved to be first on the hill to catch the new powder snow. The lights go out one by one. It is the death of the spirit.' (Mary-Ellen Walsh, 1985)

'It begins with the heart'. my affect was engaged.. I was reading, I was identifying with what I was reading and I was learning.

The 'Heart' and the DICAM

Once again, as with my experience of 'integration', and as with my study of moral education, all the elements of the conceptual model of the DICAM are foreshadowed in those two lines. The emotional arousal that I felt, activated appropriate schemata creating a cognitively sensitive area, a 'zone of proximal development' (Vygotsky, 1978). The reading created cognitive conflict (Piaget, 1977) and vicarious emotional experience (Bandura, 1986). This in turn lead to more reading, academic study and personal research in order to test and validate the new schemata and attitudes that I was forming.

From the 'Outside Looking In'

My reading confirmed my initial impression that most, readily available¹, sympathetic, as opposed to sensational, films and books about schizophrenia such as

¹Found in the West Australian Public Library System and the libraries of the Schizophrenia Fellowship and ARAFMI.
the BBC's, 'Can You Hear Me Thinking' (1972), Angela Johnson's, 'Humming Whispers' (1995), Barbara McFarlane's, 'A Battle Within' and Anne Deveson's magnificent and courageous book, 'Tell Me I'm Here' (1991) show the devastating affect of the illness on the families and friends of the sufferer. They deal with schizophrenia from the 'outside looking in'. Although this has served to raise awareness of schizophrenia per se it, has done little to demystify the illness or to promote empathy with the actual sufferer (Cheng et al, 1992; Wahl, 1987). Being able to empathise with and even identify with, the parents, or families of people with schizophrenia is one step nearer to the illness itself but it is still a huge step away from being able to comprehend the subjective experience of schizophrenia.

From the 'Inside Looking Out'

'I tried sitting in my apartment and reading; the words looked perfectly familiar, like old friends whose faces I remembered perfectly well but whose names I couldn't recall; I read one paragraph ten times, could make no sense of it whatever, and shut the book. I tried listening to the radio but the sounds went through my head like a buzz saw. I walked carefully through traffic to a movie theatre and sat through a movie which seemed to consist of a lot of people wandering around slowly and talking a great deal about something or other. I decided, finally, to spend my days sitting in the park watching the birds on the lake.' (O'Brien, 1976)

I don't know how many times I have listened to someone talking about their favourite pastime, their greatest fear or even the peer pressure that they feel, and heard them use the words, "You don't understand. You don't know what it is like". This is the truth. If you cannot identify with a person's experience and if you cannot imagine or accept the possibility of having that experience yourself then, as far you are concerned, that person and others like him or her, must remain a 'them'. A 'them' by definition is a group of people who are not an 'us', i.e. people who are not like you, people who are 'different' from 'us'.
In his extraordinarily successful and comprehensive family manual 'Surviving Schizophrenia' (1988), Professor E. Fuller-Torrey expands on this familiar concept, suggesting that the real reason why there is little sympathy for people with Schizophrenia is because other people simply cannot understand what it is like to have the illness:

'...those of us who have not had this disease should ask ourselves, for example, how we would feel if our brain began playing tricks on us, if unseen voices shouted at us, if we lost the capacity to feel emotions, and if we lost the ability to reason logically. This would certainly be burden enough for any human being to bear. But what if, in addition to this, those closest to us began to avoid us, or ignore us, to pretend that they didn't hear our comments, to pretend that they didn't notice what we did? How would we feel if those we most cared about were embarrassed by our behaviour each day?' (E. Fuller-Torrey, 1988)

Professor Fuller-Torrey maintains that if you really want to know about schizophrenia then you have to listen to the people who themselves have the illness. You have to hear them, read what they have to say and look at the images that they have created like Van Gogh's, "Starry Night" or his, "Olive Grove with White Cloud", painted in 1888 and 1889 when he was undergoing psychosis:

'As for me, you know that I shouldn't precisely have chosen madness if there had been any choice.' (Van Gogh, 1889)

Back 'Outside' Again: Barriers to Empathy

Sadly, the people most in a position to help those suffering from schizophrenia, the psychiatrists, are seldom able to allocate much time for listening. Staff shortages and a prevailing myth that their role is merely to diagnose and write prescriptions, has made it very difficult for psychiatrists to spend time with their patients and to build up relationships of understanding and trust. I found that my friends with schizophrenia had little time for the mental health professionals who treated them and I found that my friends who were psychiatrists felt out of touch with the
subjective experiences of their patients. Time is always a problem. It is not always
easy to listen to or to understand what people with schizophrenia are trying to
communicate, even when you want to. The illness frequently militates against self-
expression:

"Carol what's the matter?" Steve asked.
"Nothing." the voices answered for me.
'Wow, what a trip,' I thought. 'Now I don't have to talk. They're doing it for me.
I don't need to move or do anything. Everything's being taken care of for me.'
"Carol? Won't you talk to me?"
'Of course I'm talking to you, Steve.' My thought waves were bouncing all over
the room. This was a new advance in communication.' (North, 1987)

People who are ill may believe that they are talking when they are not, or they may
simply be answering other voices which, to them, are more present than yours.
Sometimes their thoughts are so disordered that their words come out in a sort of
salad. They know what they want to say but the words won't hang together and they
come out all mixed up. Of course this is extremely frustrating, especially when you are
trying to understand, trying to help. Consider how much more frustrating it is for the
person who is trying to communicate with you and is wrestling with the distortions of
an illness which he or she cannot control.

'When people are talking I have to think what the words mean. You see there is
an interval instead of a spontaneous response. I Have to think about it and it
takes time. I Have to pay all my attention to people when they are speaking or
I get all mixed up and don't understand them'. (McGie and Chapman, 1961)

'I used to get the sudden thing that I couldn't understand what people
said, like it was a foreign language'. (Cutting and Dunne, 1988)

Over the next two years I did a lot of listening, I realised how ignorant and how
prejudiced I had been. I, who thought of myself as an aware and compassionate person
had stigmatised people with schizophrenia. That was a shock for me.

'Sometimes I commit brief disappearances - my mind pauses and closes down
for a short while, like falling asleep suddenly.' (Burns, 1983)
And Inside' Again: Identification

Once I could visualise, imagine, understand, what it was really like to have schizophrenia, not only did I feel compassion but also I felt able to genuinely identify with people who have schizophrenia and then my attitude changed. In fact, what had happened was that my whole schizophrenia schema had changed. Therefore when presented with the word 'schizophrenia', the patterns of thought, belief and attitudes (i.e. my internal representations of the concept 'schizophrenia') that immediately sprang to mind were different from those which had sprung to mind before. From this point forward, I began to work out what would be needed in order for me to become an agent in promoting other people's cognitive restructuring and attitude change. Could I produce an educational tool which would effectively reduce the stigma associated with schizophrenia?

Understanding the 'Change' and Identifying the Components

Knowledge was obviously an important component. If people are to form accurate schizophrenia schemata they need to be given accurate data:

"Whatever is in the program, Kerris, It must be the truth:" (Bernadette, member of Lorikeet Clubhouse, 1995)

However knowledge alone did not account for my attitude change. What had proved to be the real key was my experience and my emotional reaction to it. The realisation of what it was like to have schizophrenia. I want to make it very clear that by experience I do not mean experience of people with schizophrenia. I mean experience of schizophrenia. Of course I had to get this second hand. I did not have schizophrenia myself, nor did I experiment with drugs.
I read hundreds of first person accounts of schizophrenia and an excellent fictional one written by a psychiatrist\(^2\). I cultivated friends with schizophrenia, joined various self-help groups and began to spend one day a week at a drop in centre.

'I sat in my basement with a fear that I could not control. I was totally afraid - just from watching my cat look out the window.' (Stakes, 1985)

Because I was already emotionally involved through my study of schizophrenia from 'the outside looking in', I had expected to feel sorry for the people who actually had schizophrenia and I had hoped that I would not feel embarrassed, disgusted or afraid. I wasn't at all prepared for what actually happened. You see I had not expected to enjoy the days that I spent at the drop in centre, to get to have real friends, to be glad of their company. I had not expected to respect them or to learn that there were some I wanted to be with and some I didn't. I had not expected to live through their horror and be amazed by how they coped. I had not expected to become an 'us'. I was humbled but I was also inspired.

In her astonishing autobiography, 'Welcome Silence' (1987), Carol North, now a practicing psychiatrist, describes, what to her, was a fairly typical interruption to her medical studies:

'At first I tried to ignore the humming sounds coming from my house plants in front of the room's only window. When I looked up, the noise stopped. I swilled down more coffee and resumed my studying. (I was determined to finish the section on metastatic kidney disease). The humming began to sound more like moaning. I read another paragraph before I looked up again. The plants looked sinister. I supposed it could be the lighting that made them look that way. I didn't want to jump to conclusions.

\(^2\)The Case of Joshua Kirk by J. Pridmore-Saxby
The plants stretched out their stems towards me as if they were grasping for me. I sat perfectly still, undecided as to whether I should go over and inspect them or run upstairs to my room. I couldn't judge if the crux of the decision was bravery versus cowardice, or foolishness versus caution. The indecision was paralysing me. The plant stems grew in length, their leaf tips reaching closer and closer. Somehow I had been granted knowledge of the explanation for this: the plants had retained some vestiges of the earlier encounter with the Other Side. They were about to engulf me.

I pulled my feet close to myself in the chair, and, as I did so I knocked my empty coffee cup onto the carpet... I stretched out my arm to retrieve it but my arm had shrunk so much that I could not reach the cup. The cup had landed right side up, and it began to emit a cold force shield which wrapped itself around the front of my chair. The shield felt very powerful. The plants could not reach into the shield. This was a victory of Good over the Forces of Chaos. I would be safe.

I read the rest of the chapter...' (North, 1987)

I was studying myself. I couldn't imagine going on with my studies while having to cope with such an intrusive disorder. Yet this woman successfully worked her way through medical school and then went on to specialise in psychiatry. This was no mild case of the illness. Carol North experienced some of the most disturbing and frightening manifestations\(^3\) of schizophrenia, including hallucinations and catatonia.\(^4\)

"I'm losing you Carol," Steve said. "Please don't go away from me like this. I love you, I don't want you to leave me. I'm going to have to take you to the hospital. Don't be mad at me - I don't know what else to do."

"No! Don't! Just let me lie here. If I move I'll fall into that time warp forever, and everything will be lost. Please, no!"

He couldn't hear my silent screams. Kneeling beside the bed, he wrapped my arms around his neck.

"Now put your legs around my waist," he said, hoisting me onto his back. I was powerless to resist. My limbs were petrified onto his back, in rigor mortis. there would be no letting go..... Steve stepped up on the bus with me... Steve sat down sideways on the first seat. Because he couldn't make me unlock my legs from round his waist, we rode the whole way like that. The other passengers tittered and snickered at the spectacle. I didn't feel embarrassed as I normally would have; it made no difference in the world to me, because I was no longer in this world. (North 1987)

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\(^3\)A comprehensive description of the symptoms of schizophrenia can be found in Appendix A. Part 2.

A Diagnostic Overview.

\(^4\)Catatonia: A complete lack of movement where the patient appears to be frozen in one position.
The more involved I became with people with schizophrenia, their families, their psychiatrists, their friends and their lives, the more I felt that there was a powerful and important story to be told. These people deserved more time, more facilities, more understanding and more respect than they were getting. I wanted to give them a voice.

I went to Melbourne and made a short film 'The Clubhouse', which runs for 24 minutes, for the Schizophrenia Fellowship of W.A. The fellowship was lobbying for a Clubhouse in W.A. and the film was to feature the Clubhouse in Bromham Place, Victoria, and to demonstrate how the model works. It was a very moving experience and, once again, I was struck by the courage with which people faced their illness and began to rebuild their lives. Some could only do a little, some held down full time jobs. Everybody was ill but everybody contributed something:

'. schizophrenia is painful, and it is craziness when I hear voices, when I believe that people are following me, wanting to snatch my very soul. I am frightened too when every whisper, every laugh is about me; when newspapers suddenly contain cures, four letter words shouting at me; when sparkles of light are demon eyes. Schizophrenia is frustrating when I can't hold onto thoughts; when conversation is projected on my mind but won't come out of my mouth; when I can't write sentences but only senseless rhymes; when my eyes and ears drown in a flood of sights and sounds... and on, always more.' (McGrath, 1984)

Identification and Relevance (Emotional and Cognitive Empathy)

It became clear to me that it would not be enough just to present the illness. To describe what it was like or to tell the facts about its causes, symptoms or treatment. Somehow or another I needed to take people through the same journey of discovery

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5 Lorikeet Clubhouse W.A. was opened in 1995. Subsequently the film was used to successfully lobby for Clubhouses in N.S.W. and Tasmania
that I had made; to allow people to feel the same shame, fear, humility, pride and pain that I had felt. What also became very clear was that I needed to make the subject relevant to them and to their potential experience, I needed to show them that schizophrenia was not an unusual or rare disorder.

It is not rare at all. It hits one in every hundred people:

'My white coat and nametag offered me no immunity to schizophrenia. Pharmacy students are vulnerable just as everyone else is, in spite of the fact that we are taught about all diseases as if we are an immune group...

Inside, while I spoke to this patient I wanted to say, "Yes, I too sense danger everywhere, each morning and all day. It's hard for me to get out of bed. To go out of the house, to talk to people; it's hard just to get dressed and get outside and function. I'm afraid of people, of change. I'm sensitive to sunlight and noise. I never watch the news or read a newspaper because it frightens me...."

What scared me most was the fact that this disease could prevent me from doing something that I really wanted to do and needed to do to be psychologically healthy - that is, complete pharmacy school - and the knowledge that schizophrenia does this to many people's lives. I could not accept the fact that intellectually I could be capable of something that I may not at times be capable of emotionally. (Anonymous, 1983)

In 1985 over 40,000,000 people's lives were affected by schizophrenia (Walsh, 1985). These people were mothers, fathers, sisters, brothers and people with schizophrenia. All were battling with the effects of a terrible brain disorder and on top of that they were battling with stigma, prejudice and blame. Many fought through to achieve a 'sort of life', a life that was successful and fulfilling even though it was not the life that they had planned to lead, nor yet the life that they were leading before. With treatment\(^6\), they enabled themselves to work and to run families even though they may have felt dulled and blunted, as if they were swimming through mud or jelly.

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\(^6\)An overview of the treatment available for people with schizophrenia can be found in Appendix A. Part 7.
'I used to be brand new but I'm not any more. My mother thought I was a drop of sunshine.

It's like having chains around you. You can't break free of the things that are wrong with you. You can't shed it like a raincoat. It stays with you. There's a lot of people in this condition. It's like being a prisoner. It feels frustrating. A dull aggravating feeling.' (Lionel, 52 in Clark, 1994)

The emotional and mental blunting that often happens with schizophrenia can be even harder to face than the 'positive' symptoms like delusions and hallucinations. It is common for this 'blunting' to contribute to the depression and despair which causes so many people with schizophrenia to commit suicide. Imagine how it feels to be quick and clever, to know that you are quick and clever and then not to be... and to realise that you are not.

This was the subject of one of the most painful conversations that I had during my Fridays at the drop in centre. I was sitting in the dappled shade with Robin", a tall handsome man in his late thirties. It was one of those lovely mellow afternoons that come in Spring and feel like Summer. We'd had lunch together and were idly chatting about this and that. It was very peaceful and I found myself thinking how sensitive and companionable Robin was when suddenly he hissed fiercely:

"I hate this illness! I hate being dull, being blunted... having to claw my way through mental treacle. I want to be clear, to be clean, to study something deep and powerful and leap in the sunlight."

Then he picked up his bag and shuffled to the bus stop, exhausted by his outburst and needing his afternoon sleep. I sat with the tears on my cheeks and tried to imagine being 'blunted'. Sometimes I see him at the shops because he lives near me but he doesn't speak to me. I have never had the courage to tell him that I did make the film.

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7Robin is a pseudonym.
'My responses are too slow. Things happen too quickly. There's too much to take in and I try to take in everything. Things happen but I don't respond. When something happens quickly or unexpectedly it stuns me like a shock. I just get stuck. I've got to be prepared and ready for such things. Nothing must come upon me too quickly.' (McGie and Chapman, 1961)

Being 'Us' not 'Them'

By this time I was able to enter the inner world of some of my friends with schizophrenia. At times I would be sucked right into some of their more florid delusions and hallucinations. One particular friend lives somewhere in the realm of the 'fourth light' with two other people in her brain who dictate to her amazing narrative poetry full of energy and imagery. They guide her hands and she paints pictures of great power, beauty and precision, which she claims are theirs, not hers. She does not feel the need to share her work with this world but she does also live in this world, in a comfortable and attractive well kept unit. She drives a car and represents a self-help organisation at major psychiatric conferences.

'My warning signs often begin when I am overtired or when I take on more than I can cope with (without realising), even enjoyable social stress can sometimes be more than I can cope with. I begin to feel increasing anxiety, and have difficulty putting my thoughts into words, I lose words (meaning I can't bring to mind and express the appropriate words that will make sense out of what I am trying to say). I experience periods of emotional over-reaction to things I would normally take in my stride. Also I can be overwhelmed by unexplained irritability and outbursts of anger, my tolerance drops to a low level, paranoia and depression overtake and restrict me. I begin to hear people around me, neighbours, and general public in the street saying derogatory things about me. Making plans to hurt me, and laughing at me. Everyone seems to be talking about me, even on the radio. Another symptom I have experienced is a bad smell. Food will taste and smell bad and I smell bad to myself in spite of lots of showers and plenty of soap and deodorant.

The world becomes a very hostile place for me, I want to crawl into a safe place where no one can ridicule or hurt me and I can be myself without feeling guilty for it.... Death can seem to be the only option left when the torment of guilt and fear that is part of Schizophrenia, becomes overwhelming and inescapable.

I would like nothing more than to have proper employment and an active social life, but I have come to accept that this is not possible for me. This acceptance has somehow helped me feel more at peace with myself than I thought possible.
At present I live happily with my children. I manage to keep up with most of my household duties, I enjoy a little gardening, and I fill in my time with sewing, knitting, crochet, needlework, listening to music and reading. Now, I only experience warning symptoms occasionally, and I take my medication when needed. For the majority of the time, I'm as normal as the next person.' (Charlene Simpson, 1994)

In Conclusion

I cannot take you everywhere that I went and I cannot show you all the personal accounts that I read. I have tried to let the people speak for themselves partly because their stories are fascinating and more are appended (Appendix A. Part 8), and partly to help you to understand why I couldn't just go ahead and make the film. I had to get it right and I had to make it so that it was going to impact on the right people: the people whose attitudes were most likely to affect people with schizophrenia and their families.

The brief literature review presented in Chapter 1. demonstrated a lack of knowledge and understanding on the part of the general public, the police and mental health professionals (Wahl, 1987; Levey and Howells, 1994, 1995). As far as using the film was concerned the diversity of these groups was not a problem, since the intention was to moderate people's individual schizophrenia schemata and attitudes - from wherever they happened to be at the time - to something more accurate and equitable. Furthermore, it has been my experience as a filmmaker specialising in programs designed to promote social and emotional health, that a given vicarious experience affects all people to much the same degree whatever their station in life. This is because the experience impacts primarily on people's emotional, as opposed to rational, intelligence (Goleman 1996)

Nevertheless for the purposes of the experiment it was necessary to choose a target population with which to test the film. That choice is the subject of the next chapter.
CHAPTER 5. THE TARGET POPULATION
WHY (MENTAL) HEALTH PROFESSIONALS?

"Compassion," as one patient put it in an open letter to his surgeon, "is not mere handholding. It is good medicine" (Kramer, 1993)

The worldwide move to de-institutionalise treatment for the mentally ill has resulted in the majority of people with schizophrenia being reliant upon clinics, private hostels and other community based services. It is problematic that the community, which must now absorb people with schizophrenia, has been shown to have persistently inaccurate schizophrenia schemata (Furnham and Bower, 1992). The increasing shortfall in mental health services and an extreme shortage of public psychiatrists (7.30 report ABC TV, 1st and 2nd March, 1995; West Australian 21st Feb. 1995) has led to an inevitable increase in the involvement of the police, the family, general practitioners and the general public (Green et al, 1987; Hall et al, 1993).

Unable to get unscheduled appointments with psychiatrists or immediate attention at clinics or hospitals, people who are in danger of relapse can do little to help themselves even when they are aware that they are becoming 'ill'. A series of interviews1 with members of the W.A. Schizophrenia Fellowship, A.R.A.F.M.I (the Association for the Relatives and Friends of the Mentally Ill) and people frequenting the June O' Connor Drop in Centre (1995), revealed that families are repeatedly forced to watch their schizophrenic relative become completely psychotic and potentially dangerous to themselves or others, before they can get attention. This is usually only achieved by calling the police.

1Conducted by the researcher January 1993 - January 1995.
Margaret Legatt, chairperson of the World Schizophrenia Fellowship found that in parts of the United States there appears to be a re-institutionalisation of mental illness, in prisons instead of hospitals (Legatt, 1995). However the Wahl study (Wahl, 1987) of 199 police officers showed the police to be no better informed about mental illness than the general community. This indicates a need for education and attitude change in both the community and the police force.

In February 1995, the author conducted several informal interviews with the police, with groups of people suffering from schizophrenia and with the families of people with schizophrenia. Although the police indicated a felt need for in-service education in the recognition and handling of people with schizophrenia, the people with schizophrenia and their families unanimously responded that it was neither the police nor the general public whose ignorance most affected them but the mental health professionals with whom they were forced to deal as a consequence of their disorder.

**Empirical Evidence**

Most academic research has focussed on the attitudes of the general public, however there is considerable evidence that health professionals, including mental health professionals have negative attitudes towards the mentally ill (Nunnally, 1961; Proctor and Hafner, 1991), particularly people with schizophrenia (Malla and Shaw, 1987; Eker and Arkar, 1991; Levey and Howells, 1995) and their families. In a co-operative study conducted in Korea, The Republic of China and Japan (Kamukara et al, 1993) senior nurses who had already finished their clinical training in psychiatry were found to have more negative attitudes towards mental illness than a comparative control group of non medical students. Similarly, in their 1991 study,
Eker and Arkar (1991) found that experienced psychiatric nurses in Turkey still favoured psychodynamic theories of the causation and treatment in schizophrenia and had high negative ratings on social distance scales and, in Australia, the pilot studies for this research (Myers, 1995) found consistently high ratings for attitudes of fear and avoidance from both undergraduate and post-graduate student nurses specialising in mental health. Levey and Howells conclude their brief literature review (1994) of professional attitudes towards schizophrenia:

'Although the attitudes of professionals have been subject to less empirical attention than those of the general public, the evidence suggests that some professionals have negative attitudes towards the mentally ill in general and people with schizophrenia in particular. As with the general public these may be mediated by beliefs about dangerousness and feelings of fear' (Levey and Howells, 1994 p.317).

Evidence from Quasi-Academic Literature

A review of the popular literature on schizophrenia, i.e., books written for the general public and available through the public library system, and a complementary review of books, anthologies and articles giving first person accounts of the experience of schizophrenia found in the academic press, further confirmed the impression that, despite their training, some mental health professionals appear to have inadequate and inaccurate schizophrenia schemata and frequently display unsympathetic and unrealistic attitudes towards people with schizophrenia and their families (Walsh, 1985; Fuller-Torrey, 1988; Deveson, 1991; First person accounts appear in every Schizophrenia Bulletin published quarterly by N.I.M.H.).

I am an unusual schizophrenic in that I have a Ph.D. and have taught in several universities I am also a typical schizophrenic.. in that both my mother and I have been blamed for my schizophrenia...

I first became ill when I was 22, and I spent 3 months in a mental hospital near Stanford, where I was a graduate student. I was told that I had depression.
While I was in the hospital I was in searing psychic pain. It did not help when the director of the hospital said, "Roberta, you may have a master's degree but you are not master of yourself."

But it was my mother who received the brunt of the blame. I was encouraged to blame every negative aspect of my childhood on her. For instance, if I got bad grades in high school, it was because she had ruined my self-esteem; if I got straight A's, it was because she was pushy and domineering. I yelled accusations at her (in Colorado) over the phone when I was in that hospital; and then when she was too hurt to come to California to see me, my psychologist said she was rejecting me. My father was dealt with more summarily: I was told that I might have to pay him back what he spent on my education (5 years at Stanford!) if I wanted to be free of him.

When I left the hospital, I was no better and no worse for the 'talking cure' ... (I) decided to get my Ph.D. I spent a year at Harvard and received straight A's, but the cost to me was enormous... One day I simply could not stand my anxiety any longer, so I went to Harvard's student health office and asked to see a therapist. I was desperately afraid. Only one therapist could see me and he could only see me for 5 minutes... He told me that I would have to make up my own mind about whether I wanted to continue working on my degree and that was that! (Payne, 1992)

The article (Payne, 1992) goes on to describe many wasted years of pain and isolation before Roberta finds and trusts the 'right' mental health professionals, is given drug therapy, reunited with her family and enabled to resume an active and productive life.

Her story is not unusual. In 'Tell Me I'm Here' (1991), Anne Deveson describes countless unsuccessful brushes with hospitals and mental health professionals, Mary-Ellen Walsh (1985) and Professor E. Fuller-Torrey (1988, 1996) warn people with schizophrenia and their families of the problems that they are likely to encounter with mental health professionals and give sound advice as to how to cope with misconception and stigma.

Professor E. Fuller-Torrey calls the final chapter of, 'Surviving Schizophrenia (Fuller-Torrey, 1988, 1996), 'Mother's March for Madness: How the System can be Changed'.
It begins:

"The history of schizophrenia in twentieth-century America is a history of unprecedented neglect. Here is a disease which affects one out of every one hundred individuals, which is bringing chaos and tragedy to over one million families on any given day, which costs state and federal governments billions of dollars each year. Yet what do we offer the sufferers of this disease? Frequently, mediocre psychiatric care in state hospitals, eviction from the hospital to live in vermin-infested boarding houses and fear-infested back alleys, minimal psychiatric and medical follow-up, virtually no sheltered workshops or opportunities for partial employment, inadequate research budgets to pursue the causes of the disease and psychiatrists who are at best indifferent to the disease and at worst blame the families for having caused it. In terms of services for schizophrenia it has been said that patients with this disease "are not falling between the cracks - they are lost in the ravines"."

(Fuller-Torrey, 1988)

People who are ill need more than prescription drugs and a dry bed to sleep in. As a member of the board of the Richmond Fellowship (W.A.), a non-government organisation which provides a therapeutic model of accommodation and rehabilitation for people with mental illnesses, the majority of whom have schizophrenia;

I have found our efforts to provide an adequate service to be constantly eroded and undermined by the irresponsible and disinterested attitudes of State and Federal Health Departments.

The Importance of Equitable Attitudes from Health Professionals

People who are ill are emotionally vulnerable. Emotional distress makes people physically vulnerable. In this sort of vicious circle the need for understanding and compassion from health professionals is obvious. People who have relatives with schizophrenia are also extremely vulnerable. Comprehensive studies of the role of counselling and of family therapy\(^3\) in the treatment of schizophrenia have

\(^3\)An excellent review of the research into family intervention studies can be found in 'Interventions with Families', (Christine Barrowclough and Nicholas Tarrier), Ch.4 in, 'Innovations in the Psychological Management of Schizophrenia', edited by Max Birchwood and Nicholas Tarrier (1992).
demonstrated quite conclusively that emotional support needs to be a standard part of medical care (Ellis, 1994; Wooff, 1991; Barrowclough and Tarrier, 1992; Bellack and Meuser, 1993).

'Historically medicine in modern society has defined its mission in terms of curing disease - the medical disorder - while overlooking illness - the patient's experience of that disorder...That attitude is reinforced by a medical model that dismisses entirely the idea that mind influences body in any consequential way.

Yet there is an equally unproductive ideology in the other direction....The result of this attitude-will-cure-all rhetoric has been to create widespread confusion and misunderstanding about the extent to which illness can be affected by the mind, and, perhaps worse, sometimes to make people feel guilty for having a disease, as though it were a sign of some moral lapse or spiritual unworthiness.

The truth lies somewhere between these extremes.' (Goleman, 1996 pp. 166-167)

Social isolation through prejudice and stigma increases medical risk and vulnerability. An empathetic physician or medical carer increases the likelihood of medical improvement. Goleman argues for a fostering of carer patient empathy and the inclusion of basic tools of emotional intelligence such as 'self awareness' and 'the arts of empathy and listening' in the curriculum for medical education.

In order to select an appropriate target population for the experimental study, it was decided to test the emerging assumption that people with schizophrenia and their families felt most adversely affected by the attitudes of health professionals.

**THE SEMANTIC DIFFERENTIAL: An Empirical Pilot Study**

A semantic differential was prepared, to be issued to a random sample of people with schizophrenia and people with a family member suffering from schizophrenia. The aim of the test was to ascertain how the two groups felt about health professionals in general and mental health professionals in particular.
The semantic differential (Osgood and Suci, 1955; Osgood et al., 1957) has proved a remarkably popular and robust measure of attitude with a test-retest reliability in excess of .90 (Osgood et al., 1957; Di Vesta and Dick, 1966; Miron, 1961). Evidence of validity, as estimated by correlations with other scales such as Thurstone (Nickols and Shaw, 1964) and Guttman (Osgood et al., 1957) appears satisfactory with correlations consistently in excess of $r = .71$.

Traditionally semantic differential scales designed to measure attitudes have loaded heavily or exclusively on the evaluative factor (Shaw and Wright, 1967), attitudes being defined by Osgood as 'learned, affective responses' (Osgood et al., 1957). Therefore the majority of scales designed to measure attitudes have simply reproduced the bi-polar adjectival pairs outlined in Osgood's Thesaurus study which rated most highly on evaluation (Osgood et al., 1957). However it has been demonstrated that the meanings and evaluative strengths of adjectives can change from one object to another (Brinton, 1961) and that subjects find it easier to use scales which relate meaningfully to the objects being judged (Triandis, 1959).

For this study it was decided to use 9 pairs of adjectives:

3 that were strongly and clearly evaluative, these were:

*good/bad, safe/dangerous clever/stupid;*

3 that were evaluative but also rated highly on Osgood's 7th Factor, 'receptivity', these were:

*kind/cruel, sensitive/insensitive, friendly/unfriendly;*

3 that primarily measured perceived potency, these were:

*strong/weak, severe/lentient, cowardly/brave.*

Since the aim was to establish how subjects and their families *feel* in relation to mental health professionals, measures of receptivity and potency were judged to be relevant.
An intensive study by Cliff (1959) established that using adverbs as multipliers increased the variance of responses to the semantic differential. This would indicate a more accurate assessment of attitude and it was therefore decided to use the adverbial multipliers identified by Cliff as being most successful.

These were: extremely, quite and slightly.

The concepts chosen were selected:

(a) to distinguish attitudes towards mental health professionals as opposed to general health professionals; and

(b) to reflect differences in attitude according to degree of association or intimacy.

To this effect the concepts were 'paired' on the page to make it easier for the respondents to distinguish between some concepts and thus increase the likely accuracy of response.

The selected pairs were:

- diabetic \textit{schizophrenic};
- pediatrician \textit{psychiatrist};
- Casualty \textit{The Psychiatric Emergency (PET) Team};
- general nurse \textit{psychiatric nurse};
- doctor's surgery \textit{clinic};
- plaster cast \textit{medication};
- families \textit{the police}.

Limitations of the Pilot Study

As a quantitative measure the semantic differential was not a success. Copies were distributed to the Richmond fellowship, the Schizophrenia Fellowship, the Clubhouse, the June 'O Connor drop in centre and ARAFMI, however an insufficient number of
forms were fully completed to make a full statistical analysis viable. Of the forms that were completed only twelve were returned by families caring for a member with schizophrenia and forty by people with schizophrenia. Five of the twelve and nineteen of the forty were deemed to be unusable\(^4\) leaving a total of seven and twenty-one respectively.

Although the numbers were insufficient for a viable quantitative analysis the exercise was not without value. Information was gleaned, partly through a rough quantitative analysis of the forms which were completed and partly through a series of qualitative interviews which took place in order to disseminate the forms and to assist people with schizophrenia in filling in the forms.

Before considering that data, it is worth noting that the instrument was probably not successful for two main reasons. Firstly, because people with schizophrenia frequently suffer from paranoia. The majority of those to whom the forms were made available refused to fill them in because they were suspicious of them. They resented the perceived intrusion into their lives or their thoughts. However those who were approached personally by the researcher were quite happy to fill in the forms, once they knew who she was and what the forms were really for. A lesson was learned: no person untrained by the researcher was either able to, or prepared to, present the forms to people with schizophrenia with sufficient patience or explanation to allay their fears. Secondly, despite the careful research undertaken, the instrument itself was poor: there were too many categories and there were too many descriptors, the majority of people with schizophrenia required a great deal of help or prompting to fill

\(^{4}\)Forms were deemed to be unusable if there were too many ticks or if the ticks appeared to follow a visual pattern.
in the forms; some of the descriptors used were meaningless and confusing not only to the people with schizophrenia but to their families as well, people with schizophrenia tend to think concretely and were thus quite unable to consider for example whether a plaster cast was 'brave or cowardly'; and finally, the 'potency' descriptors were particularly problematic. A number of the people with schizophrenia clearly treated them as evaluative; thus they would describe the PET team as 'cowardly' even though they acknowledged them to be powerful.

Given the reservations outlined above, the raw data does broadly reflect the attitudes expressed in the qualitative interviews, however it should be noted that it is the mean score for each concept which is being considered. A close scrutiny of the responses given by the people with schizophrenia will reveal that they are frequently idiosyncratic, often being dramatically high or dramatically low. The figures are not offered for quotation but merely as an adjunct to the literature review and the qualitative research. They indicate a general trend for each group.

Summary of the Quantitative Results
People with schizophrenia gave the lowest value ratings to Mental Health Nurses and the highest ratings to General Nurses and Pediatricians. They also gave low ratings to Medication and the Police. Ratings for Psychiatrists and the PET team were mediocre while ratings for the Dr's Surgery, Diabetics and the Family were high. However the 'clever vs stupid' descriptor may have been tainted by people with schizophrenia interpreting 'clever' as 'cunning' (in which case the Police, Psychiatrists and Mental Health Nurses may have an inflated value).
Receptivity, which dealt more with perceived attitudes and/or emotional values saw Medication and the Police drop to the bottom of the ranking with Mental Health Nurses and the PET team also rating poorly. Once again General Nurses, Pediatricians and Doctors' Surgeries rated best.

As far as potency was concerned people with schizophrenia saw themselves as the least powerful and the Police as the most powerful.

Summary of the Qualitative Response
Talking to families demonstrated that their greatest frustration was with the 'system'. Theoretically each person, diagnosed with schizophrenia and currently being treated, has a case manager who co-ordinates the service which he or she receives. This may include a community nurse, a clinic, a psychiatrist, a (psychiatric) social worker and even a G.P. In fact most clients were seen at a clinic. Appointments were few and far between and the turnover of staff militated against any continuity of care. There was little flexibility to meet a crisis and these were generally dealt with by the police and the P.E.T. team.

Families, who bear the brunt of this most devastating illness, frequently felt forced to become experts themselves in order to help their sick member, yet they felt that they were not treated with respect by health professionals. Their experience was that the myth of 'family culpability' is still prevalent even in the wards of psychiatric hospitals and the psychiatrists themselves seldom had the time or the inclination to listen to them. Most people with schizophrenia described their psychiatrist as the 'person who gives them the pills.'
The experiences of the people with schizophrenia and their families would seem to confirm the opinion expressed by Dr. Jeremy Hyde during the 1993 ARAFMI conference on Mental Health. That psychiatrists and other mental health professionals are unable to give their patients optimum or even adequate treatment because, for a variety of reasons, they do not fully understand or appreciate the 'experience' of schizophrenia.

In conclusion, although the psychiatrists who were consulted indicated a belief that it was general practitioners who were most in need of education and, although the families of people with schizophrenia indicated that it was probably psychiatrists whose lack of understanding affected them most, the people with schizophrenia themselves felt that they were most adversely affected by the attitudes of mental health nurses.

THE TARGET POPULATION: Student Nurses

Testing the short and long-term effects of a film about schizophrenia which integrated cognitive and emotional strategies versus non-integrated films about schizophrenia; a placebo; and no film at all, would entail a target population of at least 150 people. It was decided to invite 400 nursing students from the school of Health and Human Sciences at Edith Cowan University\(^4\) to participate in the study.

\(^4\)The experimental design is described in Ch.12 Methods
Although student nurses do not represent the whole field of 'mental health professionals' it was felt that they presented a desirable target population for the experiment. In W.A nurses now undertake a comprehensive nursing degree which qualifies them for initial employment in any field of nursing. Psychiatric nursing is no longer a specialised elective training, although specialisation is offered at the postgraduate level. Arguably this broader basic training may lead to greater deficits in factual knowledge of schizophrenia as a disorder and an even poorer understanding of what it is like to actually experience the illness. Furthermore, when pilot studies\(^5\) were undertaken in order to create and then refine the instruments\(^6\) being developed to test the intervention, student nurses were found to have extremely poor knowledge about schizophrenia and characteristically fearful and unreasonable attitudes.

It is hoped that in the future the study may be replicated with other relevant populations such as medical students, general practitioners, social workers and the police.

\(^5\)A description of the pilot studies can be found in Ch 12. Methods

\(^6\)Knowledge of Schizophrenia Inventory (KOSI)
Attitudes Towards Schizophrenia Inventory (ATSI)
"...a few aberrant young who see visions and old who dream dreams may discern that persuasion is the worst possible mode of social mobilisation and conflict resolution - except for all of the others." (McGuire, 1985 p.235)

In the previous chapter, I quoted from Daniel Goleman's excellent book, 'Emotional Intelligence' (Goleman, 1996), which, amongst other things, popularises the neuro-scientific work of LeDoux (1987, 1992, 1993, 1994), Bargh (1994) and Damasio (1994). If the book had been published earlier and if I had been fortunate enough to read it, both my personal and my academic journey might have been shorter. The book provided a neuro-chemical foundation for my intuitive certainty that the key factor in accelerating cognitive restructuring and generating enduring attitude change lay in emotional experience.

Without emotional experience my knowledge would have been dry and meaningless. It was my vicarious experience (emotional arousal) of schizophrenia, dynamically interacting with the new knowledge (cognitive conflict) that I had gained about schizophrenia which created a fertile arena for the equilibration process to take place, allowing newly forming schemata to be constantly flexed and tested by further experience, professional consultation and academic study. At this point I had, although I wasn't fully aware of it at the time, all the component parts that would eventually make up the conceptual model of the DICAM².


². Described in Chs.7. and 15.
Components of the Model: Introspective Analysis

The dramatic and emotional impact of the pain of the woman whose schizophrenic son had been, "such a lovely artist", had sensitised my schizophrenia schemata (Bartlett, 1932; Anderson, 1977; Brown, 1983) and thus created what Vygotsky (1978) called a **Zone of Proximal Development (ZPD)**; I was ready to learn about schizophrenia.

**Cognitive Conflict** (Piaget, 1977) and/or Dissonance (Festinger, 1957) was continually being introduced through the factual knowledge that I was gaining courtesy of academic study and naturalistic research. The conflict was being reduced through the process of **equilibration** (Piaget & Inhelder, 1969) by which knowledge is assimilated or accommodated through experience.

That experience entailed emotional involvement (Klein, 1921; Zajonc, 1980; Hoffman, 1984; Hatfield et al, 1994; Goleman, 1996): with people with schizophrenia, their stories, their families and others who cared for them³. It was primarily through this **emotional experience** (Batson et al, 1997), that my attitude changed (Brown, 1963; Asch, 1984).

Of course much of the experience that I was gaining had to be vicarious. I did not have schizophrenia and I was not prepared to experiment with mind-altering drugs. Nevertheless that **vicarious experience** enabled me to understand a wide range of what people with schizophrenia are forced to endure (Bandura, 1986). Being a writer and a director I was soon forming powerful sequences, images and analogies which I planned to incorporate into the film (intervention) that I now felt committed to make.

³Voluntary workers and mental health professionals.
The 'Inner Eye' of Film and Television

I had seriously studied schizophrenia for over two years. I had worked in film and television for over twenty years and I knew that anything that you can visualise in your mind's eye can be reproduced on the television screen. Bill Fitzwater\(^4\) taught me that in 1979 when colour was relatively new to Australian television and chroma-key was a revelation. I never forgot it, much to the subsequent chagrin of many ABC technicians and designers. But he was right: if you can visualise it, it can be done. Essentially we have all had experiences similar to schizophrenia, in dreams and nightmares. We were just lucky enough to wake up.

Observation and Modelling

I had learned a great deal from observation (Bandura, 1986) especially at the Clubhouse and the houses operated by the Richmond Fellowship. In these organisations people with schizophrenia are not only treated with compassion and respect but are also acknowledged as contributors and expected to work, according to their current ability, and to take responsibility for themselves and for the running of the organisation. I was aware that my own attitudes and behaviour had been modified by my observation of some of the parents and friends of people with schizophrenia, two sincere and gentle psychiatrists\(^5\) and the staff and voluntary workers at the drop in centre and the Richmond Fellowship. They had modelled attitudes consistent with the new schemata, which I was forming.

\(^4\)Then lecturing at the Australian Film and Television School and on loan to the ABC, Melbourne.

\(^5\) Professor Tim Lambert (Mills St. Clinic, Bentley, W.A.) and Dr. Jeremy Hyde (Inner City Mental Health Services, Perth, W.A.).
Although Bandura found that direct modelling was more effective than the symbolic modelling available on film and television, he also discovered that this reduced effectiveness could be overcome by using multiple models (Bandura, Grusec & Menlove, 1967). Therefore 'modelling' became an important component in the design and later, the casting of the film.

Progress of the Introspective Conceptual Model

By this time I was convinced that I could make a film about schizophrenia 'from the Inside Looking Out'. I would take the viewer on a 'journey into madness' that they would never forget. Or would they? My developing theory (or model) now involved⁶:

Activating interest in the topic → ZPD + Providing accurate information *

= Cognitive Conflict + Creating emotional arousal

= Affective Experience + Modelling desirable attitudes

= Observational Learning → New beliefs

= Cognitive Restructuring → Different feelings and perceptions

= Attitude Change

* Information designed to correct inaccurate beliefs as identified in the literature and in the pilot studies.

⁶ In the final version of the DICAM, modelling and observational learning are not included as conceptual components because they are more overtly practical. Modelling is seen to be a strategy, particularly applicable in screen or role-play interventions. The validity of observational learning is acknowledged and treated as a 'giver'.
The model still lacked a crucial element. My new schemata had been formed through the interactive and ongoing relationship between affect, cognition and experience, combined with continued observational learning. However, if it had been left at that, the new schemata would have been immature and therefore 'at risk'. What would have been generated would have been more like 'opinions' than 'attitudes'. 'Opinions' are notoriously ephemeral, easily swayed and subject to frequent change. What made my new attitudes secure and enduring was that they had also been tested, consolidated, confirmed and proven, in other words: validated.

The Final Conceptual Component: Validation

Concurrent to my being interested (ZPD), gaining information (cognitive conflict) and researching the 'inner world of madness' (emotional experience), I also interactively validated the knowledge and experience (new schemata) that I was gaining. I undertook an extensive review of the current literature on schizophrenia research. I cross-matched the first person accounts of the disorder with diagnostic schedules and other descriptions of symptoms from the professional literature. I attended meetings of Schizophrenia Fellowship and ARAFMI and became a board member of the Richmond Fellowship. I spent a great deal of time with the members of these organisations, and at the drop in centre and the Clubhouse, checking out my mental pictures with the sufferers themselves. I made the video for the Schizophrenia Fellowship and another for the Richmond Fellowship and when I attended the ASPR\(^7\) Psychiatry Week Conference on Schizophrenia and subsequently the 4th Australasian Conference on Schizophrenia, I found myself to be fully abreast of current schizophrenia research and able to understand all but the most technical medical analyses.

\(^7\)Australian Society for Psychiatric Research.
My new schizophrenia schema had been tested and validated and therefore all the main conceptual elements of the DICAM were now in place.

**ZPD + Cognitive Conflict + Emotional Experience + Modelling**

**Validation ➔ Cognitive Restructuring ➔ Attitude change**

**The Technique of Chaining**

All that was now needed to complete the model and enable it to be translated into an educational tool, was the technique of 'chaining' (See Chs 10 and 11). In essence 'chaining' simply means repeating and adding to, information and experience already received. During my own journey, I went back many times to the places where people with schizophrenia and their families tend to be. My understanding was continually reinforced by repetition and extended by additional information and experience and, the more I saw, the more I read. In the academic chapters which follow the technique of 'chaining' is also referred to as 'spiralling' or 'texturing'. Dirk Bogarde's celebrated series of autobiographical books are a fine example of 'texturing'. Bogarde does not begin each book where the previous one left off. Instead he tells the same, or parts of the same, story, adding information, going further, painting in fresh details with the vivid brush of his memory (1977, 1978, 1983, 1986, 1989, 1992, 1993, 1995).

I did not go to the drop in centre once. I went repeatedly, at least once a week, for almost a year. Each week not only was much of the same information and experience available to me but each week new information and experiences were also available to me. This was due partly to there being different people to meet, different situations to face and new conversations to be had and partly to my having assimilated or
accommodated previous information and experience on which I could now build. I was changed and the change enabled me to see, hear and think differently. Big changes, especially in beliefs and attitudes are generally made up of a series of smaller changes, just as weeks are made up of days, books are made up of chapters and films and videos are made up of sequences. A detailed explanation of how the film exemplifies the conceptual model can be found in Ch.11 but, roughly speaking, one complete representation of the components of the conceptual model outlined above can be regarded as a 'sequence' within the film or a 'link' in the 'chain'.

It had taken a long time but I finally felt confident that my schizophrenia schemata were accurate and that my attitudes towards people with schizophrenia were fair and realistic. My question now became: how could I create an educational tool (intervention) that would produce these same accurate schizophrenia schemata in the participants without their having to go through the same personal and academic exercise? My twenty years experience in educational television, combined with the personal and subsequently academic, journey that I had taken, suggested that this change could be achieved through a screen intervention - if it were designed from a sound academic base and produced to international broadcast standard.

I felt ready to start writing. I wrote a detailed treatment of the film, including the three composite case studies of schizophrenia which would be portrayed by the models and gave it to two of the most internationally acclaimed experts in schizophrenia research, Professor E. Fuller-Torrey and Professor Assen Jablensky, and to Anne Deveson whose championing of the cause of schizophrenia both as a writer and as a public broadcaster has earned her world renown. They all agreed to give their full support to the project and to continue to vet the developing script.
'Piaget and Dewey claim that mature thought emerges through a process of development that is neither direct biological maturation nor direct learning, but rather a reorganisation of psychological structures resulting from organism-environment interactions' (Kohlberg and Mayer 1972)

The conceptual model which this research proposes has been developed from an eclectic sifting of theory from many diverse disciplines: education and educational psychology, psychology and social psychology, communication and persuasion, psychiatry, biology, sociology, philosophy and neuroscience. A theory is a research tool, which must have a dependent variable and one or more independent variables and must generate one or more hypotheses, which must be refutable (Hergenhahn and Olsen, 1993). To be refutable the hypothesis must be risky, i.e. there must be a real possibility that the hypothesis will prove null (Keppel, 1991). A theory cannot be right or wrong, if it is a useful theory it will generate further research. If the research hypothesis is confirmed the theory gains strength, if not the theory is weakened and may have to be modified or even abandoned. Either way:

"Theories must continually generate the very hypotheses that may prove they are ineffective" (Hergenhahn and Olsen, 1993 p.18)

According to Popper, to be scientific (as opposed to non-scientific) a theory could not simply be based upon empirical observation:

'(it) needs a chosen object, a definite task, an interest, a point of view, a problem.' (Popper, 1963 p.46)
The previous chapters have described how a problem was identified, a solution sought, a theory developed and a hypothesis formulated.

The next four chapters will state the problem, the aim of the research, the theory, and the hypothesis and examine them in the light of relevant literature from the pertinent disciplines. For the sake of clarity the conceptual elements of the model will be considered consecutively.

THE PROBLEM

The literature on schizophrenia suggests that people with schizophrenia and their families are adversely affected by the beliefs and attitudes towards schizophrenia of the public in general, and (mental) health professionals in particular (Wahl, 1987; Douglas, 1992). It further suggests that public education campaigns and academic training have failed to replace incorrect beliefs and prejudicial attitudes with accurate knowledge and equitable attitudes (Levey and Howells, 1994, 1995).

This research explores a solution to that particular problem and to the more general problem of changing beliefs and attitudes that are inaccurate and detrimental.

THE SPECIFIC AIMS OF THIS RESEARCH

To develop a conceptual model of cognitive restructuring and attitude change grounded in theories of learning, attitude change, psychology, communication and neuro-science.

To test that model by creating an educational intervention designed to change people's beliefs and attitudes towards schizophrenia and to investigate its effectiveness on experimental groups, drawn from a selected target population.
THE MODEL

The Dynamic Interactive Cognitive and Affective Model (DICAM) for Cognitive Restructuring and Attitude Change\(^1\) Proposes that the *equilibration* process whereby knowledge is assimilated or accommodated by experience thereby creating *schemata* upon which *attitudes* are formed can be accelerated by providing the necessary components of:

**ZPD\(^2\) + COGNITIVE CONFLICT + EMOTIONAL EXPERIENCE + VALIDATION**

in a carefully designed sequence which is then repeated. Each sequence or 'link' (in the chain) being textured to incorporate and build upon all the previous links.

THE RESEARCH HYPOTHESIS

The schizophrenia schemata (and consequent attitudes) of a target population can be changed by means of a single video presentation, created in accordance with the DICAM and with documentary\(\backslash\)drama production values at international broadcast standard.

Implicit in the conceptual model is the assumption that people's attitudes towards a given phenomenon are based on their underlying schema or schemata of that phenomenon\(^3\).

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\(^1\) The DICAM undergoes further development during the research period. The final model is presented and discussed in Ch.14.

\(^2\) The concept of ZPD (Zone of Proximal Development) is later superseded by the concept of a ZPC (Zone of Potential Change)

\(^3\) Throughout this text, except in direct quotation, the term 'schema' will be used in the singular and 'schemata' in the plural. One schema can be made up of many schemata, e.g. a 'Rose' schema may be made up of petals, colour, stamens, pollen, thorns, leaves, scent, bees, aphids, memories, love etc. Some schemata in each
The terms 'schema' and 'attitude' are widely used in a number of disciplines. The expectation of what is meant by the terms varies considerably. It is therefore important to define what this research understands to be 'schema' and what it understands to be 'attitude'.

**SCHEMA**

It is proposed that people's attitudes towards any given phenomenon are partially conditioned by what they know, or think they know, about that phenomenon and thus what they believe to be true about that phenomenon⁴. This marriage of knowledge and belief may be described as understanding. When one 'understands' a phenomenon then one 'owns' the knowledge, it becomes part of oneself, it cannot be un'known' or unlearnt, but it can be modified, developed, replaced or changed. This 'understanding' of a phenomenon is akin to a representation of that phenomenon in the brain. It is a pattern, a picture, a schema (Bartlett, 1932, Anderson, 1983).

If an individual's perception of a given phenomenon is to be changed, then it is this underlying schema which will have to be challenged, and modified (Rumelhart and Ortony, 1976; Abelson, 1981). In the specific terms of this study, which aims to change

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⁴This research also proposes that attitudes and schemata are conditioned by feelings about the phenomenon (emotion). Discussion of the fundamental role of emotion in the generation of schemata and attitudes is grounded in the neuro-scientific and clinical work of LeDoux (1987, 1992, 1993, 1994), Damasio (1994) and Lax.
people's beliefs and attitudes towards schizophrenia, it is their 'schizophrenia schemata', i.e., all the thoughts (feelings)\(^5\) and images that spring to mind when they hear or see the word, 'schizophrenia' that will have to be changed.

Broadly speaking, the formation of schemata, the challenge of those schemata through cognitive conflict and the ensuing equilibration process whereby new ideas and information are processed, either by being assimilated into an old schema or by forcing schemata to change in order to accommodate them, forms the basis of cognitive learning theory (Piaget and Inhelder, 1958; Anderson, 1977).

**Schemata as Mental Representations**

The cognitive view asserts that information can only be processed if the receiver has some type of internal perceptual or cognitive structure with which to perceive and organise it (Markus and Zajonc, 1985; Gardner 1985). This point of view is consistent with theories of mental representation, whereby a schema may be seen as a template (Bobrow and Norman, 1975) or cognitive map (Tolman, 1932; Gardner, 1985) by which to identify and categorise new experience, compare it with past experience in order to infer causality and, anticipate what is likely to happen next (Fiske and Taylor, 1991).

Incoming information does not have intrinsic meaning (Anderson, 1977). It is given meaning by the receiver in the light of the schemata that he or she already possess (Anderson et al, 1978). Games or quizzeses which require 'lateral thinking' furnish clear illustrations of this.

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\(^5\)The mnemonic salience of emotional response (Lang, 1978, 1993; LeDoux, 1992) and its relationship to the formation of schemata and attitudes will be discussed in Chs 8, 9 and 14.
For example it is difficult to know what has happened in the following scenario:

"You walk through a closed door into an empty room. There is a pool of water on the floor and some broken glass. A cat is sitting at the window. Jane and Larry are lying asphyxiated on the floor".....

until you realise that Jane and Larry are goldfish. Without a 'cat vs fish' schema, the story does not make sense. In this instance schemata may be seen as:

'organised collections of ideas, impressions and experiences that form mental representations of observed reality.' (McNight and Sutton, 1994)

Schemata as Dynamic Responsive Patterns

It has been suggested that template theories give an impoverished view of schemata (Anderson, 1977), seeing them merely as symbolic categories in a mental filing cabinet by which new information is organised and stored (Gardner, 1985). And indeed, as Eagly and Chaiken, (1993) point out, schemata have typically been described as:

'cognitive structures of organised prior knowledge, abstracted from experience with specific instances' (Fiske and Linville, 1980, p.543)

The DICAM does not accept the view of schemata as being merely fixed representations in memory. The DICAM views schemata as being dynamic and responsive agents in their own restructuring, reacting to and acting upon incoming cognitive and emotional sensory information (Markus and Zajonc, 1985) in an ongoing process of reorganisation and construction (Lawrence et al, 1984).
The concept of schemata as being responsive and dynamic is not new. In 1932 Bartlett described a schema as:

'...an active developing pattern' (Bartlett, 1932)

In his view a schema responds to new incoming data and, where that data is inconsistent with current schemata, actively engages in cognitive restructuring to produce a new or modified schema. This active and dynamic behaviour of schemata is fundamental to the theories of: cognitive educational psychology (Piaget and Inhelder, 1969; Anderson, 1977); cognitive developmentalism (Bruner, 1966; Kohlberg and Mayer, 1972) and cognitive balance (Heider, 1958) or dissonance (Festinger, 1957)

Piaget and The Gestalt Tradition

Although the theory of cognitive growth through the process of equilibration is traditionally attributed to the Swiss psychologist Jean Piaget (Piaget and Inhelder, 1969), the concept of the brain actively responding to, adding to and organising incoming sensory data was not new. The Gestalt psychologists, Kholer (1925), Wertheimer (1945) and Koffka (1924), reacting to the dominant behaviourist view of the brain as a passive receiver and storer of sensations (coming in from the environment), contended that the brain itself interacted with incoming sensory information in such a way as to make it more organised and more meaningful. Furthermore they saw this not as a learned behaviour but as a result of the brain's physiological and chemical structure. This early insightful view of the chemical activity of the brain has been strongly supported by recent studies in cognitive neuroscience conducted by LeDoux (1991, 1992, 1993, 1994, 1996) and Damasio (1994).
Consistent with theories of cognitive conflict (Piaget, and Inhelder, 1969; Kohlberg and Mayer, 1972), cognitive balance (Heider, 1946) and cognitive dissonance (Festinger, 1957), the Gestalt school developed the 'Law of Pragnanz' which states that: all mental events tend toward 'completeness, simplicity and meaningfulness' (Hergenhahn and Olsen, 1993). Problems present a state of cognitive disequilibrium which cause the organism to attempt to regain the balance in its mental system by solving the problem. According to the law of Pragnanz, a problem can exist only in two states: solved and unsolved and the cognitive balance which ensues once a problem is solved is more satisfying to the organism than cognitive imbalance.

According to Piaget (1964) solving the problem, resolving the conflict and restoring the balance is the active work of the schemata. Through the process known as equilibration new information is processed. Where this information fits easily into an existing schema it is assimilated and where it does not, then the nearest appropriate schema must adapt in order to accommodate it (Piaget and Inhelder, 1969). Piaget used the term 'schemata' to refer to the content free, patterns of behaviour or mental structures employed by a child to integrate new information. He defined a schema as,

"The structure or organisation of actions as they are transferred or generalised by repetition in similar or analogous circumstances" (Piaget and Inhelder, 1969)

Piaget himself did not consider it possible to accelerate the process of cognitive restructuring (Piaget, 1977). However he was primarily concerned with cognitive growth in terms of development rather than change, perceiving children to pass through a hierarchical series of stages of cognitive operations until reaching a 'formal' stage of logical thought somewhere in their mid-teens. This 'growth' was achieved through the process of equilibration described above.
The Process of Cognitive Restructuring (Schema change)

What the DICAM proposes is, that this same dual process of cognitive reorganisation, (assimilation) and/or cognitive restructuring (accommodation) i.e., the equilibration process, takes place, whether the change in cognition be one of development from a simpler or more concrete schema to one that is more complex or abstract, or whether it be simply a matter of changing the schema from one shape, pattern or form, into another. It is this process of cognitive restructuring that can, according to the DICAM, be stimulated, facilitated and accelerated through educational intervention.

This proposition is consistent with Anderson's (1977) conclusion that:

'Schema formulations emphasise the patterning of elements rather than the elements themselves..., schema use can be thought of as assimilation and schema change as accommodation... Without some schema into which it can be assimilated, an experience is incomprehensible and, therefore little can be learned from it but... Schema use must be a dynamic, constructive process, for it could not be the case that people have stored a schema to fit every conceivable situation...'

Schema change is the sine qua non of the acquisition of knowledge as opposed to the mere aggregation of information' (Anderson, 1977, p.420. *Italics* in original).

This view, which is grounded in Bartlett's theory (Bartlett, 1932), not only incorporates the notion of schemata as mental representations (Bobrow and Norman, 1975) but also sees them as having a dynamic and responsive function (Anderson, 1977) i.e. as being active agents in their own reformation and growth.

However, because behaviourism has dominated the study of psychology for so long, and because behaviourists view the brain simply as a passive/receptive organ, controversy
over whether schemata are fixed representations stored in the memory until activated or altered by some sort of cognitive process; or whether they are themselves fluid and dynamic, has continued:

'In one sense, when it is viewed as an information accepting system, a schema is like a format in a computer-programming language. Formats specify that information must be of a certain sort if it is to be interpreted correctly.

A schema is not merely a format, it also functions as a plan...schemata are plans for finding out about objects and events, for obtaining more information to fill in the format. The information that fills in the format at one moment in the cyclic process becomes a part of the format in the next, determining how further information is accepted. The schema is not only the plan but also the executor of the plan. It is a pattern of action as well as a pattern for action.' (Neisser, 1976, p.56)

Whether schemata are to be viewed as active or passive constructs, what Neisser did seem to have clarified was that they should not be viewed as:

'...a final constructed product in the perceiver's mind'.
(Neisser, 1976, p.57)

Neisser's analysis of schemata helps to explain how people encode information, filling in the gaps in what they actually observe or read, in terms of what they already know (or think they know) and influencing how they recall stories, incidents and information (Rumelhart and Ortony, 1977; Anderson and Pichert, 1978; Mandler and Johnson, 1977). It is consistent with:

'...the modern concept of schema (which) resembles Bartlett's original concept of internal, idealised holistic representations that set up expectations for incoming information and influence reproduction distortions, reductions, simplifications and insertions. Schema are the constructions that have been mentally placed upon the original information intake to produce homogenised memories and stereotypes that are imposed on the familiar and unusual alike' (Lawrence, Dodds, Volet and Browne, 1984)
The 'Filter' Effect of Schemata

While schematic processing allows for a rapid evaluation of situations, often from minimal information (provides a short cut) (Marcus and Zajonc, 1985) it can lead to stereotyping and mistakes. People, especially when they are stressed (as they may well be when faced with mental illness), tend to rely more on schemata (schematic representations, preconceived ideas) than reality (White and Carlston, 1983).

For example it has already been suggested⁶, that films and fiction have helped to create the familiar, stereotypic image of people with schizophrenia as being dangerous and aggressive and having a split personality. This is a common and inaccurate 'schizophrenia' schemata which has lead to fear, avoidance and stigma (Levey and Howells, 1994, 1995).

This sort of priming acts as a 'filter', altering people's perceptions of others and affecting their behaviour towards them (Wyer and Carlston, 1979). The 'filter' provided by previously formed schemata, affects both perception and recall (Bartlett, 1932; Fiske and Taylor, 1991) as illustrated below by Bartlett (1958) in his classic demonstration of how preconceived ideas (schemata) can influence perception:

For example in Fig: 1 different subjects were asked to reproduce the picture that they had been shown after a short delay. Between reproductions 6 and 8 the subjects appear to have applied a 'cat' schema to the somewhat ambiguous information contained in the drawing.

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⁶Brief reviews of the literature pertaining to the effects of film and video on attitudes towards mental illness can be found in Chs. 2 and 10.
Fig. 1. Owl - Cat. From R.C. Bartlett 'Remembering'.
Cambridge University Press (1932)
Allport and Portman (1947) provided another classic example of schemata functioning as a filter, in their interesting and complex analysis of the 'Psychology of Rumour'. This study describes how they showed a random sample of middle class white Americans a picture of an argument in the carriage of an underground train. A white man in worker's overalls, sporting an open switchback razor was aggressively challenging a well-dressed black man. In recall, many subjects 'remembered' the black man as being the aggressor, dressed in overalls and holding the razor.

Recent studies of the effects of prior knowledge and beliefs (De Bono, 1992; Petty et al, 1994; Wood et al, 1995) on attitude and attitude change confirm the importance of considering the filtering function of current schemata when developing interventions designed to change or modify attitudes. People are always more receptive to information that is presented in terms of pre-existing schemata (Bobrow and Norman, 1975; Greenwald, 1989). It is also important to remember that the 'new' schemata and attitudes which are expected to be generated by the experimental intervention will themselves provide the next 'filter'.

**Schemata and Information Processing Theory**

The assumption that a given schema can be altered is central to the theoretical model proposed in this dissertation. It is also fundamental to contemporary information processing theory⁷:

'In general, information processing may be seen as consisting of schema formation or activation, of the integration of input with these schemas, and of the updating or revision of these schemas to accommodate new input.' (Marcus and Zajonc, 1985)

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⁷ See Ch.7.
Conclusion:

Schemata as viewed by the DICAM

The DICAM postulates that schemata can be activated and challenged by cognitive and/or emotional information and, that in response to being challenged, schemata will either assimilate the new information or engage in a process of adaptation (Bartlett, 1932; Piaget and Inhelder, 1968; Anderson, 1977; Lang, 1993). This process of adaptation will involve cognitive elaboration and/or emotional experience (Cacioppo and Petty, 1986; Chaiken, 1980). During the process schemata will either be modified (reorganised) or will actively grow, to accommodate the new information (Rummelhart and Ortony, 1977). The 'new' schemata thus constructed are initially tentative and exploratory (Kelly, 1955). In the DICAM, these newly forming schemata are given the opportunity of 'flexing', of checking themselves out through spirally textured emotional experience and cognitive information (Bruner, 1966; Bandura, 1986). The provision of this carefully constructed chain of complementary cognitive and emotional data validates the 'new' schemata and consequently makes them available for the next cognitive or emotional challenge.

To conclude, this research offers the following contemporary and straightforward definition of schemata, grounded in the theories of Anderson (1977); and, Rummelhart and Ortony (1977):

Schemata are dynamic knowledge structures, which represent past experience, respond to new information and change accordingly.
ATTITUDE

The terms 'attitude' and 'schema' are not synonymous although in the literature on attitudes and attitude change they are sometimes confused (Eagly and Chaiken, 1993). It has been suggested that attitudes may be regarded as one type of schema or that schemata can be thought of as the cognitive aspect of attitudes (Markus and Zajonc, 1985). The basic difference between the concepts seems to lie in their application. Schemata are generally viewed as purely cognitive constructs relating to information processing and are seldom studied in terms of behaviour (Taylor and Crocker, 1981). Attitudes are regarded as evaluative constructs with cognitive, affective and behavioural components and are frequently studied in terms of consequent behavioural outcomes (Eagly and Chaiken, 1993; Petty et al, 1997).

Attitudes as Summary Evaluations

The notion of evaluation is an essential component of almost every definition of attitude (Olson and Zanna, 1993):

'Thus, attitudes are commonly viewed as summary evaluations of objects (e.g. oneself, other people, issues etc.) along a dimension ranging from positive to negative' (Petty et al, 1997, p.3).

In the attitude literature it is more common for attitudes to be compared with beliefs than with schemata, with attitudes being seen as convenient summaries of one's beliefs (Cacioppo and Petty, 1986):

'As you and a friend walk out of a movie that you have just seen, one of the first things that one of you asks the other is "What did you think of it?" When you are introduced to your brother's new girlfriend, he asks you after the meeting, "How does she seem to you?". In response to these questions, you are not initially likely to give your beliefs about the movie (e.g. "the direction was weak"), or about the girl (e.g. she has blonde hair"). The response that you assume the other person wants,
and the response that you are most likely to give, is a general attitude: I liked it (or her). Only further probing is likely to elicit your more specific thoughts. Your attitude serves as a convenient summary of a wide variety of beliefs about the movie or the girl" (Cacioppo and Petty, 1981, p.7-8).

Consistent with Cacioppo and Petty’s (1981) simple example and, given that a schema has been defined (above) as a dynamic and responsive knowledge structure grounded in past experience, it is logical to view an attitude as being the evaluative and affective expression of a schema (Pratkanis and Greenwald, 1989).

Traditionally schemata have been treated solely as cognitive constructs, although a few schema theorists (e.g. Fiske and Linville, 1980) have suggested that schemata "elicit affect as well as inference" (p.522). One of the assumptions of the DICAM as discussed in Ch.14 is that emotional arousal and emotional information can impact on cognitive restructuring (and consequently on schema formation) just as potently as cognitive information (Lang, 1979, 1993; Hatfield et al, 1993, Ledoux, 1991, 1994, 1996; Goleman, 1996). The implications of this are discussed in Ch.9. However, the DICAM became fully developed over a four and a half-year research period 1993-1998. The experimental intervention (the 'integrated model' based on the DICAM) was developed halfway through that period. It is therefore necessary to present the definition of attitude as opposed to schema as it was then conceived.

According to Asch (1952) an attitude is an organisation of experience and data with reference to a phenomenon which, although it is in itself a structure with component parts, is also a part of another wider structure, representing a perspective (point of view), a relatively unified way of looking at data:

'a given view (which) is relatively unified, consisting of interdependent parts in mutual relation.'(Asch 1952)
'a given view (which) is relatively unified, consisting of interdependent parts in mutual relation.' (Asch 1952)

In everyday parlance the term 'attitude' may frequently be used for both attitudes and underlying schemata. This is because, while nearly everybody will have an 'attitude' schema, only a few people (e.g. students of cognition) will have a 'schema' schema. For example, if you were to say to somebody, "You have a pretty deplorable attitude towards people with schizophrenia", he or she may not agree with you but he or she will certainly know what you are talking about. If on the other hand you say, "Good grief. Your schizophrenia schema leaves a lot to be desired!", he or she may be less offended but, predictably, he or she will be none the wiser.

**Attitudes as Systems**

Zanna and Rempel (1988) theorise that an attitude can be viewed as a system, which includes behaviour, behavioural intentions, cognitions and affective responses. The attitude itself is a summary evaluation, which includes the other components of the system, draws upon past experience and can itself influence cognitions, affective responses and future intentions and behaviour.

Zimbardo and Leippe offer a clear example of an attitude system (See Fig. 2.) which is summarily expressed in the attitude: 'I am in favour of reducing the legal drinking age to 18.'

Viewing an attitude as a system emphasises the interconnectedness of the individual components. This means that a change in any one component may produce change in another. Thus a change in behaviour may effect a revision of attitude just as
Fig. 2. **AN ATTITUDE SYSTEM**

<table>
<thead>
<tr>
<th>BEHAVIOUR INTENTIONS</th>
<th>BEHAVIOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;I would give a beer to a responsible 18-year-old.&quot;</td>
<td>&quot;I argued for an 18-year-old drinking age in conversation with friends.&quot;</td>
</tr>
<tr>
<td>&quot;I intend to vote for a referendum lowering the age.&quot; drinking age.&quot;</td>
<td>&quot;I wrote to my congressperson to protest the current drinking</td>
</tr>
</tbody>
</table>

**ATTITUDE**

"I am in favour of reducing the legal drinking age to 18."

<table>
<thead>
<tr>
<th>COGNITIONS</th>
<th>AFFECTIVE RESPONSES</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;Tavern owners are hurt financially by a legal age of 21.&quot;</td>
<td>&quot;I enjoy drinking socially.&quot;</td>
</tr>
<tr>
<td>&quot;Lowering the drinking age will reduce consumption of hard drugs.&quot;</td>
<td>&quot;It angers me that 18-year-olds can be drafted for war, but cannot drink socially.&quot;</td>
</tr>
<tr>
<td>&quot;Alcohol use, in moderation, is an important social behaviour.&quot;</td>
<td></td>
</tr>
</tbody>
</table>

(From Philip G. Zimbardo and Michael R. Leippe *The psychology of attitude change and social influence*. Philadelphia. Temple University Press 1991. Fig.1.1. p.33)

Successfully as a change in knowledge (Bem, 1972; Zimbardo and Leippe, 1991). There is strong empirical evidence (Janis and Mann, 1977; Watts, 1977) that simply playing a role, i.e., enacting a given behaviour, is sufficient to produce attitudinal change even in really difficult areas such as racial prejudice (Byrnes and Kyger, 1990).
The ABC of Attitudes

A tripartite view of attitudes has been influential from the earliest studies of the concept (McGuire, 1985). Theorists like Triandis (1971) Katz (1960), Asch (1952) and Breckler (1984) have all subscribed to what came to be known as the ABC theory of attitudes. They contended that attitudes have three components: affective, behavioural and cognitive (hence ABC) and have offered the following definition of attitudes:

'An attitude is an idea charged with emotion, which predisposes a class of actions to a particular social situation' (Triandis, 1971)

More recently researchers have ceased to assume that all attitudes necessarily have an affective, cognitive and behavioural component, and have come to regard these domains as correlates of attitudes (Olson and Zanna, 1993).

Whether attitudes are being studied in terms of formation:

'For example Zanna and Rempel (1988) argued that attitudes can be based upon, or develop from, affective information (as in the case of conditioning?), cognitive information (as in the case of knowledge-based evaluations), and behavioural information (as in the case of self-perception inferences from prior actions) (Olson and Zanna, 1993, p. 120)

or in terms of attitude response:

'Eagly and Chaiken (1992) explain how attitudes can generate affective responses (e.g. liking for an object), cognitive responses (e.g. attributions for the target's actions), and behavioural responses (e.g. overt actions towards the target) (Ibid., p. 120)

the affective-cognitive-behavioural framework remains a useful heuristic.

7 It will later be argued that referring to affective information largely in terms of conditioning is an impoverished view of the role of emotion in attitude formation and change (Lang, 1978, 1993; LeDoux, 1992; Goleman, 1996). See Ch.14)
The Cognitive Component of Attitudes

Triandis (1971) describes the cognitive component of attitudes in terms of 'categories', arguing that humans think in categories and therefore instinctively categorise all incoming data. The categories are inferred by a consistent response (Campbell, 1963) to discriminably different stimuli. Triandis gives the example of the category 'cars':

'The category cars can be inferred by determining that people make similar responses to Fords, Chevrolets, etc... A person who does not have the concept of car also would not have an attitude towards cars. When seeing a car he would probably place it in one of his already existing categories (for example monster) and might have an attitude towards this object but not towards cars. The cognitive representation is the minimum condition for having the attitude (Triandis, 1971. Italics in original).

Clearly what Triandis is describing here is the same mental representation described earlier as the 'template' attribute of a schema (Bobrow and Norman, 1975). As previously mentioned, more recent research has tended to categorise attitudes themselves as either affective or cognitive depending upon whether they are based on cognitive or affective information, for example Millar and Millar (1990) classified subjects' attitudes towards a particular drink as either affect based (liking the drink because it made them feel refreshed) or cognition based (liking it because it was low in calories). However according to schema theory (Anderson, 1977), both attributes could be incorporated into a drink schema or 'template' incorporating a refreshing taste and few calories (Markus and Zajonc, 1985). In this case the particular drink schema might correspond to 'Seca SX', a broader drink schema might correspond to 'Toyota', and the generic drink schema might correspond to 'car'.

Whether, as Triandis infers, having a schema is the minimum condition for having an attitude is debatable. Recent research has found (Krosnick et al, 1992) that attitudes
towards neutral objects can be conditioned by the subliminal presentation of affect-arousing images. Similarly LeDoux' neuro-scientific research (1992) has shown that affective information can short circuit rational thinking and produce immediate feelings and reactions, based on neuro-biological responses which have no basis in cognition. Perhaps it would be wiser to propose that an attitude is generally an evaluative response to, or an evaluative expression of, an underlying schema.

Summary

The dynamic interactive relationship of cognition and affect is a fundamental proposition of the DICAM. Therefore there is a general reluctance in this research to categorise any psychological concept, or part thereof, as being solely cognitive or solely affective, however it is convenient at this point to view the cognitive component of attitudes as being the sum total of what is known, or believed to be known about a given attitude object, i.e. a schema.

The Affective Component of Attitudes

Just as schemata, having a dynamic component, are more than mere templates or mental representations, so attitudes, are more than concepts which can be mentally categorised, because unlike schemata, which are traditionally viewed as solely cognitive constructs (Eagly and Chaiken, 1993), attitudes have an emotional component:

'The cognitive category must become associated with pleasant or unpleasant events or desirable or undesirable goals. When this happens the category becomes charged with affect' (Triandis 1971).
Allport\textsuperscript{8} himself listed as one of four conditions for the formation of attitudes:

\textit{'trauma, involving a compulsive organisation of the mental field following a single intense emotional experience.'} (Allport, 1954).

In the early sixties, when theories of cognitive stability [i.e., balance (Heider, 1958), congruity (Osgood and Tannenbaum, 1955), consistency (Rosenberg, 1956, 1960) and dissonance (Festinger, 1957)] were dominant, Rosenberg (1960) and his colleagues argued that internal conflict resolution was not solely cognitive. They proposed that since both cognitive and affective factors affect attitude change, people try to bring beliefs and feelings into congruence (Rosenberg et al, 1960) and that emotional conflict was potentially more disturbing to the organism than cognitive conflict.

After three decades of basically cognitive research, Solomon Asch (1987) concluded, that although there could be no change in attitudes without a corresponding change in beliefs, the emotional component of attitudes was frequently dominant and was the more salient factor in attitude persistence and resistance to change.

Fishbein (1967) even went so far as to define attitudes solely in terms of their affective component:

\textit{'(Attitudes are) learned predispositions to respond to an object or class of objects in a consistently favourable or unfavourable way'} (Fishbein, 1967 p.257)

When attitudes of prejudice and stigma are considered, attitudes which are the primary focus of this (the DICAM) study, Both Levey and Howells (1994,1995) and

\textsuperscript{8}Gordon Allport is commonly accepted as the definitive attitude theorist.
Batson and his colleagues (1997) have alleged that these attitudes have a predominant emotional component and have cogently argued for an emotional strategy to be adopted in designing interventions to change them.

Prejudicial attitudes, which generally involve fear and avoidance, are often formed early in life (Zimbardo and Lippke, 1991;) and are subsequently justified through biased cognitive elaboration (Petty et al, 1997). As Levey and Howells (1994, 1995) point out and Helweg-Larsen and her colleagues (1997) confirm, cognitive strategies alone have consistently failed to change such attitudes (Levey and Howells, 1994). On the other hand, Batson and his colleagues found that prejudicial attitudes could be changed and stigma reduced, through emotional strategies, in this case through the promotion of emotional empathy with one or more members of a stigmatised group (AIDS sufferers, homeless people and convicted murderers) (Batson et al, 1997).

The promotion of emotional empathy works directly within the affective domain of attitudes and has both a biological and a learned component (Batson, 1991). Empathy can be developed through vicarious emotional arousal (Zhan-Waxler, Radke-Yarrow and King, 1979) which then generates helping behaviour (Coke, Batson and McDavis, 1978). The implications of this are crucial to the DICAM and the 'Integrated model' (film) based upon it.

The 'integrated model' does not only work through cognitive conflict and observational learning (modelling) i.e. learning theory but, by creating a simulation of the experience of schizophrenia it also creates emotional arousal. That is, genuine sensory arousal due to a vicarious experience (Bandura, 1986; LeDoux, 1987; Goleman, 1996), which creates biological as opposed to learned empathy (Batson, 1991).
This sensory emotional response imprints itself in memory with an added degree of
strength (LeDoux, 1992) and it is the memory of this emotional response which then
aids the neo-cortex (the cognitive centre of the brain) to remember the stimulus
(images, words) which caused the response and the meaning attributed to it (Lang,
1993). Thus it can be seen that emotional arousal or experience can precede and in fact
trigger, cognitive restructuring.

This is contrary to the traditional view of the equilibration process as being prompted
by cognitive conflict and subsequently facilitated through experience (Piaget and
Inhelder, 1968). The DICAM, and the 'Integrated model' based upon it, pre-suppose
the dynamic interaction of cognition and affect. Sometimes cognitive conflict (factual
information about schizophrenia) precedes affective experience and the emotional
response associated with it. At other times an emotional response (vicarious arousal
through drama) is used to challenge the cognitive component of attitude (schemata)
and thus create both emotional and cognitive conflict. The elevation of the role of
emotion from a peripheral cue (Cacioppo and Petty, 1986) or mood factor (Davis et al,
1997) to a fundamental agent in cognitive restructuring and attitude change, is one of
the unique contributions of the DICAM and will be discussed more fully in chapters 9
and 14.

The Behavioural Component of Attitudes

The outward expression of attitudes is behaviour (Olson and Zanna, 1993). Attitudes
predispose a person to behave or act in a certain way (Petty and Krosnick, 1995).
However, behaviour cannot always be used as a measure of attitudes and attitudes
cannot always be used to predict behaviour (Trafimow and Fishbein, 1994).
Other factors (both external and internal) may influence actual behaviour, for example: cultural norms, social constraints and individual personality factors\(^{10}\) (Zimbardo and Lipepe, 1991; Kraus, 1995).

Behaviour may be modified and new behaviour learned (Skinner, 1974; Lovaas, 1981). Some new behaviours may be attributed to a change of attitude, thus it could be argued that new attitudes, like new behaviours, can be learned through behaviour modification. Perhaps they can. It has been argued (Campbell, 1975; Janis and Mann, 1977; Breer and Locke, 1965) that practiced or modelled (Bandura 1986) behaviour can be a determinant of attitude and that attitudes are derived from self-perception of past behaviour (Bem, 1972; Fazio, 1987). Eagly and Chaiken remark that the impact of behaviour on attitudes is:

'a research area (that) now poses unique challenges that should inspire rigorous theoretical development.. (Eagly and Chaiken, 1993, p.553)

Nonetheless it is traditionally argued that for a new behaviour to be based on an 'attitude' rather than being simple imitation or role play, there would have to be some internal cognitive re-organisation of past experience (Ach, 1905; Rosenberg et al, 1960; Jahoda and Warren 1966). Viewed in this way behaviour is predominantly seen as being the result of an attitude.

\(^{10}\)Attitudes are related to but distinguished from 'culture'. Culture refers to attitudes and beliefs which exist irrespective of individual differences. Attitudes are related to but distinguished from 'personality' or personality traits e.g. authoritarian, aggressive etc. Personality refers to the total organisation of internal psychological functioning. The task of the social psychologist is ultimately that of setting personality, attitudes and culture in a system of interdependent relationships (Jahoda & Warren 1966).
In conclusion, the ABC theory of attitudes continues to be a useful paradigm in the design of experimental models of attitude change. It has been employed as a guiding principle in the development of the DICAM and the 'Integrated model' based upon it. Consequently it would be presumptuous to attempt to offer a better contemporary definition of the term 'attitude' than that offered by the historical mentor of attitude research G.W. Allport:

'An attitude is a mental and neural state of readiness, organised through experience, exerting a directive or dynamic influence upon the individual's response to all objects and situations with which it is related.' (Allport, 1935)

IMPLICATIONS FOR THE DICAM

This research accepts that attitudes are based upon underlying schemata. Schemata have been described as 'dynamic knowledge structures'. In this definition the emphasis is put on 'knowledge'. Schemata are seen as 'cognitive' patterns, concerned with meaningful representations of phenomena in the brain. Thus they are seen to be primarily involved with what is known, or believed to be known. This then is the 'schema' schema underlying the conceptual model of the DICAM\(^\text{11}\).

Attitudes, on the other hand, are seen to be predominantly evaluative and therefore emotional, they are concerned with 'how you be', i.e., the way you feel, react and therefore are likely to want to behave towards a given phenomenon\(^\text{12}\). This then is the 'attitude' schema for this research.

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\(^{11}\) As previously mentioned the role of emotion in cognitive restructuring and consequent schema change, evolved as a proposal of the DICAM during the research period and will be discussed in Ch. 14.

\(^{12}\) *want to behave* is used rather than simply *behave* because, as mentioned in the text, other factors (both external and internal) may influence actual behaviour, e.g.: cultural norms, social constraints and individual personality factors.
In order to design an intervention aimed at changing attitudes towards schizophrenia, it was necessary to clarify the term 'attitude', examine its component parts and identify what was to be targeted for change. In this case underlying schemata (i.e. beliefs about schizophrenia) were identified, and Triandis' (1971) assumption, that an attitude cannot be changed unless its underlying schemata (or cognitive component) is changed, accepted. However it is also emphasised that cognitive methods alone have been found insufficient to change attitudes (Sheridan et al, 1994; Helweg-Larsen, 1997) especially attitudes that are emotionally charged (Asch, 1987, Levey and Howells, 1994.)

Therefore the DICAM proposes and the 'Integrated model' tests the proposition, that: the cognitive component of attitude (tacit: schemata) and the affective component (which is primarily stimulated by emotional experience) are in a constant dynamic interactive relationship; and, that it is this interaction which generates cognitive restructuring and consequently, attitude change.

The DICAM views the relationship between cognition and emotion as an interaction, which produces an effect greater than that, which could be produced by the sum of its component parts. It also proposes that emotion and emotional experience play a critical role in the process of cognitive restructuring\(^\text{12}\). The model proposed in the present research depends upon this fundamental integration of cognition and affect. However, for the sake of clarity, the following chapter (8) will focus primarily on the cognitive component of the conceptual model, chapter 9 will focus on the emotional component and chapter 10 on its practical application.

\(^{12}\)See Chs, 9 and 14.
It is not possible to isolate any one component of the model from any, or all, of the others. However for the sake of clarity this chapter will focus the cognitive component of attitude change. Traditionally it has been believed that the general pathway to attitude change is through a change in beliefs (Ajzen and Fishbein, 1980) i.e., cognitive restructuring; schema change.

ZPD: ZONE OF PROXIMAL DEVELOPMENT

Both Piaget (1977) and the Russian scientist Lev Vygotsky (1978), proposed that optimal learning takes place when it is initiated at the subject's own cognitive developmental position. Vygotsky elaborated on this by postulating that each person has a potential 'zone of proximal development'. This zone refers to what the person is currently able to do and what he or she could do, given the guidance and assistance of a more able peer or teacher (Rogoff, 1990). It is within this zone of growth that the learner can bring his or her own richly personal and spontaneous concepts and reorganise them in the light of the more abstract and coherently organised conceptual knowledge made available through cultural transmission (Renshaw, 1991).

For the purpose of the DICAM this 'zone of proximal development' (ZPD) can be described as a cognitively sensitive area which capitalises on the fluid and dynamic aspect of schemata and is responsive to both cognitive and affective stimulation. It is within this 'zone' that both cognitive restructuring and attitude change take place (Wertsch and Stone, 1985; Baron and Misovich, 1993).
The practical implication of the concept for the DICAM, as expressed in the 'Integrated' film', was that an appropriate ZPD should be created right at the start of the film. Primacy has been considered a critical factor in attitude change since Lund first observed it in 1925 (McGuire, 1985). In cognitive terms, the target's schizophrenia schemata (and any other schemata relevant to the desired change) needed to be activated and engaged (Wertsch and Stone, 1985). Once this was in train the 'Integrated' film (in the role of expert) could be structured, like a scaffold (Bruner, 1981; Rogoff, 1990), to lead the participant (the novice) through a more rapid learning process than would have been possible without interactive assistance (Rogoff et al, 1991). In affective terms the participant's attention, interest and emotion had to be engaged (Zimbardo and Lippe, 1991).

The ZPD itself is not static, it can be regarded as: 'the crucible of development and of culture' (Rogoff, 1990 p.16) within which participants, like apprentices, are guided into activities or ways of thinking slightly beyond their competence (Vygotsky, 1978; Wertsch, 1979; Rogoff, 1990 Renshaw, 1991:).

As the participants or novices are 'guided' into new ways of thinking through:

\[ \text{vicarious arousal} \]
\[ \quad \text{+ cognitive conflict} \]
\[ \quad \quad \text{+ vicarious experience} \]
\[ \quad \quad \quad \text{+ validation by an expert}, \]

so the ZPD itself, grows and changes.

In a sense it is transformed and a 'new' ZPD is created. In the DICAM this is symbolised as a 'link' in a 'chain'.

The ZPD, which has now been expanded, or re-created, is ready to receive: further cognitive input, which will create further conflict; and, further vicarious emotional experience, which will interact with cognition, to 'make sense' of the new information and thus resolve the conflict. From the constructivist point of view (Vygotsky, 1986; Bruner, 1986) all learning involves this active process of meaning making (Renshaw 1991).

Because the aim of this study was to change prejudicial beliefs and attitudes (towards schizophrenia), attitudes which have already been identified as having a salient affective component (Zimbardo and Lippke, 1991; Levey and Howells, 1994; Batson et al., 1997), it was planned to activate the ZPD primarily through emotional arousal, i.e., drama\(^1\). This is in line with recent psychodynamic (Lang, 1993) and neuro-scientific

\(^1\)A description of how the ZPD is created in the 'Integrated' film can be found in Ch. 11.
research (LeDoux, 1992)\textsuperscript{2}, both of which support the temporal primacy (Zajonc, 1980) and the mnemonic salience of affect (Lang, 1979, LeDoux, 1978). However, although the DICAM elevates emotion from a peripheral, to a central role in attitude change, it still accepts Triandis' premise that for enduring change to take place there must also be a change in belief (Triandis, 1971). This change is seen to take place when former schemata are challenged either by affect or cognition leading to cognitive conflict.

**THEORIES OF COGNITIVE CONFLICT**

Cognitive conflict occurs when incoming sensory information challenges the organism's existing cognitive structure i.e., the number of schemata available to the organism at a given time (Anderson, 1977). According to cognitive science, an organism is only able to understand and respond to the environment in terms of its cognitive structure (Rummelhart and Ortony, 1977; Norman, 1980). In a very real sense this cognitive structure is not only affected by experience but also determines what can be experienced:

> If a physical event cannot be at least partially assimilated into the organism's cognitive structure, that physical event cannot constitute a biological stimulus (Hergenhahn and Olsen 1993 p.239)

Like the Gestalt psychologists before him, Piaget theorised that a lack of cognitive comfort will motivate the organism to actively restore the equilibrium through assimilation or adaptation (accommodation) and thus pave the way for new and different interactions with the environment (Piaget, 1977). As stated previously, the DICAM recognises cognitive conflict and the resolution of that conflict as major factor in attitude change.

\textsuperscript{2}To be discussed in Ch.9.
Information Processing

Influenced by Piaget, information-processing psychologists also view humans as receiving information from the environment, processing that information, in one or more ways and then acting upon it (Norman, 1980). Thus the output (behaviour) in a given situation, is determined by the input provided by the situation and by the organism's evaluation of the situation, based in part on memories of what has resulted in similar situations (Gage and Berliner, 1991). Information processing psychology attempts to be very specific about the exact stages of processing that take place in the human brain and to spell out the properties of the internal mechanisms involved (Norman, 1986). In order to clarify this they frequently use the analogy of a computer.

Humans process information on three levels: sensory, perceptual and then in terms of the memories of prior experience (Schank, 1980). At each level the information is recoded and some may be lost or distorted (Hergenhahn and Olsen, 1993) (See Fig 4).

Norman (1986) saw accretion as the most common form of learning, i.e., the encoding of new information in terms of pre-existing memory schemata. The act of processing the new information in terms of old information, changes the existing schemata and the resultant schemata are used to process the next lot of new information. More assimilation than accommodation is involved in the accretion process, because this model relates more to adults than to children.

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3 The limitations of the analogy of the brain as a computer are discussed in Ch.9.

4 Young children (early experiences) involve more accommodation because as the individual matures more and more of what is experienced will correspond to existing cognitive structures.
When the existing schemata are unable to cope with the new information coming from the environment new ones must be formed. Norman refers to this as *structuring*, literally creating new schemata. This is the most difficult kind of learning. As an analogy Norman cites the example of learning to drive: first one has to learn a driving schema: *structuring*. After that learning to drive different cars is easier: *accretion* (Norman, 1986).
The DICAM acknowledges the metacognitive principles of information processing theory as a part of the dynamic process of cognitive restructuring and attitude change. However, as will be discussed in the following chapter, information processing theory is seen to have underestimated the fundamental contribution of emotion to the process of rational thought (Lazarus, 1991; Hatfield et al, 1994; Goleman, 1996). The DICAM attempts to redress the balance.

The conceptual roots of information processing theory may be traced to the nineteenth century philosopher Immanuel Kant. Kant believed that the faculties of the mind actively contribute to and transform, sensory experience, thereby giving it greater organisation and meaning (Munn, 1966). However unlike Kant, who perceived the faculties of the mind to be innate, Piaget regarded them as the cumulative result of maturation and experience⁵.

**Maturation, Developmentalism and Stage Theory**

The element of maturation was central to Piaget's theory. He was, as stated earlier, primarily interested in cognitive development and, like many of the cognitive developmentalists who succeeded him, he believed that the organism passed through a series of hierarchical stages, mastery of one stage being a pre-requisite for entry into the next. For Piaget the passage through each stage was partly dependent upon maturation and therefore he did not believe that the process could be accelerated.

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⁵This is speculative. Initially Piaget was a biologist. It is not known whether his theory was partially derived from Kant's philosophy or whether the correspondence is purely coincidental.
Kohlberg and Mayer define a developmental stage thus:

'A stage is a delimited structure of thought, fixed in a sequence of structures, but theoretically independent of time and total organismic state (Kohlberg, 1969; Loevinger, 1970). Such stages are hierarchical reorganisations; attainment of a higher stage presupposes attainment of the prior stage and represents a reorganisation or transformation of it. Accordingly, attainment of the next stage is a valid aim of educational experience. For the interactionist, experience is essential to stage progression, and more or richer stimulation leads to faster advance through the series of stages.... the hypothesis is: that some moderate or optimal degree of conflict or discrepancy constitutes the most effective experience for structural change.' (Kohlberg and Mayer 1972, p.72)

Unlike Piaget, Kohlberg and Mayer postulated that stage development could be accelerated by richly providing the necessary elements of cognitive conflict and interactive experience. Every experience was regarded as involving assimilation and accommodation, these being viewed as functional invariants occurring at all levels of intellectual development or growth. The resulting modification of cognitive structures (schemata) was roughly equated with learning (Kohlberg and Mayer, 1972).

The 'learning', which the DICAM proposes can be accelerated, is achieved through the same process of cognitive restructuring although it is not associated with physical maturation or with the passage through any series of stages. In practical terms the creation of a film intervention designed to initiate, facilitate and accelerate pro-social cognitive and attitudinal change may be viewed as a logical extension of the types of intervention developed by Kohlberg (1969) and Rest (1979) in the early seventies. These interventions, designed to accelerate progression through stages of moral judgement employ the same components as those proposed by the DICAM.
Acceleration of Cognitive Restructuring through Identification

The resources created by Kohlberg (1969) and Rest (1979) to accelerate stage progression, required subjects to identify with models who were faced with various moral dilemmas. A classic example being 'Heinz and the Drug'. *Heinz' wife has cancer, a local druggist will not reduce the price of the only medicine that can cure her, Heinz cannot afford the drug so he considers stealing it. Should he?* (Kohlberg, 1969). The subjects were asked to experience these dilemmas vicariously and sometimes, to act them out in role-play (Kohlberg, 1969, Rest, 1979). The effect of role play in attitude change was well documented by the 'Yale' group of researchers in the 1950s (Hovland et al, 1953; Janis and King, 1954; Janis and Mann, 1965), who found that subjects were prone to adopt the attitudes and beliefs which they were required to expound in role play or debate. This is consistent with later theories of self-perception (Bem, 1972) biased scanning (Greenwald, 1970) and biased cognitive elaboration (Petty et al, 1981; Petty et al, 1997).

Inducing cognitive restructuring by appealing to cognitive empathy, i.e., perceptions of relevance, similarity and involvement (Berscheid; 1985; Vrij et al, 1996) has an immediate pay-off because converts are eager to defend a newly adopted position and to convert old friends to a similar viewpoint (Zimbardo and Lieppe, 1991; Hatfield et al, 1994). This helps to consolidate their own 'new' schemata and attitudes through thinking behaviour (cognitive elaboration) and verbalisation (Vygotsky, 1985; Greenwald, 1989; Petty et al, 1997). A striking example of the success of this type of enrolment can be found in the dynamic growth of the Landmark Education Corporation, which relies solely on 'word of mouth' promotion from satisfied participants.
According to social cognitive theory (Bandura, 1986), identifying with a model in a film i.e., vicariously experiencing that role, is almost as effective, in terms of learning, as is directly experiencing that role in role play. The promotion of identification and consequently, empathy (Batson, 1991; Batson et al, 1997), is a critical component of the 'Integrated model', based on the DICAM and is discussed at some length in Chs 9, 11 and 14. It is the practical expression of one the most significant propositions of the DICAM, i.e., that emotion and emotional response, play a fundamental and functional role in cognitive restructuring and attitude change.

In line with social cognitive theory (Bandura, 1986) and inoculation theory (McGuire, 1964, 1985) this 'verbalisation' of 'new' or modified schemata and attitudes is modelled for the target population within the 'Integrated model' itself, giving the subjects practice at counter-arguing and debunking their 'old' (commonly held) beliefs and attitudes (as identified in the pilot studies and the literature on schizophrenia). This method of 'inoculation' has been successfully employed in recent public health campaigns designed to discourage smoking (Flay et al, 1985) and alcohol abuse (Chassin et al, 1990). Examples of how identification and inoculation are used in the 'Integrated model' can be found in Ch. 11.

THE DICAM AND BEHAVIOURISM

The DICAM and the 'Integrated model' based upon it, were developed over a four year period. During that time many theories of learning and of attitude change were considered, as were various theories of psychology, communication and neuro-science.

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8The major contribution of social cognitive theory to the DICAM will be discussed in Ch. 9.

The fundamental principle to emerge from this consideration was, that 'everybody is right' and 'nobody is wrong' or, to be more accurate, 'everybody is partially right' and 'nobody is completely wrong'.

Thinking as a Behaviour

Although The DICAM found its conceptual roots in cognitive learning theory (Piaget and Inhelder, 1969, Anderson, 1977) and, although contemporary cognitive theories appear to have developed in contrast to behaviourism (Hergenhahn and Olson, 1993), since behaviourism has dominated the science of psychology for the best part of this century it would be naive to assume that it has nothing to offer the DICAM. The DICAM may well be rooted in cognitive psychology but what it aims to change is a behaviour, because thinking is behaviour. It is one of the ways in which a person behaves and as a consequence, behavioural theories may apply just as aptly to the behaviour of thinking as to the behaviour of a rat pursuing cheese through a maze.

The school of Behaviourism was founded in the early twentieth century by John B. Watson (1913) who believed that the only reliable, observable, and measurable subject matter available to psychologists is behaviour:

'Psychology...is a purely objective experimental branch of natural science. Its theoretical goal is the prediction and control of behaviour.' (Watson, 1913 p.158)

What Watson did was to swing away from psychology's early focus on cognitive processes by means of personal introspection (Wundt, 1910), to something more overtly tangible and measurable,
'Watson had two lasting effects on psychology. First he changed psychology's goal from attempting to understand consciousness to the prediction and control of behaviour. Second he made behaviour psychology's subject matter. Ever since Watson, essentially all psychologists study behaviour. Even cognitive psychologists use behaviour to index postulated cognitive events. For this reason it can be said that all contemporary psychologists are behaviourists.' (Hergenhahn and Olson, 1993 p.51)

Behaviourism has had a profound effect on most learning theory. It can encompass both functionalistic (Darwin, 1872; Skinner, 1938) and associationistic (Aristotle, 384-322 BC; Pavlov 1927) theories. Behaviour modification, or the shaping of behaviour (Skinner, 1938, 1987; Lovaas, 1981) is based on the functional principle of instrumental learning i.e., that behaviours that are 'instrumental' in gaining good things (positive reinforcement) tend to be repeated and that behaviours that attract punishment or disapproval (negative reinforcement) tend to be extinguished.

Behavioural engineering has been demonstrated to work just as well on adults as it does on children, and has effectively been used to correct: stuttering, phobias, eating disorders and psychotic behaviour (Jones, 1924; Lovaas, 1981; Bandura, 1986; Rescorla, 1988; Hergenhahn and Olson, 1993).

'Shaping' Thought through Vicarious Reinforcement

If thinking is viewed as a behaviour, then a way of thinking (or what is being thought) can be viewed as a response, which, like any other response, may be reinforced either positively or negatively. To put it another way: if getting the reinforcer is contingent on emitting a type of response, then that response could be a thought, or a belief, or an attitude. Thus, in the 'Integrated model' based on the DICAM, the 'modelled' approval of credible sources was used as a positive reinforcer (Bandura, 1986) to promote and validate desired attitudes and cognitions.
Classical Conditioning and Cognition

In practice, associationists have shown that attitudes can be influenced without people even being aware of the attempt. This was recently demonstrated by Krosnick and his colleagues (1992), who successfully influenced attitudes by pairing a neutral stimulus with subliminal exposure to affect inducing photographs (Krosnick et al, 1992).

Classical conditioning (Pavlov, 1955) which in the DICAM study involved pairing the favoured stimulus (i.e., the person with schizophrenia) with a positive stimulus like pleasant music or sexual attractiveness, is one of the ‘stock in trades’ of the advertising industry (Gorn, 1982); while the credibility and attractiveness of source and models (identified by the Yale group in the 1950s), remain key factors in the promotion of empathy, identification and attitude change (Batson et al, 1997; Davis et al, 1997 for review see Wilson and Sherrill, 1993). The implications of both association and reinforcement are discussed further in Chs 9 and 10.

Although it is generally believed that attitude shaping through conditioning is a purely affective, or peripheral factor (Cacioppo and Petty, 1986, Petty et al, 1997), the DICAM proposes that the affective experience, or emotional response (Lang, 1993) can initiate and facilitate genuine cognitive restructuring, as the organism strives for consonance through an interactive integration of feeling and thought (Lang, 1979; Greenwald, 1989; Lazarus, 1991; Goleman, 1996).

Just as the development of the DICAM has been guided by an eclectic view of learning theory, it has also drawn upon the diverse views that have been expounded by Social Psychologists to account for the dynamic process of attitude change. These have been conveniently summarised by William McGuire (1985) see fig: 5.
<table>
<thead>
<tr>
<th>THE DYNAMIC PROCESS OF ATTITUDE CHANGE (adapted from McGuire, 1985)</th>
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<tr>
<td><strong>ACTION INITIATION</strong></td>
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<td><strong>NEED FOR STABILITY</strong></td>
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<td><strong>AFFECTIVE STATE</strong></td>
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Two of the four dimensions concern forces that instigate action and two concern forces that terminate action. 'Being' as opposed to 'becoming', i.e., acting to maintain the status quo or equilibrium (Festinger, 1957; Asch and Zuiker, 1984) as opposed to acting to grow or develop (Hastie and Kumar, 1979; Greenwald; 1980). The second 'active' versus 'reactive', instigating dimension separates theories into those depicting behaviour as actively invoked by internal needs (Ross, 1977; Seigal, 1982) as opposed to external or environmental pressures (Zimbardo and Lieppe, 1991).

The third and fourth dimensions divide the dynamic theories on the basis of desired goal states (whose attainments are postulated to terminate action sequences). The third, cognitive versus affective, distinguishes between theories depicting people as striving for cognitively satisfying end states e.g. consistency or understanding (Schlenker, 1992) and those striving for affective end states e.g. self esteem or tension reduction (Baumeister and Tice, 1984). The fourth terminating dimension distinguishes between theories depicting people as striving to achieve internal adjustments (personality) (Elkin, 1986), versus external adjustments between self and the external environment (Goethals and Darley, 1977). These partial views (of human nature) are seen to be complementary rather than antagonistic.

Theories of Cognitive Stability

The development of theories based on cognitive conflict in the study of learning or 'Educational Psychology', has been mirrored in the field of 'Social Psychology', by the development of theories of cognitive stability, e.g., cognitive balance (Heider, 1946), 1958), cognitive congruity (Osgood and Tannenbaum, 1955) cognitive dissonance (Festinger, 1957) and cognitive consistency (Rosenberg, 1960).
Like theories of cognitive conflict, theories of cognitive stability also declare cognitive discomfort to be a noxious state. The broadest of these theories is Festinger's classic theory of cognitive dissonance (Eagly and Chaiken, 1993), which holds that two elements of knowledge:

'...are in dissonant relation if, considering these two alone, the obverse of one element would follow from the other... dissonance being psychologically uncomfortable, will motivate the person to try to reduce dissonance and achieve consonance... in addition to trying to reduce it the person will actively avoid situations and information which would be likely to increase the dissonance' (Festinger, 1957).

Although this can lead to resistance, with the organism clinging to old schemata or in Festinger's terminology (1957), 'cognitive elements', it is more common for people to attempt to reduce, or eliminate dissonance, either:

a) by adding new cognitions which, add weight to one side and thus decrease the proportion of cognitive elements that are dissonant; or

b) by changing the relative importance of the cognitive elements which are in a dissonant relationship; or

c) by changing existing cognitions through cognitive restructuring.

According to Festinger a 'cognitive element' is anything a person cognises or 'knows', i.e.,

'The things a person knows about himself, about his behaviour, and about his surroundings' (Festinger, 1957, p.9)

e.g. 'I play tennis' or 'John votes Labour'. The relation between any two cognitive elements may be dissonant, consonant or irrelevant (Eagly and Chaiken, 1993).

See fig. 6.
Once consonance is achieved it tends to be consolidated, adding to the clarity of the 'new' or modified schemata and the strength of the 'new' attitudes (Festinger, 1957; Greenwald, 1989). In a series of studies Tesser (1978) demonstrated this principle of 'evaluative cognitive consistency' (Rosenberg, 1968; Greenwald, 1989), by showing that thought alone can serve to polarise attitudes about objects as diverse as people, artwork, fashions and football strategies (Zimbardo and Leippe, 1991). This is consistent with the propositions of the two current (1998) dominant models of attitude change, both of which emphasise thinking about message relevant information and arguments (Olson and Zanna, 1993; Petty et al, 1997), the Elaboration Likelihood Model, ELM (Cacioppo and Petty, 1981) and the Heuristic-Systematic Model, HSM (Chaiken 1980). These models will be discussed shortly.

McGuire's Matrix (Cognitive State\(^7\)) and the DICAM

Although somewhat cumbersome as an analytic tool, because the stated aim of this research was to create an educational intervention (based on the conceptual model of the DICAM), McGuire's matrix provided a useful checklist at the level of practical application.

\(^7\)Theories applying to the 'affective state' will be discussed in Ch.9.
The need for cognitive stability was recognised in creating characters relevant to the target population and placing them in familiar settings facing common situations (Vrij et al, 1996, Batson et al, 1997) i.e., by presenting scenarios which made sense to the viewer in terms of his or her own experience or mental representations. Current (schizophrenia) schemata and attitudes had been established through pilot testing and a review of the appropriate literature. Care was taken to recognise these within the film narrative and to lead the participants through a gradual process of cognitive challenge, reorganisation and growth, with textured repetition i.e., 'chaining', (Bruner, 1966) giving ample opportunity for reflection, consolidation and validation (Cohen, 1981; Rogoff et al, 1991).

At the same time attention was paid to the need for growth, stimulation and novelty especially in the use of screen production techniques designed to simulate the actual experience of schizophrenia. Studies have found a high level of recall for incongruent material (Fiske, Kinder and Larter, 1983) with subsequent cognitive reorganisation and restructuring to accommodate that material (Hastie and Kumar (1979). Care was also taken to keep persuasive messages short and exciting, with a variety of form and content, changes of pace and background, and much visual and auditory shock stimuli (Singer and Singer, 1981).

Although it is acknowledged that McGuire's matrix was useful at the level of practical implementation, as a model for analysing attitude change it is confusing and unwieldy. Both Chaiken (1980) and Petty and Cacioppo (1981, 1986) have attempted to draw together the many theories of attitude change into a more general and comprehensive model.
These two models, the Elaboration Likelihood Model (ELM) (Petty and Cacioppo 1981, 1986) and the Heuristic Systematic Model (HSM) (Chaiken, 1980) have dominated the attitude change literature for the past decade.

THE DUAL PROCESS MODELS OF ATTITUDE CHANGE

The Elaboration Likelihood Model (ELM)

The Elaboration Likelihood Model (ELM) (Cacioppo and Petty, 1981) purports to provide:

'A fairly comprehensive framework for organising, categorising and understanding the basic processes underlying the effectiveness of persuasive communications' (Cacioppo and Petty, 1986 p.3).

This basically cognitive model proposes that attitude change can be effected through two distinct routes which, while not being mutually exclusive, are not explicitly alleged to interact.

The central route, which is seen to be the more strong and enduring of the two, relies on the organism being both motivated and able to cognitively process messages or arguments through issue relevant elaboration. Elaboration refers to the extent to which a person carefully thinks about the content of the message. When conditions foster motivation, for example by being personally relevant to the subject or by having immediate consequences for the subject and when conditions foster the subject's ability to engage in issue relevant thinking, for example by minimising distraction, being repetitive or being easy to understand, then the "elaboration likelihood" is said to be high:
'This conceptualisation suggests that when the elaboration likelihood is high, there should be evidence for the allocation of considerable cognitive resources to the advocacy. Issue-relevant elaboration will typically result in the new arguments, or one’s personal translation of them, being integrated into the underlying belief structure (schema) for the attitude object.' (Cacioppo and Petty, 1986 p.7)

The peripheral route, which is more likely to be temporary or supplementary, relies on simple affective cues, such as source expertise and attractiveness, 'without necessitating scrutiny of the central merits of the issue relevant information' (Bud, p.3). When elaboration likelihood is low, due to poor motivation through a lack of relevance or consequence, or due to the subject being unable to comprehend or focus on the issue, then:

'The acceptance or rejection of the appeal is not based on the careful consideration of issue-relevant information and consequent restructuring of schemata, but rather it is based on the issue or object being associated with positive or negative cues'. (Cacioppo and Petty, 1986 p.13)

Together with Chaiken's heuristic-systematic theory (Chaiken, 1987; Chaiken et al, 1989) which also proposes a dual route to attitude change but with the use of simple heuristics rather than peripheral cues, the ELM continues to dominate persuasion research.

It is suggested (Cacioppo and Petty, 1986) that the central route of the ELM (which principally mirrors cognitive and information processing learning theories), can be seen to embrace the major cognitive theories of social psychology such as: inoculation theory (McGuire, 1985), cognitive balance (Heider, 1958), cognitive congruity (Osgood and Tannenbaum, 1955), cognitive consistency (Festinger 1957; Aronson, 1969), cognitive response (Greenwald, 1968), information integration (Anderson, 1981) and the theory of reasoned action (Ajzen and Fishbein, 1980).
The peripheral route (which principally mirrors behaviouristic, associationistic and social learning theories) likewise embraces the major affective theories of social psychology such as: self-perception theory (Bem, 1972), attribution theory (Kelley, 1967) social judgement theory (Sherif and Sherif, 1967), classical conditioning (Staats and Staats, 1957), vicarious classical conditioning (Vaughan and Lanzetta, 1980), observational learning (Bandura, 1986) and the communication persuasion model (Hovland, 1953). Although this list is by no means exhaustive, it does serve to demonstrate why the ELM has remained such a popular and useful model for attitude researchers.

The Heuristic-Systematic Model (HSM)

The heuristic-systematic model also proposes two mediational paths to persuasion one of which involves systematic cognitive processing directly comparable to the 'central route' of the ELM (Chaiken, 1980, 1987; Chaiken et al 1989).

The HSM differs from the ELM in two distinct ways. Firstly, it proposes that rather than using peripheral cues as a second route to attitude change, people rely on a set of simple learned heuristics such as, "experts statements can be trusted" and "consensus implies correctness", in order to judge the validity of messages.' (Eagly and Chaiken, 1993 p.327)

"The heuristic-systematic model's most unique contribution as a theory of attitude formation and change is its proposition that simple decision rules mediate attitudinal judgement and its assumption that such heuristics are learned knowledge structures (Eagly and Chaiken, 1993 p.342).

Secondly, it proposes that the two routes to persuasion are concurrent and interactive.
Thus, even when the organism is both able and motivated to engage in validity seeking, systematic processing of issue relevant arguments, heuristic processing may still exert an independent (i.e., additive) or interdependent (i.e., interactive) influence (Chaiken, 1987).

More recently, Chaiken and her colleagues have expanded the heuristic component of their model to include two additional affective motives. Defence motivation, whereby the organism is aroused to form or defend particular attitudes, and impression motivation, whereby the organism is moved to adopt attitudes that are socially acceptable (Chaiken et al., 1989).

Eagly and Chaiken (1993) provide a clear comparison of the heuristic-systematic model and the ELM concluding that:

> Although the model's conception of heuristic processing is narrower than the elaboration likelihood model's definition of peripheral route persuasion, its clearer link to the social cognition literature yields a more theoretically developed view of persuasion that is not based on recipients' processing of persuasive arguments.' (Eagly and Chaiken, 1993 p.342)

Fortunately it is not necessary to choose between the various models and theories of attitude change. Eagly and Chaiken (1993) themselves suggest that the ELM and the heuristic-systematic model be regarded as complementary. Both models have been found to adequately account for attitude change in a variety of experimental situations (Tesser and Shaffer, 1990; Chaiken and Maheswaran, 1992; Petty et al., 1997). Both models are comprehensive and have much to offer to the DICAM. However, where both these models differ from the DICAM is in their approach to the role of emotion.
Dual Process Theory and the DICAM\textsuperscript{11}

Because both the ELM and the heuristic-systematic model rely heavily on an information-processing framework, they present what Goleman (1996) calls an 'impoverished' view of the functional activity of the human brain\textsuperscript{12}. Affect is presented as secondary to cognition both temporally and functionally. This is the predominant 'attitude' in the attitude and attitude change literature. The role of affect is largely considered in terms of operant and classical conditioning (Papini and Bitteran, 1992), exposure frequency/repetition (for review see Bornstein, 1989), drive reduction (Hovland et al, 1953), fear (Rippetoe and Rogers, 1987) and mood effects (Schwartz et al, 1991)\textsuperscript{13}.

This relegation of affect to a reflex, secondary or supplementary role has not gone unremarked. As Eagly and Chaiken (1993) observe, throughout the past decade, Zajonc and his colleagues (Zajonc, 1980, 1984; Zajonc and Markus, 1984; Zajonc, Murphy and Ingelhart, 1989; Zajonc, Pietromonaco and Bargh, 1982) have consistently challenged psychology's assumption that cognition always precedes affect and that "we feel because we know" (Eagly and Chaiken, 1993). Zajonc has argued (1980, 1984) for an independent systems view of cognitive and affective processes and a recognition that affective reactions may precede and subsequently influence cognition.

\textsuperscript{11} See also ch.15. (The contribution of the DICAM to the dual process theories of attitude change).

\textsuperscript{12} See Ch.9.

\textsuperscript{13} A comprehensive and excellent review of the literature on attitude formation and change is provided by Eagly and Chaiken in 'The Psychology of Attitudes' (Harcourt, Brace, Janovich, Inc, 1993)
Based on the research of LeDoux (1978, 1992) and Damasio (1994) the DICAM goes a step further, claiming that affective reactions may not only precede but, given sufficient strength, may override subsequent cognitive processing. The DICAM also proposes that the relationship between cognition and affect is dynamic and interactive and that emotional experience is an integrative, functional factor in cognitive restructuring and schema formation. Empirical evidence to support this proposition will be presented in the next chapter.

**In Conclusion,**

this chapter has primarily been concerned with cognitive theories of learning and attitude change and with challenging people's (inaccurate) knowledge and beliefs (in this case their schizophrenia schemata), by presenting them with accurate information. However it has not been found sufficient merely to present accurate data and to expect people to automatically engage in cognitive elaboration and consequently cognitive restructuring (Helweg-Larsen, 1997). This sort of thinking requires maximum cognitive effort (Norman, 1986) and people are, by nature, cognitive conservatives (Greenwald 1980) preferring to rely on old schemata and entrenched attitudes (White and Carlston, 1983) rather than engage in cognitively effortful problem solving Greenwald, 1989).

According to the DICAM, cognitive conflict is an essential component of cognitive restructuring and consequent attitude change (Triandis, 1971), however it needs to be followed by a dynamic opportunity to experience new information in action (Piaget,
1970, Ausubel and Robinson, 1972). Furthermore, the organism may need to be given a powerful incentive to engage in cognitive elaboration in the first place and, to adapt to the new knowledge in the second (Bandura, 1986, Thornton et al, 1986; Goleman, 1996). These incentives may involve further cognitive conflict or further (emotional) experience (Brewer, 1988; Batson, 1991). Finally, to be accepted the information must be tested and validated (Wilson and Sherrell, 1993).

The next chapter will consider the fundamental role of emotion in cognitive restructuring and attitude change and the importance of involving subjects in the functional 'experience' of new knowledge (in this case in the 'experience' of the disorder, schizophrenia). It will also consider how that experience may be equally educationally powerful when it is vicarious.
'Anyone can become angry - that is easy. But to be angry with the right person, to the right degree, at the right time, for the right purpose, and in the right way - this is not easy.' (Aristotle (382 - 322 BC.) The Nichomachean Ethics)

"The artificial separation of cognition from the rest of the mind was very useful in the early days of cognitive science and helped establish a new approach to the mind. But now it is time to put cognition back into its mental context - to reunite cognition and emotion in the mind. Minds have thoughts as well as emotions and the study of either without the other will never be fully satisfying (LeDoux, 1996 pp.38-39)


While previous cognitive models have considered affect primarily in terms of, conditioning (Millar, 1990) peripheral cues (Cacioppo and Petty, 1986) exposure (Arkes et al, 1991) and mood, according to the integrative perspective of the DICAM,

\(^1\)Particularly recent research into the architecture of the brain, conducted by LeDoux (1996) and Damasio (1994) and popularised by Goleman (1996)
emotion is deemed as being crucial to effective rational thought (Lazarus, 1991; Damasio, 1994) and is seen to be as functionally involved in schema formation and change (Hatfield et al, 1994) as is cognition (Goleman, 1996). Furthermore emotion and emotional responses are viewed as being able: to precede and trigger cognition (Zajonc, 1980; LeDoux, 1992; Bargh; 1994), to override cognition (LeDoux; 1987, 1992, 1994, 1996); and to imprint memory with more strength than cognition (Lang, 1979; Strongman and Russell, 1986; Cahill, 1994, LeDoux, 1996).

The first section of this chapter considers the nature of emotion and discusses the evidence for the perspective outlined above. The second section focuses on the interaction of experience, especially emotional experience, with cognition in the equilibration process and examines the case for vicarious experience and observational learning. The third section discusses stigma and prejudicial attitudes from the particularly emotional perspective of the DICAM, and the final section considers the contribution of current and traditional theories of affective stability and affective growth to the DICAM (and the 'Integrated' film based upon it).

1. EMOTION

The Nature of Emotion

'I take emotion to refer to a feeling and its distinctive thoughts, psychological and biological states, and range of propensities to act.' (Goleman, 1996)

In psychological terms, emotion is very difficult to define because it is viewed as a subjective experience which is inaccessible to the scientist and thus cannot be objectively (i.e., intersubjectively) verified (Ohman and Birbaumer, 1993).
The traditional view of the structure of emotion has been:

'(that) emotional phenomena are evoked by situations and are manifested in verbal reports, physiological responses and behaviour. (Ohman, 1987)

Fig: 7. THE STRUCTURE OF EMOTION

Adapted from: Arne Ohman and Niels Birbaumer, 'the Structure of Emotion', Hogrefe and Huber, 1993, p.5.

A Cognitive View of Emotion

From the cognitive perspective, it is not the stimulus (or situation) as such that is viewed as evoking an emotional response, it is rather how that stimulus is perceived i.e., the meaning that the stimulus has been given by the subject (Lang, 1979).

'For example to be identified as threatening, a stimulus must make contact with organised memory information where it is related to previous experience with aversive circumstances generating fear arousal' (Ohman and Birbaumer, 1993).
Peter Lang combines a long history of research in the clinical and psycho-physiological approach to the study of emotion with just such a cognitive, information processing approach. In his article, 'From Emotional Imagery to the Organisation of Emotion in Memory' (1993), he suggests that an emotional image can be regarded as a cognitive schema containing a set of three propositional units: stimulus, response and meaning, all of which can be represented as verbal statements. He defines emotion as:

'an action set, defined by a specific information structure in memory.'
(Lang, 1993 p.75)

The information structure contains stimulus propositions e.g. 'I am in the bush, it is hot and dry, a black snake is writhing towards me, no-one else is here'; response propositions, e.g. 'I am terrified, I want to run (psychological response), my heart is racing, my hands are sweating (physiological response); and meaningful propositions e.g. 'snakes are dangerous and unpredictable'.

In purely cognitive terms it could be said that the stimulus, i.e., the snake, has activated a schema associated with danger. This would infer that a cognitive appraisal and interpretation of the stimulus precedes both the internal (feeling fear), and overt (sweating, accelerated heart rate) response (Mandler, 1975, Lazarus, 1991). However studies of phobic reactions (Ohman and Soares, 1992) show that accessing information that a stimulus is to be feared, is an automatic process which appears to bypass or precede conscious or rational thought (Zajonc, 1980, Bargh, 1994; Damasio, 1994; LeDoux, 1992, 1995, 1996.), indicating that it is not a conscious but a chemical or biological reaction.
A Biological View of Emotion

Some emotional states such as: anger, sadness, fear, joy, love, surprise, disgust and shame (Ohman and Birbaumer, 1993; Goleman, 1996), appear to be prototypic (Fehr and Russel, 1984; Schwartz et al, 1987). Goleman refers to these as the 'primary' emotions, from which many thousand emotions spring (Goleman, 1966). These prototypic emotions have 'unambiguous counterparts in other mammals' (Ohman and Birbaumer, 1993, p.10) and are associated with distinct facial expressions which are invariant across cultures (Ekman, 1972, 1991). This suggests that they are biological in origin (Ohman and Birbaumer, 1993) i.e., that they are innate rather than learned. Furthermore these emotional states have been shown to be both neurologically (LeDoux 1996) and biologically (Ekman and Davidson, 1994; Damasio, 1994) powerful, for example: anger causes blood to rush to the hands thus preparing them for quick attack or defence; fear sends blood to the legs, enabling rapid flight; and, surprise raises the eyebrows, allowing for an increased field of view.

Recent studies in neuroscience (e.g. LeDoux, 1991, 1992, 1993, 1994, 1996, Damasio, 1994) have demonstrated that these physiological reactions frequently precede any chemical activity in the neo-cortex, the centre of the brain primarily responsible for rational thought:

'What we need to elucidate is not so much the conscious state of fear or the accompanying responses, but the system that detects the danger in the first place. Fear feelings and pounding hearts are both effects caused by the activity of this system, which does its job unconsciously - literally before we actually know that we are in danger... We have little direct control over our emotional reactions... This is so because the wiring of the brain at this point in our evolutionary history is such that connections from the emotional systems to the cognitive systems are stronger than connections from the cognitive systems to the emotional systems (LeDoux, 1996, p19).
Positron Emission Topography

This neuro-biological data, conveniently summarised in Goleman (1996), clarifies how the brain's centres for emotion move us to rage, tears, love, war etc. The development of positron-emission topography (PET) has made the human brain far more accessible to direct scientific study. It is now possible to view and photograph neural activity in precisely located cortical and subcortical areas of the brain as it reacts, and subsequently responds, to incoming sensory data (Talbot et al, 1991). It is therefore possible to view the effects of feared stimuli and imaginary emotional scenes on the neural circuitry of the brain of a person who is wide awake (Panksepp et al, 1991).

As Goleman (1996) comments in his recent review and analysis of research into brain architecture, underlying emotion and rationality:

'Now science is finally able to speak with authority to these urgent and perplexing questions of the psyche at its most irrational, to map with some precision the human heart.' (Goleman, 1996 p.xi).

Through a study of the brain's electrical and magnetic activity, neuroscience proposes that the cortical organisation of emotional responses can in fact be separated from "cold" cognitive operations (Nauman and Bartussek, 1991; LeDoux, 1992)

'For example, PET studies show that in the negative response to pain, the sensory (including the memory) function of the pain response is organised primarily in the cortical postcentral gyrus, whereas the emotional valence-part of the response depends on limbic fore-brain activity particularly in the cingulate region (Talbot, Marrett, Evans et al, 1991) (Ohman and Birbaumer, 1993, p.9).

Studies conducted by Panksepp and his colleagues (1982, 1991), LeDoux (1987, 1992, 1993, 1994) and Damasio (1994) overwhelmingly suggest that the centres of the brain governing emotional information and memory are located in the limbic area of
the brain (particularly the amygdala), while centres which govern rational thought processes i.e. working memory, are located in the prefrontal cortex². This has lead Daniel Goleman to propose:

'In a very real sense we have two minds, one that thinks and one that feels' (Goleman 1996 p.8)

The 'Emotional' and the 'Rational' Mind

Although the neuro-scientific evidence which Goleman discusses is relatively recent, it is almost 30 years since the cognitive social psychologist, Robert Zajonc (1968), first suggested that affect leads cognition. He argued that affective responses occur first and that subsequent, more elaborate cognitive responses incorporate the initial affective responses and are, to an extent, determined by them. He further alleged that the human brain and senses may actually be composed of two relatively separate systems (or minds): one for thought and one for feeling and that the 'feeling' one comes first (Zajonc, 1968, 1980, 1984).

According to Goleman (1996) the concept of an 'emotional' versus a 'rational' mind approximates the familiar idiom of, the 'heart' versus the 'head' (p.8); and sometimes, as we all know from experience, the heart overrules the head:

"These two fundamentally different ways of knowing interact to construct our mental life. One, the rational mind, is the mode of comprehension we are typically conscious of: more prominent in awareness, thoughtful, able to ponder and reflect. But alongside that there is another system of knowing: impulsive and powerful, if sometimes illogical - the emotional mind." (Goleman, 1996 p.8)

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² LeDoux does not entirely support this view (See LeDoux, 1996 pp. 98-103). He suggests that since different emotions are involved with different survival funtions there may be 'not one emotional system in the brain but many'.
The dominance of one 'system of knowing' (Goleman, 1996, p.8) over the other depends on circumstance and the intensity of feeling generated at that moment. For instance emotion and intuition tend to dominate in life threatening situations where instant reactions are essential and to 'stop and think' would result in loss of life. People, he claims, frequently behave in an impetuous or irrational way (Ibid, p.2). This does not mean that they are incapable of logical thought, nor does it mean that they are stupid. It simply means that some of their decisions are guided more by feelings than by rational thought. He cites a striking example:

'Ponder the last moments of Gary and Mary Jane Chauncey, a couple completely devoted to their eleven year old daughter Andrea, who was confined to a wheelchair by cerebral palsy. The Chauncey family were passengers on an Amtrak train that crashed into a river after a barge hit and weakened a railroad bridge in Louisiana's bayou country. Thinking first of their daughter, the couple tried their best to save Andrea as water rushed into the sinking train; somehow they managed to push Andrea through a window to rescuers. Then as the car sank beneath the water, they perished.' (Associated press, 1993. In Goleman, 1996, p.3).

As Goleman puts it,

'Seen from the intellect, their self-sacrifice was arguably irrational; seen from the heart, it was the only choice to make. (Ibid. p.4)

In this case the 'emotional' mind clearly overruled the 'rational' mind. However, Goleman does not describe the two 'minds' as being functionally separate or independent, by contrast, he suggests that they be viewed as psychologically and neurologically interactive and interdependent systems.
Neuro-science and the 'Emotional' Brain

Without going into great detail, the biological and neuro-chemical evidence for the functional interaction and interdependence of emotion and cognition, and the ability of emotion to override cognition, as presented in Goleman's (1996) text, and as subsumed in the DICAM, can be summarised thus:

The growth of the brain in a human foetus roughly traces the alleged evolution of the human brain. The brain stem, the primitive root of the brain, which is the emotional centre, develops first and the neocortex or 'thinking brain' grows from that root, the limbic system:

'Because so many of the brain's higher centres sprouted from, or extended the scope of the limbic area, the emotional brain plays a crucial role in neural architecture. As the root from which the newer brain grew, the emotional areas are intertwined via myriad connecting circuits to all parts of the neocortex. This gives the emotional centres immense power to influence the functioning rest of the brain - including its centres of thought.' (Goleman, 1996 p.12)

LeDoux (1991, 1992, 1994, 1996) provides medical and empirical evidence that incoming sensory signals from the eye and ear go to the thalamus. From the thalamus a crude representation of the the information goes first - across a single synapse - to the amygdala. The thalamus sends a second, more detailed signal, to the neocortex (See Fig.8 and Fig.9) which is then processed through working memory and fed back to the amygdala. However the 'quick and dirty' sub-cortical pathway gives the amygdala an opportunity to respond before the information has been processed by the 'thinking brain' allowing for an immediate and purely emotional response (a knee-jerk reaction) (LeDoux, 1996). Colloquially the amygdala is like an emotional sentinel that has the ability to hijack the brain (Goleman, 1996).
Fig. 8. Cortical and Subcortical Pathways in the Brain (Adapted from: LeDoux, 'The Emotional Brain: The Mysterious Underpinnings of Emotional Life, New York: Simon and Schuster, 1996)

Bargh's (1994) research into automacity also supports this analogy, showing that in the first few milliseconds of encountering an experience the organism forms an opinion about it. An opinion which may trigger an immediate response. Thus it appears that a person's emotions (or emotional mind) can hold views and opinions independent of his or her rational mind - and act upon them (Bargh, 1994)

Or, as Goleman puts it:

'The amygdala's extensive web of neural connections allows it, during an emotional emergency, to capture and drive much of the rest of the brain - including the rational mind' Goleman, 1996, p.17)

Fig.9. Illustrates the cortical and subcortical pathways of the brain generalised by LeDoux (1994) from knowledge of the auditory system and applied to a situation whereby a hiker encounters a snake in his pathway:
The visual stimulus is first processed in the brain by the thalamus. Part of the thalamus passes crude, almost archetypal information to the amygdala. This quick and dirty transmission allows the brain to start to respond to the possible danger signified by a thin curved object, which could be a snake or some other benign object. Meanwhile the thalamus also sends visual information to the visual cortex (this part of the thalamus has a greater ability to encode the details of the stimulus than does the part that sends inputs to the amygdala). The visual cortex then goes about the business of creating a detailed and accurate representation of the stimulus. The outcome of cortical processing is then fed to the amygdala as well (LeDoux, 1996, p.166).

The main point is, that although the cortical route which involves the integration in working memory of sensory stimuli with information from long term memory is more
accurate and detailed, it also takes longer and may mean the difference between life and death. As LeDoux points out it is better to mistake a stick for a snake than a snake for a stick! (LeDoux, 1996).

To sum up, although overt responses are normally governed by meaningful propositions:

'The propensity to make automatic affective responses still exists - because speed and simplicity still have survival value in our complex and wordy world. The central point is that we humans seem to be equipped with sensory and neurological mechanisms that allow us to respond swiftly with feeling to a stimulus even before we can articulate the stimulus in words and so become consciously aware of it. In this way, we can play the music first, get the dance started, and save the lyrics for later.' (Zimbardo and Leippe, 1991 p.254).

Emotion and Rational Thought

'Emotion links the person to his body and to his outside world. Thus it provides a bridge to inner needs and wishes, and practically all psychological activity occurs in the context of avoiding some things or events and approaching others' (Ohman and Birbaumer, 1993).

Although (as described above), it has been found that the emotional centres of the brain can at times hijack or bypass the logical ruminations of the neo-cortex, this is the exception rather than the rule (LeDoux, 1992). Typically the prefrontal areas of the cortex govern emotional reactions from the start. Because:

The largest projection of sensory information from the thalamus goes, not to the amygdala, but to the neocortex and its many centres for taking in and making sense of what is being perceived; that information and our response to it is coordinated by the prefrontal lobes, the seat of planning and organising actions towards a goal, including emotional ones (Goleman, 1996, p.25).

The emotional brain is not uninvolved or separate from the rational brain but as previously indicated, the two are perceived to be interactive and interdependent.
Damasio (1994), a neurologist at the University of Iowa College of Medicine, found that patients with damage in the prefrontal-amygdala circuit suffered no loss of IQ or cognitive ability but were unable to make sensible, rational decisions. Some were unable to make decisions at all! Damasio (1994) therefore argued, that the emotional brain is just as involved in reasoning as is the rational brain and that feelings are actually indispensable to the making of rational decisions.

"They (emotions) point us in the proper direction where dry logic can then be of best use. While the world often confronts us with an unwieldy array of choices (How should you invest your retirement savings? Whom should you marry?) the emotional learning that life has given us (such as the memory of a disastrous investment or a painful breakup) sends signals that streamline the decision by eliminating some options and highlighting others at the outset. In this way, Dr. Damasio argues, the emotional brain is as involved in reasoning as the thinking brain." (Goleman, 1996, p.28).

Damasio comments, with gentle humour on the traditional view of the respective responsibilities of the older 'root' brain and the more recently evolved cortex:

In simple terms: The old brain handles basic biological regulation down in the basement, while up above the neocortex deliberates with wisdom and subtlety. Upstairs in the cortex there is reason and willpower, while downstairs in the subcortex there is emotion and all that weak fleshy stuff (Damasio, 1994, p.128).

Damasio's research, culminating in his 'Somatic Marker Hypothesis' (1994), focuses on the interdependence of the cortical, subcortical and somatic processes of the organism. While he concurs with LeDoux (1996) that there is no doubt that emotional arousal can flood consciousness and disrupt reason, he also points out that a lack of emotion can lead to equally irrational behaviour. Emotion, or 'gut feeling' focuses attention, selects priorities and increases the accuracy and efficiency of the decision making process (Damasio, 1994). He therefore concludes that:
The apparatus of rationality, traditionally presumed to be neocortical, does not seem to work without that of biological regulation, traditionally presumed to be subcortical. Nature appears to have built the apparatus of rationality not just on top of the apparatus of biological regulation, but also from it and with it. The mechanisms for behaviour beyond drives and instincts use, I believe, both the upstairs and the downstairs: the neocortex becomes engaged along with the older brain core, and rationality results from their concerted activity (Damasio, 1994, p.128. Italics in original)

This is consistent with the view of the cognitive psychologist Richard Lazarus (1984, 1991) who describes emotions as being a source of internal information or insight, which is functionally equal to metacognitive processes in the making of logical decisions.

The connections between the amygdala (and related limbic structures) and the neo-cortex are the hub of the battles or cooperative treaties struck between head and heart, thought and feeling. This circuitry explains why emotion is so crucial to effective thought, both in making wise decisions and in simply allowing us to think clearly. (Goleman, 1996, p.27)

Or as Cacioppo and Petty (1986) might say, 'cognitively elaborate', or, as Piaget (1970) might say, 'equilibrate', or as the DICAM proposes, 'engage in cognitive restructuring'.

Similarly, the information contained in peripheral emotional cues (Cacioppo and Petty, 1997), such as tone of voice and facial expression, is frequently essential to the formation of accurate schemata. Hatfield et al (1993) cite the example of a teenager who had been brutally raped at knife point, in a state of shock she walked into her house and casually recounted the incident to her mother. The mother equally casually told her that her dinner was in the oven and suggested she 'try to eat something' (p.191). Without a display of the appropriate emotions the mother failed to form an accurate picture or 'schema' of what had really happened to her daughter.
The power of emotional arousal to activate schemata and the need for emotional information to complement cognitive sensory input in the process of cognitive restructuring is clearly acknowledged in the structure of the DICAM and applied in the 'Integrated' film. Here the decision was made to create a ZPC (Zone of Potential Change) through emotional arousal (drama) and to continue to expand or re-create that ZPC through ongoing emotional experience (and emotional information contained in perceptual cues); complemented by cognitive information both implicit (in the drama) and explicit (in the documentary and pseudo-documentary segments).

The role of emotion in cognitive restructuring, as conceived by the DICAM, helps to explain the demonstrated failure of purely cognitive interventions to change beliefs and attitudes (Asch, 1987; Levey and Howells, 1994, 1995; Helweg-Larsen et al, 1997). It also helps to account for the superior results, in terms of knowledge and attitude change, found for films using drama versus films which are purely documentary (Kulman and Akamatsu, 1989; Pryor et al, 1991; Batson et al, 1997); especially films which integrate drama with a documentary approach (Gilmore, 1992; Aune and Klingle, 1994; Batson et al, 1997)). For example, 'Elephant Man' (Cornfield and Lynch, 1980), 'JFK' (Elliott, 1992) and 'Rain Man' (Johnson and Levinson, 1988). A finding which is echoed in the DICAM study.

**Emotion and Information Processing Theory**

Although he accepts that it is thought, and language which is the vehicle of thought (Vygotsky 1978), that are most commonly engaged in reflection, rationalisation and the final making of decisions, Goleman is critical of modern cognitive, information processing theorists, whom he claims rely far too heavily on the analogy of brain and
computer. By doing so, he alleges, they ignore the extensive psycho-biological (Zajonc, 1980; Lazarus, 1991; Lang, 1993) and neuro-chemical (LeDoux, 1992; Damasio, 1994) evidence that rationality is guided by, and can even be hijacked by, feeling. He suggests that this is an impoverished view of the mind, which fails to recognise:

'the wash of feeling that gives life its flavour and its urgencies, and which in every moment biases exactly how (and how well or poorly) information is processed.' (Goleman 1996 p.41)

The current focus on information processing theories and also on metacognition, i.e., an awareness, control and organisation of one's mental processes (Cavanaugh and Perlmutter, 1982; Brown, 1983; Flavell, 1992) takes little account of the vital input of the emotional brain and the full range of emotional memory and abilities available to the organism (Goleman, 1996).

Emotion and Memory

It is an underlying proposition of the DICAM that emotion provides a certain mnemonic salience which raises the overall level of performance and enhances recall (Strongman and Russell, 1986. Lang, 1993). This is consistent with Palomba and Stegagno's (1993) finding that fearful sequences in movies yield the highest recall both in terms of content, environment and dialogue (Kagan, 1994)

In the clinical field, LeDoux's (1987, 1992, 1993, 1994) research indicates that the same neuro-chemical circuitry which alerts the organism to fight or flee also imprints the moment in memory with an added degree of strength (Cahill, 1994; LeDoux, 1995), and that as a consequence, emotional memories are more vivid than cognitive memories.
'Emotional memories, mediated by the amygdala system are indelible. That is that memories persist even after emotional behaviour has been extinguished.... Extinction thus appears to involve cortical inhibition of indelible amygdala mediated memories. It is not a process of emotional memory erasure (LeDoux, 1995)

Traditionally it is the hippocampus which has been considered the key structure of the limbic system (Ekman and Davidson, 1994, Damasio). It is the hippocampus which registers and makes sense of incoming sensory data. However while the hippocampus remembers the facts, i.e., what happened, it is the amygdala that remembers the emotional response to the facts:

'If we try to pass a car on a two-lane highway and narrowly miss having a head on collision, the hippocampus retains the specifics of the incident, like what stretch of road we were on, who was with us, what the other car looked like. But it is the amygdala that ever after will send a surge of anxiety through us whenever we try to pass a car in similar circumstances. As LeDoux put it to me, "The hippocampus is crucial in recognising a face as that of your cousin. But it is the amygdala that adds that you don't really like her" (Goleman, 1996, p.20)

Lang (1979, 1993) suggests that what makes emotional information so salient in memory is the response propositions felt by the organism (remembering Lang's analysis of an emotional image as consisting of stimulus propositions, response propositions and meaning propositions). Put more simply, it is the 'feelings' that are recalled and, with the memory of those feelings, come images and meaning. Lang is writing from the perspective of a clinical therapist but his theory makes sense in the light of LeDoux's research into the role of the amygdala (LeDoux, 1996). An integration of LeDoux's neuro-scientific findings with Lang's clinical research would suggest that it is the strength of the emotional recall of the amygdala that triggers the contextual or 'declarative' memory of the hippocampus.³

³ A detailed analysis of the roles of the amygdala and the hippocampus in emotional memory can
The amygdala acts as the storehouse of emotional memory (LeDoux, 1986). The more intensely the amygdala is aroused the more indelible the memory will be. Therefore the strongest and most persistent memories are invariably emotional rather than cognitive (LeDoux, 1993). However because the amygdala is most often intensely aroused in emergency situations these memories, if they have not subsequently been tempered with cognition (i.e., by the functions of the neo-cortex), may not be very accurate (LeDoux, 1994, 1996; Goleman, 1996). Therefore, although emotional memories are more vivid than cognitive memories, because they are less accurate they may be discarded later when being used as a reference for new incoming data (Goleman, 1996).

This was a key factor in the application of the DICAM. The indication was for a very strong emotional experience to be induced at the beginning of the 'Integrated' film (film), in order to activate schemata and create a ZPC. This was to be followed by a series of highly emotional experiences which were concurrently validated by cognitive data (and vice-versa), roughly corresponding to the planned 'links in the chain'\(^4\), or in screen terms, sequences. Care was taken not to leave emotional 'memories' or responses, incomplete but to reinforce them with cognitive data, not only within the particular 'link' (or ZPC) in which they were first presented but also in subsequent links, through textured repetition (Pratkanis and Greenwald, 1989; Ross, 1989; Echabe and Rovira, 1989). To cite one example based on the 'Integrated' film:

\(^4\)Specific examples are given in Ch.11.
A frightening hallucinatory experience is simulated: the thalamus sends a quick signal to the amygdala and a more detailed one to the prefrontal cortex - the amygdala reacts, the organism responds with fear and the amygdala stores that response proposition (LeDoux, 1992; Lang, 1993). The hippocampus stores the stimulus information (Lang, 1993; Goleman, 1996) and the neo-cortex creates and stores the meaning proposition. Subsequently, within this same 'link' (or ZPC), the target (viewer) is given:

(a) a dramatic emotional experience - the young model who has suffered the hallucination, argues with her mother about her refusal to take medication, "but they're drugs mother, drugs") - which also elicits an emotional response (stored implicitly in the amygdala and detailed explicitly in the hippocampus); and,

(b) a directly delivered cognitive message from a credible source that "drugs play an essential part in the control of schizophrenia".

As the limbic region of the brain interacts with the neo-cortex, the cognitive data interacts with the emotional arousal and experience in the process of cognitive elaboration and equilibration.

This 'link' is complemented by several similar links in the 'Integrated' film which provide further complementary, emotional and cognitive information about the role of drug therapy in the control of schizophrenia, some of which feature different characters with the illness and some of which focus on the same girl, the aim being for the process of equilibration to be complete and the 'new' or modified, 'drug
therapy in the treatment of schizophrenia' schema, to be firmly in place by the end of the viewing\(^5\).

There is considerable evidence that models of attitude change will have to respond to the growing body of neuro-chemical and psycho-biological evidence for the functional role of emotion in the process of rational thought and memory (Goleman, 1966). However, despite Goleman's cursory dismissal of information processing theorists, or perhaps because of it, this initial section on emotion will conclude with a contribution from Donald A. Norman director of the Institute for Cognitive Science in San Diego, California and a prominent proponent of information processing technology.

Almost twenty years ago, Norman proposed that emotions intercede between an organism's regulatory system (the system related to the survival of the organism) (See Fig.10) and its cognitive system and, that it is essential to learn how our cognitive experiences are painted by the brush of emotions (Hergenhahn and Olson, 1993):

"And what is the role of emotion in the study of cognition? We leave it to the poet, the playwright, and the novelist. As people we delight in art and music. We fight, get angered, and have joy, grief, and happiness. But, as students of mental events we are ignorant of why, how" (Norman, 1980 p.18)

\(^5\)In the DICAM study the majority of the target population of 304 student health professionals marked the question 'Drugs are the most effective treatment for schizophrenia' as 'false' on the pre-test. However, the groups treated with the 'Integrated' film unanimously marked it as 'true' both on the immediate post-test and on the delayed post-test administered nine months later, while the control group and the groups treated with 'drama only', 'documentary only' and the 'placebo' continued on average to mark it as false. This was despite an emphasis on drug therapy in both the documentary and the drama.
The regulatory system is given primacy over the pure cognitive system. An emotional system stands between. The relative size of the boxes indicates the emphasis Norman gives to each system. Adapted from "Twelve Issues for Cognitive Science," by D.A. Norman, 1980, Cognitive Science, 4, 1-32.

2. EXPERIENCE

Most Learning theorists (except Skinner who saw learning as equated with behavioural change) will agree in principle, that learning is something that occurs as the result of certain experiences and usually precedes changes in behaviour (Gage and Berliner, 1991; Hergenhahn and Olson, 1993):

'Learning is a relatively permanent change in behaviour or behaviour potentiality that results from experience' (Kimble, 1961 p.6).
This concept is not new. The eighteenth century philosopher David Hume postulated that all the conclusions we reach about anything are based on subjective experience because that is the only thing that we ever encounter directly (Hergenhahn, 1992). Hume argued that all knowledge is based on subjective experience and anything not actually experienced by the self cannot be 'known'. At the beginning of this century, Edward Lee Thorndike (1912) made the following comments, which at the time were regarded as extremely radical:

'The lecture and demonstration methods represent an approach to a limiting extreme in which the teacher lets the pupil find out nothing which he could possibly be told or shown. They frankly present the student with conclusions, trusting that he will use them to learn more. They ask of him only that he attend to, and do his best to understand, questions which he did not himself frame and answers which he did not himself work out. They try to give him an educational fortune as one bequeaths property by will.' (Thorndike, 1912 p.188)

'The commonest error of the gifted scholar, inexperienced in teaching, is to expect pupils to know what they have been told. But telling is not teaching.' (Ibid. p.61)

Thus did Thorndike pave the way for the proponents of meaningful learning (Ausubel and Robinson, 1972), discovery learning (Piaget, 1970; Davis, 1973) and learning through structured experience (Bruner, 1966; Vygotsky, 1978; Rogoff, 1990)

The notion of experience as a primary educator is implicit in all current learning theory (Hergenhahn and Olson, 1993) whether it is in terms of 'hands on' behaviour (Elkind, 1976) or reflective problem solving (Chipman et al, 1985). People, including children, tend to best understand and 'own' knowledge which they have acquired through experience (Gage and Berliner, 1991; Rogoff et al, 1991). Logically therefore, given that all people cannot share all experiences, the next 'best' way to help them towards an optimum understanding of any phenomenon, is to provide them with a
simulated experience of that phenomenon (Schunk, 1981; Bandura, 1986); an experience which is potent enough to challenge existing cognitions and attitudes and thus to stimulate cognitive restructuring and attitude change.

**Vicarious Experience and Observational Learning**

Social learning theorists like Albert Bandura (1973) claim that *anything that can be learned through direct experience can also be learned by indirect or vicarious experience*. What is more, Bandura (1976) alleges, it can be learned more efficiently through observation, because observational learning eliminates unnecessary and wasteful trial and error:

'Observational learning is vital for both development and survival. Because mistakes can produce costly, or even fatal consequences, the prospects for survival would be slim indeed if one could learn only by suffering the consequences of trial and error... the more costly and hazardous the possible mistakes, the heavier is the reliance on observational learning from competent examples.' (Bandura 1977 p.12)

Bandura maintained that observational learning occurs all the time:

'After the capacity for learning has developed, one cannot keep people from learning what they have seen.' (Bandura, 1977 p.38)

**Observational Learning as a Cognitive Process** (Social Cognitive Theory)

According to Bandura (1986), Observational Learning is not synonymous with imitation or modelling. It is a cognitive process involving attributes that are distinctly human, such as: language, morality, thinking and the self-regulation of one's behaviour. Bandura gives the following example:

'If you observe the man in front of you slip on some ice and then you step aside to avoid the ice, you have learned from your observation. You did not imitate the behaviour of the man. You cognitively processed information and acted accordingly.' (adapted from Bandura, 1986).
Although he frequently employed the behaviourist concept of reinforcement when referring to his own theory and, as outlined below, he advocated the use of reinforcement as a learning tool, Bandura preferred the term, 'Social Cognitive Theory', to the more widely used, 'Social Learning Theory' (Bandura, 1986). This was because he perceived the term, 'learning theory' to imply a theory of conditioned responses, whereas within his theoretical framework:

'Learning is conceptualised mainly as knowledge acquisition through cognitive processing of information. ... The social portion of the terminology acknowledges the social origins of much human thought and action; the cognitive portion recognises the influential causal contribution of thought processes to human motivation, affect and action.' (Bandura, 1986 p.xii)

Whether from direct or vicarious experience, most learning takes place in a social setting (Renshaw, 1991; Rogoff et al, 1991). It is on the basis of interactions with and observations of other people, that cognitions and attitudes, including moral standards are developed (Bandura, 1986). It was the stated aim of the DICAM study to reduce prejudice and to promote equity for a marginalised group in society.

Campbell (1975) postulated that pro-social behaviour and altruism were learned behaviours regulated by social norms. Bandura (1986) went even further, maintaining that the pro-social norms of social justice (protecting the rights of others), reciprocity, equity and social responsibility (protecting those who are disadvantaged), that exist in all cultures are all the result of learned behaviour that of itself serves to reinforce the norm.  

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^6Altruism as a biological consequence of emotional arousal was discussed in the preceding section of this chapter. Altruism as a result of identification will be discussed in section four of this chapter and in Chs 10, 11 and 14.

The promotion of emotional empathy with a member (or members) of a stigmatised group (Batson et al,
Behaviour as a 'Performance' Variable

Bandura argued that overt behaviour could not always be held as the only measure of learning, behaviour may be learned without necessarily being performed, much depends on the modelled response to the modelled behaviour (Bandura, 1969). In his famous Bobo doll experiments Bandura successfully demonstrated that reinforcement is a performance variable not a learning variable (Bandura, 1965; Bandura et al, 1961, 1963; Rosenkrans and Hartup, 1967). Children watching aggressive behaviour modelled on television all learned the aggressive behaviour (in this case beating up Bobo) and would produce the behaviour if offered an incentive. However, without that incentive, only the children who had seen the aggressive behaviour reinforced on the television, reproduced the behaviour. Those who had seen it vicariously punished did not. All the children had learned the behaviour (Bobo bashing), but the differential vicarious reinforcement affected their performance (Bandura, 1963).

Since human beings constantly encounter a wide variety of modelling experiences, it is probable that many of the basic rules and principles that govern human behaviour are learned from abstract modelling (Hergenhahn and Olson, 1991). This occurs when people learn a general rule or principle from models performing various responses and then apply it in other (often dissimilar) situations, for example, looking after babies, cooking, cleaning etc. Such behaviours may be learned without being overtly practiced. Inhibition (which occurs when behaviour is discouraged by being seen to be punished, reprimanded or devalued), disinhibition (which occurs when feared behaviour is modelled with no ill effects), and facilitation (repeated

1997) through identification (cognitive empathy) is a fundamental technique in the applied model of the DICAM (in this study, the 'Integrated' film).
modelling of a previously learned behaviour), all increase or decrease the probability of the learner making the modelled (learned) response (Bandura et al, 1969).

Put very simply, Bandura claimed that neither reinforcement nor direct experience were necessary for learning to take place. An observer can learn simply by seeing the consequences of behaviour on others, storing that information symbolically and using it when necessary (Bandura, 1963, 1986; Bandura et al, 1969). This being the case, *vicarious* reinforcement or punishment can be just as effective as direct reinforcement or punishment. The reinforcement or the punishment become cognitively encoded experiences rather than gradual and subconscious agents of shaped behaviour.

Similarly, attitudes may be modified without a necessary change in behaviour (Eagly and Chaiken, 1993). If an attitude is 'an evaluative disposition toward some object' (Zimbardo and Leippe, 1991) then that 'disposition', and the thoughts behind it, may be modified without any immediately observable behavioural change (White et al, 1994; Petty et al, 1997). For example a person with a negative attitude towards 'bikies' (seeing them as 'Hells Angels', rapists, sadists etc.) might be persuaded to go on a weekend camp with a group of motor bike enthusiasts from the local church. After the weekend that person might have quite different cognitions and a more positive attitude towards 'bikies' in general but still not be interested in riding a motor bike or attending future rallies.
Social Cognitive Theory and the DICAM

In simple behavioural terms, the implication of vicarious reinforcement for the DICAM study was: that perceived bonuses (approval) modelled in the film ('Integrated' film), for positive attitudes towards people with schizophrenia would promote those attitudes (S-R theory) and affect subsequent behaviour (Bandura, 1963, 1986). Lott and Lott (1968) found that liking or approving of another person i.e., having a positive attitude towards him or her, could be a learned behaviour like any other learned behaviour and could be established through vicarious reinforcement. Furthermore, as outlined in the preceding chapter, mere exposure to such positive attitudes, without necessarily reinforcing them, might be sufficient for them to be learned and later internally reinforced through cognitive elaboration and thought polarisation (Tesser, 1978; Zajonc, 1980, 1984; Petty and Cacioppo, 1986; Greenwald, 1989; Eagly and Chaiken, 1993).

The concept of learning through vicarious experience underlies all models of communication, persuasion and attitude change that rely on empathy and identification (Batson et al, 1997). In the 'Integrated' film, based on the DICAM, one of the primary aims of the production was to provide the viewer with a variety of vivid simulated experiences of schizophrenia, not merely as an observer but as a sufferer. The aim of the DICAM study was to reduce prejudice and, as Elliot (1992) has demonstrated in her classic 'Blue-Eyes - Brown-Eyes' simulation, it is easier to reduce prejudicial attitudes in a target who has himself or herself experienced prejudice.

The DICAM simply extends Bandura's conceptual model of cognitive learning (restructuring) through observation and vicarious experience to embrace its (the
DICAM's) unique perception of the role of emotion in cognitive restructuring and attitude change, as outlined in the previous section. It proposes that people learn (or adapt) through a combination of emotional arousal and rational thought (Lazarus, 1991; Lang, 1993; Goleman, 1996). In the applied model of the DICAM (the 'Integrated' film) the emotional arousal (Lang, 1993; Goleman, 1996) is created through vicarious experience.

3. STIGMA AND PREJUDICE

'Prejudice is usually defined as unfavourable evaluations and negative affect towards members of a group' (Olson and Zanna, 1993)

Historically, most studies of prejudice have focused on racial hatred and discrimination against minority ethnic groups (Levine and Campbell, 1972; McConahay, 1986, Vrij et al, 1996). More recently, largely due to the prevalence of AIDS, there has been a shift of focus to health issues and matters of sexual preference (Monette, 1988; Herek, 1990; Batson et al, 1997); and, partly due to the de-institutionalisation of service provision, to the integration of people with physical and mental disabilities into the local community (Douglas, 1992; Leggatt, 1995).

This chapter began with Aristotle's 'challenge' primarily to demonstrate that there is nothing essentially 'new' about the propositions of the DICAM. Aristotle believed that knowledge was gained from a combination of sense experience and reasoning\(^7\). He claimed that sensory experience gives rise to ideas and that those ideas are then

\(^7\)This was to counter the prevailing view of knowledge as consisting solely of the abstract 'ideas' or 'forms' that Plato (427-247 BC) describes in his Dialogues.
processed by reason, in accordance with the laws of similarity, contrast, contiguity and frequency. It can therefore be seen that Aristotle pre-empted the DICAM's focus on the complementary and dynamic interrelationship of cognition and affect.

Goleman (1996) comments that Aristotle's challenge is:

"To manage our emotional life with intelligence. Our passions, when well exercised, have wisdom; they guide our thinking, our values, our survival. But they can easily go awry, and do so all too often. As Aristotle saw, the problem is not with emotionality, but with the appropriateness of emotion and its expression. The question is, how can we bring intelligence to our emotions - and civility to our streets and caring to our communal life?" (Goleman 1996, p.xiv)

Prejudice as an Emotional Phenomenon

Any model designed to reduce stigma and therefore to combat prejudice must begin by acknowledging that prejudice is not a totally rational phenomenon. It is not 'civil' and it is certainly not 'intelligent' (Goleman, 1996). As quoted earlier (Ch.3, p.21)

'The emotions of prejudice are formed in childhood while the beliefs used to justify them come later.... Later in life you may want to change your prejudice, but it is far easier to change your intellectual beliefs than your deep feelings' (New York Times. May 12th 1987)

The formation of prejudices is a kind of emotional learning that occurs early in life making such reactions and responses especially hard to eradicate (Learner and Grant, 1990). Hard, but not impossible. Since prejudices are a part of emotional learning, relearning is possible (Zimbardo and Lieppe, 1991), however it is important to emphasise that what has been learned through emotional entrainment (Rosenthal, 1977; Goleman, 1996) or experience (Lang, 1979), cannot be extinguished by interventions that are purely cognitive (Larsen, 1987; Mayer and Kirkpatrick, 1994; Levey and Howells, 1994, 1995; Helweg-Larsen, 1997).
One thing that is very clear about prejudice and on which all theorists appear to agree, is that what is easily learned, is often extremely hard to unlearn (Perlman and Oskamp, 1971). After a series of experiments examining prejudice against Jews and Negroes, Bettelheim and Janowitz (1950) concluded:

'It seems reasonable to assume that as long as anxiety and insecurity persist as a root of intolerance, the effort to dispel stereotyped thinking or feelings of ethnic hostility by rational propaganda is at best a half measure. On an individual level only greater personal integration combined with social and economic security seem to offer better hope for better inter-ethnic relationships' (Bettelheim and Janowitz, 1950).

Fear of people with any mental illness, let alone one as serious as schizophrenia is an emotional attitude (Zimbardo and Lipepe, 1991; Levey and Howells, 1994). Cognitive processes may be used to rationalise it but, if the fear itself is to be dispelled, then any intervention aimed at dispelling it must also employ emotional strategies (Asch, 1987, Levey and Howells, 1995, Batson, 1997).

The DICAM proposes;

a) that these emotional strategies (e.g., identification, conditioning, vicarious emotional arousal, etc.) are complemented by cognitive strategies (e.g., cognitive conflict, cognitive elaboration, etc.); and,

b) that the effect of an integration of the two strategies is greater than the sum of the effects of the two strategies used independently (Goleman, 1996).
Prejudice as a Learned Behaviour

Early experience is most important in the formation of attitudes, particularly attitudes of fear and avoidance (Bandura, 1976; Bishop, 1976, Lerner and Grant, 1990). Prejudices based on fear are often attributed to simple classical conditioning (Cacioppo et al, 1992; Krosnick et al, 1992). For example, a small child might easily be frightened by the unregulated behaviour or disheveled appearance of a person with a mental illness and therefore continue in adult life to associate fear with mental illness. Furthermore, this behaviour might have been reinforced (operant conditioning) by the parent affirming the child who had shied away from the person who appeared to be 'different'. On the other hand the attitude may simply have been modelled by parents, friends and significant others (Bandura, 1986), or picked up vicariously from films, comics and cartoons (Monahan, 1992).

Pettigrew (1980) argues that prejudice is not so much a matter of hate or fear but more of social inertia. Attitudes are handed down from generation to generation and since most of our attitudes are largely unconscious, prejudice is frequently more a matter of conformity than thought out bigotry (Pettigrew, 1980).

Prejudice as 'Grounded in Ignorance'

'Prejudice is a learned attitude towards a target object that typically involves negative affect, dislike or fear... a set of negative beliefs that support the attitude, and a behavioural intention to avoid, or to control or dominate those in the target group. It is often a prejugdiment based on limited information, which makes the attitude unwarranted and irrational. A prejudiced attitude acts as a biasing filter that influences how individual members of a target group are evaluated.' (Zimbardo and Leippe, 1991 P.236).

The suggestion by Zimbardo and Lieppe (1991) that prejudice often results from poor
knowledge of the marginalised group is consistent with Levey and Howells (1994) finding, that people with schizophrenia are most feared and avoided by people who know very little about schizophrenia. Hence such traditional emotional idioms as 'the fear of the unknown' and 'ignorance breeds fear'. According to Allport (1954) prejudice relies on maintaining this sort of social and cognitive distance from the stigmatised person or group (Amir, 1976; Whitely, 1990, Altemeyer, 1992). By contrast, close and continuing contact tends to create cognitive dissonance (Aronson et al, 1978; Aronson, 1990). Resolving that dissonance breaks down the stereotypes that sustain inaccurate and prejudicial schemata (Batson et al, 1997; Beattie et al, 1997).

The stated aim of the DICAM study was to replace inaccurate schizophrenia schemata and to promote the social acceptance and integration of people with schizophrenia. The primary technique used in the 'Integrated' film, based on the DICAM, is **identification**, which is promoted through the provision of relevant and empathetic 'heroes' (See Ch.11). Identification means vicariously taking on the role of an 'other' and making the emotional responses (e.g. feeling fear, sweating etc.) appropriate to that role (Lang, 1993; Batson, 1997).

Clinical psychologists refer to this type of rapport as attunement (Bowlby, 1965; Radke-Yarrow and Zahn-Waxler, 1984; Stern, 1987; Pickens and Field, 1993). Attunement creates empathy and empathy promotes caring, altruism and morality (Kohlberg, 1969; Goleman, 1996). Interestingly enough recent neurological findings point to the amygdala, the brain's 'emotional sentinel' (Goleman, 1996, p.17) and its connections to the prefrontal-cortex, the brain's 'emotional manager' (Goleman, 1996 p.24), as part of the key brain circuitry underlying empathy (Brothers, 1989;
Levenson and Ruef, 1992). This once more serves to emphasise the critical interaction of emotion and cognition in the formation and modification of attitudes (Lazarus, 1991; Lang, 1993; Damasio, 1994; LeDoux, 1996).

**Stereotypes and Prejudice**

A lack of personal knowledge of members of a stigmatised group leads to simplistic mental representations i.e., stereotypes (Levey and Howells, 1994):

'Stereotypes' are prejudiced beliefs, the set of cognitions that constitute mental schemas about the target group.' (Zimbardo and Leippe, 1991 P.236)

The 'prejudiced' beliefs upon which stereotypes are built may, or may not be negative. As has been learned from the philosophy of Kant (1896), the experimental research of Bartlett (1932) and Bargh (1994) and the work of the cognitive categorisation theorists (e.g. Asch and Zukier, 1984), it is very difficult to eliminate stereotyping, because humans have an automatic tendency to categorise each other (Hamilton and Troyer, 1986; Bargh, 1994).

The role of film and television in creating and maintaining stereotypes, partly through sensationalisation (Hyler et al, 1991) and partly through illusory correlations (Hamilton and Gifford, 1976; Fiedler, 1991) and selective reportage (Shain and Phillips, 1991), has been well documented (Ray, 1983; Durkin, 1985) and indeed it is quite possible that the 'Integrated' film may itself create new stereotypes. However, just as people can be 'conditioned' into adopting stereotypical views by the media (Monahan, 1992), so too they can be 'counter-conditioned' into adopting other views by the same agents (Medvene and Bridge, 1990).
In the 'Integrated' film, based on the DICAM, prejudice is modelled in a negative way, whilst the objects of that prejudice are presented in a positive way. However, in keeping with social comparison theory (Festinger, 1954; Elkin, 1986), theories of ego-defence (Katz, 1960; Baumeister, 1982; Tesser and Shaffer, 1990) and inoculation theory (McGuire, 1964, 1985), stereotypic beliefs and prejudices (i.e., the myths surrounding schizophrenia) are initially presented innocently by positive models and then gently debunked by the 'expert' source.

This allows the target (viewer):

a) to have held inaccurate schemata without blame ("everybody thought so, even these attractive 'heroes');

b) to review those schemata in a 'safe' atmosphere (modelled within the film);

c) to choose to modify the schemata (also modelled); and,

d) to be vicariously reinforced for doing so.

This process is repeated, extended and consolidated until a sudden presentation of the original belief or attitude appears quite shocking⁸.

⁸Examples of such beliefs and attitudes drawn from the 'Integrated' film are: a) When, Linda, the wife of the man with schizophrenia attributes his illness to his parenting (belief); and, b) when Tony, Nicky's boyfriend is physically repulsed by her illness and leaves her hospital room without kissing her (attitude).
4. THEORIES OF AFFECTIVE STABILITY AND AFFECTIVE GROWTH

It is now appropriate to return briefly to McGuire's matrix of 'the dynamic processes of attitude change' (McGuire, 1985), and to consider where the group of theories that focus on the affective state contribute to the DICAM and its practical application in the 'Integrated' film.

THEORIES OF AFFECTIVE STABILITY

Just as theories of cognitive stability focus on the organism's use of rational processes in order to maintain its cognitive equilibrium, so, theories of affective stability focus on its use of emotional strategies designed to reduce tension, maintain self esteem and reinforce social compatibility. For example, Leon Festinger's, theory of social comparison (1954) is the affective counterpart to his theory of cognitive dissonance. According to this theory, people seek to reduce tension (emotional dissonance) and to protect their egos, by confirming their attitudes with people whom they perceive to be similar to themselves. In line with current attribution theory\(^9\) (Goethals and Darley, 1977), if the similar other agrees, then there can be a greater degree of confidence in having made the 'right' judgment. Even committed people will seek social comparison, not so much to evaluate as to validate their opinion (Kruglanski and Mayseless, 1987), i.e., to be reassured that their ideas and attitudes are correct and appropriate (Zimbardo and Lipepe, 1991).

\(^9\)Attribution: making causal inferences about our own or another's behaviour.
The DICAM extends the concept of social comparison to include, not only people 'perceived to be similar' but also, people with whom one might wish to be similar, i.e., heroes (Baumeister and Tice, 1984). For example, in the 'Integrated' film the 'expert' source is not only presented as a 'mentor' but is also integrated into the drama as an empathetic character with whom the target population are encouraged to identify. This capitalises both on the need for public image (Baumeister and Tice, 1982; Elkind, 1986) and for personal self-esteem or self-evaluation (Baumeister, 1982; Schenkler, 1982).

As outlined in the previous section of this chapter, the process of attitude challenge and modification is modelled during the course of the film (Gorn et al, 1976; Bandura, 1986), including reinforcement for attitude change (approval/validation) (Bandura, 1986) and practice at debunking 'old' attitudes (McGuire, 1964). Studies have shown that prejudicial attitudes are frequently ambivalent (Hass et al, 1991; Thompson et al, 1992), consisting of feelings of both aversion and friendly concern (Olson and Zanna, 1993). Witnessing models express aversive feelings, ones which targets may have previously held but now feel ashamed of, may act as a catharsis, enabling them to 'feel good', about themselves and their 'new' attitudes (Schenkler, 1982).

O'Donnell (1983) claims film to be the most persuasive of all contemporary media, due to the combination of the film-maker's shrewd audience analysis and the medium's ability to involve viewers, intellectually, emotionally and even physically. In the 'Integrated' film the simulated experience of psychosis is intended to create genuine neuro-biological emotional arousal (LeDoux, 1992; Lang, 1993; Goleman, 1996) which the organism must then resolve. Generally films support and reinforce
social norms, and O'Donnell cites the example of the pain caused by the father's absence in ET as supporting the norm of family unity. However she also points out that some films may contradict widely held attitudes, causing a psychological imbalance which forces the viewers to clarify their own position (O'Donnell, 1983). In the 'Integrated' film this 'clarification' is guided by example (Bandura, 1986).

Using fear to create tension and then providing answers to relieve that tension, has been found to be effective in promoting attitude change (Leventhal, 1970). This is frequently exploited in the media, especially in messages designed to promote health, e.g., the QUIT campaign against smoking, which features graphic images of affected lungs and arteries; and, in the use of the death figure, the Grim Reaper, to encourage people to be sexually responsible in order to prevent the spread of AIDS (Ross et al, 1990). However it is important not just to frighten, but also to encourage the target, with reassuring messages like the familiar promise of the 70's, 'The moment you stop smoking, your lungs begin to heal' (Rogers, 1983, Rogers and Rippetoe, 1987).

According to Rogers' (1983) protection motivation theory, fear appeals will be effective to the extent that:

'they convince recipients that (a) the problem is serious, (b) the recipient is susceptible to the problem, and (d) the recipient is capable of performing the recommendations, (Olson and Zanna, 1993, p.139)

Although the 'Integrated' film provides targets with vicarious experiences of psychotic episodes that are frightening and disturbing, it also makes treatment options and preventative measures abundantly clear (Rippetoe and Rogers, 1987). It is emphasised that, while the threat of schizophrenia is relevant to the target, i.e.,
a real threat to be taken seriously, treatment is both socially acceptable and readily available (Shapiro et al, 1984). This guards against attitudes of avoidance due to fear of people with schizophrenia, being replaced with attitudes of avoidance due to fear of hopelessness or helplessness (Sutton, 1982).

Although Eagly and Chaiken (1993) suggest that the empirical evidence for fear X efficacy reactions is unreliable, the 1989 Australian national anti AIDS campaign, featuring the 'Grim Reaper', was found to be highly successful (Ross et al, 1990) and Olson and Zanna comment:

'Recent research within this framework has supported its utility for understanding the influences of messages on a variety of issues, including earthquake preparedness (Mullis and Lippa, 1990), condom use (Struckman-Johnson et al, 1990, and informing children about sexual abuse' (Olson and Zanna, 1993, p.139).

They also note that Gleicher and Petty's (1992) study of crime prevention suggests, that 'fear arouses a general protection motivation that can affect processing of all safety-related messages' (p.140). Furthermore, the neuro-scientific and psychological studies of LeDoux (1992), Lazarus (1991) and Lang, (1993) suggests that since fear evokes a strong emotional response, fear appeals should have extreme mnemonic salience.

THEORIES OF AFFECTIVE GROWTH

Identification

'Modelling, social facilitation, and social learning theories stress the gratification obtainable from imitating others, adopting their thoughts, empathising with their feelings (Johnson, Cheek and Smith 1983), and matching their behaviours' (McGuire 1985 p.301)

The promotion of identification which includes both cognitive empathy (perceived similarity i.e., relevance) (Davis et al, 1997) and emotional empathy (e.g., attunement, involvement and 'felt' emotional response) (Batson et al, 1997) is the practical expression of the DICAM's conceptual emphasis on the role of emotion in cognitive restructuring and attitude change.

In the 'Integrated' film identification is promoted through:

a) the use of an attractive and relevant source and models (Hovland et al, 1953; Hatfield and Sprecher, 1986; Eagly and Chaiken, 1993);

b) the use of multiple models (Vrij et al, 1996);

c) the creation of emotionally challenging simulated experiences (Bandura, 1986; Lang, 1993; Goleman, 1996); and,

d) the regular screen techniques of: pairing stimuli (e.g., music), gesture, tone of voice, facial expression and rhetoric (Hatfield et al, 1993; Petty et al, 1997).

'The term "empathy" has been used to refer to at least three different qualities: (a) knowing what another person is feeling... (b) feeling what another person is feeling... and (c) responding compassionately to another person's distress' (Levenson and Ruef, 1992, p.243)

Identification goes beyond empathy because it involves 'internalising' the experience of another person, literally feeling and seeing life through that person's eyes (Reik, 1948); while empathy can be felt objectively, i.e., by:
'experiencing the other's experience while simultaneously attending to one's own cognitive and affective associations to that experience' (Marcia, 1987, p.83); or in other words, whilst retaining one's own identity (Marcia, 1987).

Getting the viewer to identify with fictional characters (heroes) is the 'stock in trade' of screen persuasion (Batson et al, 1997; Davis et al, 1997). Soap operas such as 'Neighbours' and 'Coronation Street' owe their extraordinary success to this form of escapism and self-evaluation (Bem, 1972, Bandura, 1986). In a recent study, Aune and Klinge (1994) demonstrated the persuasive power of using an episode in a soap opera to complement a public service announcement promoting bone marrow testing. Although in soap operas a lifetime of trauma and excitement tend to be collapsed into a fictional character's weekly experience, the underlying message is, that these characters are 'ordinary people' or 'similar others', which is what is seen to promote such extensive viewer involvement (Zimbardo and Lieppe, 1991, Hatfield et al, 1993).

This type of identification stresses feelings of belonging and communality (Bowlby, 1973; Baumeister, 1982). For example, it has been suggested (McHugo, 1985) that a former president of the United States of America, Ronald Reagan, owed his considerable success to presenting himself as: "Just a good old 'run of the mill' American" (Zimbardo and Lieppe, 1991). Arguably he was able to do that well because he had originally been a professional actor, a screen idol in fact.

In planning the 'Integrated' film, based on the DICAM, care was taken to ensure that the characters portrayed were potentially: Mr. Mrs. or Miss 'Everybody' and even the 'expert' source i.e., the authority figure (in this case the psychiatrist), was repeatedly
seen to demonstrate both humanity and humility. Anecdotal evidence suggests\textsuperscript{10} that a particularly salient aspect of the film lies in its poignant portrayal of two very 'ordinary' parents desperately coping with their teenage daughter's schizophrenia.

Identification can also serve to promote the acquisition of new roles and thus to enhance the target's sense of self (McGuire, 1985). In the 'Integrated' film, targets are encouraged to identify not only with the 'models' or fictional characters but also with the expert 'source', the 'real life' psychiatrist, as he too steps into the drama, playing the fictional role of himself. As discussed in the previous section, this is rewarding for the target (Baumeister and Tice, 1982; Elkind, 1986) and encourages him or her to feel confident about changing beliefs and attitudes\textsuperscript{11}.

\textbf{Emotional Contagion}

Hatfield, Cacioppo and Rapson provide an excellent overview of emotional contagion in their most readable book, titled 'Emotional Contagion' (Cambridge University Press, 1993). They leave little doubt that the power to infect others with emotion plays a crucial part in all charismatic and effective communication. Their text is liberally sprinkled with pithy and amusing quotes:

\begin{quote}
A wise man associating with the vicious becomes an idiot; A dog travelling with good men becomes a rational being. - (Arabic proverb)
\end{quote}

The evidence that primitive emotional contagion exists even in animals has been well

\textsuperscript{10} See Ch. 14. Discussion.

\textsuperscript{11} An interesting example of this was anecdotally related to the researcher by a professor of psychology who saw the 'Integrated' film. He reported a complete reversal in beliefs about the aetiology and treatment of schizophrenia as a result of identifying with the 'expert' source, portrayed in the film.
documented in ecological and psychological research (Miller, 1963; Brothers, 1989; Hatfield et al, 1993). Similarly, developmental and child psychologists have focussed on attachment or attunement (Bowlby, 1965, 1973) since the turn of the century (Titchener, 1909; Stein, 1917). Research data suggests that infants possess the ability to imitate facial expressions (Field et al, 1982) and to display movement synchrony (Berghout-Austin and Peery, 1983), at birth (Hoffman, 1987).

'From a few months after birth through the first year of life, studies have shown, infants react to the pain of others as though it were happening to themselves. Seeing another child hurt and start to cry, they themselves begin to cry, especially if the other child cries for more than a minute or two... "From around 14 months to 2 or 21/2 years, you see children feel their own fingers to see if they hurt when someone else hurts their fingers," said Marion Radke-Yarrow, chief of the Laboratory of Developmental Psychology at the National Institute of mental Health' (Goleman, 1989, pp. B1, B10).

Recently, theorists and clinicians have tended to focus on the subliminal, psychobiological aspects of emotional contagion (Zahn-Waxler and Radke-Yarrow, 1990; Hsee et al, 1991; Hatfield et al, 1993) in adults as well as children.

"If you live with a cripple, you will learn to limp." - (Plutarch)

This concept of contagion as an 'unseen force', is by no means new. As early as 1759 the economic philosopher Adam Smith observed:

"Though our brother is upon the rack... by the imagination we place ourself in his situation, we conceive ourselves enduring all the same torments... when we see a stroke aimed, and just ready to fall upon the leg or arm of another person, we naturally shrink and draw back our leg or our own arm.... The mob, when they are gazing at a dancer on the slack rope, naturally writhe and twist and balance their own bodies.' (Smith 1759 p.9-10)

Consistent with theories of communication and persuasion, contagion theorists

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12 For review see Hatfield et al, 1993 p 183.
emphasise the importance of creating relevant and appealing characters with whom targets will naturally and easily identify (Lott and Lott, 1968; Horai et al, 1974; Hass, 1981; Hatfield and Sprecher, 1986). However, although identification helps to facilitate emotional contagion, it is not deemed to be a prerequisite. Contagion has been found to occur from film and television even when compliance is not explicitly urged or intended (Surgeon General's Report, 1972; Durkin, 1985; Batson et al, 1997).

**Nonverbal Cues**

The PONS (Profile of nonverbal sensitivity) (Rosenthal, 1977) has been used to demonstrate that, while the mode of the rational mind is words (Vygotsky, 1978; Lang, 1993), the mode of the emotional mind is primarily non-verbal (Ekman et al, 1976; Rosenthal, 1977; Klein and Cacioppo, 1993). Thus, when what a person says is at variance with his or her 'body language', e.g., tone of voice, facial expression, eye movements, posture, gesture etc., the message that is emotionally conveyed (and read) is, how the information is presented, rather than what has actually been said. Communication research has found that 90 per cent or more of an emotional message is non-verbal and, that these unspoken messages of physical expression are almost always taken in unconsciously, irrespective of the spoken message (Levenson and Ruef, 1992; Hatfield et al, 1992, 1993, 1994; Goleman, 1996)

"People seem capable of mimicking others' facial, vocal and postural expressions with stunning rapidity and, consequently, are able to "feel themselves into" others' emotional lives to a surprising extent: however they also seem oblivious to the importance of emotional contagion .. and unaware of how swiftly and completely they are able to track the expression of others" (Hatfield et al, 1993 p.183)

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13The theories and methodologies more specifically pertaining to communication and persuasion will be reviewed in Ch.10.
In a series of studies Lanzetta and his colleagues have demonstrated that people actively respond to the television, smiling back at the presenters and unconsciously mimicking their facial expressions (Lanzetta et al., 1981, 1985). In addition to purposely employing such visual cues, filmmakers also use audio cues, such as romantic or suspenseful music, birdsong, laughter, etc. The fact that laughter is contagious is particularly exploited by the makers of television comedies who play tracks of 'canned' laughter in the background, thus encouraging viewers to respond with laughter and, remembering the felt emotional response (LeDoux, 1992; Lang, 1993), recall the show as having been particularly amusing (Zimbardo and Liepe, 1991).

**Group Effects and Rhetoric**

It takes less person power to influence a large number of people with one speech or film or TV program than to attempt attitude change one on one (Zimbardo and Liepe, 1991; Baron and Misovich, 1993). Furthermore, research has found that the effect tends to be magnified by the number of people in the watching or listening group (Baron and Misovich, 1993; Hatfield et al., 1993). Emotional appeal through the skilful use of rhetoric, of which Adolph Hitler was the pastmaster, is often a key factor (Aristotle, 384-322 BC; Zimbardo and Liepe, 1991; Hatfield et al., 1993), especially in large groups. Using the rise and fall of his voice to maximum effect, Hitler appealed to the wounded patriotic pride of the German nation, after their humiliating defeat in World War I, with extraordinary success (Rude, 1981).

Martin Luther King also used rhetoric to emphasise feelings of cohesion or 'belonging' by associating new ideas with old ideas that were familiar and valued (Bettinghaus, 1980). Similarly, by using language, analogies and situations that
particularly appeal to a contemporary audience (as did Luther King), the 'Integrated' film aims to make its message appear consistent with the religious, cultural and political values of the present time (Miller, 1986). For example modelled ambivalence towards drug therapy reflects the 'modern' trend towards naturalistic or holistic medicine and, the sexual freedom of the student nurse reflects contemporary western attitudes towards pre-marital relationships.

Conclusion

To sum up, it is difficult to overemphasise the importance of engaging affect in any model for attitude change. From the neuro-scientific evidence reviewed by Goleman (Goleman, 1996) to the concessions of cognitive science (Norman, 1980), the enormous power of emotion to sway belief is evident (Asch, 1987; Lazarus, 1991; LeDoux, 1992). Not only does it appear that more immediate attention is paid to that which appeals to the 'heart' but that such emotional responses are far more easily remembered and later serve as triggers for cognitive recall (LeDoux, 1992, 1994; Lang, 1993).

However LeDoux's (1994) finding that emotional memories are less accurate than cognitive memories and may be discarded later, when being used as a reference for new incoming sensory data, suggests the need to complement the provision of emotional arousal and emotional experience with provision for cognitive interaction. In other words, to facilitate complementary cognitive elaboration and to provide ongoing validation of emotional experiences and responses. How this was proposed to be achieved in the application of the DICAM is the subject matter of the following chapter.
'Persuasion has its special rewards, especially if it involves systematic mental processing of new information or a new perspective. That sort of active thinking results in belief changes and cognitive restructuring through which the new attitude gets firmly embedded. When such internalisation takes place, the new attitude can be counted on to endure and to manifest itself in future behaviours. Not just a single behaviour or attitudinal response has been coaxed. Rather the individual has been changed in fundamental ways' (Zimbardo and Leippe, 1991).

The two preceding chapters focussed on cognitive challenge and affective experience as complementary components of a model for cognitive restructuring and attitude change. A wide range of literature was reviewed from theories of learning, psychology, attitude change and neuroscience.

This chapter focuses on the more overtly 'practical' components of the model, i.e. validation, the technique of 'chaining' and, methods of persuasion as discussed in the communication literature. The next chapter (10) will give a brief outline of the 'Integrated' film and explain how it exemplifies the conceptual model of the DICAM.

VALIDATION

Validation is an essential component of the DICAM. If newly formed attitudes are not endorsed authoritatively and thus confirmed as valid, they remain weak and vulnerable and can easily be swept aside by past habit or future challenge (Cacioppo and Heesacker, 1986; Mackie, 1987; Zimbardo and Lieppe, 1991)\(^1\)

\(^1\)A critical factor in the effectiveness of both cognitive conflict and validation in a screen intervention is the choice of source or communicator (Hovland, 1953, Lasswell, 1948, Gallup,
The explicit cognitive component of the 'Integrated' film, the documentary component, reflects the DICAM's emphasis on cognitive challenge and validation. This is conceived as an essential complement to the emotional appeal of drama which, as already discussed, is viewed as initiating and precipitating change (McKerracher, 1982; Lang, 1993, Davis et al, 1997).

In simple terms: people are accustomed to entering the world of 'story' when they watch a film or view a television program (Batson et al, 1997). While the story unfolds they are engrossed, they 'live' that story, identifying with the 'heroes' and (vicariously) experiencing all that they experience (Hatfield et al, 1994; Davis et al, 1997). Their feelings (emotional responses) may be very great, very deep and very convincing (Palumbo and Stegagno, 1993; Lang, 1993). However, they are also accustomed to 'turning off' once the story has been told.

When the film or program ends, they expect to return to 'reality'. In this way, once the emotional impact subsides, they can dismiss what they have seen and experienced as no more than 'story' (and someone else's 'story' at that) and, continue in their 'real' lives with all their old schemata and attitudes intact (Batson, 1991). In order for a change in attitude or schema to take place, the 'story' that they have seen and experienced (or more colloquially, 'lived through'), must be validated. It must be endorsed as a 'true' story and the feelings and experiences that they have undergone must be validated as authentic experiences based on 'real' knowledge (Mackie and Asuncion, 1990).

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1981, Hass, 1981, Wilson and Sherrell, 1993). The credibility of the communicator is a salient factor in the literature on persuasion and will be discussed later in this chapter and in Ch.11.
THE TECHNIQUE OF CHAINING

The practice of authenticating films or television programs in a post-script is quite common, e.g. 'Serving in Silence' (Striesand, 1995) and 'Lorenzo's Oil' (Kennedy-Miller, 1992). However, the DICAM proposes that validation needs to be an ongoing and integral part of the program if congruent cognitive elaboration, leading to cognitive restructuring and attitude change, is to take place (Pratkanis and Greenwald, 1989; Ross, 1989; Echabe and Rovira, 1989; Petty et al 1997). In their 1990 study of the effects of distraction on attitude judgment, Mackie and Asuncion distinguished this 'on-line' as opposed to 'memory based' attitude change, finding it to be significantly more effective in prompting rapid cognitive processing and consequent attitude change (Olson and Zanna, 1993; Eagly and Chaiken, 1993).

A primary aim of the 'Integrated' film is to make it impossible for the viewer to simply 'switch off' at the end of the program and mentally and emotionally dismiss it as 'someone else's story'. To achieve this outcome all the proposed requirements for cognitive restructuring and attitude change to take place, i.e., ZPC, cognitive conflict, emotional experience and validation, are provided in the 'Integrated' film in a repetitive, spirally textured series of linked sequences. This is likened to 'links in a chain'. Each link being complete within one ZPC but also connected to the next link (an expanded or 'new' ZPC), with all links forming one highly complex, textured experience. Bruner (1966) used the analogy of a 'spiral staircase' and Rogoff (1990), a 'scaffold', to demonstrate how more complex information can be used to extend and build upon, simpler versions of the same concept.
This technique, 'chaining', finds its theoretical roots partly in Bruner's theory of a spiral curriculum (Bruner, 1960, 1966) and partly in theories of repetition (Ebbinghaus, 1913; Ronis et al, 1977; Cacioppo and Petty, 1985; Bornstein, 1989) and cognitive elaboration (Cacioppo and Petty, 1986; Greenwald, 1989; Mackie and Asuncion, 1990).

Chaining can be defined as:

- textured repetition, within the zone of potential change (ZPC) which promotes equilibration, by repeating, extending and validating, recent information and experience.

The DICAM study developed out of a perceived need for social change, which it was hypothesised could be achieved through individual attitude change. Film and television programs not only provide opportunities for the viewer to identify with 'heroes' and view places beyond his or her ken or pocket, they can also provide the viewer with a detailed vicarious experience which can be validated concurrently by the use of an unequivocal authority.

PERSUASION

Film and Television as Agents of Persuasion

The use of film and television as agents of persuasion has been well documented (e.g. Zimbardo and Lipepe, 1991; Pratkanis and Aronson, 1991; Schlenker and Weigold, 1992).
If 'the proof is in the pudding' then belief in the power of film (and television) as a persuader, shaper of fashion or agent for change, is evidenced:

a) by the billions of dollars that are daily poured into 'on screen' advertising campaigns (McGuire, 1985)

b) by the chilling success of military (Nazi) propaganda films (Rude, 1981; Hatfield et al, 1993); and,

c) by the proliferation of research into the effects of television violence on children (Heusmann et al, 1984, Ling and Thomas, 1986, Joy et al, 1986; Wood, 1990) many of which were reviewed by Waters in 1989.

Waters (1989) concluded that there is little doubt of the positive correlation between exposure to TV violence and increased aggressive behaviour. As discussed in the previous chapter, Bandura (1969) had found that children automatically learnt violent behaviour (in this case beating up a Bobo doll), from purpose made short films or videos; and in 1986 he cited a striking example of anti-social behaviour being learned from a TV 'action thriller', designed purely for entertainment:

'Sometimes it is the fictional media that furnishes the salient example for the spread of an aggressive style of conduct. The television program 'Doomsday Flight' provides an excellent illustration because of its novel modelled strategy. In this plot, an extortionist threatens airline officials that an altitude-sensitive bomb will be exploded on a trans-continental airliner in flight as it descends below 5,000 feet for its landing. In the end the pilot outwits the extortionist by selecting an airport located at an elevation above the critical altitude. Extortion attempts using the same barometric bomb plot rose sharply for two months following the telecast... Moreover a day after the program was re-run in different cities in the United States and abroad, airlines were subjected to further extortion demands of money to get the extortionists to reveal the placement of altitude-sensitive bombs allegedly planted in airliners in flight. Planes were re-routed to airports on high elevations, and some extortion demands were paid by airline officials, only to learn that the airliner contained no bomb. A re-broadcast of the program in Anchorage made an Alaskan viewer $25,000 richer, and a re-run in Sydney made an Australian instantly wealthy, after collecting $560,000 from Qantas.' (Bandura, 1986 p.173)
Films and television programs do not only teach by showing how to do things, as with the bomb described above. They also influence cultural attitudes and norms (O’Donnell, 1983), for example Super Heroes use violence in a relatively clean, successful and perfunctory manner, as if slaying human beings was of little consequence (Zimbardo and Lieppe, 1991).

Arguably many of the myths and misunderstandings surrounding schizophrenia have been created by inaccurate representations on film and television (Hyler et al, 1991). Films and fiction are traditionally viewed as being partially responsible for creating the 'schizophrenic stereotype' of a violent and dangerous person, with a split or multiple personality (Walsh, 1985; Wahl, 1987; Fuller-Torrey, 1988; Monahan, 1992; Levey and Howells, 1994). This sort of priming alters people’s perception of others and their behaviour towards them (Wyer and Carlston, 1979)².

If I may be permitted a little anecdotal evidence: While I was a student in Edinburgh in the late sixties, I went to see the film 'Bonnie and Clyde' with a young American ex-serviceman who had had some experience of war and the senseless killing that it involves. I remember being surprised by his fierce anger during the movie. He was appalled at the way in which it appeared to glamorise crime, suggesting that it was an exciting and heroic thing to rob a bank and that it was OK to kill, so long as you only killed policemen. He feared the influence of such persuasive immorality. I was even more surprised to find that he was right. The crime rate in Edinburgh tripled during the weeks which followed the run of the movie.

²See the section on schemata in Ch.7.
Pro-social Screen Messages

Although influential films have generally been made for cheap thrills and good box office returns and, although experts in persuasion have typically been co-opted into making someone rich or someone else powerful, or at least maintaining the dominant religious, political, economic or cultural status quo (Katz and Szecsko, 1981, O'Donnell, 1983); it is not axiomatic that screen persuasion must be anti-social (Gorn, 1982;).

There have been a number of studies which have found deliberately engendered, pro-social and therapeutic effects for film and television (Stone, 1990; Gramza et al, 1993; Vrij et al, 1996; Batson et al, 1997, Davis et al, 1997). For example, the guiding principles for the exceptionally successful series 'Sesame Street' which promotes co-operation, tolerance and self esteem, were drawn from research studies focusing on the positive influence of television on young children (Zimbardo and Liepke, 1991).

Not surprisingly, following the acclaimed Surgeon General's Report of 1972, on the effects of television violence on children; there was a proliferation of research into the pro-social effects of television on children. In two such studies, groups of young children were exposed to 'Mr. Roger's Neighbourhood', a program which stresses kindness, co-operation and sharing. Subsequently the children showed: increased self-control, increased pro-social nurturing behaviour (Friedrich and Stein, 1975) and increases in imaginative play, creative play and productive fantasy (Singer et al, 1981). In a similar study of 2nd and 3rd grade children, Baran and her colleagues (1979) found increased co-operative behaviour both in verbal problem solving and physical 'helping', after the children had viewed an episode of 'The Waltons', which emphasised cooperative problem solving (Baran et al, 1979)
In a more complex experiment, Poulos et al (1975) showed groups of 1st grade children either:

a) an episode of 'Lassie', in which a small boy risked his life to save an endangered puppy;

b) a normal episode of Lassie with dogs in it but no helping behaviour; or

c) a situation comedy with no dogs and no helping behaviour featured.

Subsequently the children played an unrelated, highly attractive and rewarding game. However, if a puppy got into trouble the children could turn away from the game and press a button to summon help. In this experiment the (a) group spent twice as much time seeking help as the (b) group and more than twice as much as the (c) group.

Several studies in the late 1970s and the 1980s (e.g. Gorn, 1976; Johnston et al, 1980) found that television also has a significant effect on the racial and sex-role attitudes of children and adolescents, including whom they choose to play with (pick as partners) and what they consider is, or is not, appropriate for the two sexes (Durkin, 1985). This is consistent with Graves (1980) extensive review of the literature on the impact of television on racial and ethnic attitudes, in which he concluded that purposive programming has been found to substantially alter racial attitudes (Graves, 1980).

More recent studies focussing on: racism (Eisenman et al, 1993; Vrij et al, 1996), AIDS information (Petty et al, 1993; Helweg-Larsen et al, 1997), sex roles (Riggle et al, 1996)) and reducing the stigma associated with disability (Ficten et al, 1996; Beattie et al, 1997), all support the proposition that methods of persuasion can be used for moral education and the promotion of altruism. However, it has been found
that the degree to which a program is influential depends upon its design: the way things are shown and what is chosen to be portrayed (Levey and Howells, 1994).

'The outcomes of aggression, especially collective actions, are easily misrepresented when dramatic pictorials are favoured over less interesting but important consequences. Thus, showing people running off with appliances and liquor from looted stores during an urban riot is more likely to promote aggression in viewers living under similar circumstances than showing the terror and suffering caused by the massive destruction of one's neighbourhood.' (Bandura 1986, p.212)

Methods of Persuasion

Persuasion has a bad name. It is distrusted, seen as intrusive and insidious in its subtle forms, and as brainwashing in its more overt and brutal manifestations (Zimbardo and Lippé, 1991). Nevertheless, says McGuire:

', a few aberrant young who see visions and old who dream dreams may discern that persuasion is the worst possible mode of social mobilisation and conflict resolution - except for all of the others' (McGuire, 1985, p.235).

Modern communication theory is rich in the study of persuasion and techniques of persuasion. This is hardly surprising in the wake of a booming communication industry and the extraordinary advances that have recently been made in the area of information technology. However, persuasion itself, is not new. It has been with us since about day eight, when Eve succumbed to it, bit the 'fruit' and then used the new found technique on Adam (Genesis 1 vs 6).

Our ancient friend, Aristotle, identified three of the components of effective persuasion in his work 'Rhetoric', over 2,000 years ago. Foreshadowing the modern idiom of communication research:

"who says what and to whom".
Aristotle discussed how: 'the character of the speaker', 'the speech itself' and 'the frame of mind' of the audience, are all factors which determine whether the persuasive message will be successful (Petty and Cacioppo 1981). Thus he identified what communication theorists refer to as: the 'source', the 'message' and the 'receiver':

'Of the models of persuasion furnished by the spoken word there are three kinds. The first kind depends on the personal character of the speaker; the second on putting the audience into a certain frame of mind; the third on the proof, or apparent proof, provided by the words of the speech itself. Persuasion is achieved by the speaker's personal character when the speech is so spoken as to make us think him credible... Secondly, persuasion may come through the hearers when a speech stirs their emotions... Thirdly, persuasion is effected through the speech itself when we have proved a truth or an apparent truth by means of the persuasive arguments suitable to the case in question (Aristotle, Rhetoric, 1941 edition, p. 1329-1330).'

Due to the contemporary focus on behaviour (the 'target'), as a measurable outcome of persuasive communication, and the modern technologies of print, film, video and micro chip, (the 'channel')\(^3\), the communication idiom has been expanded to:

'Who says what, via what medium, to whom and directed at which kind of behaviour'. (Laswell, 1948).

Based on Lasswell's classic analysis of communication, McGuire (1985 p.259) designed a *Communication \ Persuasion Matrix* (See Fig.11), which serves as a useful guide, or checklist: in the formation of hypotheses about persuasion; the design of persuasion campaigns; and, the measuring of the effectiveness of persuasion campaigns.

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\(^3\) In Aristotle's day persuasive communication was predominantly by oration. Hence the title 'Rhetoric'.
Fig. 11. **THE COMMUNICATION \ PERSUASION MATRIX**

- **INPUT FACTORS (INDEPENDENT VARIABLES)**

<table>
<thead>
<tr>
<th>SOURCE</th>
<th>MESSAGE</th>
<th>CHANNEL</th>
<th>RECEIVER</th>
<th>TARGET</th>
</tr>
</thead>
<tbody>
<tr>
<td>Credibility</td>
<td>Appeals</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attractiveness</td>
<td>Styles</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power</td>
<td>Inclusiveness</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**OUTPUT STEPS**
*(MEDIATING and DEPENDENT VARIABLES)*

1. Tuning in that produces exposure to the communication

2. Attending to it

3. Liking, interest in it

4. Comprehending its content (learning what)

5. Generating related cognitions

6. Acquiring relevant skills (learning how)

7. Agreeing with the communication position (attitude change)

8. Storing the change in memory

9. Retrieving the relevant material from memory

10. Decision making on the basis of the retrieved material

11. Acting in accordance with the decision made

12. Post-action consolidating of the new pattern

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McQuire 1985 p.259

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For the purposes of the DICAM study McGuire's matrix was found to be somewhat over-specific. Zimbardo and Leippe (1991 p.137) have identified six simple steps in the persuasion process. By superimposing Zimbardo and Lieppe's six steps on McGuire's matrix (Fig.12), the aspects that are pertinent to this study can be discussed under Zimbardo and Lieppe's more general headings, while maintaining awareness of the smaller steps, as outlined by McGuire.

THE COMMUNICATION PERSUASION MATRIX AND THE DICAM

The matrix provides a framework for discussing how the independent variables of: source, message and channel might be manipulated to impact on the mediating variables of: attention, comprehension, acceptance and retention; in order to influence the dependent variables of: measurable responses on knowledge and attitude scales.

The independent variable, 'receiver', was an experimental population of 304 student health professionals and the 'target' was their attitudes towards schizophrenia and their underlying schizophrenia schemata. Pilot studies and a literature review (see Chs.2, 3 and 12) established a profile of currently held beliefs and attitudes. This provided a useful indication of which perceptions needed to be challenged and which reinforced (Wood, 1982; Kallgren and Wood, 1986; Fazio, 1986). Since the research was experimental, the exposure of the target audience(s) to the message was planned and controlled (see Ch.12). Further exposure will be contingent on research results and marketing strategies.

*The measuring instruments, the KOSI and the ATSI are described in Ch. 12. Methods.
Fig. 12. THE COMMUNICATION\PERSUASION MATRIX

INPUT FACTORS (INDEPENDENT VARIABLES)

SOURCE  MESSAGE  CHANNEL  RECEIVER  TARGET
Credibility  Appeals
Attractiveness  Styles
Power  Inclusiveness

OUTPUT STEPS
(MEDIATING and
DEPENDENT VARIABLES)

1. Tuning in that produces exposure to the communication

2. Attending to it

3. Liking, interest in it

4. Comprehending its content (learning what)

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8. Storing the change in memory

9. Retrieving the relevant material from memory

10. Decision making on the basis of the retrieved material

11. Acting in accordance with the decision made

12. Post-action consolidating of the new pattern

1. Exposure to the Message:
   If the target of the message never sees or hears it, the message cannot have influence

2. Attention to the Message:
   The target must pay attention to the message if it is to have influence

3. Comprehension of the Message:
   The target must understand at least the conclusion of the message for it to have influence

4. Acceptance of its conclusion:
   The target must accept the message's conclusion for attitude change to occur

5. Retention of new attitude:
   If the new attitude is forgotten, the message will not have influence in the future

6. Translation of attitude to behaviour:
   If the message is to influence behaviour, the new attitude must guide behaviour in a relevant situation.

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McGuire 1985 p.259
Zimbardo and Lieppe 1991 p.137
The Choice of *Channel*: The Documentary/Drama

Although strictly 'documentary' film communications, which are primarily concerned with the dissemination of cognitive information, have been shown to have some effect on opinions related to straightforward interpretations of policies and events, they have been shown to have 'little or no effect' on more deeply entrenched attitudes and motivations (Hovland, 1959; Greenberg and Fain, 1979; Belschan and Norden, 1983; Pryor et al, 1991; Gilmore, 1992). Arguably this is because such attitudes are rooted in affect (Asch, 1987; Levey and Howells, 1994, 1995) and, as has been already been proposed, attitudes based on this kind of personal or emotional knowledge are particularly powerful (Fazio and Zanna, 1981; Lazarus, 1991; LeDoux, 1992) and resilient (Lang, 1993). In contrast to the documentary genre, film and television dramas use affect as their primary vehicle, providing intense emotional experiences (Bandura, 1986; Lang, 1993; Palomba and Stegano, 1993; Davis et al, 1997) and the sort of neural short-cut to cognition proposed by LeDoux (1992) and reviewed by Goleman (1996).

There is considerable empirical evidence that a combination of the cognitive techniques of documentary production and the emotional strategies of drama can produce a significant effect on beliefs and attitudes (Elliot and Schenk-Hamlin, 1979; Walker, 1989; Elliot, 1992; Aune and Klinge, 1994)

5. The makers of successful TV commercials and public service announcements capitalise on this, frequently using imagery designed to give a vicarious and prominently value laden, experience of the product or scene (Stone, 1990), coupled with straightforward, factual information

5An analysis of the empirical evidence for the superiority of the documentary/drama over the straight documentary as an agent for cognitive restructuring and attitude change can be found in Ch.14.
(Zimbardo and Lieppe, 1991; Aune and Klingle, 1994). They do it because it works! (McGuire, 1985; Bandura, 1986)

One of the fundamental propositions of the DICAM is that integrating cognitive conflict and emotional experience produces an interactive effect which is greater than the sum of the two effects when produced independently (Zajonc, 1980; Goleman, 1996). Therefore the decision to test the DICAM by creating an 'Integrated' film, which combined drama (affect) and documentary (cognition) was logical. The challenge was to combine the two genres in such a way as to capitalise on the power of each and to consolidate that power into an integrated whole.

ATTENTION

Because it is empirically difficult to distinguish between attention and comprehension, McGuire initially combined the two concepts under the general heading of 'reception' (McGuire, 1969, 1972) however:

'Because attention is the assignment of processing capacity to stimuli, whereas comprehension is the encoding, or interpretation, of stimuli to which processing capacity has been assigned, these two cognitive processes may have somewhat different effects in relation to persuasion' (Eagly and Chaiken, 1993, p.278).

People divide their attention between the television and numerous other activities (Comstock et al, 1978). However, they can only fully attend to one thing at a time (Spelke et al. 1976) and they tend to give their primary attention to material which is: vivid (Bell and Loftus, 1989; Simpson and Borgida, 1991), significant (Axom et al, 1987) relevant (Johnson and Eagly, 1989; Vrij et al, 1996), and supportive of their own opinions (McPherson, 1983; Frey, 1986). Since the 'Integrated model, based on
the DICAM, was designed to challenge the opinions of the targets, it was doubly important to provide novelty (Singer and Singer, 1981), stimulation (Taylor and Thompson, 1982) an attractive and authoritative source (Wilson and Sherrel, 1993) and relevant models (Kelman, 1974; Cacioppo and Petty, 1990).

Even disagreeable messages will catch a person's attention if they contain new and useful information. To cite a recent example from my own experience: while being subjected to a particularly nauseating television advertisement, I remarked to my companion that I would never buy the advertised product because I hated the 'ad' so much. However just as it was finishing, I suddenly pricked up my ears and said, "Ooh! 40 per cent less fat?". Thus, despite my stated objection and repugnance, the 'ad' had caught my attention by giving me new information which, to me, was both relevant and important.6

Primacy

The importance of primacy in attitude formation and change has been well documented (Lund, 1925; Hovland et al, 1953, Eagley and Chaiken, 1993). All screen directors know that the opening scene of a film is critical. Maintaining attention is important but gaining, attention, i.e., activating the ZPC (Baron and Misovich, 1993), is indispensable. The viewer needs to be instantly, actively and emotionally engaged (Greenwald, 1968). The experience needs to be familiar (Zajonc, 1968) yet disturbing (Brehm, 1972), the model needs to be attractive (Bandura, 1986), relevant (Chaiken, 1980) and sympathetic (Batson, 1991). There has to be a cognitive 'hook' to activate

6Interestingly enough, some months down the track, I can now remember only my emotional response to the 'ad'. I can remember neither the content nor the visuals! (See Ch.9, LeDoux, 1992; Lang, 1993).
the correct schema (Anderson, 1977) and enough new information to create cognitive conflict (Piaget and Inhelder, 1969), which in turn leads to the process of equilibration. Furthermore the production values, in terms of music and visuals, have to be dramatic and exciting (Nisbett and Ross, 1980)\(^7\).

The same criteria must be applied to the maintenance of attention (McGuire, 1985; Zimbardo and Lieppe, 1991). The models must continue to be relevant and sympathetic. Their developing stories must be engaging, involving and, at times, sensational (Batson et al, 1997). New information must continue to be stimulating and challenging (Haughtvedt et al, 1994) and the communicator or source must continue, not only to authenticate the vicarious experiences of the viewer but also, to reassure the viewer of his or her (i.e. the source's) inherent credibility (Hovland et al, 1953; Wilson and Sherrel, 1993).

**COMPREHENSION**

Research has found that when comprehension is poor, attitude change is unlikely (Eagly, 1974). Although this is particularly salient for the print media where rational arguments predominate, it is also an important consideration when planning a documentary or indeed, any sort of educational film (Zimbardo and Lieppe, 1991). As mentioned before, congruent with theories of cognitive and affective stability, it is important to present new information in contexts that are initially perceived to be familiar and thus easy to accept and understand (Festinger, 1957; Liberman et al, 1992).

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\(^7\)The opening scene of the 'Integrated' film is described in Ch.11.
Similarly, although it is vital for information to be accurate, the use of highly specific language (jargon) and complex concepts may confuse, or even antagonise the viewer (Zimbardo and Lieppe, 1991). One of the advantages of combining the genres of documentary and drama is that it enables the program maker to introduce quite complex concepts, which can immediately be illustrated or acted out and thus observed or vicariously experienced, by the viewer (Bandura, 1986). For example, in the 'Integrated' film, a concept such as, 'thought disorder' or 'hallucination', may be introduced by the source in technical terms, immediately illustrated in a dramatic scene and then validated by the source, either directly to camera in documentary style or, in his professional (clinical) role (i.e., as a psychiatrist and as a lecturer. See Ch.11) within the drama.

Having the 'expert' source play an 'expert' role within the film, facilitates comprehension because not only is he is able to explain complex concepts explicitly to the viewer; but also, both explicitly and implicitly, to the various models within the drama. Congruent with the technique of 'chaining', he may do this several times over and in a variety of ways, adding information each time does so (Bruner, 1966; Vygotsky, 1978; Rogoff, 1990; Rogoff et al, 1991). The models are used not only to clarify the concepts, by themselves questioning the source, but also to illustrate the concepts by becoming vehicles for simulated experiences of those concepts in action (Bandura, 1986). This pattern allows for maximum cognitive elaboration (Cacioppo and Petty, 1986) and attitude polarisation (Tesser and Schaffer, 1990).
Comprehension through Observation and 'Discovery'

Although it is recognised that people like to be cognitively challenged (Ross, 1977), it is also recognised that they are cognitive conservatives (Greenwald, 1989) and that they are more lastingly convinced by ideas that they perceive to be their own (i.e., that they have chosen or discovered), than they are by those perceived to come from others (Watts, 1967; Sherman, 1970). Since much influence takes place without the subject necessarily being aware of it (Nisbett and Wilson, 1977) and, since people tend to resist obvious attempts at persuasion, it sometimes pays to be subtle (Brehm, 1972; Brehm and Brehm, 1981). In their 1962 study, Walster and Festinger found that information that was indirectly presented, i.e., that was 'overheard', was more persuasive than information which was overtly directed at the targets (Zimbardo and Lieppe 1991). Accordingly, in the 'Integrated' film some concepts are first introduced either by conversation 'overheard' between characters within the drama, or by a simulated, vicarious experience.

In 'texturing' the film segments, care was taken not to dictate to, or 'spoon feed', the viewers, because the active involvement that they may feel in sometimes being 'one jump ahead' of the models, helps them to understand and 'own' the beliefs and attitudes that they are forming (Petty and Cacioppo, 1990). The use of drama in the 'Integrated' film capitalises on this kind of observational learning (Bandura, 1986). Thus there are times when the viewer (the real target), instead of being given the full simulated experience of psychosis with the model, remains an observer (or partial observer) and, perceiving the model as the target, subconsciously learns the intended message or attitude while assuming himself or herself to be 'wiser'.

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8An example of this technique is cited in Ch.11.
Subjecting the viewer to vivid simulated experiences, without prior warning or preparation, also encourages him or her to learn certain concepts through his or her own emotional responses and apparently 'independent' experience. Learning theory (Bruner, 1966; Vygotsky, 1986) suggests, that concepts which are thus 'discovered' by the viewer, through his or her own perceived experience, will be those most likely to be understood, accepted and retained (Lang, 1993).

Furthermore, in film and television where visual and auditory images can be manipulated to have great emotional appeal (Rothschild, 1987), it is possible to hijack the rational brain as suggested by LeDoux (1992) (see Goleman 1996) and promote the rapid formation of 'new' schemata and attitudes based purely on emotional response (Lang, 1993). According to the DICAM once this has been initiated, it is possible to rapidly support, confirm and validate these 'new' schemata and attitudes, both affectively (with further emotional experience), and/or cognitively (with authoritative factual information).

ACCEPTANCE

Learning Theory and Acceptance

Carl Hovland, one of the mentors of modern communication theory, also advocated a 'learning theory' approach to persuasion, in terms which were both cognitive and behavioural (Hovland 1957). Like contemporary, cognitive, dual process theorists, Hovland's research dwelt on rational, issue relevant arguments for why a point of view should be adopted (Cacioppo and Petty, 1981, 1986; Chaiken, 1980; Chaiken et al, 1989) but it also focussed on what benefits were to be gained by its adoption.
He postulated that a message would effect a change of attitude if the participant perceived that such a change would result in reinforcement or reward (Hovland, 1957).

Bandura also considered the effects of reinforcement in the persuasion process. In his analysis of the variables which affect observational learning, he described reinforcement as having two major motivational functions both of which he defined as 'informational' (Bandura, 1986). Like Hovland, he saw reinforcement as creating an expectation: if a model is rewarded for an action, behaviour or attitude, then the observer also expects that action, behaviour or attitude to be rewarded. Thus Bandura maintained that vicarious reinforcement acts as an incentive to go ahead and perform the learned behaviour (Bandura, 1963, 1969).

This concept is particularly pertinent to the DICAM study, because, in line with social cognitive theory (Bandura, 1986,) (see Ch.7.), viewer satisfaction (or more accurately self-satisfaction) can be regarded as reinforcement in itself. Therefore feelings of goodness, justice or righteousness become a reward for adopting the concepts and attitudes modelled or suggested by the intervention. These internalised standards can lead to anticipated self-reaction which in turn leads to self-regulated behaviour (Kohlberg, 1969; Rest, 1979; Bandura, 1986). Therefore, both Hovland and Bandura maintained that for a message to be persuasive it needs to be more than comprehensible, correct and/or important, it needs to promise personal gain or benefit. To witness, the very mixed success of the extensive campaign to promote condom use as a protection against AIDS (Aronson, 1991).
Hovland's Blueprint for Message Acceptance

Although studies have found that even mere exposure to a repeated message can increase its chances of acceptance (Zajonc, 1980; Zajonc et al, 1989), comprehension does not automatically guarantee acceptance (Hovland, 1957; Bandura, 1986). According to Hovland et al (1953), in order to be persuasive the message must contain incentives to believe and consequently change. It must include:

(a) substantiating arguments to prove the message true,

(b) positive appeals demonstrating rewards and,

(c) negative appeals demonstrating fear and failure.

The clarity of Hovland's argument is as refreshing as his analysis is useful. It serves as a fundamental blueprint for all attempts at persuasive intervention, including this one.

Cognitive Elaboration and Inoculation

According to the cognitive response perspective (Greenwald, 1968), which is grounded in Hovland's analysis, persuasive messages are evaluated in terms of previously held attitudes and beliefs (Cacioppo and Petty, 1981). The quality of a message will be examined in terms of logic, validity and strength (Morley, 1987). Good, strong, issue relevant arguments will be judged as likely or valid and may either be accepted, 'lock, stock and barrel', or tentatively accepted, for further evaluation (Cacioppo and Petty, 1986). With this in mind, in the 'Integrated' film, the messages presented, which are likely to challenge previously held views, are repeated and reinforced during subsequent sequences in the program (links in the chain).
Prior knowledge of predominant attitudes and schemata, especially those which are likely to be challenged, can prove invaluable (Wood, 1982), not only by giving the communicator the opportunity to repeat, and endorse particularly challenging messages but also by enabling him or her to model potential counter-arguments (McGuire, 1964; 1985). Consistent with McGuire's inoculation theory, it is therefore possible to play 'devil's advocate' and thus rehearse the participant viewers in countering opposition; opposition which may come, not only from other people but also from their own schemata. Having models portray attitudes that are commonly held and seeing them challenged and overcome, literally 'acts out' the whole process of cognitive dissonance and subsequently achieved consonance, on behalf of the viewer (Bandura, 1986).

In the 'Integrated' film the myths and fears associated with schizophrenia are presented and counter-argued not only in the straight documentary genre but also within the dramatic story. As previously mentioned, the viewer is often encouraged to be a 'step ahead' of one or more of the characters portrayed in the film, having either been given, or allowed to 'discover' the 'correct' information in an earlier scene. This not only promotes inductional attitude change, as the viewer mentally expresses the 'corrective' information but it also reinforces the viewer by enhancing his or her self-image (McGuire, 1964, 1985; Zimbardo and Lipepe, 1991; Eagly and Chaiken, 1993).

Source Credibility

According to the currently dominant, dual process theories of attitude change (Cacioppo and Petty, 1981, 1986; Chaiken, 1980, Chaiken et al 1989; Petty et al,
1997), besides evaluating issue relevant arguments through cognitive elaboration or systematic processing, targets will also employ, 'simple heuristics' (Chaiken, 1980) or peripheral cues (Cacioppo and Petty, 1986), like source attractiveness or credibility, in order to evaluate the correctness or authenticity of information and attitudes being portrayed in a screen intervention. To this event the choice of 'source' or communicator is critical.

In their extensive analysis of persuasive communication, Carl Hovland and his colleagues at Yale (1953) proposed source credibility to be the most significant source variable in persuasive communication. They identified two fundamental bases for source credibility: expertness and trustworthiness. Thus, an agent may be perceived as possessing credibility because he is: likely to know the truth or because he is likely to tell the truth (Hovland et al, 1953).

Although some recent studies have found that perceiving a source as unpleasant or untrustworthy can increase message scrutiny and thus promote elaboration likelihood (White and Harkins, 1994; Priester and Petty, 1995), the majority of empirical evidence continues to support Hovland's proposal (Eagly and Chaiken, 1993). For example, in their recent meta-analysis of the literature pertaining to source variables, Wilson and Sherrel (1993) found that source credibility continues to have the greatest positive effect on attitude change, with source expertise accounting for 16 percent of the explained variance. Scientific, medical and academic groups tend to elicit the highest degree of confidence (Gallup, 1981) and their persuasive impact increases with professional status, trustworthiness and obvious familiarity with the issue (Hass, 1981).

The ELM and the HSM, which are discussed in Chs. 8 and 14.
There is also considerable evidence (Brown, 1986) that people are very quick to pick up the sort of non-verbal cues that suggest that a source is either unreliable or uncertain (Hatfield et al, 1994). Calmly expressed confidence, perceived truthfulness and demonstrated expertise all contribute towards successful persuasion (London, 1983) and, given their expert status, physically attractive people who speak with above average speed and smoothness tend to be the most persuasive of all (Chaiken, 1979; Petty and Cacioppo, 1984).

In the DICAM study the 'source' chosen for the 'Integrated' film, was a practicing psychiatrist who is also an academic, a professor, with a genuinely kind and caring attitude towards his patients. It was also decided to make Nicky, one of the characters to be portrayed in the film as having schizophrenia, play the role of a student nurse, thus giving her semi-expert status and enhancing the persuasive possibilities of her 'overheard' communications, within the drama\textsuperscript{10}. This technique gives Nicky (the nurse) 'source status' in some scenes, which capitalises on the finding, that multiple sources are more persuasive than single sources (Himmelfarb, 1972; Harkins and Petty, 1987).

\textbf{Attractiveness, Identification and Emotional Contagion}

Just as the choice of source, using acknowledged experts or 'liked' personalities, can provide a short cut to acceptance of a message (Chaiken, 1986), so can the use of relevant and attractive models with whom the audience will empathise and readily identify (Betancourt, 1990; Batson et al, 1997).

\textsuperscript{10}A more detailed description of the source and models used in the 'Integrated' film can be found in Ch.11.
Accordingly, the 'Integrated' film portrays:

a) a young successful man, in a contemporary job, with a pretty wife and a cute baby,

b) an efficient, sexy nurse who also smokes dope,

c) two ordinary, committed and caring parents and,

d) 'everybody's' pretty daughter with a cheeky grin.

In this last scenario a very emotional, 'tear jerking', approach was adopted in order to maximise the potential mnemonic salience of felt emotional response (Lang, 1993). Research has found that, when the message setting is rich in peripheral emotional cues, rational arguments may not even need to be invoked for attitude change to take place (Chaiken and Eagly, 1983; Chaiken et al, 1989; Lang, 1993). This is consistent with the neuro-scientific evidence outlined in the previous chapter (LeDoux, 1992; Damasio, 1994; Goleman, 1996).

The whole medium of film and television lends itself to exploiting such peripheral cues as the confidence, likeability and attractiveness of fictional characters, by encouraging the viewer to identify with them and to become deeply involved in what they do and what will become of them. To witness the extreme popularity of televised 'soap operas' (Kelman, 1961; Zimbardo and Lieppe, 1991; Batson et al, 1997). Thus the use of nonverbal cues such as facial expression and tone of voice in conveying emotion, attitude or intention is plays a crucial part in any screen presentation (Hatfield et al, 1994). So much so, that an actor playing a victim, may often be more convincing and elicit more sympathy than an actual victim (Zimbardo and Lieppe, 1991). In fact one journalist suggested that Ronald Reagan's popularity as president of the United States was due more to his skill as an actor playing the part of a
president than to his actual performance as a president (Zimbardo and Lipepe, 1991). An interesting, if somewhat nauseating, example of this can be found in the 1996 movie 'Independence Day' where national chauvinism and heroic acting unite in an extravaganza designed to make every participating viewer, whatever their race or creed, "proud to be an American!"

Remembering that it is a fundamental proposition of the DICAM that emotional arousal is a precipitating factor and a key construct in the process of attitude change; the skill of the actor in being able to entrain emotion (Goleman, 1996) and promote identification (Batson, 1991) was a salient factor in the decision to use actors (i.e., fictional characters in a dramatic setting) for the practical expression of the DICAM (the 'Integrated' film). This was as opposed to using 'actualities', i.e., real people with schizophrenia in interview situations, as had been advised by the mental health research foundation (1995)\textsuperscript{11}. It was posited by the DICAM study, that emotion, skillfully simulated by professional actors would be more moving and more contagious than reality.

Some interesting studies have demonstrated the contagious nature of emotion (McHugo et al, 1985, Lanzetta et al, 1985; Cacioppo et al, 1992, 1993; Hatfield et al, 1992; 1993). Ekman and Friesen (1986) identified six basic, cross cultural, facial expressions which convey emotion: happiness, surprise, anger, fear, sadness, contempt and disgust. In a series of studies, Ekman (1992, 1993) gave experimental subjects instructions as to how to move their facial muscles. Unbeknownst to the subjects he was composing facial expressions indicative of different moods.

\textsuperscript{11}The implications of this decision are discussed fully in Ch.14.
The subjects subsequently reported having felt appropriately, 'sad', 'happy', 'angry', etc. McHugo and his colleagues (1985) found that film and TV audiences unconsciously mimic these facial expressions as they are portrayed by actors or models and that by doing so, they (the viewers) automatically feel some of the emotion which that facial expression represents (Lang, 1993; Hatfield et al, 1993). This, the subconscious synchronisation of emotional expression creates biological empathy, which facilitates message acceptance (Damasio, 1994; LeDoux, 1996; Goleman, 1996).

Mood Factors and Optimism

Finally, as every good political campaigner can attest, an element of optimism is helpful in encouraging acceptance of a persuasive message (Zimbardo and Lieppe, 1991). Mood studies have found that inducing a positive or cheerful frame of mind promotes both message elaboration (Howard and Barry, 1994; Wegener et al, 1995) and message acceptance (Baron et al, 1992; Forgas, 1992, 1995). The trick is: to promise a rosy future for all and, by way of example, to specifically capitalise on the general human fondness for the 'underdog' who comes through to 'win the day'. A humorous, but nonetheless emotionally appealing, example of this can be found in the 1997 film 'The Castle', where one 'little Aussie battler' successfully defends his right to keep his gloriously nondescript home from being compulsorily purchased by a mega airline corporation.

The example is outrageous but the message is pertinent. In creating the 'Integrated' film it was important to stress the possibilities for people with schizophrenia, i.e., to portray 'success' and make it factually clear that the illness is treatable, without negating the equally valid fact that it is a dreadful and disabling disorder (Fuller-
Torrey, 1988; Jepson and Chaiken, 1990). Health messages need to stress efficacy but they also need to be accurate (Ray and Ward, 1976; Rippetoe and Rogers, 1987), especially when they are about controversial topics such as the use of marijuana and the use of drug therapy (Smart and Feger, 1974; Sheridan et al, 1994).

In the 'Integrated' film, two of the people portrayed as having schizophrenia go on to lead rewarding and fulfilling lives, although one is shown to be 'blunted' by the illness. However the third person with the illness, the young girl, does not recover and will remain permanently in the hospital environment. This emotionally confronting outcome has been included, not only to engender sympathy for people with schizophrenia and their families but also to remind people of the relevance of the message. People tend to have unrealistically optimistic views about their own health prospects (Weinstein, 1982) and, since relevance is a key factor in attitude change, it is important to demonstrate that schizophrenia can strike anyone, even people whose habits and lifestyle closely resemble one's own (Weinstein and Lachendro, 1982, Atkins, 1980; Hazelwood and Chaiken, 1990).

RETENTION

The degree of retention of a 'new' attitude will depend on how strong and extreme that attitude is, this in turn will depend on how well it is first presented and how often it is presented (Zimbardo and Leippe, 1991), in other words it will depend on: primacy and frequency.

Primacy (and Recency)

The importance of primacy has already been stressed (Lund, 1925; Luchins, 1942).
The first information received about any phenomenon weighs more heavily than later information (Anderson and Hubert, 1963) and, although a recency effect has been found (Wilson and Miller, 1968) it appears that, if it is at variance with the first impression, then the earlier effect will re-emerge during the retention process (Sherif and Hovland, 1961).

With this in mind, the 'Integrated' film was designed to ensure that the 'recent' information contained in each link or segment, complemented, enhanced or simply repeated the primary information that had already been given, thereby capitalising on both potential effects. This 'textured' repetition is fundamental to the principle of 'chaining'.

**Frequency: Repetition**

The precursor of 'spiral learning' and therefore of 'chaining', Herman Ebbinghaus (1850-1909), studied the effects of repetition and reinforcement on the learning and re-learning of groups of nonsense syllables. His examination of the quality (or durability) of mastery, revolutionised the study of the associative process. He demonstrated how the law of frequency actually functioned and by doing this, his work plucked the concept of 'higher mental processes' out of the arena of philosophical hypothesis and into the scientific laboratory (Hergenhahn and Olson, 1993).

Accordingly, 'keep it simple and say it often' has become another familiar idiom of the communication industry. Despite the extravagant and spectacular staging of his 'presentations', Adolf Hitler, who was renowned for his skills as an orator, made his actual messages extremely simple and repetitive:

"The receptive ability of the masses is very limited, their understanding small; on the other hand they have a great power of forgetting. This being so, all effective propaganda must be confined to a very few points which must be brought out in the form of slogans until the very last man is enabled to comprehend what is meant by any slogan" (Hitler, 1933 p.77).

Mere Exposure

The literature on the effects of mere exposure is extensive (Eagly and Chaiken, 1993). Research has found that the more frequently one is exposed to a phenomenon the more one is inclined to like it (Zajonc 1968, 1980, 1984). Zajonc argued that this liking was not necessarily based on cognitive elaboration, or even cognitive recognition, but on an automatic and subconscious affective response (Zajonc, 1968, 1980; Moreland and Zajonc, 1977, 1979; Markus and Zajonc, 1984):

"These experiments (Moreland and Zajonc, 1977,1979) establish, I believe, that affective reactions to a stimulus may be acquired by virtue of experience with that stimulus even if not accompanied by such an elementary cold cognitive process as conscious recognition (Zajonc, 1980, p.163)

Although attitude theorists have argued that Zajonc's conclusions are at best, questionable (Holyoake and Gordon, 1984; Mandler et al, 1987), recent psycho-biological (Lazarus, 1991; Lang, 1993) and neuro-scientific (Talbot et al, 1991; Nauman and Bartusseck, 1991; LeDoux, 1992, 1994; Bargh, 1994) research, appears to lend overwhelming support to his proposal (Ohman and Birbaumer, 1993; Goleman, 1996).
Therefore, since positive affect has been found to increase with repeated exposure (Moreland and Zajonc, 1979); and, since identification has already been signaled as the DICAM's key technique in promoting positive attitude change, it was decided to structure the 'Integrated' film (film) first, to present the characters with whom the targets were intended to 'identify' in a positive and sympathetic light and then, to sequence the narrative, so that their storylines recurred frequently, within an integrated whole. It was also decided to make the program long enough for the characters to be well developed, allowing the participant viewer maximum opportunity to get to know them, care about them, identify with them and feel a personal, emotional involvement with their outcomes (Hatfield et al, 1994).

Mere Thought

Studies of thought polarisation have found that thought alone can serve to embed an attitude (Tesser, 1978; Cacioppo and Petty, 1979). In an experiment designed to illustrate the snowballing effect of this type of evaluative consistency (Rosenberg, 1960, 1968), Cacioppo and Petty found that, where a message is received positively, three repetitions would significantly increase that favourable effect. However they also found that the effect appears to be curvilinear and that more than three presentations led to thought satiation (Leippe, 1983), i.e., the subjects began to 'turn off. Brehm (1972) attributed this type of latent psychological reactance to a felt need for autonomy. He advocated a subtle approach to persuasion, arguing that, when a point is laboured, it may be perceived as a threat to autonomy, thus jeopardising freedom of choice, i.e. the right to make up one's own mind (Brehm, 1972; Brehm and Brehm, 1981).
This further endorsed the decision to 'spiral' (Bruner, 1960; 1966) or texture the sequences in the 'Integrated' film and to provide ongoing variety, with sufficient new information in each sequence to satisfy the thoughtful viewer (McCullough and Ostrom, 1974).

'Besides creating strong and extreme attitudes, message repetition contributes to retention. Continued thinking about plausible message arguments leads to stronger connections to beliefs and knowledge in memory, making future retrieval easier' (Zimbardo and Leippe, 1991 p.200).

The reflective role played by thought alone (Cacioppo and Petty, 1986; Petty et al 1997) also suggested that the dramatic narrative, presented in the 'Integrated' film, should be punctuated with factual information, presented direct 'to camera' in documentary style. This information could be used either to pre-empt, or to validate a (vicarious) 'experience', thus prompting the viewers to 'think about' and elaborate on (or systematically process), what they had seen and heard (Eagly and Chaiken, 1993; Petty et al, 1997). A textured repetition of either the information, or the experience, or both, would then act as a reminder and an endorser, reinforcing both the cognitive and affective effect of the message.

Memory

Traditionally, information is conceived as being stored in two ways: imaginally and verbally (Norman, 1980; Lang, 1993). Tolman (1938) emphasised the storing of information as mental images of past experiences like a picture or cognitive map (template), while Bandura (1986) emphasised the importance and flexibility of verbal memory. However he did go on to suggest that the two were often inseparable:
'Although verbal symbols embody a major share of knowledge acquired by modelling, it is often difficult to separate representation modes. Representational activities usually involve both systems to some degree... words tend to evoke corresponding imagery, and images of events are often verbally cognised as well. When visual and verbal stimuli convey similar meanings, people integrate the information presented by these different modalities into a common conceptual representation' (Bandura, 1986 p.58).

The impact of the complementary integration of words and images can be maximised when using a narrative voice over dramatic images. Accordingly, in the 'Integrated' film the 'source' frequently comments on the action, as with a normal 'voice over'. However, because the character of Nicky, the nurse who has schizophrenia, suffers from frequent auditory hallucinations, these 'inner voices' are also used to comment on and clarify, the action. At other times the actions of the models, and the words of the inner voices are used proactively to illustrate the cognitive information being given verbally by the source, not only as a narrator but also as a character within the drama.\(^{12}\)

More recently, research has focused on the relationship between emotion and memory (See Goleman, 1996). The role of the amygdala in storing emotional memories and felt responses was discussed in Ch.9. The empirical evidence offered by LeDoux (1992, 1993, 1994), Bargh (1994), Damasio (1994) and Lang (1993) overwhelmingly suggests, that emotional arousal and felt emotional response imprints the memory with an added degree of strength. The 'Integrated' film therefore aims for maximum emotional impact throughout.

\(^{12}\)Examples of these techniques can be found in Ch.11.
Behaviour

According to Bandura (1986) the symbols (pictures and words) retained from a modelled or vicarious experience act as a template (yardstick) by which to compare one's own behaviour. If it doesn't match up, the template (schema) triggers corrective action, i.e., the symbolic representation of the vicarious experience acts as a feedback loop, continuing to influence behaviour and attitudes. According to Lang (1993) the emotional responses, stored in the amygdala (LeDoux, 1992) trigger contextual memories (images, meanings), stored in the hippocampus (LeDoux, 1993) to produce an organised mental representation with properties similar to those described by Bandura (1986).

However, it is well beyond the scope of this dissertation to examine the arguments concerning the relationship between attitudes and overt behaviour (for review see, Olson and Zanna, 1993; or, Eagly and Chaiken, 1993). The dissertation reports the development and testing of a conceptual model for cognitive restructuring and attitude change, the DICAM. The experimental intervention based upon this model, 'the Integrated model', was found to have a highly significant, positive effect upon, knowledge about and attitudes towards, schizophrenia. This effect was found to endure over a nine-month period. Whether this change in knowledge and attitudes led to a change in overt behaviour was not tested.

This chapter completes the review of the bodies of literature pertinent to the development of the Dynamic Interactive Cognitive and affective Model for cognitive restructuring and attitude change and the educational intervention based upon it. The following chapter considers that intervention, 'Schizophrenia: From the Inside
CHAPTER 11. THE 'INTEGRATED' FILM

'SCHIZOPHRENIA: FROM THE INSIDE LOOKING OUT'

'Whatever is in the program Kerris, It must be the truth'
(Bernadette. Member of Lorikeet Clubhouse. 1996)

The Aim of the Program

As a producer of film and television, the first question that I always ask myself before beginning to plan a production is:

"What do I want the audience to walk away with?"

Or in other words:

'What do I plan for the viewer to think, to feel or to know, at the end of the program?'

In the case of the Intervention the answer was simple:

By the end of the program I wished the viewer to have a new schizophrenia schema which would be based on accurate knowledge and which would generate fairer and more realistic attitudes than those previously held.

In order to achieve this I created an intervention made to international broadcast standard, which was based on the conceptual model of the DICAM described in chapter 6 and which incorporated the relevant theories, forms and techniques reviewed in chapters 7-9.
The conceptual model required:

the creation or arousal of a *Zone of Potential Change* wherein the viewer's schizophrenia schema was activated either by cognitive or emotional cues, or both;

ongoing *cognitive conflict* whereby the viewer's schizophrenia schemata were challenged by the presentation of new information;

ongoing *emotional experience* which not only challenged previously held attitudes but also allowed newly forming schemata to be rapidly checked and either rejected, assimilated or accommodated; and,

validation of new schemata by an undisputed expert.

The interaction of emotional experience, cognitive information and validation (whether through authoritative cognitive input or through further emotional experience), was designed to spiral throughout the program creating its own, continually expanding, *Zone of Potential Change*. Once the viewer had become accustomed to the marriage of entertainment and education through the integration of documentary and drama, the potential for forming, flexing and testing new schemata within a 'safe' environment was expected to be optimal. The 'safety' of the environment, by virtue of its being vicarious, added to the potential for change by minimising risk, thus opening the way for greater schematic adaptation (cognitive restructuring) and attitude change.
The Technique of 'Chaining'

New information and new experiences were repeated in a number of ways, each time more was added, more conflict and more experience. This served to consolidate what had gone before and to presage that which was to come. This technique of 'chaining', 'spiralling' or 'texturing' was designed to complement and accelerate the process of schema change and thus facilitate real cognitive restructuring, made manifest in more accurate knowledge and fairer and more realistic attitudes (than those previously held and, than those of subjects exposed to other treatments or to no treatment). This was tested after a period of nine months.

Observational Learning

Implicit in the model are certain assumptions concerning observational learning. It is accepted that virtually anything that can be learned through direct experience can also be learned through vicarious experience; that attitudes can be learned by observation; and, that observational learning can be vicariously reinforced (Bandura, 1977, 1986).

Before looking at the program in detail, there were certain overall choices, which had to be made, and which need to be distinguished: first of all the choice of Source or Communicator.

Choice of Source

This was probably the most vital and the most difficult decision of all. Consistent with the persuasion literature, I needed somebody who was patently credible, exuding confidence, expertness and trustworthiness (Hovland et al, 1953; Wilson and Sherrell, 1993). I needed a communicator, who would be perceived as knowing what he or she
was talking about and, who would be able to talk about it in a convincing and persuasive manner, acceptable to an audience sophisticated in the use of television. I needed somebody who could talk direct to camera and put hard straight cognitive information across in the 'documentary' genre, giving it the stamp of undoubted authenticity, and then turn around and model sensitive and appropriate interaction with actors playing the parts of people with schizophrenia.

A psychiatrist was the logical choice. Psychiatrists had rated highly on the Semantic Differential, have the credibility customarily accorded the medical profession and are regarded as experts on schizophrenia.

The actual choice of Source was made even more difficult by my decision to use the same person to make direct documentary presentation to camera and to play the part of the 'expert' within the drama. This was fundamental to the integrated model which I had developed. The desired dynamic interaction of cognition and affect could only be achieved if the documentary and the drama were integrated in such a way as to mirror the activity of the brain when reacting to new sensory input, as discussed in Ch.7 (Goleman, 1996; Norman, 1986; Piaget, 1970).

I was adamant that the psychiatrist had to be real. An actor playing the part of the psychiatrist would not work in the same way because, although the emotional impact could be unaffected, the cognitive effect would be weakened and authenticity undermined. Furthermore, using the documentary 'expert' within the drama automatically lent the drama a degree of the authenticity which is spontaneously accorded to a pure documentary, similar to the effect of feature films which are overtly based on true life stories.
In the Intervention a further 'cross-genre' dimension was added in the form of a recurring 'pseudo-documentary' dramatised lecture. By locating the Source in a teaching hospital and presenting him as an academic psychiatrist with a clinical caseload, it was possible to capitalise on every aspect of cognitive credibility: direct to camera, as a lecturer and as a clinician; while at the same time using him within the drama as a model for optimum observational learning.

Choice of 'Heroes'

Similar care was needed in the creation of the characters representing composite models of schizophrenia and their families, although of course, it was easier to find actors to portray the characters thus created, than it was to find a psychiatrist who embodied all the criteria previously outlined for the source. The most important factor in developing the characters, apart from accuracy, was to ensure that they were both relevant and attractive to the target population.

As outlined in the previous chapter, the central characters were:

ANNA, 'everybody's' pretty teenage daughter with a cheeky grin.

NICKY, an efficient, sexy student nurse, who smokes dope.

STEPHEN, a young successful man in a contemporary job with a pretty wife and a cute baby.

SAM and KAREN, two ordinary, committed and caring parents.

TIM, Professor Tim Lambert M.D. (then) Head of Clinical Research at The Mills St. Clinic. U.W.A.
To achieve genuine and enduring schema change it was not sufficient for the viewers to simply 'empathise' with the models, it was necessary for them to fully 'identify' with the characters being portrayed. This is the standard 'appeal' of television 'soap operas'. However this intervention went a step further and introduced a new dimension in viewer 'identification'. Because the documentary and the drama were *integrated*, rather than *segmented*, (as is the common genre for documentary/drama), the documentary 'source', the psychiatrist, was able to become a 'hero' within the drama (the fictional story), and thus became another character with whom the viewers could identify.

By the same token, this blurring of genres enabled the fictional characters who were already 'heroes' within the drama to also be used in the role of 'source'. For example: there are several occasions when the young nurse explains (documentary, as in factual) aspects of her illness to her boyfriend; there is a scene where, taking the dual role of nurse and fellow sufferer, she helps the young man to adjust once he has been hospitalised, confiding that she too has the illness and giving him factual information and realistic messages of hope; she also visits his wife and attempts to reassure her.

Similarly the mother of the teenager with schizophrenia also takes on the role of 'source' as she argues with her husband, about the girl's medication. She presents the medical model of schizophrenia, reinforcing and texturing the information that has already been presented, and will later be validated, by the psychiatrist (the overt Source).
Identification

The distinction between "identifying", rather than simply "empathising", with a character or model, is an important one. It is the key emotional strategy of screen persuasion and was expected to contribute to the success of the 'Integrated' film, 'Schizophrenia: From the Inside Looking Out', in improving knowledge and attitudes, over and above that of the other programs about schizophrenia (the BBC drama, 'Can You Hear Me Thinking' and the documentary, 'World of Abnormal Psychology. 9: The Schizophrenias').

In the 'Integrated' film the people with schizophrenia are designed to be real identity models, real heroes. The viewer is not an onlooker; the viewer is a participant. What the viewer experiences (albeit vicariously) is the experience of schizophrenia - not what it is like to live with someone with schizophrenia, - not what it is like to work alongside someone with schizophrenia - but what it is like to actually have schizophrenia. The experiences of hallucination, delusion, thought disorder, prejudice and fear are graphically and accurately reproduced through the techniques of television. Thus the viewer can 'own' the experience of schizophrenia, acknowledging the possibility of themselves having the disorder; accepting that it could indeed 'happen to them' and feeling that this would not be something to be ashamed of, something to hide.
SCHIZOPHRENIA: FROM THE INSIDE LOOKING OUT

A. SYNOPSIS

The program is a study of schizophrenia from the point of view of those who suffer from the illness. Essentially it is the story of three people who have schizophrenia and the psychiatrist who treats them. The three characters are fictional, however their symptoms and experiences are real. Their stories are woven together through their own interaction and their interaction with the psychiatrist, Dr. Tim Lambert, who is real. Professor Lambert, who is an undisputed authority in the field of schizophrenia research, not only plays the psychiatrist within the drama but also addresses the camera directly in 'documentary' fashion, presents information in 'dramatised lectures' and comments on the action as a narrator.

Much of the drama is shot subjectively to allow the viewer to actually 'experience' schizophrenia, albeit vicariouly. It is possible through the medium of film and television to reproduce anything that can be imagined by the human ear or eye, however distorted that sound or image may be. Modern technology allows us to transform normal sound and vision both instantly and gradually; thus it is possible to create the sound and vision of a psychotic episode literally "before your very eyes". In the past, cinematic images have tended to sensationalise schizophrenia by presenting the people with the disorder in a disturbing and frightening manner. By contrast, this film presents the people as 'heroes' and the disorder as frightening and disturbing.
The central character, NICKY, aged 28, is one of Tim's nursing students. She begins to hear 'voices' during a lecture and is subsequently diagnosed with schizophrenia. She becomes quite messianic in trying to help other people with the illness including Stephen and Anna. This causes problems with her boyfriend, Tony. Smoking marijuana tips Nicky into a very florid psychotic episode. She experiences the 'locked ward' from the inside. Her medication is unbalanced and she attempts suicide. The attempt is unsuccessful, she survives, graduates as a nurse and goes on to specialise in mental health.

Nicky's character is directly modelled on four actual people: one is a practicing psychiatrist and the other three are all mental health nurses. Theirs are stories of courage, hope and success.

STEPHEN, aged 24, is a paranoid schizophrenic. He is a successful computer programmer/technologist, with a wife, Linda, and a young child. He experiences a 'mission impossible' spy cum sci-fi delusion of grandeur, including significance, thought broadcasting and thought insertion. He receives messages via computer screens and fears that he is in grave danger, as an alien force is determined to remove his brain. Initially Stephen denies his illness. He loses his wife and his job and ends up living on the streets. There, he meets Nicky who persuades him into the hospital and his illness is controlled by medication. Although Stephen is 'blunted' by the illness and functions at a lower level than before, he is able to go back to work, where his former secretary is now his 'boss'. After some therapy, his wife comes back to him and he goes on to enjoy a reasonably fulfilling life.

\[1\] Some autobiographical extracts are included in Ch.4. and Appendix. A. Part 8.
Stephen's story is also a message of hope to people with schizophrenia and their families. It is modelled on numerous first person accounts\(^2\) of paranoid schizophrenia and on 'The Case of Joshua Kirk', a medically accurate novel written by the Tasmanian psychiatrist, Pridmore Saxby.

ANNA, aged 16 is a talented young artist. She has chronic schizophrenia. She suffers from extreme forms of 'alteration of senses' (hallucinations), lack of ego boundaries, thought disorder and catatonia. Because she is so young and because her illness developed gradually her prognosis is poor. She is partially inhabited by a beautiful but macabre world, full of painted trees and Chagall-like horses. For Anna the painted world impinges on the real world in both a threatening and beckoning manner. She is the 'gate'; if she gives way the painted world will flood in and destroy the real world with its 'terrible beauty'. Sometimes it becomes too dangerous for her even to move a muscle (catatonia). She sees her father as a protector (tree) and her mother as a witch. Anna will deteriorate during the course of the program from a vivacious teenager to a virtual zombie.

Anna's character is modelled on a composite of three autobiographies and two of my friends. Her story represents the tragedy of some cases of adolescent schizophrenia. It is intended to be heartbreaking. Its primary function is to engender compassion, dispel myth and support the parents of people with schizophrenia.

The lives of these three characters are woven together in a fast moving and emotionally absorbing drama complemented by a strong thread of documentary

\(^2\)See Appendix A. Part 8.
comment. The program does not push any particular theory of schizophrenia it simply presents the known facts about the disorder, at this point in history.

Schizophrenia is a disease of the brain

which produces the symptom

'madness'.

B. SEQUENCE

The importance of primacy has been stressed throughout this text. I knew that the initial impact of the film would be crucial. It was essential to rapidly engage the viewer both emotionally and cognitively; to challenge and stimulate him or her with novel and fantastic images and yet to make the scenes hauntingly familiar: familiar enough to be relevant.

The film opens in a nightmare situation with the translucent image of a beautiful young girl being pursued through a fantastic setting by surreal and threatening figures. A beckoning carousel of Chagall-like horses circles to a sinister and jangling version of a childish tune. The effect is interesting and confusing... tension mounts and then appears to be resolved by the standard television technique of a person, in this case the young girl, struggling out of sleep.

The viewer relaxes... 'it is only a dream'... but it is not!

As the girl's eyes shoot open the nightmare floods into her room.

It is not a dream, it is SCHIZOPHRENIA.
At this point two main sets of schemata are predominantly active: those making up a dream or nightmare schema and those making up a schizophrenia schema. The word schizophrenia blazoned across the screen is in sharp contrast to the frightened face of the child frozen behind it. Thus an extremely strong cognitive and an extremely strong emotional hook are caught in one suspended dramatic image.

The action now cuts between very short scenes featuring Anna and her parents, Nicky and Tony, and Stephen. This is another standard television technique, which signals to the viewer that he, or she is being introduced to the main characters. Compared to the scenes with Stephen and Anna, the scenes with Nicky and Tony are comfortably 'normal'. Nicky is clearly presented as an attractive 'hero' and her role as a nurse is established3.

Although all three of the main characters are recognisable and relevant, all the scenes, especially those portraying Anna and Stephen, have some elements of confusion and surrealism. The viewers are kept actively engaged in trying to identify the link between the characters, work out what is going on and make a cognitive connection between the word 'schizophrenia' (which has already been titled) and the 'stories' unfolding before them. At the same time, the emotional appeal of the vulnerable child is enhanced by the apparently threatening behaviour of the two unidentified figures in her room.

3Her 'voices' are planted in one of these scenes but are unlikely to be recognised until a flashback occurs in a later scene.
Music and special effects contribute towards a dramatic build of confusion and surrealism which culminates in one of the images from Anna's 'nightmare', which we will later discover is her 'painted world' version of Tim (the psychiatrist), bending over Stephen's struggling body and announcing, "You have schizophrenia".

The next two scenes are full of cognitive challenge. First Stephen faces the psychiatrist and then Anna faces her mother. Both appear to be pushing drugs. The viewers' drug schema is stimulated and provoked. A great deal of accurate information is actually made available but, because the viewer is still guessing at the truth, he or she must temporarily keep both sides of the argument present. By the end of the scene between Anna and her parents one of the central, and most controversial, concepts of the program: the importance of drugs in the control of schizophrenia, has been introduced, repeated, textured and challenged, in keeping with theories of spiralling, repetition and inoculation (Bruner, 1966; McGuire, 1985; Rogoff, 1990). All that remains to complete a 'link' in the 'chain' is validation.

At this point, despite previously held drug schemata and despite the clear emotional appeal of Anna and her father Sam, the viewer may be beginning to suspect the 'truth' and feel good about being 'one jump ahead' of the models (ego defence).

The next sequence places the psychiatrist in the lecture theatre where Nicky, as a participating student, models attention for the viewer. In two sentences Tim validates and reinforces what the viewer has already dramatically experienced:

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4There is an assumption here that most viewers will have generally anti-drug schemata.
TIM (V.O) At present, drug therapy is the only scientifically proven method of controlling schizophrenia.

SLOW TO CU NICKY

TIM (V.O) We have all, at some time or another had an experience akin to schizophrenia. We were just lucky enough to wake up.

NICKY STARTS  INTERCUT MONTAGE

The subsequent 'montage' fully exploits documentary/drama's richest and most valuable technique for integrating information and experience. While Tim describes some of the major symptoms of schizophrenia, the models graphically enact them for us. We cut between the lecture theatre and flashbacks of previous scenes - which now have clear meaning - and new scenes with Stephen, which further illustrate the information being given in Tim's continued 'voice over'. By using some of the 'tricks' of television: slow motion, strobing, and multi screen images, the viewer is given sufficient (vicarious) experience of Stephen's symptoms to clarify and make meaningful the quite complex concepts that are being introduced and/or repeated.

At this point Tim appears to be clearly identified as the 'Source' and Stephen is confirmed as having schizophrenia, but the 'guessing game' is not completely over. It is deliberately left unclear as to whether Nicky is simply modelling the 'viewers' part' and learning with 'us', or whether she has a greater role to play. What is clear is that the viewer has undergone a complete learning cycle including, cognitive sensory input (factual information) cognitive and emotional experience (through dramatic entrainment) and validation (of both the facts and the experience).
The Technique of Chaining

The 'spiralling' or 'textured presentation' of information and experience inherent in the theory of 'chaining' precludes there being an exact point where one link in the chain is complete and another begins. More accurately the process could be seen as one of small chains within larger ones. A calendrical, or temporal, analogy might be appropriate. The days turn and become incorporated into weeks, weeks into months, months into years and so on. The process is circular but cumulative. By the end of the montage described above, we have certainly had a major cycle of the program, a large link in the chain, akin to a month perhaps. As Tim's voice and superimposed face lead us out of the lecture theatre, through Anna's painting and subsequently into her garden a new 'month' or link begins.

Now, although these larger links are part of an integrated whole they still have a completeness of their own. The model has already been exemplified and, although the information contained and the attitudes modelled within that link will be further textured, amplified and validated in later links, it is hypothesised that some cognitive restructuring will have already taken place and a new (or overlapping) Zone of Potential Change created.

* I found that I was tempted to revise this text and delay the two previous paragraphs until two more scenes had passed. I looked at this carefully and then found that I was tempted to wait again, as the next sequence evolved. Then I realised that I was caught in my own spiral. There isn't any fixed point in the whole program at which one lot of information and experience completely ceases and a new one begins, which is of course, part of the intended strength of the model. *
The next scene, which clearly exemplifies inoculation and affective stability, is highly charged with emotion. With all the appropriate filmic cues of pretty music and soft images, the intimacy of the relationship between Anna and her father is explored. The novelty of Anna's disturbed and distorted point of view (as the camera becomes her eyes) only adds to the pathos of the scene, as her fragility and vulnerability are exposed. The scene devolves into an argument between Anna's parents. It is understood that while Anna can see her parents arguing she cannot actually hear what is being said. However we can hear. Anna's mother, Karen, again presents and textures the medical model of schizophrenia, while Sam, her father, voices the arguments and myths upon which many people's schizophrenia schemata are commonly based. There is no shame for the viewer in holding, or having held, the same beliefs as this obviously sympathetic and heroic character. Again the viewer must temporarily keep both sides of the argument present, empathising and identifying with both characters pending further experience, information and validation. The scene ends with a heartrending emotional shock:

**SAM** She prefers the stories to real life!

**KAREN** No! You know what Dr. Lambert said.

**SAM** Him! Huh, I don't trust him.

**KAREN (EXASPERATED)** You don't trust him because you can't face the truth. You don't trust him because he tells you the truth. You don't trust him because he tells you that your daughter is MAD!

*SHE STORMS INTO THE HOUSE (PAST CAM - TIGHTEN TO CU SAM)*

**SAM TURNS TO LOOK AT ANNA**

**CU ANNA. SHE Turner To Camera And Smiles Brilliantly**

**FREEZE** **SFX PHOTOGRAPHIC CLICK (CAMERA SHUTTER)**
The image is replaced by the psychiatrist, Tim Lambert, speaking directly to the camera. The viewer's preliminary 'guess', that he is the 'Source' and that he is giving the 'true' facts, is emphatically validated. Not only does Tim introduce himself in his real persona but also he is identified by a subtitle giving his full status. His manner is soft, sincere and serious as he takes the viewer into his confidence:

**TIM (DIRECT TO CAM)** I'm Dr. Tim Lambert, the people that you will meet in this program are my patients, or they could be. In fact nothing that you will see today is *real* but all of it is *true*.

*These are the facts about schizophrenia*

As Tim continues to address the viewer directly, once again important and challenging cognitive information is illustrated with flashbacks. The repetition reminds the viewers of what they have seen but the new information allows them to see the same images through different eyes. It is as if they have been textured with more brush strokes, given an extra layer of paint so that the same shots are used but with extra information to paint them more clearly and accurately into the mind. There is great satisfaction for the viewer in discovering a new dimension to known material.

The ego enhancing collaboration between Tim and the viewer is accentuated by Tim's becoming voice over to his own image in the lecture theatre. This emphasises his confidence in and respect for the viewer, who is thus accorded higher status and closer allegiance to Tim than the university students seen to be in receipt of the lecture. The scene which now evolves is one of the most complex and, hopefully, successful examples of the integration of cognition and affect through the integration of documentary and drama.
What happens is this: as Tim lectures about auditory hallucinations, 'voices', Nicky begins to hear voices. The voices that she hears behave in a way that mirrors the information being given by Tim.

**TIM** CONT. Sometimes the voices merely speak their thoughts aloud but many people...

**V.M.** You're a dirty girl, be quiet.

**V.C.** Nicky's a dirty girl

**TIM** CONT. ...hear a voice or voices which talk or argue with one another or keep up a running commentary on what they are doing.

NICKY IS LOOKING ROUND. SHE LOOKS FRIGHTENED AND CONFUSED

THE CAMERA BECOMES MORE AND MORE SUBJECTIVE

THE VOICES BECOME MORE DOMINANT AND INTRUSIVE

**V.F.** This can't be happening to me.

**TIM** CONT. ...The voices may talk to them or about them. Making critical comments or telling what to do.

**V.M.** I told you not to listen.

**TIM** CONT. Some people feel that the voices are trying to gain control of all, or part of them, or are trying to speak through them.

NICKY STARES A LITTLE WILDLY AT THE OTHER STUDENTS

SHE GETS UP. A FEW STUDENTS NOTICE

**V.C.** She's getting up now.

**V.F.** Be quiet. I'm trying to listen.

**TIM** Sometimes the voices demand so much attention or create...

**V.M.** She'll have to leave.

**V.C.** Good it's boring

**TIM** CONT. ...such chaos in the hearer's mind that he or she cannot continue with normal activity.
The confusion between the 'reality' of the lecture theatre and the 'reality' of the voices, which are more present than Tim's own voice, creates a highly tense counterpoint, causing the viewer to hover between the two 'realities' identifying with both. Music and effects heighten the drama and, as the camera's point of view becomes more and more subjective, the viewer, as Nicky, is almost shocked by the insensitivity of Tim and his 'reality' which fail to understand what is 'really' happening in Nicky's 'reality'.

This experience of cognition and affect being concurrently aroused and challenged is alarming but not as confusing to the viewer as it appears here in print. The viewer is accustomed to it because it mirrors the actual activity of the brain. It is no more than a graphic enactment of the equilibration process in action.

The drama continues and escalates to give the viewer a partial experience of a psychotic episode. I say 'partial' because although the audio or 'soundtrack' presents Nicky's point of view and thus allows the viewer to experience the full effect of her voices, the camera continues to look at Nicky from the 'outside'. This is not always the case. Later in the program the viewer is given a full vicarious experience of a psychotic episode, but not this time. There is a reason for this. As mentioned before, previous films about schizophrenia have tended to present the person with schizophrenia as 'different' and frightening. By looking at Nicky at the same time as listening with Nicky, the viewer is encouraged to see Nicky as a victim of the illness and to see the illness, not Nicky, as being dreadful and frightening. In fact, when Tony comes through the door and speaks to Nicky in his 'real' voice, Nicky does not look at all 'different or frightening', she simply looks vulnerable and afraid.
Once again, this new impression is quickly challenged. Yes, Nicky is the victim of a serious and dreadful illness but she is still a calm and clever young woman, worthy of being a hero with whom the viewer can identify. As she fronts Tim, in the role of patient cum student, she models full attention and learning, asking the questions we want asked, and again exposing the sort of schizophrenia schemata based on myth and the media to which we are all accustomed. Because the viewer has been encouraged to identify with Nicky through all the regular techniques of screen drama, she or he has much at stake and is thus predisposed to learn rapidly with Nicky. This is no longer simply academic information, it is personal information affecting 'self' in an assumed role.

The density of cognitive information in the scene between Tim and Nicky is complemented and made more available to the equilibration process by the dramaturgic development of a gentle, reassuring and respectful relationship between them. This is important for two main reasons: firstly, despite the fact that he is her lecturer, her psychiatrist and her boss and despite the fact that Nicky is a patient with schizophrenia, Tim models an attitude of empathy, concern and respect towards her. This is intended to be a very strong incentive for observational learning. Secondly, Tim's dramatic role as 'hero', as opposed to simply 'source' or authority, is enhanced, encouraging the viewer to identify with this deeply committed and caring person and, rather than simply emulating his attitudes to make them his or her own through the process of equilibration.

The scene is long, broken only by a highly stimulating and novel experiential scene with Stephen, a graphic illustration of some of the new information which Tim is
giving Nicky. The cognitive demands on the viewer are considerable, for despite the illustration and textured repetition, the viewer is required to extrapolate, assimilate and accommodate much cognitive information from the dramatic presentation. For this reason we return to briefly to the lecture theatre. Here Tim is rapidly re-established as an undisputed authority, he repeats the new information very clearly and simply and then validates 'our' cognitive restructuring with a stunningly simple graphic analogy.

Another 'month' begins as Tim prepares us for a much deeper understanding of one of the concepts introduced earlier in the program, hallucination. His voice again takes us through Anna's painting and her perception of it, into the garden. The following tragic scenes, designed to dispel the myth of parental culpability, are only made emotionally bearable by the interpolation of 'commentary' scenes featuring Tim and Nicky.

Anna's hallucination, which we share, as her arm grows out of all proportion and snakes against a macabre but beautiful distortion of the garden, is made all the more terrifying and emotionally potent by the sudden switching of our point of view from hers to that of her father. At one moment we are completely caught up in the horror of her hallucination and in the next, we are caught up in the more chilling and poignant horror of watching her from outside, desperately trying to get away from her own arm. Being forced to accept Anna's 'madness' and incurability is the most disturbing and emotionally challenging component of the film.

Tim and Nicky, make it bearable for the viewer by modelling sympathy, sincerity and respect. They show the viewer how to react to Anna and her parents, while continuing
to give the factual information which is being so strikingly illustrated. The production technique presents them as enmeshed observers, persistently validating the viewers' emotional experience and thus accelerating the equilibration process. Once again, no blame is attached to the mistaken points of view (modelled by Nicky) which many viewers may have had. This facilitates the relinquishing of previously held attitudes (again modelled by Nicky). It is made explicit that most people would have held similar attitudes... but now 'we' know better (ego defence). This assumption of attitude change provides further reinforcement as the viewer rises to meet expectation.

At this time Nicky has virtually become a 'source' and is definitely a hero, however, the voices rapidly, and cruelly remind us, that she too has schizophrenia. It is important that the viewer be frequently shaken out of any comfort zone that allows him or her to see schizophrenia as something that only happens 'to other people'. Thus are 'we' confronted with the madness of the lovely and competent communicator and role model, the madness of the beautiful child with the brilliant smile and the desolation of her parents, unable even to comfort each other in their anger and despair.

Another 'month' begins. By now some of the information that was novel or even controversial in earlier scenes has become accepted or assumed. New schemata have been validated and new attitudes reinforced. By the time that Nicky faces Linda, Stephen's angry and frightened wife, the 'old' attitudes which Linda models appear shocking and unreasonable (both to Nicky and the viewer). Tim mitigates this strongly emotional reaction with a cognitive reminder to Nicky of how recently she (and the viewer) held the same attitudes:
NICKY (OUTRAGED) She wasn't even prepared to see him. It was as if... as if she wanted to pretend he doesn't exist.

TIM She probably does.

NICKY But she's his wife. He needs her. Dammit, she can't just desert him.

TIM Nicky she's frightened and she's shocked. All she knows about schizophrenia she probably learned from the tabloid press and the cinema: homicidal maniacs, split personalities, psychos, zombies...

NICKY But it's not like that.

TIM how long have you known that...

V.M. How long have you known that

NICKY (RECOGNISING THE IMPLICATION OF HIS QUESTION). Well.

TIM It's not easy to change what people believe.

This capitalises on the emotional arousal which 'we' felt when faced with Linda's prejudice and cues in the cognitive consonance which can be achieved by fully relinquishing old attitudes which we have been both emotionally and cognitively primed to reject. It consolidates the cognitive restructuring that has been induced and accelerated within the paradigm of the DICAM.

Within the 'Integrated' film, recognition is given to the fact that some information will be particularly confronting and that some beliefs will be particularly resistant to extinction. Information which is especially controversial or challenging, is given direct to camera by Tim, either before or after being very dramatically experienced. This happens in the case of Nicky's drug induced psychosis; it happens when Tim introduces the negative symptoms of schizophrenia which will eventually rob Anna of all personality; and, it happens when Tim justifies the decision to bring Stephen into the hospital and medicate him against his will.
Messages about common, real and ongoing problems which have to be faced by most people with schizophrenia and their families on a daily basis are textured into the program with frequent repetition. It is important to acknowledge and validate both the point of view of the person who suffers from the illness and the person or people who suffer with them. Schizophrenia does not just affect the person who has the chemical disorder. Schizophrenia is not something that you can overlook or forget.

Scenes between Nicky and Tony are deliberately cast somewhat in the 'soapie' genre. Viewers are accustomed to becoming very involved and strongly identifying with characters in this kind of drama. Tony's needs, including his need to be 'ordinary'. His wanting Nicky and himself to be an just an ordinary young couple, in love, sharing their lives and dreams for the future, is sharply contrasted with the cruel but realistic commentary provided by Nicky's voices. Once again the viewer is forced, while sympathising with one point to view, to recognise the reality of the other. This is immediately validated within the drama by Nicky herself:

\begin{quote}
TONY (CATCHING HER HAND AND KISSING IT) You've got to get yourself better first Nick.. I know you want to help Anna and.. er (SEARCHING FOR THE NAME) the guy. But...
\end{quote}

\begin{quote}
NICKY (IRRITATED) Stephen, his name's Stephen.
\end{quote}

\begin{quote}
TONY OK. Stephen, but there are people, places.. for them. You..
\end{quote}

\begin{quote}
V.C. (IMITATING MOCKING) Places for them
\end{quote}

\begin{quote}
NICKY For them?
\end{quote}

\begin{quote}
V.M. He thinks she's different
\end{quote}

\begin{quote}
V.F. He thinks she's going to get better
\end{quote}

\begin{quote}
TONY You need to take things easy for a bit.
\end{quote}
NICKY (EVENLY) I'm not an invalid and looking after people with schizophrenia is my job.

V.F. He wants her to wait till she's better

TONY I know that but you need.

NICKY To wait till I'm better? Is that it Tony? Is that what you're trying to say.

V.F. He's hoping for a cure

V.M. They all do

TONY No, not exactly. I just think that you should be more realistic about. about what you can do. It's almost like just because you've got schizophrenia you've got to cure everybody else who has schizophrenia but they're different from you. you're...

NICKY Your girlfriend. I'm your girlfriend and you know me, so you think that I'm different'. Tony, don't you understand there isn't going to be an end, a cure, a day when it is all over and I can get back to my 'real' life. Tony this is my life.

This information is immediately authenticated by a segment with Tim speaking directly to camera and then illustrated in a scene with Anna.

Despite these and other warnings both Tony and the viewer will be lulled into forgetting the implications of Nicky's illness and the sort of precautions that she must take in order to avoid becoming 'sick' again. As happened with Anna's hallucination, when we experience Nicky's psychosis, we will be forced to undergo the experience from both within and without. Aided by special audio and visual effects we will see hear and feel Nicky's terror and confusion with her but when we cut out of her point of view and, losing all the special effects, are left with only what Tony sees and hears, the effect is even more chilling.

At this point the viewer is in a state of very high emotional arousal and thus extremely receptive to the stark, cold cognitive fact now stated directly to camera by
Tim. The set up is deliberate, because, given the current climate, this is probably the most controversial fact in the whole film.

**TIM TO CAMERA (VERY STRONG AND DIRECT)** Marijuana triggers schizophrenia in those people who are susceptible to it.

This fact has been signaled a number of times within the drama. It is the one fact that members of the target population are most resistant to accepting. In the scene that follows Nicky herself, models acceptance of the fact and the consequences of ignoring it.

Another 'month' begins. Virtually all the information that we have already been given in the program is now repeated and 'textured in' to the remaining scenes of the Drama. This last cycle or 'link' in the chain includes the final climax and conclusion of the 'story'. However, true to the model, the viewers cannot, even at this late stage, switch off and dismiss what they have seen as simply 'story'. Tim's voice continues. Over the major credits he gives a dramatic postscript stating the outcomes for the three main characters just as if they were non-fictional. Then, directly to camera, he reiterates and validates the most important information contained in the program in a final, emphatic, Documentary postscript.

Schizophrenia is a disorder of the brain. It is a biochemical illness.

One in every one hundred people will develop schizophrenia, roughly one third will recover, one third will remain sick off and on and one third will stay chronically ill.

The symptoms of schizophrenia can be controlled by medication in most people.

We do not yet know what causes schizophrenia.
We do not yet know how to cure it.

100 years ago we were baffled by Diphtheria.
50 years ago we were baffled by polio.

Perhaps our grandchildren will ask us "And what was schizophrenia anyway?"
CHAPTER 12. METHODS

'The central concern is that people with mental illness can 'go crazy' at any time. This perception underlies most of the damaging stereotypes - violent, dangerous, unpredictable, unreliable, untrustworthy. Mental illness is seen as a fundamental flaw, that never 'gets better' (Reark Research, 1993 Part.2, p.5)

The problem identified at the beginning of this study was that people with schizophrenia and their families are frequently stigmatised by the public in general and by mental health professionals in particular (Levey and Howells, 1994). This stigma appears to be the result of both inaccurate schizophrenia schemata and prejudicial attitudes (Rabkin, 1974; Walsh, 1985; Wahl, 1987; Fuller-Torrey, 1988; Douglas, 1992; Furnham and Bower, 1992; Monahan, 1992; Levey and Howells, 1994), a finding which has been confirmed in two recent Australian studies (Cheng, et al, 1992; Reark Research, 1993). The executive summary of the report prepared by Reark research for the Public Affairs branch of the Department of Health, Housing, Local Government and Community Services (Commonwealth of Australia, 1993) concludes:

'This study...indicates the community is poorly informed about mental illness, and that this ignorance stems at least in part from the denial in operation. Losing control of the universe within is a frightening possibility, and many would rather not consider that possibility, hoping in some way that they will be immune or just, lucky.

In the past mental illness was associated with gross injustice and a life of institutional care. While the worst of these excesses are gone and no one would deny those with mental illness live a significantly better life today, there remain numerous forms of discrimination and subtle oppression, all of which confirm the basic fear and denial surrounding mental illness.

For the sake of consumers, as well as the mental health of the community, it is important to tackle the misconceptions and replace them with new facts, that new attitudes may follow (Reark Research, 1993, part.1, p.10)
Prejudicial attitudes combined with a lack of basic knowledge about schizophrenia were also found in the pilot studies for the current study.

In an attempt to change perceptions of schizophrenia in a sample of student health professionals, an educational intervention was developed (the 'integrated' film) based on the theoretical underpinnings of the Dynamic Interactive Cognitive and Affective Model (DICAM) for cognitive restructuring and attitude change. This intervention (Schizophrenia: From the Inside Looking Out) was designed to integrate the cognitive strategies of screen persuasion used in a documentary with the emotional strategies of screen persuasion used in a drama. In order to test the effects of exposure to the 'Integrated' film and consequently the assumptions of the underlying conceptual model, instruments were developed to measure those effects. The effects of exposure to the 'Integrated film' were also compared with the effects of exposure to interventions based on a cognitive model, an emotional model, a placebo and no exposure.

This chapter describes the development of the two measuring instruments, an inventory designed to measure knowledge of schizophrenia and an inventory designed to measure attitudes towards people with schizophrenia and their families and, the experimental procedure designed to test the research hypothesis. The research hypothesis was that the 'Integrated' film would have an immediate and enduring effect on beliefs and attitudes towards schizophrenia and that the other treatments would not.
THE MEASURING INSTRUMENTS

KNOWLEDGE OF SCHIZOPHRENIA INVENTORY (KOSI)

The Knowledge of Schizophrenia Inventory (KOSI) is based on the current medical model of schizophrenia described in the literature review (Appendix A) and as detailed in current diagnostic schedules: the DSM IV (APA, 1995), which is the standard diagnostic manual used by mental health professionals in America, Australasia and parts of Asia; and the ICD 10 (WHO, 1989), which is the standard diagnostic manual used in Europe, Africa and parts of Asia. Each of the five steps taken in order to create the KOSI is described below.

Selection of Categories
A review of the literature concerning prejudicial attitudes towards people with schizophrenia and their families was presented in Chapter 2 of this dissertation. This review is complemented by a more detailed review of the literature pertaining to schizophrenia which is presented in Appendix A. Both these reviews indicate that misconceptions about schizophrenia can be categorised as falling into five main content domains and that therefore items needed to be generated within these domains. This is consistent with an analysis of items contained in previous instruments designed to measure knowledge of schizophrenia (Nunnally, 1960; Cohen and Streuning, 1962;

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1In order to devise an intervention designed to correct beliefs about schizophrenia and an instrument to measure those beliefs, it was necessary to fully research the context i.e., Schizophrenia. This research was undertaken from September 1992 to March 1995. The resulting literature review has been included as an appendix, rather than incorporated into the body of this dissertation because, although it was felt to be essential for the creation of an accurate intervention to combat the stigma associated with schizophrenia and an accurate instrument to measure the effect of that intervention, the study of schizophrenia did not contribute directly to the development of the conceptual model for cognitive restructuring and attitude change (the DICAM).
Trute and Loewen, 1978; Wahl, 1987; Furnham and Rees, 1988; Trute et al, 1989; Furnham and Bower, 1992; Barrowclough and Tarrier, 1992; Murphy et al, 1993; Hall et al, 1993). The five content domains were:

a) *Symptoms*: Schizophrenia is diagnosed symptomatically, therefore an accurate knowledge of the signs and symptoms of the disorder was considered important. It was also felt that misconceptions in this domain were most likely to contribute towards prejudicial attitudes toward people with schizophrenia, particularly attitudes of fear and avoidance.

b) *Aetiology (causes)*: misconceptions over the causes of schizophrenia have traditionally led to attitudes of blame, directed either at the parents of people with schizophrenia or at the person with schizophrenia himself or herself.

c) *Treatment*: although not curable, schizophrenia is a treatable illness. The primary method of treatment is drug therapy. Misconceptions over the use of drugs in therapy has led to misunderstanding, stigma and a deficit in essential treatment for some people with schizophrenia.

d) *Prognosis (outcome)* given the right treatment schizophrenia can be controlled in most people, misconceptions about the outcome of schizophrenia have led to attitudes of hopelessness and increased the likelihood of avoidance; and

e) *Epidemiology (prevalence and incidence)*: misconceptions about the epidemiology of schizophrenia have led to attitudes of denial and disinterest whereby schizophrenia is considered to be irrelevant for most people.
Generation of Items
An initial pool of 150 true-false items was generated based on the five content domains. These items were evaluated by a panel of seven judges with particular expertise in the diagnosis, treatment and management of schizophrenia. On the basis of that evaluation 75 items were retained, some in a modified form, to be tested in a pilot study.

Initial Pilot Study
The first pilot instrument consisted of 75 true-false items (Appendix B.1). It was accompanied by a response sheet requesting information relating to the respondent's age, gender, occupation, and experience with schizophrenia, depression and diabetes.

The purpose of the first pilot study was to identify 50 items with desirable psychometric properties distributed across the five content domains. A total of 90 subjects completed the first questionnaire, of whom seven were experts, 12 were employees of non-government organisations who work daily with people with schizophrenia, and 71 were novices, comprising 17 first semester psychology students and 55 first semester enrolled nursing students.

The responses were analysed using Ascore 2c (Andrich, 1991), a statistical package using the principles of Rasch measurement. The Cronbach's Alpha internal consistency coefficient of the test was found to be $\alpha = .886$. For each item the responses of the judges

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2 Two academic psychiatrists currently engaged in clinical research, two consultant psychiatrists, a lecturer in post-graduate mental health nursing, a clinical psychologist who is also a caregiver and a psychiatric social worker who runs a drop in centre for people with schizophrenia.

3 In Western Australia enrolled nurses provide a support role to fully qualified nurses. Nursing requires a three year university qualification, while enrolled nurses undertake a two year qualification at a college of technical and further education.
were cross-tabulated with the responses of the workers and the novices and the item was examined for degree of difficulty, goodness of fit, significance and power to discriminate. The items were assessed using the following criteria:

a) Items which discriminated well between experts and novices;

b) Items with which discriminated well between high scoring and low scoring novices;

c) Items with good fit i.e., with a chi square value < 6.00 and/or a probability rating of >.000 (unless, when plotted, the low probability was shown to be due to the item being very highly discriminating).

The 50 items retained for further testing (Appendix B1.) had location values ranging from -1.674 to 3.874. Out of 40 items with negative location values 22 were retained and out of 35 with positive location values 28 were retained, thereby favouring the more difficult, and consequently more discriminating, items. The distribution of items retained in each category was:

a) Symptoms, 16 items;
b) Causes, 14 items;
c) Treatment, 8 items;
d) Prognosis\Outcome, 6 items; and
e) General\Epidemiological, 6 items.

The responses of the experts, workers and novices were retained for further analysis in the second pilot study.
Second Pilot Study

The purpose of the second pilot study was to refine the instrument by reducing the number of items to 34; a number identified as being sufficient to give a good indication of knowledge without taxing the patience of the respondent (Andrich, 1995), and to identify items which needed to be reworded due to semantic ambiguity, obscurity or emotiveness.

The second pilot study was conducted with a sample of 17 post-graduate mental health nurses, currently engaged in clinical study, at the Hunter Institute of Mental Health in NSW. The responses of the nurses (n = 17) were then analysed using Ascore 2c (Andrich, 1991) along with the responses of the experts (n = 7), workers (n = 12) and novices (n = 71), retained from the first pilot study.

The Cronbach's Alpha internal consistency coefficient was \( \alpha = .859 \).

Each item was re-assessed on the following criteria:

a) Power to discriminate;

b) Degree of difficulty;

c) Goodness of fit (3 groups);

d) Semantic accuracy\(\backslash\)clarity;

e) Performance compared with items of similar content; and

f) Value of item in this particular study.

A detailed working analysis of each item can be found in Appendix B.3. The independent variables of age, gender, occupation, and experience with schizophrenia, depression and diabetes were not analysed for the pilot. It was decided that experience with diabetes was irrelevant and that experience with depression was not a helpful
category as most novices considered themselves to have suffered from depression which indicated that they were treating the term colloquially rather than clinically.

Determining the Final Instrument

The final instrument as determined for use in the experiemntal is represented by the table below.

<table>
<thead>
<tr>
<th>Knowledge of Schizophrenia Inventory (KOSI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Symptoms</td>
</tr>
<tr>
<td>----------</td>
</tr>
<tr>
<td>9</td>
</tr>
</tbody>
</table>

*Internal consistency coefficient (Cronbach's Alpha) = α.839*

*Item difficulty: Location value - 1.181 to + 1.834*

Table 1. KOSI Content Domains (as used in the experimental study).

Two sub-tests were formed to be used as a pre-test and an immediate post-test, each containing 25 of the 34 items with Cronbach's Alpha reliabilities of α = .774 and α = .789. The full test of 34 items was administered as a delayed post-test.

ATTITUDES TOWARDS SCHIZOPHRENIA INVENTORY (ATSI)

Selection of Categories

Five content domains were identified for the development of scales for the attitude inventory, based upon an examination of previous instruments designed to measure attitudes and beliefs about mental illness in general and schizophrenia in particular (Nunnally, 1961; Cohen and Streuning, 1962; Bogardus and Triandis 1971; Trute and Loewen, 1978; Wahl, 1987; Furnham and Rees, 1988; Wahl and Harman, 1989; Trute,
Teft and Segal, 1989; Furnham and Bower, 1992; Murphy et al, 1993; Fraser, 1994)
(See Appendix B:8). The categories, or content domains, suggested by these previous scales were consistent with those suggested by the review of the literature pertaining to the stigmatisation of people with schizophrenia and their families (see Ch. 2 and Appendix A part 1.) a series of informal interviews with people with a variety of experience and knowledge of schizophrenia. These were: a) people with schizophrenia (n > 50); b) people with a family member who has schizophrenia (n > 30); c) members and staff of two self help organisations4; d) members and staff of three non-government agencies providing support to people with schizophrenia5; and e) a group of practicing psychiatrists (n < 20)

The categories identified were:

a) Social Distance This included: attitudes about the degree of acceptable intimacy at a personal level e.g., marriage, dating, friendship, boarder or social club member; attitudes governing the degree of respect at a work related level, e.g., as a boss, employee or workmate; and attitudes concerning co-existence at an impersonal level, e.g the sharing of a residential area or community facilities.

b) Fear approach\avoidance, i.e., degree of fear or repulsion that was felt towards people with schizophrenia. Feelings of fear and anxiety when confronted with people with a mental illness were found to be prevalent and commonly linked to misconceptions about the symptoms of schizophrenia.

4The Schizophrenia Fellowship of WA, The Association for the Friends and Relatives of the Mentally Ill (ARAFMI)

The Richmond fellowship of W.A., Lorikeet Clubhouse and the June O'Connor Drop in Centre.
c). Benevolence Vs Authoritarianism i.e., the degree of compassion felt for people afflicted with mental illnesses in general and schizophrenia in particular. This category examines differences between individual respondents in terms of personality.

d). Rights And Duties i.e., the degree of respect accorded to people with schizophrenia in terms of individual human rights especially with regard to treatment options (patient's rights vs societies' duties) and the degree of respect accorded to right of society to protect itself from the demands and dangers presented by people with schizophrenia (societies' rights vs patient's duties).

e). Culpability, i.e., attitudes governing the degree of judgement or apportioning of responsibility and blame, especially with respect to causes of the disorder shown to: i) the patient, ii) the family and iii) society.

Generation of items for the proposed scales.
There were 250 rating scale items generated by the researcher on the basis of an examination of the previous scales (cited above); the literature review (Ch.2 and Appendix A.) and the informal discussions with interested parties (outlined above). The suitability of these items was considered by same panel of seven people with particular knowledge and expertise in the diagnosis and management of schizophrenia who had informally evaluated the knowledge items. The resulting questionnaire comprised of 100 items on a five point rating scale (strongly agree/agree/undecided/disagree/strongly disagree) (Appendix B.9.) and a personal response sheet requesting information relating to age, gender, semester, occupation and experience with schizophrenia.
Initial Pilot Study
The initial version of the ATSI was administered to the same seven experts, 12, workers and 71 novices as for the KOSI. The responses were analysed with Ascore 2c (Andrich, 1991) which uses the principles of Rasch measurement. The Group by Response Category was cross-tabulated in order to determine response patterns for each item and the items were assessed for degree of difficulty, power to discriminate and goodness of fit with other items within each sub-scale (category).

The workers, who were people who had chosen to work with and, in some cases live with, people with schizophrenia, were found to have the most positive attitudes, although they had scored only moderately well on the KOSI. The novices, who had scored least well on the KOSI, were also found to have the most negative attitudes particularly on the Social Distance, Fear and Family Culpability Scales.

It was an aim of the present study to promote realistic, rather than uniformly positive attitudes and it was deemed likely that the more moderate attitudes of the experts were probably the most realistic, however the number in the 'expert' group was small. Because of this, was decided to also pilot test all the items with the group of 17 post-graduate mental health nurses in NSW and to re-assess each item with their responses included in the analysis.

Second Pilot Study
The aim of the second pilot study was to identify a better combination of groups of items in order to reduce the number of sub-scales and to reduce the overall number of items to below 60, as recommended by Andrich (Andrich, 1995).
Again the responses of each group were cross-tabulated for each item (appendix B.10). The Cronbach's Alpha internal consistency coefficient was found to be $\alpha = .897$

All items with an agreement rate of over 90 per cent were eliminated (i.e. items for which over 90 per cent of all respondents had given a similar response (positive or negative).

The remaining 73 items were assessed on the following criteria:

a) Power to discriminate (especially between workers and novices);

b) Degree of difficulty;

c) Goodness of fit within the selected sub-scale (three groups);

d) Performance compared with items of similar content;

e) Semantic clarity; and

f) Pertinence to this particular study.

The items which measured attitudes towards family culpability, were removed from the main analysis as they measure a different area of stigma. These items were analysed separately and eight items with an internal consistency (Cronbach's alpha) of $\alpha = .835$ were retained for further consideration.

The items designed to measure attitudes of social distance and fear were combined into a sub-scale of 38 items and analysed together using Ascore 2c. Items having a probability $>.05$ which under-discriminated were progressively eliminated (unless, when plotted, the pattern of responses for the item demonstrated a high degree of differentiation between novices and other groups, especially workers). Fifteen items were retained with a reliability of $\alpha = .828$. 
Items designed to measure attitudes of *benevolence and authoritarianism, rights and duties* and *culpability* (except for family culpability) were assessed using the same criteria and combined to form a single scale of 30 items. A separate scale of seven very difficult items, with a high level of discrimination between novices and other groups, was formed from items which fitted well together but which had been rejected from the other scales (i.e. with a probability rating = < .05).

**Determining the Final Instrument**

The remaining 61 items were checked within these four categories using RUMM 2.7 (Andrich et al, 1996), which updates and replaces Ascore 2c. and 56 were retained. The distribution of these items into the four remaining categories is tabled below.

<table>
<thead>
<tr>
<th>Attitudes Towards Schizophrenia Inventory (ATSI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Distance and Fear</td>
</tr>
<tr>
<td>--------------------------</td>
</tr>
<tr>
<td>15</td>
</tr>
</tbody>
</table>

*Cronbach's $\alpha = .817$*

Table 2. ATSI Distribution of items by category as used in the Experimental Study.

In order to create a pre-test and an immediate post-test for the experimental study, each sub-scale was divided into two sub-tests. Items for the sub-tests were matched: a) by content; and, b) by distribution of response, both within and between the groups. Items that could not be matched and items that were particularly pertinent to the study were included in both sub-tests. The final version of the pre-test and the post-test each consisted of 35 items, with 14 items being common to both. The full test of 56 items was administered as the delayed post-test after a period of nine months.
These instruments are given in Appendices B12, B13 and B14 respectively.

As recommended by Andrich and Luo (Andrich and Luo, 1996) the category 'UNDECIDED' was deleted in order to force participants to choose a positive or negative response.

THE EXPERIMENTAL PROCEDURE

The conceptual model was tested by comparing the effects of the 'Integrated' film with the effects of a pure documentary (representing a cognitive model), a pure drama (representing an emotional model, a placebo and no treatment on a sample of student nurses. All members of the sample were invited to participate in the study. Those who agreed were pre-tested and then randomly allocated to one of the four treatment groups. A fifth group was also chosen at random to view the 'Integrated' film without pre-test. All groups were post-tested immediately after exposure to the treatment. All members of the sample were invited to complete the delayed post-test after nine months, irrespective of whether they had been exposed to any of the treatments.

The Sample

The target population for the experimental study was mental health professionals, particularly mental health nurses as indicated in Chapter 5. Qualification for mental health nursing in Western Australia is obtained as part of a comprehensive B.Sc. in nursing. A total of 304 students drawn from semester two and semester four of the School of Nursing at Edith Cowan University were approached to participate in the study. Participation was voluntary, with all students in the sample being invited to participate by the researcher, either in a tutorial or a lecture situation. The students were told that they would be part of a study designed to improve education about
mental health, especially schizophrenia. None of the students had yet completed a module in mental health, although some students were already employed as enrolled nurses and were upgrading their qualifications. Of the 304 students approached, 150 (25 male and 125 female) agreed to be treated. They were randomly allocated to one of five treatment groups: 64 subjects saw the 'Integrated' film; 31 subjects saw the Documentary; 31 subjects saw the BBC Drama; and, 24 subjects saw the placebo. The remaining 154 subjects comprised the comparison group which completed the delayed post-test but received no treatment.

The Treatments

In order to test the assumptions underlying the conceptual model, the effect of exposure to the 'Integrated' film was compared with the effects of exposure to two non-integrated films with same subject matter, a placebo and no treatment. Each of these treatments is outlined below.

The Integrated Film, 'Schizophrenia: From the Inside Looking Out' was described in Chapter 10. It is an unconventional documentary drama because the documentary source, Professor Tim Lambert, also plays the part of the psychiatrist within the dramatic narrative. The film is designed to provoke a strongly felt emotional response to simulated experiences of schizophrenia and to complement that experience with cognitive information. Both the information and the experience are progressively textured and validated throughout the film to build up a comprehensive and accurate representation of the current medical model of schizophrenia, according to both the DSM IV (APA, 1995) and the ICD 10 (WHO 1991)

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6 The numbers in the groups were uneven because some were determined by the previous random
*The Documentary*, 'World of Abnormal Psychology, No.9: The Schizophrenias' (Dawkins, 1991) is an educational production specifically created to inform students in the health sciences about schizophrenia. It is presented by an internationally acknowledged expert, whose 'direct to camera' pieces are illustrated by interviews with people who have schizophrenia and their families. It contains explicit cognitive information about the medical model of schizophrenia comparable to that given both explicitly and implicitly in the 'Integrated' film.

*The Drama*, 'Can You Hear Me Thinking' (BBC, c.1970) was nominated by the BBC's representative in Sydney, Australia as being the BBC's 'flagship' program about schizophrenia. This was to the researcher of the current study in August 1996. It tells the story of a teenage boy who develops schizophrenia and the impact that this has upon his family. Because it is a drama, it was made primarily to entertain. However, because it was based on thorough research, it was also intended, if not directly to 'educate', at least to 'enlighten'. It has been used as an educational program by the ABC and, when broadcast, was immediately followed by an open forum led by Peter Couchman, a well known television anchor man and Anne Deveson who is known for her expertise in the study of schizophrenia. This film contains implicit cognitive information about the medical model of schizophrenia comparable to that given both explicitly and implicitly in the 'Integrated' film.

*The Placebo*, 'Rainbow of Hope' (Panorama, 1994) is an emotionally appealing documentary about a medical team who provide free corrective surgery to disfigured children in the Philippines. It contains no information about schizophrenia.
The Research Design

A hybrid of the Solomon IV group design was used with provision for both immediate and delayed post-test

<table>
<thead>
<tr>
<th>Group</th>
<th>Pre-test</th>
<th>Treatment</th>
<th>Post-test</th>
<th>Delayed test</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. (n = 37)</td>
<td>Pre-test</td>
<td>Integrated Film</td>
<td>Post-test</td>
<td>Delayed test (n = 16)</td>
</tr>
<tr>
<td>2. (n = 31)</td>
<td>Pre-test</td>
<td>Drama</td>
<td>Post-test</td>
<td>Delayed test (n = 16)</td>
</tr>
<tr>
<td>3. (n = 31)</td>
<td>Pre-test</td>
<td>Documentary</td>
<td>Post-test</td>
<td>Delayed test (n = 16)</td>
</tr>
<tr>
<td>4. (n = 24)</td>
<td>Pre-test</td>
<td>Placebo</td>
<td>Post-test</td>
<td>Delayed test (n = 13)</td>
</tr>
<tr>
<td>5. (n = 154)</td>
<td>nil</td>
<td>nil</td>
<td>nil</td>
<td>Delayed test (n = 154)</td>
</tr>
<tr>
<td>6. (n = 27)</td>
<td>nil</td>
<td>Integrated Film</td>
<td>Post-test</td>
<td>Delayed test (n = 14)</td>
</tr>
</tbody>
</table>

Table 3. The Research Design

In order to assess the effects of the pre-test, two groups were exposed to the 'Integrated' film, one with pre-test (1) and one without pre-test (6). The effects of history were assessed by comparison with the group which was given only the delayed post-test (5).

Data Collection

Two methods were used to collect the data. Since the sample comprised students drawn from two different semester intakes with different timetables, the method of data collection was tailored to the set timetable of each group.

The semester two students had been randomly allocated to one of 25 small tutorial groups by the School of Nursing. The film treatments were shown, one at a time, over a period of four days with four tutorial groups being chosen at random for each treatment.
The *pre-test* was administered in the tutorial room before the group relocated to watch the film. The *post-test* was completed in the theatre, immediately after viewing the film.

The *semester four* students were invited to participate during a regular lecture. The students who were not to be pre-tested were then sent to the appropriate theatre to view the integrated film. The *pre-test* was administered in the lecture theatre to the remaining students, who then proceeded to one of four small theatres, where the four treatments were run concurrently. The *post-test* was completed in the theatre, immediately after viewing the film.

The *delayed-test* was distributed to students of both semesters, during a lecture, nine months after the treatment. The semester four students completed the forms immediately and handed them back. The semester two students were requested to return the forms once they had been completed. Again participation was voluntary.

<table>
<thead>
<tr>
<th>Semester</th>
<th>Pretest</th>
<th>Post-Test</th>
<th>Delayed Test</th>
<th>Total Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>86</td>
<td>86</td>
<td>44</td>
<td>86</td>
</tr>
<tr>
<td>4</td>
<td>38</td>
<td>38</td>
<td>181</td>
<td>192</td>
</tr>
<tr>
<td>Total</td>
<td>123</td>
<td>123</td>
<td>225</td>
<td>304</td>
</tr>
</tbody>
</table>

Table 4. Participant Response by Semester

A majority of the semester two students who were approached in the tutorial groups agreed to participate, taking both the pre-test and the immediate post-test, while a majority of semester four students who were approached in the lecture theatre did not. However, when it came to the delayed test all of the semester four students who were present completed and returned the test, while many of the semester two students did not, despite five personal requests to return the completed instruments, which were
made during subsequent lectures. This limited the number of participants who received a treatment and took all three tests. However it did provide a large comparison group whose responses on the delayed test were used for improving the psychometric properties of the scales and for comparison with the treated groups.

DATA ANALYSIS

Improving the Psychometric Properties of the Scales

The response patterns for each item were examined using RUMM 2.7 (Andrich et al 1996) based upon each of the pre-test immediate post-test and delayed post-test data sets and reliability and goodness of fit statistics were computed for various groups as follows:

a) each group separately;

b) all groups treated with the 'Integrated' film;

c) the three treatment groups who did not see the 'Integrated' film, but did see one of the other films; and

d). all non-treated groups

Consistent with the criteria suggested within RUMM 2.7 (Andrich et al, 1996), items with a Chi squared value > 6.00 and a probability of p < .05 in all tests (i.e., across all groups), were eliminated from the analysis. Items from the 'Hard Questions' attitude scale were analysed by the same procedure within each of the other scales and, where they achieved a probability of p > .05 were incorporated into that scale. If they did not achieve a probability of p > .05 in any scale they were eliminated from the analysis. This procedure increased the power of the scales to discriminate for this particular study (Appendix B.7. and B.15)
Preliminary Analyses

a) Levene’s test of homogeneity of variance was undertaken to compare the pre-test and post-test variance of each of the treatment groups. In addition a single test compared the pre and post-test variance of the four treatment groups, the post-test variance of the group seeing the 'Integrated' film without pre-test; and the delayed test variance of the group who saw no film at all.

b) The pre-test between group differences of the four treatment groups were examined through a one-way ANOVA.

c) The effect of history was examined through a one-way ANOVA comparing the pre-test means of the four treatment groups with the delayed test mean of the comparison group.

d) Pre-test effects were examined through a one-way ANOVA comparing the post-test means of the two groups who saw the 'Integrated' film.

e) The effects of age, gender, occupation, semester and experience with schizophrenia were examined through a series of one-way ANOVAs comparing the post test means of the five treatment groups.

In each case the null hypothesis was supported and so it was considered safe to assume that the group variances were homogenous and that differences between the pre-test and post-test means of the treated groups and between the pre-test and delayed test means of the treated groups could not be explained by between group differences, history, pretest effects or the effects of age, gender, occupation, semester, or experience with schizophrenia.
Testing for Immediate Effects

With the preliminary analyses complete, tests were run to assess the immediate effects of the four treatments, the 'Integrated' film (1), the Drama (2), the Documentary (3) and the Placebo (4) and to compare them with each other.

a) Main Effects: Paired sample t tests examined the pre-test and post-test means of each of the four treatment groups, to test for the main effects of each of the treatments.

b) Interaction Effects: A 4 X 2 ANOVA with repeated measures, used the pre-test and the post-test means of the four treatment groups, to test the film by time interaction effect and the Pillais trace was examined to determine whether these groups differed in terms of mean change over time.

c) Comparison of Immediate effects: A one-way ANOVA compared the post-test means of the four treatment groups to test for differences in the immediate effects of the treatments, followed by a Dunnett test to compare the effect of the 'Integrated' film with the effects of the other three treatments and a Scheffé test to examine the pairwise comparisons of the immediate effects of each treatment.

On the basis of these analyses it was possible to determine whether there had been a change in knowledge and/or attitudes immediately after being exposed to the treatments and whether exposure to one treatment had a greater or lesser effect on knowledge and attitudes than exposure to the other treatments.

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7The Dunnett test was used for the comparison of the 'Integrated' film, based on the DICAM because it is more exacting than the Scheffé test.
Testing for Sustained or delayed treatment Effects

Because the conceptual model for the present study is designed to effect genuine cognitive restructuring and enduring attitude change the sustained (or delayed) effects of the treatments were of particular interest. Therefore tests were run to assess these effects and to compare them with each other, as follows:

a) Sustained (or delayed) Main Effects: Paired sample t tests compared the pre-test and the delayed test means of the four treatment groups to examine the sustained (or delayed) main effects of each of the treatments;

b) Sustained or Delayed Interaction Effects: A 4 X 3 ANOVA with repeated measures, used the pre-test, post-test and delayed test means of the four treatment groups, to test the film by time interaction effect. At the same time Pillais trace was used to determine whether these groups had different mean changes over time;

c) Comparison of Sustained (or Delayed) Effects: A one way ANOVA used the delayed test means of the four treatment groups and the group who received no treatment, to test for a significant difference in the sustained (or delayed) effects of the treatments; while a Dunnett test compared the effect of the 'Integrated' film with the effects of the other three treatments and either a Scheffé test made pairwise comparisons of the immediate effects of each treatment, or a second Dunnett test compared the effect of a selected treatment group with the effects of the other three treatments and the effect of no treatment.

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Footnote: For the KOSI a Dunnett test compared the effect of the Documentary. For the ATSI: Social Distance and Fear a Dunnett test compared the effect of the Drama. For the ATSI: Rights and blame a Scheffé
In conclusion, the results of these tests of main effects, interactions and comparisons were used as a basis for inferring the long term effects of the 'integrated' and the 'non-integrated' models for cognitive restructuring and attitude change and for making predictions about the differential effects of these models in other contexts and with other populations.

This completes the description of the methods used to test the research hypotheses based on the assumptions underpinning the Dynamic Interactive Cognitive and Affective Model for cognitive restructuring and attitude change. The following chapter reports the results of the study.

\[^{9}\] These assumptions are clarified in Ch.15, where the refined Dynamic Cognitive and Affective Model (DICAM) for cognitive restructuring and attitude change is presented.
'Most of the information about mental illness comes from media coverage, rather than advertising. There were some very positive mentions about recent programs featuring mental illness on 'Country Practice' and 'GP'. This was seen as an effective and subtle combination of information and entertainment. It conveys new ideas about mental illness without confronting the viewer, and being rejected.

There was some mention of documentaries but this was at a low level, and these programs are probably 'talking to the converted'.

'If I had a choice between a program on schizophrenia or Alzheimer's, or a program on the green tree frogs of South America, I'd probably go for the one on the green tree frogs' (Reark Research, 1993, part 2, p.30 Italics in original).

This chapter presents the quantitative results of the experimental study. The results of all statistical procedures will be presented for each scale in the following order:

a) KOSI: Knowledge of Schizophrenia Inventory.

b) ATSI: Attitudes towards Schizophrenia Inventory 1. Social Distance and Fear.

c) ATSI: Attitudes towards Schizophrenia Inventory 2. Rights and Blame.

d) ATSI: Attitudes towards Schizophrenia Inventory 3. Family Culpability.

The research hypotheses for each scale are tabulated at the beginning of the section relating to that scale, followed immediately by a table of the statistical procedures used to test the research hypotheses.
It should be noted that in these initial tables and in the body of the text:
treatment 1. is identified as the 'Integrated' film (1);
treatment 2. as the Drama (2);
treatment 3. as the Documentary (3);
treatment 4. as the Placebo (4); and
the untreated group as No Treatment (5)

However, in all figures and tables within the text the treatments are identified
as the data was originally encoded and analysed, using SSPSS 7.5 for windows 95.
Therefore:

the 'Integrated' film (1) is identified as 'Schizophrenia';
the Drama (2) as 'BBC Drama';
the Documentary (3) as 'Documentary';
the Placebo (4) as 'Placebo';
the group who received No Treatment (5) as 'No Film'; and
the group who saw the 'Integrated' film without pre-test as 'Schiz no pre'.

For each scale, the descriptive statistics and preliminary analyses are presented first,
followed by the results of the tests of immediate effects and then the results of the
tests of sustained (or delayed) effects. The results are discussed in the Chapter (14).
## Table 5: Knowledge of Schizophrenia (KOSI)
### Research Hypotheses
#### Immediate Treatment Effects
<table>
<thead>
<tr>
<th>Treatment 1. Integrated film:</th>
<th>Treatment 2. BBC Drama:</th>
<th>Treatment 3. Documentary:</th>
<th>Treatment 4. Placebo:</th>
</tr>
</thead>
<tbody>
<tr>
<td>The post-test will show a substantial gain in knowledge.</td>
<td>The post-test will show some gain in knowledge.</td>
<td>The post-test will show some gain in knowledge.</td>
<td>The post-test will show no change in knowledge.</td>
</tr>
<tr>
<td>Post-test scores will be higher than those of Treatments 2, 3 &amp; 4</td>
<td>Post-test scores will be lower than those of Treatment 1, higher than those of Treatment 4, and similar to those of Treatment 3.</td>
<td>Post-test scores will be lower than those of Treatment 1, higher than those of Treatment 4, and similar to those of Treatment 3.</td>
<td>Post-test scores will be marginally lower than those of Treatments 2 &amp; 3 and substantially lower than those of Treatment 1.</td>
</tr>
</tbody>
</table>

The 'Integrated' film will have an immediate effect on knowledge of schizophrenia which will be greater than that of any other treatment.

#### Delayed Treatment Effects
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>The delayed test will show a sustained gain in knowledge. when compared to the pre-test.</td>
<td>The delayed test will show no sustained gain in knowledge. when compared to the pre-test.</td>
<td>The delayed test will show no sustained gain in knowledge. when compared to the pre-test.</td>
<td>The delayed test will show no sustained gain in knowledge. when compared to the pre-test.</td>
<td>Delayed test scores will be similar to the pre-test scores of the other Treatments.</td>
</tr>
<tr>
<td>Delayed test scores will be higher than those of any other Treatment.</td>
<td>Delayed test scores will be lower than those of Treatment 1 and similar to those of Treatments 3, 4 &amp; 5</td>
<td>Delayed test scores will be lower than those of Treatment 1 and similar to those of Treatments 2, 4 &amp; 5</td>
<td>Delayed test scores will be lower than those of Treatment 1 and similar to those of Treatments 2, 3 &amp; 5.</td>
<td>Delayed test scores will be lower than those of Treatments 2, 3 &amp; 5.</td>
</tr>
</tbody>
</table>

The 'Integrated' film will have an enduring effect on knowledge of schizophrenia which will be greater than that of any other treatment.
# Table 6: Knowledge of Schizophrenia (KOSI)

## Statistical Procedures

### 1. Descriptive Statistics

<table>
<thead>
<tr>
<th>Means and SDs are tabulated for each group at each time of testing.</th>
<th>A graph based on the means shows the overall effects of the different Treatments.</th>
</tr>
</thead>
</table>

### 2. Preliminary Analyses

<table>
<thead>
<tr>
<th>Levene's Test of Homogeneity of Variance compared the variance of all groups to test for differences in the within group variances.</th>
<th>A one-way ANOVA compared the pre-test means of the four Treatment groups to examine between group differences.</th>
<th>A one-way ANOVA compared the post-test means of the 'Integrated' film with and without the 'Integrate' film.</th>
<th>A one-way ANOVA compared the post-test means of each Treatment group to test for the effects of age, gender, occupation, semester and experience with schizophrenia.</th>
</tr>
</thead>
</table>

### 3. Immediate Effects

<table>
<thead>
<tr>
<th>A paired samples t test compared the pre-test and post-test means of each group to test for within group main effects.</th>
<th>A 4 x 2 ANOVA with repeated measures tested the film by time interaction effect using the pre-test and post-test means of each Treatment group.</th>
<th>Pillai's Trace determined whether the groups had different mean change over time.</th>
<th>A one-way ANOVA compared the immediate effects of the four Treatments using the post test means.</th>
</tr>
</thead>
</table>

### 4. Delayed (Sustained) Effects

<table>
<thead>
<tr>
<th>Paired samples t tests compared: a) the pre-test and delayed test means and b) the post-test and delayed test means of each Treatment group.</th>
<th>A 4 x 3 ANOVA with repeated measures tested the film by time interaction effect using the pre, post and delayed test means of each Treatment group.</th>
<th>Pillai's Trace determined whether the groups had different mean change over time.</th>
<th>A one-way ANOVA compared the Treatment and no Treatment groups using the delayed test means.</th>
</tr>
</thead>
</table>

| A Dunnett Test compared the 'Integrated' film with each of the Treatment groups and no Treatment on the delayed test. | A Dunnett Test compared the Documentary with each of the Treatment groups and no Treatment on the delayed test. | A Scheffé Test made pairwise comparisons of the effects of all four Treatment groups. |---|
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The first procedure in determining the effect of the 'Integrated' film on knowledge of schizophrenia was to examine the means and standard deviations for each group, at each time of testing (See Table 7). The means are based on the scores of every subject who participated in the particular test, providing an overview of the effects of the four treatments. In order to test the research hypothesis that only the integrated film would have an immediate and enduring effect on knowledge of schizophrenia, these effects were compared, a) with each other and, b) with no treatment at all.

<table>
<thead>
<tr>
<th>TREATMENT</th>
<th>PRE-TEST</th>
<th>POST-TEST</th>
<th>DELAYED TEST</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N.</td>
<td>mean</td>
<td>S.D.</td>
</tr>
<tr>
<td>1. Schizophrenia</td>
<td>37</td>
<td>.6479</td>
<td>.8431</td>
</tr>
<tr>
<td>2. BBC Drama</td>
<td>31</td>
<td>.3541</td>
<td>.8104</td>
</tr>
<tr>
<td>3. Documentary</td>
<td>31</td>
<td>.4692</td>
<td>1.1396</td>
</tr>
<tr>
<td>5 No Film</td>
<td>nil</td>
<td>nil</td>
<td>nil</td>
</tr>
<tr>
<td>6 Schiz no Pre</td>
<td>nil</td>
<td>nil</td>
<td>27</td>
</tr>
<tr>
<td>Total Sample</td>
<td>123</td>
<td>.5323</td>
<td>.9234</td>
</tr>
</tbody>
</table>

Table 7. KOSI. Means and Standard Deviations

Of the 150 subjects in the four treatment groups, 123 were pre-tested and 61 completed all three tests. The 154 subjects who were used as a comparison group were given no treatment and were given the delayed test only. The responses of these subjects were also used to improve the psychometric properties of the scales

1 All mean scores were derived through SPSS 7.5 for windows 95 using person logit scores derived through RUMM 7).
Before testing for treatment effects, it was necessary to establish that these effects could not be accounted for by:

a) a lack of heterogeneity in the within group variances;

b) initial differences between the groups, including the control group;

c) events happening concurrently outside the experiment that would have an impact on the experimental results, i.e. history;

d) the effect of a pre-test;

e) the effects of differences among the groups in terms of gender, age, occupation, semester group or, experience with schizophrenia.

All of the research hypotheses were examined by testing the appropriate statistical null hypotheses: thus it was assumed that there would be no differences found between groups. All tests were evaluated using a significance level of $\alpha = .05$

**Homogeneity of variance**

Levene's test for homogeneity of variance compared the pre-test and post-test variance of the each of the treatment groups and found no significant difference. In addition a single test compared the pre-test and post-test variance of the four treatment groups, the post-test variance of the group seeing the 'Integrated' film without pre-test and the delayed test variance of the group who saw no film at all. No significant difference was found in the group variances ($F(9, 417) = 1.577, p = .123$). It was therefore assumed that the within group variances were equal.
Between Group Differences

A one-way ANOVA compared the pre-test means of the four treatment groups. No significant difference was found between the groups before treatment \(F(3, 119) = .789, p = .502\). Therefore any differences found between the groups on the post-test treatment means were attributed to the differential effects of the treatments.

History

A one-way ANOVA compared the pre-test means of the treatment groups with the delayed test scores of the group which received no treatment and did not complete either the pre-test or the immediate post-test. No significant difference was found between the treatment groups before treatment and the control group tested nine months later \(F(4, 258) = .661, p = .620\). It was therefore assumed that differences in the means of the treated groups over time was not due to any extraneous historical circumstance.

Pre-test Effects

A one-way ANOVA compared the post-test means of the two groups treated with the 'Integrated' film, the group which had been pre-tested and the group which had not. No significant difference was found between the post-test means of the two groups treated with the 'Integrated' film \(F(1, 62) = .662, p = .419\). It was therefore assumed that any differences found between the pre-test and post-test means of the treated groups were not due to a pre-test effect.
Effects of Age, Gender, Occupation, Semester and Experience with Schizophrenia

A series of one-way ANOVAs compared data pooled from the post-test means of all groups to test for differences which could be accounted for by the independent variables of age, gender, occupation, semester group or experience with schizophrenia. No significant differences were found for any of these variables, as follows:

a) age (F (3, 139) = .148, p = .931);

b) gender (F (1, 142) = .050, p = .824);

c) occupation (F (3, 139) = .521, p = .668);

d) semester group (F (1, 140) = .668, p = .415); and

e) experience with schizophrenia (F (5, 137) = 1.478, p = .201).

On the basis of the results of the preliminary analyses it was assumed that any differential effects found between the treatments could not be accounted for by differences in the within group variances, differences between the groups, historical circumstance, the effects of a pre-test or the effects of differences among the groups in terms of age, gender, occupation, semester group or experience with schizophrenia.

IMMEDIATE EFFECTS

The immediate effects of the alternative treatments on the knowledge dependent variables were determined by examining the relevant research hypotheses. Each of the research hypotheses was examined by testing the relevant statistical null hypotheses and all tests were evaluated using a significance level of $\alpha = .05$. 
A paired samples t test compared the pre-test and the post-test means of the group who saw the 'Integrated' film (1) to test the research hypothesis that: \textit{Treatment 1, the 'Integrated' film would increase the participants' knowledge of schizophrenia.}

A positive effect was observed and found to be significant:

\[(X_{21} - X_{11} = 1.702, t(1, 36) = 12.361, p < .000).\] and so the research hypothesis was supported, indicating that exposure to the 'Integrated' film did increase the participants' knowledge of schizophrenia.

Paired sample t tests were also used to compare the pre-test and post-test means of the groups who saw the Drama (2), the Documentary (3) and the Placebo (4), but no significant effects were found:

\[\text{Drama (}X_{2d} - X_{1d} = -.0124, t(1, 30) = -.102, p = .920)\]
\[\text{Documentary (}X_{2d} - X_{1d} = .0742, t(1, 30) = .412, p = .684)\]
\[\text{Placebo (}X_{2p} - X_{1p} = -.1585, t(1, 23) = -1.404, p = .174)\]

Thus it is concluded that exposure to these three treatments had no immediate effect on knowledge of schizophrenia.

Having established that the 'Integrated' film (1) had an immediate effect, it was then appropriate to determine whether that effect was statistically different from that of the other treatments by testing the treatment by time interaction effects, illustrated in Fig. 13. (overleaf). A 4 X 2 ANOVA with repeated measures using the pre-test and post-test scores of the four treatment groups tested the treatment by time interaction effect. The interaction effect was found to be significant (\(F(1, 3) = 30.367, p < .000\)), indicating that the different treatments had different effects. This was confirmed by Pillai's Trace, a simple multivariate test, which established that the four groups had different mean change over time \((p < .000)\).
A one-way ANOVA comparing the post test means of the four treated groups found a significant difference ($F (3, 119) = 53.659, p < .000$) between the treatments.

A Dunnett test then compared the post-test means of each of the treatment groups with those of the 'Integrated' film (1). A significant difference was found for each comparison:

the Drama (2) ($X_{21} - X_{2p} = 2.017, p = .000$);

the Documentary (3) ($X_{31} - X_{3p} = 1.815, p = .000$); and

the Placebo (4) ($X_{41} - X_{4p} = 1.851, p = .000$).

This supported the research hypothesis that exposure to the 'Integrated' film would have a greater effect on knowledge of schizophrenia than that of exposure to any of the other treatments.
A Scheffé test made pairwise comparisons of the post-test means of all four treatments in order to determine whether the cognitive treatment, the Documentary (3), had had a greater effect on knowledge of schizophrenia than the emotional treatment, the Drama (2) or the Placebo (4). However, although the difference between the 'Integrated' film (1) and all the other treatments was again found to be significant, no differences were found between the post-test means of the other treatments (2, 3 & 4), when compared with each other, as shown in Table 8.

Therefore, as far as knowledge of schizophrenia is concerned, it made no difference whether the subjects were exposed to the Documentary about schizophrenia, the Drama about schizophrenia, or the Placebo.

### Table 8. Scheffé Test Comparing KOSI Post-Test Means (SPSS 7.5)

These results support the overall research hypothesis for immediate effects, because the 'Integrated' film (1) produced an increase in knowledge of schizophrenia which was found to be significant while the other treatments did not.
The sustained or delayed effects of the alternative treatments on the knowledge dependent variables were also examined by testing the relevant research hypotheses. Table 9 shows the means and SDs for each group, using the responses of participants who took the delayed test. Pre-test and post-test responses of participants who did not return their delayed test forms were removed from the analysis.

<table>
<thead>
<tr>
<th>TREATMENT</th>
<th>PRE-TEST</th>
<th>POST-TEST</th>
<th>DELAYED TEST</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N.</td>
<td>mean</td>
<td>S.D.</td>
</tr>
<tr>
<td>1. Schizophrenia</td>
<td>16</td>
<td>.4651</td>
<td>.5452</td>
</tr>
<tr>
<td>2. BBC Drama</td>
<td>16</td>
<td>.4137</td>
<td>.8367</td>
</tr>
<tr>
<td>5 No Film</td>
<td>nil</td>
<td>nil</td>
<td>nil</td>
</tr>
<tr>
<td>6. Schiz no pre</td>
<td>nil</td>
<td>nil</td>
<td>14</td>
</tr>
<tr>
<td>Total Sample</td>
<td>61</td>
<td>.5405</td>
<td>.8344</td>
</tr>
</tbody>
</table>

Table 9. KOSI. Means and Standard Deviations (Delayed Test participants only).

The delayed effects of the treatments were compared with each other and with no treatment at all.

A paired samples t test compared the pre-test and the delayed post-test means of each treatment group to test for the effects of the treatments after a period of nine months.

A paired samples t test then compared the post-test and the delayed post-test means of each treatment group to test for any cumulative or recovery effects during the nine month period.
For the 'Integrated' film (1) both tests were significant, indicating that a gain in knowledge was still apparent after a period of nine months

\(X_{31} - X_{11} = .9565, t(1, 15) = 4.428, p < .000\). However there was a loss during the nine month period \(X_{31} - X_{21} = -7.289, t(1, 15) = -2.519, p = .024\).

No significant differences were either expected or found for the Drama (2) or the Placebo (4) on the paired sample t tests. Exposure to the neither

- the Drama (2) \(X_{3d} - X_{1d} = .1564, t(1, 15) = .759, p = .459\),
- nor the Placebo (4) \(X_{3p} - X_{1p} = -.2757, t(1, 12) = -1.611, p = .135\)

had any sustained or delayed effect on knowledge of schizophrenia.

Nor was there any loss or gain over the nine-month period for either

- the Drama (2) \(X_{3d} - X_{2d} = .0602, t(1, 15) = .357, p = .726\) or
- the Placebo \(X_{3p} - X_{2p} = -.1731, t(1, 12) = -1.692, p = .120\)

It had been anticipated that exposure to the Documentary (3) would have an immediate effect on knowledge of schizophrenia but that it would not be sustained after nine months had elapsed. As was indicated earlier, there was no immediate effect for the Documentary (3) and similarly, there was no change between the post-test and the delayed test \(X_{3do} - X_{2do} = .1810, t(15) = .817, p = .427\). Despite this, the difference between the pre-test and delayed test scores was found to be significant: \(X_{3do} - X_{1do} = .2189, t(15) = 2.132, p = 05\), which appeared to indicate a delayed, as opposed to sustained, effect. These results will be discussed in the following chapter.

Having established that the impact of the 'Integrated' film (1) had been sustained over the nine month period, tests were run to compare the changes in the level of knowledge of schizophrenia of those who had been treated with the 'Integrated' film
(1), with that of those who had received another treatment (2, 3 & 4) or no treatment at all (5) as shown in Fig. 14.

Fig. 14. KOSI: Delayed (sustained) Interaction Effects.

A 4 X 3 ANOVA with repeated measures using the pre-test, post-test and delayed-test means of the four treatment groups, examined the treatment by time interaction effect. This was found to be significant (F(2, 6) = 9.447, p < .000) indicating that the various treatments had had different effects over the nine month period. This was confirmed by Pillai's Trace, which established that the four groups had had different mean changes over time (p < .000).

The final series of tests examined the delayed test means in order to determine how successful the 'Integrated' film (1) had been in increasing and maintaining accurate knowledge of schizophrenia when compared with the other treatments (2, 3 & 4) and with no treatment at all (5). As stated before, no difference had been found between
the groups at pre-test and no explicit follow up or other educational material had been used to complement exposure to any of the treatments.

A one-way ANOVA comparing the delayed test means of the four treatments and of no treatment found a significant effect ($F(4, 224) = 8.019, p < .000$). A Dunnett test comparing the delayed test means of the 'Integrated' film (1) with those of the three other treatments (2, 3, & 4) and of no treatment at all indicated a significant difference between the 'Integrated' film (1) and treatments 2 (the Drama), 4 (the Placebo) and no treatment (5):

- the Drama (2) ($X_{31} - X_{3\text{tr}} = -.863, p = .003$);
- the Placebo (4) ($X_{31} - X_{3\text{p}} = -.994, p = .001$);
- No Treatment (5) ($X_{31} - X_{3\text{tr}} = -.901, p < .000$)

but not for the Documentary (3) ($X_{31} - X_{3\text{do}} = -.570, p = .091$).

A second Dunnett test comparing the delayed test mean of the Documentary with those of the Drama (2), the Placebo (4) and no treatment (5), found no significant differences:

- the Drama (2) ($X_{3\text{do}} - X_{3\text{tr}} = -.293, p = .662$);
- the Placebo (4) ($X_{3\text{do}} - X_{3\text{p}} = -.424, p = .408$);
- No Treatment (5) ($X_{3\text{do}} - X_{3\text{tr}} = -.331, p = .321$).

These results support the overall research hypotheses for delayed (sustained) effects, *the 'Integrated' film had a statistically significant and enduring effect on knowledge of schizophrenia which was significantly greater than that of any other treatment.*
### Table 10: ATSI: 1 Social Distance and Fear Research Hypotheses

#### Immediate Treatment Effects

<table>
<thead>
<tr>
<th>Treatment 1. Integrated film:</th>
<th>Treatment 2. BBC Drama:</th>
<th>Treatment 3. Documentary:</th>
<th>Treatment 4. Placebo:</th>
</tr>
</thead>
<tbody>
<tr>
<td>The post-test will show a positive change in attitudes of social distance and fear.</td>
<td>The post-test will show a change in attitudes of social distance and fear.</td>
<td>The post-test will show no change in attitudes of social distance and fear.</td>
<td>The post-test will show no change in attitudes of social distance and fear.</td>
</tr>
<tr>
<td>Post-test scores will be different from those of Treatments 2, 3 &amp; 4.</td>
<td>Post-test scores will be different from those of Treatments 1, 3 &amp; 4.</td>
<td>Post-test scores will be different from those of Treatments 1 &amp; 2 and similar to those of Treatment 4.</td>
<td>Post-test scores will be different from those of Treatments 1 &amp; 2 and similar to those of Treatment 3.</td>
</tr>
</tbody>
</table>

The 'Integrated' film and the Drama will have an immediate effect on attitudes of Social Distance and Fear. The effect of the 'Integrated' film will be positive.

#### Delayed Treatment Effects

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>The change in attitudes of social distance and fear will endure.</td>
<td>The change in attitudes of social distance and fear will not endure</td>
<td>The delayed test will show no change in attitudes of social distance and fear</td>
<td>The delayed test will show no change in attitudes of social distance and fear</td>
<td>Delayed test scores will be similar to the pre-test scores of the other Treatments.</td>
</tr>
<tr>
<td>Delayed test scores will be more positive than those of any other Treatment.</td>
<td>Delayed test scores will be less positive than those of Treatment 1 and similar to those of Treatments 3, 4 &amp; 5.</td>
<td>Delayed test scores will be less positive than those of Treatment 1 and similar to those of Treatments 3, 4 &amp; 5.</td>
<td>Delayed test scores will be less positive than those of Treatment 1 and similar to those of Treatments 2, 4 &amp; 5.</td>
<td>Delayed test scores will be less positive than those of Treatment 1 and similar to those of Treatments 2, 3 &amp; 4.</td>
</tr>
</tbody>
</table>

Only the 'Integrated' film will have an enduring effect on attitudes of Social Distance and Fear. The effect will be positive.
Table 11. ATSI: 1. Social Distance And Fear

**Statistical Procedures**

<table>
<thead>
<tr>
<th>1. Descriptive Statistics</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Means and SDs are tabled for each group at each time of testing.</td>
<td>A graph based on the means shows the overall effects of the different Treatments.</td>
</tr>
</tbody>
</table>

### 2. Preliminary Analyses

<table>
<thead>
<tr>
<th>Levene’s Test of Homogeneity of Variance</th>
<th>A one-way ANOVA compared the pre-test means of the four Treatment groups to examine between group differences.</th>
<th>A one-way ANOVA compared the pre-test means of the four Treatment groups and the delayed test means of the control (no film) group to consider the effect of history.</th>
<th>A one-way ANOVA compared the post-test means of the groups who saw the 'Integrated' film with and without pre-test to test for pre-test effects.</th>
<th>One-way ANOVAs used the post-test means of each Treatment group to test for the effects of age, gender, occupation, semester and experience with schizophrenia.</th>
</tr>
</thead>
</table>

### 3. Immediate Effects

<table>
<thead>
<tr>
<th>A paired samples t test compared the pre-test and post-test means of each group to test for main within group effects.</th>
<th>A 4 x 2 ANOVA with repeated measures tested the film by time interaction effect using the pre-test and post-test means of each Treatment group.</th>
<th>Pillai’s Trace determined whether the groups had different mean change over time.</th>
<th>A one-way ANOVA compared the immediate effects of the four Treatments using the post test means.</th>
<th>A Scheffé Test made pairwise comparisons of the effects of all four Treatment groups.</th>
</tr>
</thead>
</table>

### 4. Delayed (Sustained) Effects

| Paired samples t tests compared a) the pre-test and delayed test means and b) the post-test and delayed test means of each Treatment group. | A 4 x 3 ANOVA with repeated measures tested the film by time interaction effect using the pre, post and delayed test means of each Treatment group. | Pillai’s Trace determined whether the groups had different mean change over time. | A one-way ANOVA compared the Treatment and no Treatment group using the delayed test means. | A Dunnett Test compared the 'Integrated' film with each of the Treatment groups and no Treatment on the delayed test. | A Dunnett Test compared the Drama with each of the Treatment groups and no Treatment on the delayed test. |
The first step in determining the effect of the 'Integrated' film on the attitudes of social distance and fear, both by itself and in comparison with the other treatments, was to examine the means and standard deviations for each group, at each time of testing (See Table 12). The means are based on the scores of every subject who participated in the particular test and thus provide an overview of the effects of the four treatments. These effects were compared both with each other and with no treatment at all in order to test the research hypothesis that the 'Integrated' film and only the 'Integrated' film would have an enduring and positive effect on attitudes of social distance and fear.

<table>
<thead>
<tr>
<th>TREATMENT</th>
<th>PRE-TEST</th>
<th>POST-TEST</th>
<th>DELAYED TEST</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N.</td>
<td>mean</td>
<td>S.D.</td>
</tr>
<tr>
<td>1. Schizophrenia</td>
<td>37</td>
<td>.5050</td>
<td>1.4222</td>
</tr>
<tr>
<td>2. BBC Drama</td>
<td>31</td>
<td>.3184</td>
<td>1.0794</td>
</tr>
<tr>
<td>5 No Film</td>
<td>nil</td>
<td>nil</td>
<td>nil</td>
</tr>
<tr>
<td>6 Schiz no Pre</td>
<td>nil</td>
<td>nil</td>
<td>27</td>
</tr>
<tr>
<td>Total sample</td>
<td>123</td>
<td>.4825</td>
<td>1.2249</td>
</tr>
</tbody>
</table>

Table 12. ATSI 1. Social Distance and Fear: Means and Standard Deviations.

Of the 150 subjects in the four treatment groups, 123 were pre-tested and 61 completed all three tests. There were 140 subjects who were used as a comparison group, because they had received no treatment and had only been administered the delayed post-test. As with the KOSI, the responses of this group were also used to improve the psychometric properties of the three attitude scales.
PRELIMINARY ANALYSES

The same preliminary analyses run for the knowledge scale were also run for each of the attitude scales with all statistical tests being evaluated using a significance level of $\alpha = .05$

Homogeneity of variance
Levene's test for homogeneity of variance found no difference in the pre-test or post-test variances of the four treatment groups. A single test comparing these variances with the post-test variance of the group seeing the 'Integrated' film without pre-test and the delayed test variance of the untreated group, also found no difference in the variance of any group ($F (9, 377) = 1.096, p = .365$). It was therefore assumed that the within group variances were equal.

Between Group Differences
A one-way ANOVA compared the pre-test means of the four treatment groups, but no difference was found between the groups before treatment ($F (3, 119) = .271, p = .846$). It was therefore assumed that any differences between the groups on the post-test means could be attributed to the differential effects of the treatments.

History
A one-way ANOVA compared the pre-test means of the four treatment groups with the delayed test mean of the group which had received no treatment, no pre-test and no immediate post-test. No significant difference was found ($F (4, 258) = .790, p = .533$). It was therefore assumed that differences in the means of the treated groups over time was not due to any extraneous historical circumstance.
Pre-test Effects

A one-way ANOVA compared the post-test means of the two groups treated with the 'Integrated' film, the group which had been pre-tested and the group which had not and no difference was found (F (1, 62) = .051, p=.823). It was therefore assumed that any differences found between the pre-test and post-test means of the treated groups were not due to a pre-test effect.

Effects of Age, Gender, Occupation, Semester and Experience with Schizophrenia

A series of one-way ANOVAs compared data pooled from the post-test means of all groups to test for differences which could be accounted for by the independent variables of age, gender, occupation, semester group or experience with schizophrenia.

No significant differences were found for any of these variables, as follows:

- age (F (3, 139) =.668, p = .573);
- gender (F (1, 142) =.261, p = .610);
- occupation (F (3, 139) = 1.295, p = .279);
- semester (F (1, 140) = 1.228, p = .270); and,
- experience with schizophrenia (F (5, 137) = 1.934, p = .093)

On the basis of the results of the preliminary analyses it was assumed that any differential effects found between the treatments could not be accounted for by differences in the within group variances, differences between the groups, historical circumstance, the effects of a pre-test or differences among the groups in terms of age, gender, occupation, semester or experience with schizophrenia.
The immediate effects of the alternative treatments on the variables dependent on attitudes of social distance and fear were determined by examining the relevant research hypotheses. As for the knowledge scale each of the research hypotheses was examined by testing the relevant statistical null hypotheses and all tests were evaluated using a significance level of $\alpha = .05$.

A paired samples t test compared the pre-test and the post-test means of the group who saw the 'Integrated' film (1) to test the hypothesis that: the 'Integrated' film (1) would significantly reduce attitudes of social distance and fear. A positive effect was observed and found to be significant ($X_{21} - X_{11} = 1.1196, t(1, 36) = 4.104, p < .000$)

A paired samples t test compared the pre-test and the post-test means of the group who saw the Drama (2) to test the hypothesis that: the Drama (2) would have an immediate effect on attitudes of social distance and fear. A negative effect was observed and found to be significant ($X_{21} - X_{11} = -1.2099, t(1, 30) = -6.533, p < .000$)

Paired samples t tests compared the pre-test and the post-test means of the groups who saw the Documentary (3) ($X_{23b} - X_{13b} = -.0845, t(1, 30) = -4.34, p = .667$) and the Placebo (4) ($X_{21p} - X_{11p} = -.0150, t(1, 23) = -.090, p = .929$) and, as expected, no effects were found.

Having established that the 'Integrated' film had had an immediate effect, it was then appropriate to determine whether that effect was different to the effects of the other
treatments by testing the treatment by time interaction effect which is illustrated in Fig. 15.

![ATSI: Social Distance and Fear Immediate Interaction Effects](image)

Fig. 15. ATSI 1. Social Distance and Fear Immediate Interaction Effects

A 4 X 2 ANOVA with repeated measures, used the pre-test and post-test means of the four treatment groups to test the treatment by time interaction effect. This interaction effect was found to be significant (F (1, 3) = 20.097, p = .000), indicating that the different treatments were associated with different degrees of change over time. This was confirmed by Pillai's Trace, which established that the four groups had different mean change over time (p < .000).

A one-way ANOVA comparing the post test means of the four treated groups found the differences between the treatments to be significant (F (3, 119) = 20.222, p < .000).
A Dunnett test compared the post-test means of each of the treatment groups with those of the 'Integrated' film (1). A significant difference was found for each comparison, as follows:

the Drama (2) ($X_{21} X_{26} = 2.516, p = .000$);

the Documentary (3) ($X_{21} X_{26} = 1.178, p = .005$); and

the Placebo (4) ($X_{21} X_{26} = 1.042, p = .034$).

A Scheffé test made pairwise comparisons of all four treatments. A significant difference was found between the 'Integrated' film (1) and all other treatments and between the Drama (2) and all other treatments. No difference was found between the Documentary (3) and the Placebo (4). These results are summarised in Table 13.

### Multiple Comparisons

<table>
<thead>
<tr>
<th>(I) Film Seen</th>
<th>(J) Film Seen</th>
<th>Mean Difference (I-J)</th>
<th>Std. Error</th>
<th>Sig.</th>
<th>95% Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Schizophrenia</td>
<td>Drama (BBC)</td>
<td>2.51602*</td>
<td>.323</td>
<td>.000</td>
<td>1.59676 - 3.43326</td>
</tr>
<tr>
<td></td>
<td>Documentary</td>
<td>1.17838*</td>
<td>.323</td>
<td>.005</td>
<td>1.26112 - 2.09664</td>
</tr>
<tr>
<td></td>
<td>Placebo</td>
<td>1.04192*</td>
<td>.348</td>
<td>.034</td>
<td>5.4550E-02 - 2.02928</td>
</tr>
<tr>
<td>Drama (BBC)</td>
<td>Schizophrenia</td>
<td>-2.51602*</td>
<td>.323</td>
<td>.000</td>
<td>-3.43326 - 1.59676</td>
</tr>
<tr>
<td></td>
<td>Documentary</td>
<td>-1.33765*</td>
<td>.337</td>
<td>.002</td>
<td>-2.29452 - .39077</td>
</tr>
<tr>
<td></td>
<td>Placebo</td>
<td>-1.47411*</td>
<td>.361</td>
<td>.001</td>
<td>-2.48938 - .44984</td>
</tr>
<tr>
<td>Documentary</td>
<td>Schizophrenia</td>
<td>-1.17838*</td>
<td>.323</td>
<td>.005</td>
<td>-2.09564 - .26112</td>
</tr>
<tr>
<td></td>
<td>Drama (BBC)</td>
<td>1.33765*</td>
<td>.337</td>
<td>.002</td>
<td>.38077 - 2.29452</td>
</tr>
<tr>
<td></td>
<td>Placebo</td>
<td>-.13646</td>
<td>.361</td>
<td>.986</td>
<td>-1.16073 - .88781</td>
</tr>
<tr>
<td>Placebo</td>
<td>Schizophrenia</td>
<td>-1.04192*</td>
<td>.348</td>
<td>.034</td>
<td>-2.02928 - .45498E-02</td>
</tr>
<tr>
<td></td>
<td>Drama (BBC)</td>
<td>1.47411*</td>
<td>.361</td>
<td>.001</td>
<td>.44984 - 2.49838</td>
</tr>
<tr>
<td></td>
<td>Documentary</td>
<td>.13646</td>
<td>.361</td>
<td>.986</td>
<td>.88781 - 1.16073</td>
</tr>
</tbody>
</table>

* The mean difference is significant at the .05 level.

Table 13. Scheffé Test (ATSI 1. Social Distance and Fear Post-test Means)

(SPSS 7.5)
These results supported the overall research hypotheses for immediate effects, because both the 'Integrated' film and the Drama had an immediate effect on attitudes of social distance and fear and, the effect of the 'Integrated' film was positive.

DELAYED (SUSTAINED) EFFECTS

The sustained or delayed effects of the alternative treatments on the attitude dependent variables were also examined by testing the relevant research hypotheses. Table 14 shows the means and SDs for each group, using the responses of participants who took the delayed test. As for the knowledge scale, the pre-test and post-test responses of participants who did not return their delayed test forms were removed from the analysis.

<table>
<thead>
<tr>
<th>TREATMENT</th>
<th>PRE-TEST</th>
<th>POST-TEST</th>
<th>DELAYED TEST</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N.</td>
<td>mean</td>
<td>S.D.</td>
</tr>
<tr>
<td>2. BBC Drama</td>
<td>16</td>
<td>.3831</td>
<td>.9336</td>
</tr>
<tr>
<td>5. No Film</td>
<td>nil</td>
<td>nil</td>
<td>nil</td>
</tr>
<tr>
<td>6. Schiz no pre</td>
<td>nil</td>
<td>nil</td>
<td>nil</td>
</tr>
<tr>
<td>Total Sample</td>
<td>61</td>
<td>.4889</td>
<td>1.2140</td>
</tr>
</tbody>
</table>

Table 14. ATSI 1. Social Distance and fear Means and Standard Deviations. Delayed test participants only.

The delayed effects of the treatments were compared with each other and with no treatment.

While the 'Integrated' film (1) reduced attitudes of social distance and fear, the Drama (2) increased these attitudes. The conceptual model (the DICAM) emphasises that drama has a strong effect on emotional attitudes. The direction of change will depend on the content of the drama.
Because this study tests an intervention aimed at reducing stigma, the sustained effects of the treatments, particularly those of the 'Integrated' film (1) on attitudes of social distance and fear were of primary interest and an extensive set of tests was carried out for each treatment group²

A paired samples t test compared the pre-test and the delayed post-test means of each treatment group to test for the effects of the treatments after a period of nine months and second paired samples t test compared the post-test and the delayed post-test means of each treatment group to test for any cumulative or recovery effects during the nine month period.

The research hypotheses for the 'Integrated' film (1), were supported. A reduction in attitudes of social distance and fear was found to be significant after a period of nine months ($X_{31} - X_{11} = .1224$, $t (1, 15) = 4.384$, $p = .001$) and, no change in attitudes was found between the post-test and the delayed test ($X_{31} - X_{2a} = -.0684$, $t (1, 15) = -.189$, $p = .853$), suggesting a sustained (as opposed to delayed) effect.

The research hypotheses were also supported for the BBC Drama (2). Despite the immediate negative impact found for the Drama at post-test no difference was found after the nine-month period ($X_{32} - X_{12} = -.2218$, $t (1, 15) = -.826$, $p = .422$). As expected a significant change (recovery) was found to have taken place during the nine months ($X_{32} - X_{2a} = .1020$, $t (1, 15) = 2.745$, $p = .015$) indicating that the initial impact of the Drama (2) had not been sustained.

² Although no specific measures were taken to control for a post-test effect, the delayed test mean for the untreated group (5) was almost identical to that of the group treated with the placebo (4). who had received both a pre-test and a post-test, suggesting that the post-test had no effect.
Neither the *Documentary* (3) nor the *Placebo* (4) were expected to have any enduring effect on attitudes of social distance and fear and no differences were found for either treatment, as the following results indicate:

The Documentary (3) ($X_{3d} - X_{1d} = .1489$, $t(1,15) = .793$, $p = .440$)

The Placebo (4) ($X_{3p} - X_{1p} = -.0104$, $t(1,12) = -.045$, $p = .965$).

Having established that the impact of the 'Integrated' film (1) had endured without loss, tests were then run to compare the attitudes (as measured by the delayed test), of those who were treated with the 'Integrated' film (1) with the attitudes of those who received another treatment (2, 3 & 4) or no treatment (5) as shown in Figure 16.

---

**ATSI: Social Distance and Fear**  
**Delayed (sustained) Interaction Effects**

![Graph showing interaction effects](image)

Fig. 16. ATSI 1. Social Distance and Fear, Delayed (sustained) Interaction Effects.

A 4 X 3 ANOVA with repeated measures used the pre-test, post-test and delayed-test means of the four treatment groups, to examine the treatment by time interaction effect. This was found to be significant ($F(2,6) = 6.538$, $p < .000$) indicating that the various treatments had had significantly different effects over the nine month period.
This was confirmed by Pillai's Trace, which established that the four groups had different mean change over time (p < .000).

The final series of tests examined the delayed test means in order to determine how successful the 'Integrated' film (1) had been in creating and sustaining a reduction in attitudes of social distance and fear when compared with the other treatments (2, 3 & 4) and with no treatment at all (5). As stated before no explicit follow up or other educational material was used to complement exposure to any of the treatments.

A one-way ANOVA comparing the delayed test means of the four treatments and of no treatment found a significant effect (F (4, 210) = 5.501, p < .000), while a Dunnett test comparing the delayed test means of the four treatments and no treatment with the 'Integrated' film (1) found a significant difference between the 'Integrated' film (1) all the other treatments:

the Drama (2) ($X_{31} - X_{3d} = -1.663, p < .000$);
the Documentary (3) ($X_{31} - X_{3d} = -1.139, p = .022$);
the Placebo (4) ($X_{31} - X_{3p} = -1.140, p = .037$); and
No Treatment (5) ($X_{31} - X_{3nt} = -1.094, p < .000$).

A second Dunnett test found no difference between the delayed test means of the three treatments and the of no treatment, with that of the Drama (2).

These results supported the overall research hypotheses for delayed (sustained) effects, because only the 'Integrated' film was found to have had statistically significant and enduring effect on attitudes of social distance and fear, and the effect was positive.
**Table 15. ATSI: 2: Rights and Blame**

**Research Hypotheses**

### Immediate Treatment Effects

<table>
<thead>
<tr>
<th>Treatment 1. Integrated film:</th>
<th>Treatment 2. BBC Drama:</th>
<th>Treatment 3. Documentary:</th>
<th>Treatment 4. Placebo:</th>
</tr>
</thead>
<tbody>
<tr>
<td>The post-test will show a positive change in attitudes of rights and blame. Post-test scores will be different from those of Treatments 2, 3 &amp; 4.</td>
<td>The post-test will show no change in attitudes of rights and blame. Post-test scores will be different from those of Treatments 1 and similar to those of Treatments 3 &amp; 4.</td>
<td>The post-test will show no change in attitudes of rights and blame. Post-test scores will be different from those of Treatments 1 and similar to those of Treatments 2 &amp; 4.</td>
<td>The post-test will show no change in attitudes of rights and blame. Post-test scores will be different from those of Treatments 1 and similar to those of Treatments 2 &amp; 3.</td>
</tr>
</tbody>
</table>

**Only the 'Integrated' film will have an immediate effect on attitudes of Rights and Blame. The effect will be positive.**

### Delayed Treatment Effects

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>The positive change in attitudes of rights and blame will be sustained. Delayed test scores will be more positive than those of any other Treatment.</td>
<td>The delayed test will show no change in attitudes of rights and blame. Delayed test scores will be less positive than those of Treatment 1 and similar to those of Treatments 3, 4 &amp; 5.</td>
<td>The delayed test will show no change in attitudes of rights and blame. Delayed test scores will be less positive than those of Treatment 1 and similar to those of Treatments 2, 4 &amp; 5.</td>
<td>The delayed test will show no change in attitudes of rights and blame. Delayed test scores will be less positive than those of Treatment 1 and similar to those of Treatments 2, 3 &amp; 5.</td>
<td>Delayed test scores will be similar to the pre-test scores the other Treatments. Delayed test scores will be less positive than those of Treatment 1 and similar to those of Treatments 2, 3 &amp; 4.</td>
</tr>
</tbody>
</table>

**Only the 'Integrated' film will have an enduring effect on attitudes of Rights and Blame. The effect will be positive.**
<table>
<thead>
<tr>
<th>Table. 16. ATSI: 2. Rights and Blame Statistical Procedures</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Descriptive Statistics</td>
</tr>
<tr>
<td><strong>Means</strong> and <strong>SDs</strong> are tabled for each group at each time of testing.</td>
</tr>
</tbody>
</table>

| **Levene's Test of Homogeneity of Variance** | **A one-way ANOVA** compared the pre-test means of the four Treatment groups to examine between group differences. | **A one-way ANOVA** compared the pre-test means of the four Treatment groups and the delayed test means of the control (no film) group to consider the effect of history. | **A one-way ANOVA** compared the post-test means of the groups who saw the 'Integrated' film with and without pre-test to test for pre-test effects. | One-way ANOVAs used the post-test means of each Treatment group to test for the effects of age, gender, occupation, semester and experience with schizophrenia. |

| 2. Preliminary Analyses                                 |

<table>
<thead>
<tr>
<th><strong>Immediate Effects</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A paired samples t test</strong> compared the pre-test and post-test means of each group to test for main within group effects.</td>
</tr>
</tbody>
</table>

| 3. Immediate Effects                                   |

<table>
<thead>
<tr>
<th><strong>Delayed (Sustained) Effects</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Paired samples t tests</strong> compared a) the pre-test and delayed test means and b) the post-test and delayed test means of each Treatment group.</td>
</tr>
</tbody>
</table>
DESCRIPTIVE STATISTICS

The means and standard deviations for the scale measuring attitudes of rights and blame are tabled below (Table 17.) providing an overview of the effects of the treatments. These effects were compared with each other and with no treatment in order to test the research hypothesis that only the 'Integrated' film would have an enduring positive effect on attitudes of rights and blame.

<table>
<thead>
<tr>
<th>TREATMENT</th>
<th>PRE-TEST</th>
<th>POST-TEST</th>
<th>DELAYED TEST</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N.</td>
<td>mean</td>
<td>S.D.</td>
</tr>
<tr>
<td>1. Schizophrenia</td>
<td>37</td>
<td>1.5376</td>
<td>.9777</td>
</tr>
<tr>
<td>2. BBC Drama</td>
<td>31</td>
<td>1.7562</td>
<td>1.4191</td>
</tr>
<tr>
<td>4. Placebo</td>
<td>24</td>
<td>1.4283</td>
<td>1.0663</td>
</tr>
<tr>
<td>5 No Film</td>
<td>nil</td>
<td>nil</td>
<td>nil</td>
</tr>
<tr>
<td>6 Schiz no Pre</td>
<td>nil</td>
<td>nil</td>
<td>27</td>
</tr>
<tr>
<td>Total Sample</td>
<td>123</td>
<td>1.6383</td>
<td>1.1500</td>
</tr>
</tbody>
</table>

Table 17. ATSI 2. Rights and Blame. Means and Standard Deviations based on the scores of every subject who participated in the experiment.

PRELIMINARY ANALYSES

Preliminary analyses were undertaken for the scale measuring attitudes of rights and blame as for the scale measuring attitudes of social distance and fear.

Homogeneity of variance

Levene's test for homogeneity of variance found no significant difference in the pre-test or post-test variances of the four treatment groups. A single test comparing these variances with the post-test variance of the group seeing the 'Integrated' film without pre-test; and the delayed test variance of the untreated group also found no significant difference in the variance of any group (F (9, 377) = 1.217, p = .288). It was therefore assumed that the within group variances were equal.
Between Group Differences

A one-way ANOVA compared the pre-test means of the four treatment groups and no significant difference was found between the groups before treatment 

\( F (3, 119) = .677, p = .567 \).

History

A one-way ANOVA compared the pre-test means of the treatment groups with the delayed test mean of the group which received no treatment and no significant difference was found \( F (4, 258) = 1.792, p = .131 \).

Pre-test Effects

A one-way ANOVA compared the post-test means of the two groups treated with the 'Integrated' film and no significant difference was found \( F (1, 62) = .5047, p = .480 \).

Effects of Age, Gender, Occupation, Semester, and Experience with Schizophrenia

A series of one-way ANOVAs compared data pooled from the post-test means of all groups to test for differences which could be accounted for by the independent variables of age, gender, occupation, semester and experience with schizophrenia. No significant differences were found for any of these variables, as follows:

- age \( F (3, 139) = .421, p = .738 \);
- gender \( F (1, 142) = .161, p = .689 \);
- occupation \( F (3, 139) = .198, p = .898 \);
- semester \( F (1, 140) = .056, p = .813 \); and,
- experience with schizophrenia \( F (5, 137 = 1.111, p = .358 \).
IMMEDIATE EFFECTS

With the preliminary analyses complete the immediate effects of the four treatments on attitudes of rights and blame were examined as described below.

A paired samples t test compared the pre-test and the post-test means of the group who saw the 'Integrated' film to test the hypothesis that the 'Integrated' film (1) would have an immediate positive effect on attitudes of rights and blame. A positive effect was observed and found to be significant ($X_{21} - X_{11} = 0.7161$, $t(1, 36) = 4.478, p < .000$).

Another paired samples t test compared the pre-test and the post-test means of the group who saw the Drama (2) and an unexpected negative effect was observed and found to be significant ($X_{22} - X_{11} = -0.7783$, $t(1, 30) = -3.122, p = .004$).

Similarly a paired samples t test compared the pre-test and the post-test means of the group who saw the Documentary (3) and again an unexpected negative effect was observed and found to be significant ($X_{23} - X_{11} = -0.8677$, $t(1, 30) = -4.317, p = .003$).

A paired samples t test also compared the pre-test and the post-test means of the group who saw the Placebo (4) but no significant effect was found.

Having established that the 'Integrated' film (1) had an immediate effect, it was appropriate to determine whether that effect was different from that of the other treatments (2, 3, & 4) by testing the treatment by time interaction effects, illustrated in Fig. 17.
Fig. 17. ATSI 2. Rights and Blame. Immediate Interaction Effects.

A 4 X 2 ANOVA with repeated measures using the pre-test and post-test scores of the four treatment groups examined the treatment by time interaction effect. This interaction effect was found to be significant ($F (1, 3) = 15.205, p < .000$), indicating that the different treatments had significantly different effects. This was confirmed by Pillai's Trace, which established that the four groups had different mean change over time ($p < .000$).

A one-way ANOVA, comparing the post test means of the four treated groups found a significant difference between the treatments ($F (3, 119) = 7.600, p < .000$) and a Dunnett test comparing the post-test means of each of the treatment groups with those of the 'Integrated' film (1) found a significant difference for each comparison:

the Drama (2) ($X_{21} - X_{22} = 1.276, p < .000$);

the Documentary (3) ($X_{21} - X_{22} = 1.318, p < .000$); and

the Placebo (4) ($X_{21} - X_{22} = .953, p = .019$)
However, the Scheffé test (Table 18) found no significant differences between the post-test means of the Documentary (3), the Drama (2) and the Placebo (4).

<table>
<thead>
<tr>
<th>Dependent Variable: Ats</th>
<th>RB Post-test</th>
<th>Multiple Comparisons</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Schizophrenia</strong></td>
<td><strong>Mean</strong></td>
<td><strong>Std. Error</strong></td>
</tr>
<tr>
<td>BBC Drama</td>
<td>1.38374*</td>
<td>.296</td>
</tr>
<tr>
<td>Documentary</td>
<td>1.42619*</td>
<td>.296</td>
</tr>
<tr>
<td>Placebo</td>
<td>1.09000*</td>
<td>.323</td>
</tr>
<tr>
<td><strong>BBC Drama</strong></td>
<td><strong>Mean</strong></td>
<td><strong>Std. Error</strong></td>
</tr>
<tr>
<td>Schizophrenia</td>
<td>-1.38374*</td>
<td>.296</td>
</tr>
<tr>
<td>Documentary</td>
<td>4.2452E-02</td>
<td>.343</td>
</tr>
<tr>
<td>Placebo</td>
<td>-3.0368</td>
<td>.367</td>
</tr>
<tr>
<td><strong>Documentary</strong></td>
<td><strong>Mean</strong></td>
<td><strong>Std. Error</strong></td>
</tr>
<tr>
<td>Schizophrenia</td>
<td>-1.42619*</td>
<td>.296</td>
</tr>
<tr>
<td>BBC Drama</td>
<td>-4.24516E-02</td>
<td>.343</td>
</tr>
<tr>
<td>Placebo</td>
<td>-3.4613</td>
<td>.367</td>
</tr>
<tr>
<td><strong>Placebo</strong></td>
<td><strong>Mean</strong></td>
<td><strong>Std. Error</strong></td>
</tr>
<tr>
<td>Schizophrenia</td>
<td>-1.09006*</td>
<td>.323</td>
</tr>
<tr>
<td>BBC Drama</td>
<td>.30368</td>
<td>.367</td>
</tr>
<tr>
<td>Documentary</td>
<td>.34613</td>
<td>.367</td>
</tr>
</tbody>
</table>

* The mean difference is significant at the .05 level.

Table 18. Scheffé Test (ATSI 2. Rights and Blame Post-test Means) (SPSS 7.5)

These results did not fully support the overall research hypothesis for immediate effects that: only the 'Integrated' film would produce a statistically significant change in attitudes of Rights and Blame, because a significant effect was also found for both the Drama (2) and the Documentary (3). However, in both cases the effect was negative and therefore different from the effect of the 'Integrated' film (1) and this difference was also found to be significant.

DELAYED (SUSTAINED) EFFECTS

Appropriate tests were now run to determine the delayed effects of the treatments, when compared with each other and with no treatment. The means and Sd's of the delayed test participants are shown in Table 19.
Participants who took the Delayed Post Test.

A paired samples t test compared the pre-test and the delayed post-test means
of each treatment group to test for a significant treatment effect after a period of
nine months, while another paired samples t test compared the post-test and the
delayed post-test means of each treatment group to test for any cumulative or
recovery effects during the nine month period.

For the 'Integrated' film the research hypothesis was supported. The first test was
significant, indicating attitudes of rights and blame that were more positive after a
period of nine months \((X_{3t} - X_{1t} = .4678, t(1, 15) 2.576, P = .021)\). The second test was
not significant \((X_{3t} - X_{2t} = -.1089, t(1, 15) = -.490, p = .631)\), indicating that there had
been no loss over the nine month period.

An effect was also found for both the BBC Drama (2) and the Documentary (3) in the
pre-test/delayed test paired sample t tests:

Drama (2) \((X_{3dr} - X_{1dr} = .7499, t(1, 15) -2.164, p = .047)\)

Documentary (3) \((X_{3ds} - X_{1ds} = -.5954, t(1, 15) -2.917, p = .011)\)

and in both cases the effect was negative.
However, no significant changes were found between the post-test and the delayed test for either treatment as the following results indicate:

the Drama (2) \( (X_{3a} - X_{2a} = .3637, t (1, 15) 1.307, p = .211) \); and

the Documentary (3) \( (X_{3a} - X_{2a} = .3859, t (1, 15) 1.660, p = .118) \)

These effects will be discussed in the chapter 14.

As expected the paired sample t tests showed no significant effect for the Placebo (4).

Clearly the 'Integrated' film (1) had had a sustained effect on attitudes of rights and blame. However two of the other treatments, the Drama (2) and the Documentary (3) had also had sustained effects although not in the same direction. It was therefore appropriate to test the sustained interaction effects of the treatments, which are illustrated in Fig. 18.

\[ \text{Fig. 18. ATSI 2. Rights and Blame, Delayed (sustained) Interaction Effects.} \]
A 4 X 3 ANOVA with repeated measures used the pre-test, post-test and delayed-test scores of the four treatment groups to examine the treatment by time interaction effect. This was found to be significant ($F (2, 6) = 5.217, p < .000$) indicating that the various treatments had significantly different effects over the nine month period. This was confirmed by Pillai's Trace, which established that the four groups had different mean changes over time ($p = .002$).

The final series of tests examined the delayed test scores in order to determine how successful the 'Integrated' film (1) had been in durably increasing positive attitudes of rights and blame towards people with schizophrenia when compared with the other treatments and with no treatment at all. As stated before no explicit follow up or other educational material was used to complement exposure to any of the treatments.

A one-way ANOVA comparing the delayed test means of the four treatments and of no treatment found a significant effect ($F (4, 210) = 3.034, p = .018$), but no significant effects were found between the delayed test means of the four treatment groups by either the Sheffe test or the Dunnett test. The only significant difference found ($p = .002$) was between the group who saw the 'Integrated' film (1) and the group who received no treatment (5).

Therefore only the first part of the overall research hypothesis for delayed (sustained) effects that the 'Integrated' film would have a statistically significant and enduring positive effect on attitudes of rights and blame was supported, because two of the other treatments, the Drama (2) and the Documentary (3) also had sustained effects, although in both cases the effect was negative.
## Immediate Treatment Effects

<table>
<thead>
<tr>
<th>Treatment 1. Integrated film:</th>
<th>Treatment 2. BBC Drama:</th>
<th>Treatment 3. Documentary:</th>
<th>Treatment 4. Placebo:</th>
</tr>
</thead>
<tbody>
<tr>
<td>The post-test will show a positive change in attitudes of family culpability</td>
<td>The post-test will show a positive change in attitudes of family culpability</td>
<td>The post test will show no change in attitudes of family culpability</td>
<td>The post-test will show no change in attitudes of family culpability.</td>
</tr>
<tr>
<td>Post-test scores will be similar to those of Treatment 2 and different from those of Treatments 3 &amp; 4</td>
<td>Post-test scores will be similar to those of Treatment 1 and different from those of Treatments 3 &amp; 4.</td>
<td>Post-test scores will be different from those of Treatments 1 and 2 and similar to those of Treatment 4.</td>
<td>Post-test scores will be different from those of Treatments 1 and 2 and similar to those of Treatment 3.</td>
</tr>
</tbody>
</table>

The 'Integrated' film and the Drama will have an immediate effect on attitudes of Family Culpability. The effect will be positive.

## Delayed Treatment Effects

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>The positive change in attitudes of family culpability will endure.</td>
<td>The positive change in attitudes of family culpability will not endure.</td>
<td>The delayed test will show no change in attitudes of family culpability.</td>
<td>The delayed test will show no change in attitudes of family culpability.</td>
<td>Delayed test scores will be similar to the pre-test scores the other Treatments.</td>
</tr>
<tr>
<td>Delayed test scores will be more positive than those of any other Treatment.</td>
<td>Delayed test scores will be less positive than those of Treatment 1 and similar to those of Treatments 3,4 &amp; 5</td>
<td>Delayed test scores will be less positive than those of Treatment 1 and similar to those of Treatments 2,3 &amp; 5</td>
<td>Delayed test scores will be less positive than those of Treatment 1 and similar to those of Treatments 2,3 &amp; 5</td>
<td>Delayed test scores will be less positive than those of Treatment 1 and similar to those of Treatments 2,3 &amp; 4</td>
</tr>
</tbody>
</table>

Only the 'Integrated' film will have an enduring effect on attitudes of Family Culpability. The effect will be positive.
Table. 21. ATSI: 3. Family Culpability Statistical Procedures

1. Descriptive Statistics

| Means and SDs are tabulated for each group at each time of testing. | A graph based on the means shows the overall effects of the different Treatments. |

2. Preliminary Analyses

| Levene's Test of Homogeneity of Variance | A one-way ANOVA compared the pre-test means of the four Treatment groups to examine between group differences. | A one-way ANOVA compared the pre-test means of the four Treatment groups and the delayed test means of the control (no film) group to consider the effect of history. | A one-way ANOVA compared the post-test means of the groups who saw the 'integrated' film with and without pre-test to test for pre-test effects. | One-way ANOVAs compared the post-test means of all Treatment groups to test for the effects of age; gender; occupation; semester and experience with schizophrenia. |

3. Immediate Effects

| A paired samples t test compared the pre-test and post-test means of each group to test for main within group effects. | A 4 x 2 ANOVA with repeated measures tested the film by time interaction effect using the pre-test and post-test means of each Treatment group. | Pillai's Trace determined whether the groups had different mean change over time. | A one-way ANOVA compared the immediate effects of the four Treatments using the post test means. | A Dunnett Test compared the immediate effect of the 'integrated' film with that of each of the Treatment groups. | A Scheffé Test made pairwise comparisons of the effects of all four Treatment groups. |

4. Delayed (Sustained) Effects

| Paired samples t tests compared a) the pre-test and delayed test means and b) the post-test and delayed test means of each Treatment group. | A 4 x 3 ANOVA with repeated measures tested the film by time interaction effect using the pre-, post and delayed test means of each Treatment group. | Pillai's Trace determined whether the groups had different mean change over time. | A one-way ANOVA compared the delayed test means of the Treatment groups and of no Treatment. | A Dunnett Test compared the delayed test mean of the 'integrated' film with those of the Treatment groups and no Treatment. | A Dunnett Test compared the delayed test mean of the Drama with those of the Treatment groups and no Treatment. |
**1. DESCRIPTIVE STATISTICS**

<table>
<thead>
<tr>
<th>TREATMENT</th>
<th>PRE-TEST</th>
<th>POST-TEST</th>
<th>DELAYED TEST</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N. mean</td>
<td>S.D.</td>
<td>N. mean</td>
</tr>
<tr>
<td>1. Schizophrenia</td>
<td>37 1.2992</td>
<td>1.4163</td>
<td>37 2.0671</td>
</tr>
<tr>
<td>2. BBC Drama</td>
<td>31 1.3625</td>
<td>1.5334</td>
<td>31 1.8764</td>
</tr>
<tr>
<td>3. Documentary</td>
<td>31 1.1603</td>
<td>1.3529</td>
<td>31 .6619</td>
</tr>
<tr>
<td>4. Placebo</td>
<td>24 1.2775</td>
<td>1.1235</td>
<td>24 1.2047</td>
</tr>
<tr>
<td>5 No Film</td>
<td>...nil</td>
<td>...nil</td>
<td>...nil</td>
</tr>
<tr>
<td>6 Schiz no Pre</td>
<td>...nil</td>
<td>...nil</td>
<td>27 2.0092</td>
</tr>
<tr>
<td>Total Sample</td>
<td>123 1.2759</td>
<td>1.3652</td>
<td>150 1.5887</td>
</tr>
</tbody>
</table>

Table 22. ATSI 3. Family Culpability. Means and Standard Deviations.

**PRELIMINARY ANALYSES**

Preliminary analyses were completed as for the previous scales.

**Homogeneity of variance**

Levene's test for homogeneity of variance found no significant difference in the pre-test or post-test variances of the four treatment groups, nor between these variances, the post-test variance of the group seeing the 'Integrated' film without pre-test and the delayed test variance of the untreated group (F (9, 377) = .8293, p = .577). It was therefore assumed that the within group variances were equal.

**Between Group Differences**

A one-way ANOVA comparing the pre-test means of the four treatment groups found no significant difference (F (3, 119) = .117, p = .950).

**History**

A one-way ANOVA comparing the pre-test means of the treatment groups with the delayed test mean of the group which received no treatment found no significant difference (F (4, 258) = .1366, p = .969).
Pre-test Effects

A one-way ANOVA compared the post-test means of the two groups treated with the 'Integrated' film and found no significant difference (F (1, 62) = 0.068, p = .795).

Effects of Age, Gender, Occupation, Semester and Experience with Schizophrenia

A series of one-way ANOVAs comparing data pooled from the post-test means of all groups to test for differences which could be accounted for by age, gender, occupation, semester group and experience with schizophrenia found no significant differences for any of these variables, as indicated below:

- age (F (3, 139) = .231, p = .875);
- gender (F (1, 142) = .133, p = .715);
- occupation (F (3, 139) = .278, p = .841);
- semester (F (1, 140) = .427, p = .515); and
- experience with schizophrenia (F (5, 137) = 1.275, p = .278).

On the basis of these results it was assumed that differences between group means could not be accounted for by unequal within group variances, between group differences, history, pre-test effects or by the effects of age, gender, occupation, semester group or experience with schizophrenia.

IMMEDIATE EFFECTS

Appropriate tests were then run to examine the immediate effects of the four treatments on attitudes of family culpability. As with attitudes of social distance and fear it was anticipated that both the 'Integrated' film (1) and the Drama (2) would have an immediate effect on attitudes of family culpability but that the effect of the
Drama (2) would not be sustained. Neither the Documentary (3) nor the Placebo (4) were expected to have an effect.

A paired samples t test compared the pre-test and the post-test means of the group who saw the 'Integrated' film (1), to test the hypothesis that the 'Integrated' film (1) would have a significant positive effect on attitudes of family culpability.

A positive effect was observed and found to be significant

\((X_{21} - X_{11} = .7679, t (1, 36) = 4.063, p < .000)\).

A paired samples t test also compared the pre-test and the post-test means of the group who saw the BBC Drama (2), but no significant difference was found at the level of \(\alpha = .05\), as the following equation shows \((X_{2fr} - X_{1fr} = .5139, t (1, 30) = 1.990, p = .056)\).

However the paired samples t test which compared the pre-test and the post-test means of the group who saw the Documentary (3) found an unexpected negative effect

\((X_{2ds} - X_{1ds} = -.4984 t (1, 30) = -2.213, p = .035)\).

As expected, no significant effect was found between the pre-test and the post-test means of the group who saw the Placebo (4). \((X_{2p} - X_{1p} = -.0728 t (1, 23) = -.393, p = .698)\).

Having established that the 'Integrated' film (1) and the Documentary (3) had an immediate effect\(^3\), it was then appropriate to determine whether those effects were significantly different from each other by testing the immediate interaction effect, which is illustrated in Fig. 19.

---

\(^3\) And that with a p value of .056, the Drama (2) had only just failed to meet the experimental criterion for significance.
A 4 x 2 ANOVA with repeated measures, using the pre-test and post-test scores of the four treatment groups tested the treatment by time interaction effect, which was found to be significant ($F(1, 3) = 7.116, p < .000$), indicating that the different treatments had significantly different effects. This was confirmed by Pillai’s Trace, which established that the four groups had different mean change over time ($p < .001$).

A one-way ANOVA compared the post test means of the four treated groups and a significant difference was found ($F(3, 119) = 7.164, p < .000$).

A Dunnett test compared the post-test means of each of the treatment groups with that of the ‘Integrated’ film (1) and a significant difference was found for:

- the Documentary (3) ($X_{21} - X_{2bo} = 1.381, p = .000$) and
- the Placebo (4) ($X_{21} - X_{2p} = .8376, p = .034$)
but no significant difference was found between the post-test mean scores of the 'Integrated' film (1) and the Drama (2): \(X_{21} - X_{20} = .1659, p = .918\);

The more conservative Scheffé test also found a significant difference between the positive effects of the 'Integrated' film (1) and the Drama (2) and the negative effect of Documentary (3). However the Scheffé test found no significant difference between the Placebo (4) and the other treatments.

### Multiple Comparisons

<table>
<thead>
<tr>
<th>Dependent Variable: ATS1 CF Post-test</th>
<th>Mean Difference (I-J)</th>
<th>Std. Error</th>
<th>Sig.</th>
<th>95% Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>(I) film</td>
<td>(J) film</td>
<td>Lower Bound</td>
<td>Upper Bound</td>
<td></td>
</tr>
<tr>
<td>Schizophrenia</td>
<td>BBC Drama</td>
<td>.18594</td>
<td>.300</td>
<td>.959</td>
</tr>
<tr>
<td></td>
<td>Documentary</td>
<td>1.38049*</td>
<td>.300</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>Placebo</td>
<td>.83769</td>
<td>.329</td>
<td>.094</td>
</tr>
<tr>
<td>BBC Drama</td>
<td>Schizophrenia</td>
<td>-1.16594</td>
<td>.300</td>
<td>.959</td>
</tr>
<tr>
<td></td>
<td>Documentary</td>
<td>1.21455*</td>
<td>.349</td>
<td>.006</td>
</tr>
<tr>
<td></td>
<td>Placebo</td>
<td>.67175</td>
<td>.373</td>
<td>.360</td>
</tr>
<tr>
<td>Documentary</td>
<td>Schizophrenia</td>
<td>-1.38049*</td>
<td>.300</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>BBC Drama</td>
<td>-1.21455*</td>
<td>.349</td>
<td>.006</td>
</tr>
<tr>
<td></td>
<td>Placebo</td>
<td>-5.4280</td>
<td>.373</td>
<td>.550</td>
</tr>
<tr>
<td>Placebo</td>
<td>Schizophrenia</td>
<td>-8.3769</td>
<td>.329</td>
<td>.094</td>
</tr>
<tr>
<td></td>
<td>BBC Drama</td>
<td>-6.7175</td>
<td>.373</td>
<td>.360</td>
</tr>
<tr>
<td></td>
<td>Documentary</td>
<td>.54280</td>
<td>.373</td>
<td>.550</td>
</tr>
</tbody>
</table>

* The mean difference is significant at the .05 level.

* Dunnett T-tests treat one group as a control, and compare all other groups against it.

Table 23. ATS1 3, Family Culpability Scheffé and Dunnett ('Integrated' film) tests (immediate post-test means) (SPSS 7.5)

A second Dunnett test was then run to more rigorously test the comparison between the Drama (2) and the Placebo (4) but no significant difference was found.
Multiple Comparisons

<table>
<thead>
<tr>
<th></th>
<th>Mean Difference (I-J)</th>
<th>Std. Error</th>
<th>Sig.</th>
<th>95% Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Lower Bound</td>
<td>Upper Bound</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Schizophrenia BBC Drama</td>
<td>.16594</td>
<td>.300</td>
<td>.896</td>
<td>-.54495 - .87663</td>
</tr>
<tr>
<td>Documentary BBC Drama</td>
<td>-1.21455*</td>
<td>.349</td>
<td>.002</td>
<td>-2.03972 - .38937</td>
</tr>
<tr>
<td>Placebo BBC Drama</td>
<td>-0.67175</td>
<td>.373</td>
<td>.176</td>
<td>-1.55505 - 0.21155</td>
</tr>
</tbody>
</table>

a. Dunnett t-tests treat one group as a control, and compare all other groups against it.

* The mean difference is significant at the .05 level.

Table 24. ATSI 3. Family Culpability Dunnett (Drama) test (immediate post-test means) (SPSS 7.5)

These results supported the first part of the overall research hypothesis for immediate effects, because the ‘Integrated’ film had a statistically significant positive effect on attitudes of family culpability but the second part of the research hypothesis that: the Drama would have a statistically significant positive effect on attitudes of family culpability was not supported at the chosen level of significance. However, because the p value of p = .056 was so close, it was considered to have had an effect for the purpose of comparison with the delayed test means. The unexpected negative effect found for the Documentary (3) will be discussed in the following chapter.

DELAYED (SUSTAINED) EFFECTS

<table>
<thead>
<tr>
<th>TREATMENT</th>
<th>PRE-TEST</th>
<th>POST-TEST</th>
<th>DELAYED TEST</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N.</td>
<td>mean</td>
<td>S.D.</td>
</tr>
<tr>
<td>Schizophrenia</td>
<td>16</td>
<td>1.0243</td>
<td>1.3073</td>
</tr>
<tr>
<td>BBC Drama</td>
<td>16</td>
<td>1.4486</td>
<td>1.8514</td>
</tr>
<tr>
<td>Documentary</td>
<td>16</td>
<td>1.2569</td>
<td>1.3364</td>
</tr>
<tr>
<td>Placebo</td>
<td>13</td>
<td>1.3792</td>
<td>1.1615</td>
</tr>
<tr>
<td>No Film</td>
<td>nil</td>
<td>nil</td>
<td>nil</td>
</tr>
<tr>
<td>Schiz no pre</td>
<td>nil</td>
<td>nil</td>
<td>nil</td>
</tr>
</tbody>
</table>

Table 25. ATSI: Family Culpability. Means and standard Deviations of Participants who took the Delayed Post test.
Appropriate tests were then run to examine the delayed effects of the treatments, when compared with each other and with no treatment.

A paired samples t test compared the pre-test and the delayed post-test means of each treatment group to examine the effects of the treatments after a period of nine months and another paired samples t test compared the post-test and the delayed post-test means of each treatment group to test for any cumulative or recovery effects during the nine month period.

The research hypothesis for the integrated film was supported. A reduction in critical attitudes towards the families of people with schizophrenia was observed after a period of nine months and found to be significant ($X_{31} - X_{11} = .8111, t(1, 15) = 3.265, p = .005$). There had been no significant change in these attitudes between the post-test and the delayed test ($X_{31} - X_{21} = .1532, t(1, 15) = .969, p = .348$).

The research hypothesis for the BBC Drama was also supported. No treatment effect was found after the nine month period ($X_{3b} - X_{1b} = -.0258, t(1, 15) = .065, p = .949$). The initial effect of the purely affective treatment (2) had not endured and there had been a re-emergence of attitudes of culpability towards the families of people with schizophrenia ($X_{3a} - X_{2a} = -.6447, t(1, 15) = 2.071, p = .056$), although again it just failed to meet the experimental criterion for significance.

As expected no treatment effect was found for either the Documentary (3) ($X_{3d} - X_{1d} = .1131, t(1, 15) = .478, p = .639$) or the Placebo (4) ($X_{3p} - X_{1p} = -.1972 t(1, 15) = .891, p = .390$), on the delayed test.
Although the initial negative impact of the documentary (3) on the group of 16 had been significant ($X_{2do} - X_{1do} = -.4984, t(1, 15) = .22.09, p = .035$) the effect had not endured ($X_{3do} - X_{2do} = .5641, t(1, 15) = 1.576, p = .136$)

INTERACTION EFFECTS

Having established that the positive impact of the 'Integrated' film (1) on attitudes of family culpability had endured without loss, it was then appropriate to compare the attitudes (as measured by the delayed test), of those who were treated with the 'Integrated' film (1) with the attitudes of those who received another treatment (2, 3 & 4) or no treatment (5), as illustrated in Fig. 20.

Fig. 20. ATSI. 3. Family Culpability, Delayed (sustained) Interaction Effects.

A 4 X 3 ANOVA with repeated measures used the pre-test, post-test and delayed-test scores of the four treatment groups to examine the treatment by time interaction
effect, which was found to be significant ($F(2, 6) = 92.829, p < .000$) indicating that the different treatments had different effects over the nine-month period. This was confirmed by Pillai's Trace, which established that the four groups had different mean changes over time ($p = .004$).

The final series of tests examined the delayed test scores in order to determine how successful the 'Integrated' film (1) had been in creating and maintaining positive attitudes towards the families of people with schizophrenia when compared with the other treatments (2, 3 & 4) and with no treatment at all (5). As stated before no explicit follow up or other educational material was used to complement the exposure to any of the treatments.

A one-way ANOVA compared the delayed test means of the four treatments and of no treatment. A significant difference was found ($F(4, 210) = 2.449, p = .047$)

A Dunnett test compared the delayed test means of the four treatments and of no treatment with that of the 'Integrated' film (1). A significant difference was found between the 'Integrated' film (1), the Documentary (3) ($X_{3i} - X_{3do} = .9149, p = .048$); and no treatment (5) ($X_{3i} - X_{3nd} = .7166, p = .011$) but the difference between the delayed test means of the 'Integrated' film (1) and the Placebo (4) ($X_{3i} - X_{3p} = .8766, p = .093$) was significant only at the level of $\alpha = .1$ and despite the 'recovery' of attitudes in the Drama (2) group the difference between the delayed test means of the 'Integrated' film (1) and the Drama (2) was not significant ($X_{3i} - X_{3dr} = .63598, p = .260$)

The second Dunnett test showed no significant difference between the delayed test scores of the group who saw the Drama (2) when compared to any other group.
These results supported the overall research hypotheses for delayed (sustained) effects, because only the 'Integrated' film (I) had a statistically significant and enduring effect on attitudes of family culpability and the effect was positive.

Conclusion

This completes the presentation of the results of the experimental study. In the following chapter, the most recent literature on attitude change will be integrated into a full discussion of the results and their implications for future research. The results support the initial research hypothesis that:

The schizophrenia schemata (and consequent attitudes) of a target population can be changed by means of a single video presentation, created in accordance with the DICAM and with documentary drama production values at international broadcast standard.
CHAPTER 14. DISCUSSION

'.. attitudes towards stigmatised groups are notoriously hard to change. Cognitive strategies based on providing positive information about the group show only limited effects (Rothbart and John, 1985; Weber and Crocker, 1983); behavioural strategies based on co-operative, equal status, personal contact show positive effects under certain conditions, but such contact is often difficult to initiate and orchestrate (Aronson et al, 1978; Brewer and Miller, 1984; Cook, 1985; Wilder and Shapiro, 1989). Perhaps an emotional strategy based on empathy can add a new arrow to our quiver. This arrow, used either alone or in concert with cognitive and behavioural strategies may enable us better to hit the elusive target of improving attitudes towards the stigmatised' (Batson et al, 1997 p.117).

The Dynamic Interactive Cognitive and Affective Model for cognitive restructuring and attitude change (the DICAM), the development of which is described in this dissertation, is an attempt to hit the target identified above (Batson et al, 1997) by providing an integrated cognitive, behavioural (vicarious) and emotional conceptual framework from which can be generated educational tools designed to modify prejudicial attitudes towards marginalised social groups. One such tool, a documentary drama, 'Schizophrenia: From the Inside Looking Out', was developed in order to test the proposals\(^1\) of the DICAM in an experimental setting.

This chapter discusses the results of the DICAM study as reported in chapter.13. The 'integrated' model is considered in relation to non-integrated models, i.e. models that are either cognitive or emotional, in a brief overview. The impact of emotional strategies are examined in some detail and related to the process of schema formation and attitude change. The importance of this relationship is illustrated in reference to the 'integrated' model (DICAM) and other 'integrated' studies.

\(^1\)Although the conceptual framework underlying the DICAM (the main proposals) was developed before the educational tool was created, the model was not fully refined until the experimental study was complete.
There is: a brief discussion of the correlation of knowledge and attitudes; a summary analysis of the influence of source and model variables; and, a review of the technique of 'chaining' as a strategy for generating 'on line' attitude change. The final two sections of the chapter consider the limitations and the generalisability of the study. The following chapter will present the final conceptualisation of the DICAM as developed and refined over the five-year research period and in the light of the most recent literature.

THE DICAM IN ACTION: THE INTEGRATED FILM

According to the DICAM, rapid 'on line' (Mackie and Asuncion; 1990) schema and attitude change can be achieved by an intervention which: a) creates a Zone of Potential Change (ZPC)\(^2\) through emotional arousal and/or cognitive stimulation (Baron and Misovich, 1993); b) provides cognitive conflict and complementary emotional experience within that ZPC; and, c) validates that cognitive and emotional data, either cognitively (with further factual evidence), affectively (with confirming emotional experience), or both. By providing a dynamic spiral of cognitive conflict and emotional experience which is continually textured, repeated, reinforced\(^3\) and validated, the 'integrated' film is designed to present a seamless and persistent, graphic enactment of the equilibration process as it takes place. Thus it purports to mirror the neural circuitry of the human brain reacting to sensory input (LeDoux, 1996).

\(^2\) Originally, the Zone of Potential Change (ZPC) was envisaged as a Zone of Proximal Development (ZPD) and the conceptual model was referred to as the model of 'Chaining'.

\(^3\) The vicarious reinforcement of modelled attitudes and behaviours can be regarded as a behavioural technique. However: a) in the light of Bandura's social cognitive theory (Bandura, 1986), discussed in Ch.9.; b) because the vicarious rewards are generally affective (self-perception (Brehm, 1972) and, c) in order to keep the model simple, observational learning is treated as being both an emotional (experience) and a cognitive process.
The assumed power of the 'integrated' film is based on the theory that there is a potent interaction between cognition and emotion and that consequently, a combination of cognitive and emotional strategies for screen persuasion will produce an effect greater than the sum of both strategies when used independently. It is therefore important to clarify how the conceptual assumptions underlying the DICAM and their practical application in the 'Integrated' film, both relate to and differ from, conceptual assumptions underlying, a) a cognitive model, i.e., a straight documentary and b) an emotional model, i.e., a straight drama.

The Contribution of the Cognitive Approach

The cognitive approach suggests that attitude change usually takes place as a result of thoughtful evaluation of issue-relevant arguments (Olson and Zanna, 1993; Eagly and Chaiken, 1993; Petty et al, 1997). In the persuasion paradigm the cognitive model (i.e., the screen documentary), continues to be the preferred educational tool. It is the recommended option of contemporary mental health educators (Mental Health Research Foundation, 1995) and the TV executives responsible for commissioning material for the British Broadcasting Corporation (BBC), the Australian Broadcasting Corporation (ABC), Channel 4 and the Special Broadcasting Service (SBS). The recommendation is supported by Linton's (1992) proposal that the Documentary film has been undervalued as a potential tool for cognitive, attitudinal and behavioural change.

Consistent with the cognitive approach, the DICAM recognises: a) that the resolution of cognitive conflict through cognitive elaboration (Cacioppo and Petty, 1986) or systematic processing (Chaiken, 1987) and equilibration (Piaget and Inhelder, 1969;
Anderson, 1977) remains the primary route to schema and attitude change (Olson and Zanna, 1993; Petty et al, 1997); and, b) that emotional responses are less accurate than cognitive responses (LeDoux, 1991, 1993, 1994, 1996) and are generally interactively evaluated through the process of cognitive elaboration (Cacioppo and Petty, 1986; LeDoux, 1996; Goleman, 1996). It also recognises that the key cognitive strategy for screen persuasion is the presentation of factually accurate and potentially challenging, cognitive information by a highly credible source (Hovland et al, 1953; Linton, 1992; Wilson and Sherrell, 1993).

Accordingly, in both the pure documentary, 'World of Abnormal Psychology, 9 the Schizophrenias' and, the 'integrated' film, 'Schizophrenia: From the Inside Looking Out', the 'facts' about schizophrenia are, at times, explicitly presented, direct to camera, by an undisputed authority.

The Contribution of the Emotional Approach

According to the emotional approach, attitude change primarily takes place through identification, emotional arousal and emotional contagion (Lang, 1993; Hatfield et al, 1994; Davis et al, 1997) all of which are the primary techniques of drama⁴.

Consistent with the emotional approach, the DICAM recognises: a) that emotional responses (Lang, 1993) and emotional information (Hatfield et al, 1994) are essential components in the process of rational thought (Lazarus 1991; Damasio, 1994) and as such are fundamental to the formation and change of beliefs and attitudes (Asch, 1987; Levey and Howells, 1994); b) that emotional responses are more powerful than

⁴The nature and importance of these three techniques in the DICAM study is discussed more fully later in the chapter.
cognitive responses and can short circuit the process of rational thought altogether (LeDoux, 1992; 1994, 1996; Damasio, 1994, 1995; Bargh, 1994; Goleman, 1996); c) that, emotional responses are more memorable than cognitive responses and can serve as a mnemonic trigger for contextual recall (LeDoux, 1993; 1994, 1996; Lang, 1993); and, d) that implicit cognitive data which is embedded within a dramatic narrative can be more persuasive than explicit cognitive data presented directly to camera (Walter and Festinger, 1962). It also recognises that attitudes can be learned and reinforced by observation alone (Hovland et al, 1953; Bandura, 1986)

Accordingly, in both the BBC Drama, 'Can You Hear Me Thinking' and the 'integrated' film, emotional arousal, contagion, identification and observational learning are promoted through simulated dramatic experiences and by the provision of relevant and appealing models.

The Integrated Approach

The DICAM does not simply add the cognitive concepts and the emotional concepts together. It proposes that responses to cognitive and emotional strategies interact to produce an effect which is greater than the sum of the effects of either strategy when used independently (Lazarus, 1991; Damasio, 1994; LeDoux, 1996). Consequently, in the 'integrated' film, the documentary segments are not merely inter-leaved with dramatised sequences, a popular technique whereby 'dramatic re-enactments' are overtly used as illustration e.g. 'Australia's Most Wanted' (TVW 7, 1998); nor is the program simply a non-fiction drama e.g. 'The Elephant Man' (Cornfield, 1980); but rather, the emotionally compelling narrative and the authentically validated cognitive data are scientifically integrated into a multifaceted presentation which has all the authority of a documentary whilst retaining the emotional entrainment of a drama.
TESTING THE DICAM: DISCUSSION OF THE RESULTS

The results of the study support the assumptions: that a model which integrates emotional and cognitive strategies for 'on screen' persuasion can precipitate, facilitate and achieve cognitive restructuring and enduring attitude change; and, that such a model is more powerful in engendering significant and enduring change in prejudicial beliefs and attitudes than either a purely cognitive, or a purely emotional model.

Limitations of the Cognitive Approach

Traditionally it is believed that people are most persuaded by clearly presented accurate, cognitive data. However, despite the fact that theories of cognitive restructuring and attitude change are currently dominated by cognitive models (Zimbardo and Lieppe, 1991; Petty et al, 1997), and despite the fact that the documentary continues to be the preferred method of screen education (Linton, 1992; Mental Health Research Foundation, 1995), the Documentary used in the present study was only marginally successful in improving knowledge and was the least successful treatment in terms of attitude change.

This is consistent with the findings of a number of recent studies which also demonstrate the failure of documentary programs to promote positive attitudes towards stigmatised groups, for example: Pryor and his colleagues (1991) found that a cognitively based film about AIDS produced an insignificant change in the attitudes of college students towards potential AIDS infected co-workers; Belschan and Norden, (1983) found that a documentary, 'Handicapped Love', which was shown to 50 student nurses, and which dealt frankly with the sexual and emotional problems of the
disabled had no impact on attitudes of social distance, or on intentions to work with
the disabled; and Greenberg and Fain (1979) reported no significant change of
attitudes towards Jews for 286 tenth grade students after viewing the documentary,
'Holocaust'.

Despite the lack of evidence for the documentary as a method of persuasion, early
advisers on the DICAM study, representatives of the Mental Health Research
Foundation (WA), the National Institute for Mental Health (USA), the World
Schizophrenia Fellowship and the Australian Broadcasting Corporation, were
adamant that a program designed to correct beliefs and attitudes about schizophrenia
should contain real people with schizophrenia talking about their illness. They were
strongly opposed to the use of actors and recommended using a straightforward
'documentary' approach (MHRF, 1995).

The documentary used in the DICAM study, 'The World of Abnormal Psychology, No.
9. The Schizophrenias' is just such a program. It is specifically designed to educate
people about schizophrenia. It can be found in the majority of academic libraries in
Australia. In most cases it is the only video held which deals with schizophrenia.
It is presented by a world authority on schizophrenia and interposes informational
pieces 'to camera' with a series of interviews with 'natural subjects' (i.e., people with
schizophrenia and/or their families). Nevertheless it had comparatively little effect on
participant's knowledge of schizophrenia and not only was there no improvement in
attitudes of social distance and fear but, attitudes measuring notions of justice and
culpability, deteriorated significantly after exposure to the Documentary, a shift in
the opposite direction to that anticipated by the Mental Health Research group (1995).
It is difficult to account for the significant negative effect of the Documentary on attitudes pertaining to equity and responsibility. A speculative explanation is offered here, which may be regarded as a 'hypothesis' which needs to be tested in future research.

**Lack of Identification**

Part of the success of the 'integrated' film in modifying attitudes, has been attributed to its promotion of viewer identification with the characters who are portrayed as suffering from schizophrenia (Batson et al, 1997). The viewer is given a simulated experience of the illness itself and encouraged to respond to it emotionally as a frightening and intrusive disorder, literally to see schizophrenia 'from the inside looking out' (Bandura, 1986, Lang, 1993). So involved does the viewer become in these vicarious roles (Janis and Mann, 1965; Von der Gruen and Forsyth, 1996; Werner et al, 1996) that when previously held attitudes of fear and distaste (as established by literature review, pilot studies and pre-test) are modelled later in the film (e.g. by the wife of the young man with schizophrenia), they appear both alien and shocking (McGuire, 1985).

By contrast, the Documentary treatment attempts to give the viewer an understanding of the illness 'from the outside looking in'. The expert or 'source' talks directly to the viewer in discrete, densely cognitive segments. The information is then illustrated by a series of interviews with people who have schizophrenia and/or their families. Some of these people are quite ill and a few are institutionalised.
It was the speculative perception that documentaries encourage the viewer to be a 'voyeur' rather than a participant, that lead to the choice of title for the 'integrated' film, i.e. 'Schizophrenia: From the Inside Looking Out'. It is suggested that, contrary to the power of autobiographical writing and direct face to face communication (Amir, 1976; Beattie et al, 1997), the interviewing of sufferers and their families appears to distance the viewer and to encourage him or her to see the people being interviewed as 'different' from himself or herself (Pryor et al, 1991; Vrij et al, 1996). The visible effects of the illness are magnified by the 'small screen' and, being seen 'from the outside', may appear at best, pathetic and at worst, threatening or distasteful.

In the 'Integrated' film, although these effects are not avoided, they are presented subsequent to the viewer having been encouraged to identify with the dramatised character (Batson, 1991). When this happens the viewer ceases to be a passive observer and instead undergoes the affective experience of schizophrenia 'with' the model (Bandura, 1986). The idea being to encourage a view of people with schizophrenia and their families as being one of 'us' rather than one of 'them'.

It is therefore speculated that the overtly medical presentation of the Documentary, unmitigated by the emotional entrainment of drama, encouraged the viewers to a distanced and paternalistic view of the people with schizophrenia, seeing them as 'mental patients', a group or category of people quite unlike themselves. This speculation is supported in the DICAM study by the found negative effect of the Documentary on attitudes, especially attitudes of Rights and Blame and, is consistent with the findings of Vrij, Van-Schie and Cherryman (1996) that persuasive communication programs designed to reduce stigma will fail if they do not emphasise positive similarities between the stigmatised group and the target population.
Another limitation which plagues attitude research, and which may well contribute to the lack of impact which documentaries appear to have on attitudes, concerns the correlation of knowledge and attitudes. Although the DICAM accepts Triandis' (1972) assumption, that some form of mental representation (schema) of a phenomenon is the minimum requirement for an evaluation of that phenomenon (an attitude), it does not assume that knowledge and attitudes are causally linked (Zimbardo and Lieppe, 1991).

The Correlation of Knowledge and Attitudes

In the DICAM study, high correlations between knowledge and attitudes were not found in the treatment groups (Appendix B.16). This was particularly evident in the case of the 'documentary only' treatment, where it was found that after a period of nine months, knowledge had (belatedly) improved, possibly due to the sleeper effect (Hovland et al., 1949), despite there being no complementary improvement in attitudes. Of course this might also imply that the initial shift to more negative attitudes had acted as a discounting cue (Hovland et al., 1953) and that therefore, the attitude change could still be regarded as causally linked to the delay in knowledge change.

Even in studies where knowledge and attitudes correlate well, it cannot automatically be assumed that there is a causal relationship. For example, in a study of 153 high school students, Showers and Shrigley (1995) found that although knowledge about nuclear power plants and attitudes towards their use were correlationally linked there was no evidence of a cause/effect relationship and that nuclear knowledge and nuclear attitudes could be changed independently of each other. However the nuclear study, (Showers and Shrigley, 1995), was not a totally cognitive intervention so it is possible that the found attitude change could be attributed to emotional, rather than cognitive effects.
In another study, where the intervention was purely cognitive (Sheridan et al, 1994) pharmacy students who were educated on HIV/AIDS and drug misuse, demonstrated significant increases in knowledge and confidence in counselling clients but showed no concurrent change in attitudes. In fact attitudes were found to correlate with race and religion more highly than with knowledge, this is consistent with the finding of the DICAM study, that attitudes correlated more highly with other types of attitude than with knowledge, and supports the original proposal of the DICAM, that factual knowledge alone is insufficient to modify prejudicial attitudes (Asch, 1987; Levey and Howells, 1994, 1995). Nevertheless, common sense dictates and, the findings of the DICAM study support, the proposition that, since attitudes are evaluative, accurate factual information will assist in the formation of equitable attitudes.

Cognitive Methods and Attitude Polarisation

While cognitive information may not have been found sufficient to change attitudes (Pryor et al, 1991), it has been found to be successful in polarising attitudes (Cacioppo and Petty, 1987; Greenwald, 1989). This is congruent with theories of cognitive consistency (Tesser, 1978) which maintain that people automatically 'look to confirm' what they think they already know (Zimbardo and Lieppe, 1991).

A recent example was supplied by Bright and Manfredo (1997) who found that the provision of factual knowledge about natural resource issues had little influence on the direction of attitudes but that it did serve to polarise and strengthen attitudes that were already held. A scan of the raw data of the DICAM study also suggests a greater trend towards attitude polarisation in the 'Documentary only' (cognitive) treatment group.
Conclusions re: 'Cold' Cognition

The view that cognitive strategies alone are insufficient to produce attitude change (Asch, 1987; Pryor et al, 1991; Levey and Howells, 1994, 1995; Batson et al, 1997), was recently tested in a study by Helweg-Larsen and Collins (1997). Their finding, that accurate information about AIDS did not lead to attitude change, led them to state the same conclusion - a conclusion which is echoed in the results of the DICAM study. The basically cognitive, Documentary treatment was the least successful in terms of positive attitude change, having no more effect than the Placebo or no treatment at all. In terms of knowledge it had no immediate effect and, although there were some long term gains they were insignificant compared to those of the 'integrated' film based on the DICAM.

However, despite the evidence, cognitive models for attitude change continue to predominate (Eagly and Chaiken, 1993; Olson and Zanna, 1993; Petty et al, 1997) and the documentary continues to be the favoured screen genre for public education campaigns (Linton, 1992).

Documentaries with Emotional Content

It may well be that the prevailing faith in the persuasive power of the documentary (Linton, 1992), despite evidence to the contrary (Prior et al, 1991) is based on the false assumption ['false', according to the neuroscientific evidence of LeDoux (1994, 1996) and Damasio (1994) and the clinical evidence of Lang, 1993)], that people respond primarily to credibly presented, cognitive data and it is possible that a meta-analysis of documentaries that do appear to have provoked significant attitude change (e.g. Deveson, 1991), rather than attitude polarisation (Zimbardo and Lieppe, 1991), might reveal that these programs also contain substantial emotional components.
To cite a qualitative example:

'Rainbow of Hope' (used as the Placebo in the DICAM study) is a documentary portraying the efforts of a voluntary team of medical professionals who make an annual trip to the Philippines in order to provide corrective facial surgery to disfigured children. It is a highly emotional program in terms of presentation, style and content and it had a marked initial impact on the student nurses participating in the study. Of course it did not affect their attitudes towards people with schizophrenia (which is what was being quantitatively measured), but it did provoke a number of inquiries as to how they might participate as members of a future medical team.

According to the DICAM, what would have provoked the student inquiry was their felt emotional response (McLean, 1981; Lang, 1993) to the visual content of the program, their identification with the medical team and their empathy with the parents of the disfigured children. Without this emotional impact it is unlikely that the cold hard facts of the prevalence of cleft palates and other facial deformities in the Philippines would have been sufficient to incur action (Asch, 1987; Levey and Howells, 1994). The DICAM would also postulate that the emotional response that had been felt, would trigger future recall of the factual information given (Lang, 1993; LeDoux, 1996), thus leading to further cognitive elaboration and a possible 'rational' decision to apply for a place on the team (Lazarus, 1991; Damasio, 1994). This decision, though prompted by emotion, would very likely 'appear' to the subjects as having been based solely on issue-relevant arguments (Cacioppo and Petty, 1986).
Of course this is speculation, but it is speculation which is supported by an interesting study conducted in 1982 by McKerracher, involving 324 high school students from 7 Australian schools. This study compared the effects of: a curriculum kit presenting factual information on disabilities and case histories of people coping with their disability; a speaker confined to a wheelchair; and, a play in which common myths about the disabled were presented and then debunked. Consistent with the propositions and findings of the DICAM study, only the play, which was dramatic and emotive as well as informative, had a significant effect on attitudes (McKerracher, 1982).

As suggested above, the emotional properties of persuasive documentaries might prove a fruitful area for future attitude research.

Limitations of the Emotional Approach

As previously stated: "The emotional approach suggests that attitude change primarily takes place through identification, emotional arousal and emotional contagion (Lang, 1993; Hatfield et al, 1994; Davis et al, 1997) all of which are the primary techniques of drama."

The drama used in the DICAM study, 'Can You Hear Me Thinking' was nominated by the BBC as their 'flagship' drama program about schizophrenia in August 1996. It portrays a socio-economically successful, close knit family, of which David, the eldest son, is stricken with schizophrenia. The telemovie follows the fortunes of David and his family as they struggle to understand the nature of his illness and how it can best be treated. It contains implicit factual information about schizophrenia comparable to that contained in the 'Integrated' film, as measured by the KOSI.
Although the importance of emotion both in the process of rational thought and in engendering attitude change is fundamental to the DICAM, the DICAM also postulates that emotional response alone is likely to be less accurate and less enduring than responses based on cognitive elaboration (LeDoux, 1992, 1996; Lang, 1993), furthermore, because cognitive elaboration is demanding of the organism (Petty and Cacioppo, 1997), in the absence of complementary cognitive conflict, the emotionally persuaded subject is likely to revert to 'old' (familiar) beliefs and attitudes during the course of time. In the DICAM study, despite the implicit cognitive content of the film, the 'drama only' treatment had no effect on knowledge of schizophrenia and, although there was a significant initial impact on emotional attitudes, i.e., those representing attitudes of social distance and fear and attitudes of family culpability, the effect was short lived, with scores reverting to pre-test levels after a period of 9 months.

By contrast, the significant positive attitude shifts engendered by the 'integrated' film were not only maintained but also increased over the 9-month period. This supports the assumption that, cognitive empathy and attitudes that result from complementary cognitive processing, are more enduring and more resistant to change than attitudes that are purely based on 'knee-jerk' emotional responses (LeDoux, 1992, 1994, 1996; Lang, 1993) and further suggests that, once the interactive process of emotional and cognitive elaboration has been stimulated, it is likely to continue. The complementary role of cognition, even in a basically emotional model, is further emphasised by the finding that in the DICAM study, changes in the less emotive attitudes of rights and blame, attitudes which rest on cognitions such as justice and economy, did endure, even in the 'Drama only' treatment group.
This is consistent with the more enduring attitude change attributed to cognitive elaboration or systematic processing, i.e., the 'central' route to attitude change, as proposed by Petty and Cacioppo (1981, 1986) in the elaboration likelihood model (ELM) and Chaiken (1980, 1987) in the heuristic-systematic model (HSM). It is also consistent with the proposal of the DICAM, that emotional experience and cognitive information interact with each other and can both contribute towards the validation of either themselves or each other, or both (Lazarus, 1991; LeDoux, 1996). Accordingly, in the 'integrated' film, emotionally aroused attitudes are explicitly cognitively validated within each 'link in the chain' (ZPC) and again before the end of the program but, in the 'Drama only' treatment, there is no explicit cognitive validation at all.

For example, in the 'integrated' film highly emotional vicarious experiences, such as that of the father watching his young daughter desperately trying to escape her own arm, are concurrently cognitively validated by the 'voice over' of the expert source. Anecdotal evidence from subjects viewing the 'integrated' film demonstrates that the emotional experience that they felt in watching this particular sequence has served as a chilling reminder of the accuracy of the 'medical model' of schizophrenia. As one caregiver, who is herself a clinical psychologist put it, "The emotion helps you to remember the knowledge and the knowledge helps you to manage the emotion".

**Key Emotional Strategies In the Persuasion Paradigm**

The key emotional strategies for attitude change, identified in the DICAM study and incorporated in the 'integrated' film are: identification; emotional arousal; and, emotional contagion. The integration of these strategies into what is basically a cognitive model, and the recognition that their role is 'central' in the process of schema
and attitude change, is what makes the DICAM unique. Each strategy will be discussed briefly in terms of its contribution to the study and the empirical evidence for its power. The importance of the promotion of identification through careful choice of source and models (heroes), will be also be discussed later in the chapter under the more general heading of source and model variables.

Identification

Identification is thought to occur as a result of empathy (Batson et al, 1997). However although the terms are sometimes used synonymously, in the DICAM study, empathy and identification are not viewed as precisely the same concept. In a recent study aimed at reducing stigma, Batson et al, describe 'empathy' as:

'...an other-oriented emotional response congruent with another's perceived welfare; if the other is oppressed or in need, empathic feelings include sympathy, compassion, tenderness and the like (Batson et al, 1997, p.105).

According to Batson (1991) empathy occurs when a person takes the world perspective of another, imagining how that person feels and how he or she copes with his or her life. Although this an emotional concept of empathy, this sort of empathy may be promoted in the documentary genre, as is evidenced in programs about famine, oppression or natural disasters. However, the concept of 'identification' goes beyond that of emotional empathy (as described by Batson, 1991) because, it not only assumes an understanding of the views and feelings of another but it also assumes an involuntary vicarious experience of the 'role' of that other. Thus identification relates to a 'felt' emotional response, rather than a merely 'imagined' emotional response (Lang, 1933; Reik, 1948).
Accordingly, it is a significant feature of the 'integrated' film that viewers are not simply required to imagine what it is like to have schizophrenia, because they are forced to feel what it is like, by being given a number of vivid vicarious experiences of the disorder itself. Anecdotal evidence from some of the families of people with schizophrenia, who viewed the 'integrated' film, suggests that these simulated experiences not only clarified their understanding of the subjective experience of the illness but also, immediately generated far more positive and empathic relationships with the sufferers themselves.

It is possible to feel 'emotional empathy' (as described by Batson, 1991), whilst still remaining cognitively independent (Goleman, 1996). 'Cognitive empathy', which is frequently described as 'involvement' relies on perceptions of relevance or similarity (Cacioppo and Petty, 1986; Davis et al, 1997). The difference between the cognitive phenomenon of perceived similarity, 'involvement', e.g., "I am just as likely to get schizophrenia as that person" and the emotional phenomenon of experiencing another's role, 'identification', e.g., "you have to be able to help her, you have to make her well", is a fine line. The line is further blurred by the dynamic interaction of cognition and affect. A simple example from the 'Integrated' film will demonstrate this.

The fact that 'schizophrenia is not a rare disease and that it hits one in every hundred people', is a piece of cognitive information, presented several times during the film in order to encourage perceptions of relevance and consequent involvement. When this cognitive information is verbally presented by the established credible source, over the image of a vulnerable young girl, turning and staring mutely into the camera, it also becomes a highly emotional experience.
According to the DICAM it is the felt emotional experience which will activate the process of change, triggering emotional empathy, which will then interact with the cognitive perception of relevance or cognitive empathy, thus leading to full identification and the motivation to persist in cognitive elaboration, cognitive restructuring and attitude change.

Identification and Generalisation

Both McKerracher's play (1982) and the 'Integrated' film, were interventions aimed at promoting identification with one or more members of a marginalised or stigmatised group, on the assumption that the empathy thus engendered, would generalise to the group as a whole. This assumption was recently tested in a study of attitudes towards three stigmatised groups: AIDS sufferers, homeless people and convicted murderers (Batson et al, 1997).

Batson and his colleagues (1997) quoted from Stalin: "One death is a tragedy, a million is a statistic", to demonstrate that empathy is typically felt for one person at a time. In a series of three experiments they used written introductions to manipulate the empathy 'set' of participants before playing them audio tapes of a member of a stigmatised group talking about his or her life. The research results confirmed that inducing empathy through affiliation with one member of a stigmatised group did improve attitudes towards members of the group in general, even in the case of the convicted murderers.

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5See page 310
The DICAM study was first developed out of a perceived need to reduce the stigma felt by some marginalised groups in contemporary society, i.e., multiply disabled children and people with schizophrenia. Because schizophrenia is such a diverse disorder, the 'integrated' film provides three different models (heroes) with whom the viewer is encouraged to identify. Consistent with Batson's (1997) findings the DICAM study showed a positive shift in knowledge and attitudes for all participants who viewed the 'integrated' film.

**Identification and Ambivalence**

According to ambivalence theories:

‘Members of majority groups have conflicting attitudes towards minority groups, consisting of feelings of both aversion and friendly concern.’ (Olson and Zanna, 1993)

Because ambivalence is a dissonant feeling, attitudes towards the minority group tend to become polarised or extreme. Emphasising factual similarities (cognitive empathy) (Vrij et al, 1996) and promoting identification (emotional empathy) combats ambivalence by weighting the consonant pole. The marriage of screen genres in the 'integrated' film allowed for maximum cognitive detailing of the universal prevalence of schizophrenia while at the same time providing optimum opportunity for genuine identification. The significant and sustained effect that the film had on attitudes of social distance and fear is consistent with a reduction of ambivalence.

The role played by emotional empathy in reducing ambivalence was also tested in two recent studies by Stangor et al, (1992) and Esses et al, (1992). Both of these studies compared the effects of stereotypic beliefs about groups vs affective feelings about
groups, as predictors of overall attitudes. In both cases emotional responses consistently predicted attitudes of social distance and avoidance more strongly than did cognitive stereotypes. Despite this, Batson and his colleagues (1997) found little in the literature which examined the emotional effects of empathy on attitude change although they found much which examined the cognitive effects of providing stereotype inconsistent information (e.g., Brewer 1988; Wilder and Shapiro, 1989).

In conclusion, identification, as viewed by the DICAM, assumes both emotional and cognitive empathy (Reik, 1948) and, while it is common for a documentary to promote empathy (Deveson, 1991; Belschan and Norden, 1983), according to the DICAM only a drama (or a documentary/drama) will promote identification.

**Emotional Arousal: The Salience of Emotion**

The DICAM proposes that emotional arousal and felt response play a fundamental, structural role in the formation and modification of schemata and attitudes. This proposal is grounded: a) in neuroscientific and psycho-biological evidence supplied by LeDoux (1992, 1994, 1996), Lazarus (1991) and Lang (1993) concerning the autonomic potency of emotional response; and, b) in Peter Lang's (1993) theory of the mnemonic salience of emotional response (See Ch.9). It is supported by the finding of Esses et al (1992) and Stangor et al (1992) that emotional responses are stronger predictors of prejudicial attitudes than cognitive representations. Consistent with this empirical evidence, in the DICAM study, immediate attitude shifts, especially on the scales measuring attitudes of social distance and fear, were found to be most pronounced for the two treatments designed to generate strong emotional responses, i.e., the 'Integrated' film and the BBC Drama.
Thus, it is suggested, that the 'Integrated' film, had a significant positive effect on attitudes of social distance and fear, not only, because it presented the people with schizophrenia as 'heroes', with whom the viewer was encouraged to identify, but also, because it generated powerful and memorable 'felt' emotional responses: responses which caused the participant to fear the illness and rue its consequences, rather than to fear the person with the illness. It is believed that this is what led to the marked rise in attitudes of closeness and empathy found in the groups treated with the 'Integrated' film. On the other hand, the BBC Drama had an immediate negative effect on attitudes of social distance and fear, arguably because it contained scenes wherein the 'ordinary' family members, with whom its viewers had been encouraged to identify, felt alarmed or threatened by the behaviour of their schizophrenic son or brother. The 'felt' emotional response was most likely to have been disgust and fear of the person with schizophrenia, which in turn led to a sharp rise in attitudes of fear and avoidance.

These findings support the proposal that emotional, as opposed to cognitive, empathy is initially stronger and more easy to arouse (Goleman, 1996) and, that emotional response may, at times, 'hijack' the cognitive process altogether, i.e., that some initial emotional responses may be strong enough not only to produce an immediate reaction (behaviour) but also to override subsequent cognitive information (LeDoux, 1994, 1996; Damasio, 1994). This proposal is further endorsed by Batson and his colleagues (1997) who found that once aroused, empathetic emotions were not vulnerable to conflicting cognitive information about victim responsibility.
An interesting demonstration of the power of emotional response to induce rapid attitude formation or change that resulted in action (behaviour) which may have been neither 'reasoned', in terms of subjective norms (Fishbein and Ajzen, 1975) nor planned (Ajzen, 1991), was reported by Lemonick in *Time* magazine (August 2, 1993). The first weekend that the movie, 'Free Willie', was shown in America, it prompted over 40,000 phone calls about joining a campaign to protect whales.

Of course, without an experimental analysis, an explanation of this phenomenon must remain mere speculation but, given the emotive nature of the film and, viewed in the light of the proposals made by the DICAM, it would be reasonable to hypothesise that the calls were prompted by newly and rapidly formed emotional attitudes - attitudes that were powerful enough to precipitate action.

In conclusion, the ability of a film to etch itself in memory lies in the potency of its emotional images and the strength of the emotional responses felt towards them (Lang, 1978, 1993). The 'Integrated' film was designed to contain 'peak' moments of emotional experience which would later serve as triggers for more detailed recall of content (LeDoux, 1994). In the DICAM study, support for the efficacy of this design and the conceptual model upon which it is based, can be found in the sustained improvement of knowledge coupled with strongly maintained positive attitudes found in the groups treated with the 'Integrated' film.

**Emotional Contagion**

Emotions are catching (Hatfield et al, 1993). Because laughter is infectious, the makers of television situation comedies like 'Absolutely Fabulous' (BBC, 1995) use prerecorded tracks of canned laughter (Zimbardo and Lieppe, 1991).
A small child, seeing another fall and hurt his leg will often burst into tears and clutch his or her own leg (Radke-Yarrow and Zahn-Waxler, 1984). Bystanders at a protest rally or at a funeral, are frequently moved to rage or tears (Goleman, 1996).

The persuasive power of rhetoric and of non-verbal cues such as facial expression and 'body language' was discussed in some detail in chapters 8 and 9 (Ekman et al, 1976; Rosenthal, 1977; Levenson and Ruef, 1992; Hatfield et al, 1993). The whole medium of film and television lends itself to an exploitation of this sort of emotional entrainment. Huge close-ups can capture the slightest nuances of facial expression, eye-movement, and gesture. In the 'integrated' film, based on the DICAM, the potential for emotional contagion is frequently explored, for example: as Anna, the innocent and vulnerable teenager, grins widely at the camera, the viewers smile back encouragingly; as she screams and recoils from her grossly distorted arm, the viewers involuntarily draw back in their seats, their faces screwed up in a grimace; and, as her (screen) father, unheeded tears pouring down his face chokes out the words, "she was such a lovely artist", the viewers fumble for their handkerchiefs (Lanzetta et al, 1981, 1985).

These examples of emotional entrainment, leading to a 'felt' emotional response, may not of themselves be sufficient to change attitudes, however, when the response is accompanied, as it is in the 'integrated' film, by (modelled) approval, confirmation and reinforcement (Bandura, 1986) then it becomes a powerful interactive element in the process of cognitive structuring (Damasio, 1994).
Although, empirical studies do not support the purely cognitive model for screen persuasion (Helweg-Larsen et al, 1997; Levey and Howells, 1995), particularly where prejudicial attitudes are concerned, it has been and still is, a common belief that cognitive information alone is sufficient to change attitudes (Linton, 1992).

Not so common is the belief that emotion alone can produce significant attitude change and indeed, it is rare to find an intervention aimed at attitude and belief change that has solely emotional content with no concurrent cognitive data. However, the Australian national TV commercial campaign on attitudes towards AIDS, which figured the 'Grim Reaper' is one such example. Ross et al (1990) surveyed 825 randomly selected subjects (aged 16+), 6 months before and 5 months after the campaign. The study revealed a significant change in both knowledge and attitudes despite there being no informational component in the Public Service Announcement. This is a highly significant finding in terms of the proposals of the DICAM concerning the role of emotion in cognitive restructuring and attitude change and, in the light of the neuroscientific research conducted by LeDoux, (1992) and Damasio (1994).

It is not suggested that emotional information alone brought about the subsequent cognitive restructuring found in Ross' (1990) study but rather the implication is, that the purely emotional content of the PSA was sufficient to create a ZPC, within which the organism engaged in both cognitive and emotional elaboration, which presumably included self motivated cognitive inquiry, in order to test and validate 'new' or modified schemata and attitudes. In other words, the emotion triggered the cognitive process and then interacted with it to produce 'new' schemata and attitudes.
In Conclusion

The DICAM proposed that attitudes of fear and avoidance are predominantly based on emotional response (Asch, 1987; Lang, 1993) and, that these emotional responses, which frequently contribute towards cognitive stereotypes (Levey and Howells, 1994), can be provoked by screen interventions (Monahan, 1992; Linter, 1992).

This proposal was grounded in the empirical evidence of inaccurate schizophrenia schemata presented in Ch.2. of this dissertation (Fuller-Torrey, 1988, Levey and Howells, 1994, 1995) and in the neuroscientific and psycho-biological findings of LeDoux (1992, 1994), Damasio (1994) and Lang (1993). It was therefore proposed that attitudes that have been learned through emotional response will need to be 'unlearned' by the same method (Zimbardo and Lieppe, 1991). In the DICAM study, the significant 'immediate' effect on attitudes of social distance and fear found for both treatments using emotional strategies, i.e., the 'Integrated' film and the BBC Drama, support this proposal.

THE INTEGRATION OF EMOTION AND COGNITION

As already discussed there is a significant lack of empirical evidence to support Linton's (1992) belief in the power of the cognitive model, the documentary, either as a 'stand alone' educational tool or as an instrument for persuasion. This is reflected in the poor performance of the Documentary in the DICAM study. Similarly the limitations of a 'drama' only approach are evidenced by the transitory nature of the attitude change induced by the 'Drama only' treatment in the DICAM study. The importance of complementary cognitive data in the consideration and validation of emotional response (Norman, 1980; Lang, 1993), i.e., the cognitive elaboration
required for genuine cognitive restructuring and enduring attitude change, is
mirrored by the equally important contribution made by emotional response and
emotional information to the whole process of rational thought (Lazarus 1991; Lang,

Emotional Information and Rational Thought

As Hatfield and her colleagues (1994) point out, psychology has always been 'buffeted
by a dialectic between sense and sensibility' (Hatfield et al, 1994, p.186). For much of
this century psychologists (and learning theorists) have emphasised, cognition, reason,
information processing and problem solving, perhaps at the expense of impulse and
emotion. However, as previously discussed, recent neuroscientific analyses of the
functional relationship between the amygdala and the neo-cortex (LeDoux, 1992,
Damasio, 1994), which have been complemented by: the psychodynamic theories of
Peter Lang (1993); the socio-biological work of Robert Zajonc (1980) and John Bargh
(1994); and, the socio-psychological work of Richard Lazarus (1984, 1991) are
beginning to redress the balance.

Objecting to the notion of the 'higher' mental processes of thought and reason as being
regarded as somehow innately superior to emotions, Lazarus wrote that emotions are:

'a fusion of highly developed forms of cognitive appraisal with action impulses
and bodily changes'. (Lazarus 1984, p.213)

Consistent with Damasio's (1994) neuroscientific evidence, Lazarus insists that both
cognitive and emotional sensory input are critical in guiding rational thought.
LeDoux (1996) suggests that the roles of emotion and cognition in the process of
thought are complementary rather than heirarchical and that therefore:
'Emotion and cognition are best thought of as separate but interacting mental functions mediated by separate but interacting brain systems' (LeDoux, 1996).

Encouraged by the empirical research studies cited above, the DICAM, has brought the role of emotion out of the periphery (Cacioppo and Petty, 1981) and into the Zone of Potential Change (ZPC) as an equal, if not more potent, partner to cognition. The DICAM does not merely regard emotional information as being a possible base for 'emotional' attitude formation and change, as discussed by Olson and Zanna (1993), it regards emotional arousal and experience as playing a fundamental functional role in the formation and modification of schemata (Lazarus, 1991; Damasio, 1994; Ledoux, 1994, 1996; Goleman, 1996).

Hatfield et al, (1994) cite a striking example of how an inaccurate schema may be formed when a message contains solely cognitive data with no complementary emotional information. In this case the schema was of the Aloha Flight 243 air disaster, April 29, 1988, and it was formed by the Honolulu air traffic controllers.

Twenty minutes after the flight took off from Honolulu airport there was an explosion and the top half of the cabin was ripped off. The cabin instantly decompressed and was swept by a deafening hurricane, one stewardess was sucked right out of the plane, another was held only by the desperate efforts of two passengers. Debris swirled through the air and the seats were bent and twisted. However, when the flight landed at Maui airport, there were no firefighters to meet the plane and little preparation had been made to cope with its arrival. The air flight controllers had simply not registered the severity of the accident (61 passengers were hospitalised 6 with serious or critical injuries), although the pilot had given an exact description of what had taken place.
Why?

'..(because) she had been well briefed in how to deal with emergencies: Stay calm and slowly recite all the facts. The "black-box" recording of her report revealed how well trained she was (she received a commendation for her heroism.) Her voice came over the microphone, casual, friendly, describing the accident' (Hatfield et al, 1994, p.192).

Without the necessary emotional information of appropriate fear or even hysteria, the people in the tower had simply not got the 'full picture'. Cognitive information alone had not been sufficient for them to cognitively construct an accurate schema.

This demonstrably 'cognitive' function of emotional information endorses the proposal of the DICAM that emotion can no longer be regarded solely as a cue factor or simple heuristic such as source attractiveness or credibility (Cacioppo and Petty, 1986; Chaiken et al, 1989), i.e., as 'secondary' or 'additional information'. Although it is possible to form a mental representation from 'cold' facts (Norman, 1988) and although it is possible to create an image from a 'knee-jerk' emotional response (LeDoux, 1992, 1994, 1996), these pictures or patterns (schemata) are likely to be incomplete. To form a complete and accurate picture, it is necessary not only to receive but also to integrate both cognitive and emotional information (Lazarus, 1991, Hatfield et al, 1994, Damasio, 1994). Thought of in terms of visual perception, if cognition is one dimension and emotion another, adding the two dimensions together will still only result in a flat image. It is the integration and consequent dynamic interaction of emotion and cognition, that produces the third dimension, i.e., the 3D image.
Since the functional integration of emotion and cognition as an interactive process is unique to the DICAM, there are relatively few studies with which the findings of the DICAM study can be directly compared or contrasted. Nevertheless, there are some recent investigations which have employed similar components.

Recent Studies Integrating Emotion and Cognition

In their (1994) study of the effect of a soap opera's dramatic and emotional promotion of bone marrow testing, combined with an informational public service announcement, Aune and Klinge found the combined presentation of the emotional material and the cognitive material to be significantly more powerful and more persuasive than an independent presentation of either one or the other.

A random survey of 616 subjects aged between 16 and 65 revealed: that while subjects who saw either the drama or the PSA did have greater cognitions and more favourable attitudes towards bone marrow testing than subjects who had seen neither; subjects who had seen both the drama and the PSA had significantly greater knowledge about bone marrow testing, significantly more favourable attitudes towards it and significantly higher intentions to have their own marrow tested (in fact some had already arranged to have this done) (Aune and Klinge, 1994).

The results of Aune and Klinge's research are consistent with the findings of the DICAM study and support its assumption, that a combination of a factual (documentary) and emotional (dramatic) approach is more powerful both in terms of cognitive restructuring and attitude change than either approach used alone (Eagly and Chaiken, 1993; Levey and Howells, 1994).
What is not reported in the study and what would have been of major interest for the present research is, whether the change engendered by the emotional presentation alone plus the change engendered by the cognitive presentation alone was greater or less than the change engendered by the combined presentation. According to the proposals of the DICAM the product of the combined presentations should have been greater than the sum of effects of the independent presentations. This might prove a fruitful area for future research.

Another study which adopted a multiple approach (but which did not overtly consider the role of affect) was conducted by Gilmore (1992). In response to a found lack of correlation between adolescents' knowledge about AIDS and risky sexual behaviour, an intervention, grounded in theories of cognition, reasoned action and social learning, was developed, which went, 'beyond the presentation of mere facts and figures' (Gilmore, 1992).

Factual information was presented in comic book form, videotapes depicted teenage models negotiating condom use with a partner, and group discussions and role-play sessions were conducted with one adult and two peer facilitators. Early trials of the intervention have proved uniformly successful (Gilmore, 1992). It is not difficult to explain the success of this intervention in terms of the DICAM. The cognitive information supplied in the comic book is clearly complemented by the affective role model identification contained in the videotapes and the direct emotional experience generated by the role play.
Gilmore's (1992) intervention contains all the components proposed in the DICAM. A ZPC is cognitively created by the comic book (Vygotsky, 1978; Rogoff, 1990; Baron and Misovich, 1993). Cognitive conflict is engendered by the book and the videos (Kohlberg, 1969; Rest, 1979). Emotional experience is provided, vicariously in the videos (Bandura, 1986; Lang, 1993) and more directly in the role-play (Janis and Mann, 1965, 1968). The emotional and cognitive information is textured, repeated and validated by the use of multiple strategies (Bruner, 1966; Vrij et al, 1996); the peer facilitators act as 'experts', scaffolding the learning experience for the 'novices' (Rogoff et al, 1991); correct beliefs and attitudes are modelled throughout (Bandura, 1986); and finally, participants are given an opportunity to rehearse counter arguments to 'old' attitudes (McGuire, 1964, 1985).

The success of Gilmore's (1992) intervention is particularly pertinent to the present study. It would be both interesting and valuable to investigate the possibility of integrating all its facets (outlined in the previous paragraph) into a single 'integrated' film (as created in the DICAM study), designed to effect enduring 'on line' attitude change (Mackie and Asuncion, 1990) in one exposure and to an unlimited population.

The Documentary Drama: An 'on screen' Integrated Approach

To reiterate: the DICAM is unique in its fundamental integration of emotion and cognition. It views emotional information as being an essential component of rational thought (Lazarus, 1991; Damasio, 1994) and, because emotional arousal affects the organism more powerfully than cognitive arousal, it views emotional experience as being more potent and more memorable than cognitive experience and therefore equally, if not more likely, to precipitate the process of cognitive elaboration and
consequent attitude change than the presentation of cognitively challenging data alone (Lang, 1993; LeDoux, 1992, 1993, 1994, 1996; Goleman, 1996). Once the process has been activated, and a Zone of Potential Change (ZPC) created, whether initially by emotional or cognitive cues, the DICAM anticipates that further emotional and cognitive sensory input will dynamically interact, leading the organism to explore, test, reject and/or validate the newly forming (or re-forming) neural patterns, i.e., schemata and attitudes. Because of this it was hypothesised that only the documentary drama, i.e., the film which integrated emotion and cognition, would produce a significant and enduring effect on both knowledge and attitudes. This proved to be the case.

Since the DICAM proposes that the combination of a cognitive and an emotional approach is greater than the sum of its parts, it is of particular interest to consider the rare empirical studies of other films which have combined the genres of documentary and drama.

In one such study, Elliot and Schenk-Hamlin (1979) showed the documentary/drama, 'All the Presidents Men', to a random selection of 125 undergraduates. Their findings were consistent with those of the DICAM study, and Batson's (1997) study concerning the generalisation of emotional empathy (Batson et al, 1997). The film 'All the Presidents Men' had a significant immediate influence on both political attitudes and on attitudes towards a generalised occupational group (in this case, journalists).

In three similar studies: a) the semi-documentary drama, 'The Day After', produced significant attitude change towards nuclear related activities in a sample of 537
college students (Kulman and Akamatsu, 1989); b) the pseudo-documentary drama, 'JFK', which Elliott (1992) refers to as 'symbolic reality', showed a highly significant effect on 143 college students' beliefs and attitudes concerning the assassination of John F. Kennedy and the existence of a shadow government (Elliott, 1992); and, c) Walker's (1989) study of the mini-series 'Amerika', which also models 'symbolic reality', found a highly significant shift in beliefs and attitudes concerning the threat of communism in the USA.

This list is by no means exhaustive but it serves to demonstrate the apparent superiority, in a wide variety of contexts, of screen interventions which integrate cognitive information and drama, in terms of effects on beliefs and attitudes, over the more educationally favoured medium of straight documentary.

However, since these studies only assessed immediate changes in perception the evidence is not yet conclusive. It could be argued that the shifts in attitude could simply be a 'knee-jerk' emotional response triggered by the affective techniques used in the films, i.e., the drama (Lang, 1933) and consequently, that they would be short lived (LeDoux, 1992, 1994, 1996). Apart from the DICAM study, there appears to be no empirical research which compares the long term effects of documentary vs drama vs documentary/drama. No doubt more longitudinal studies would help to clarify this potential controversy.

The power to persuade participants that the data being presented is authentic and accurate has been the subject of much persuasion research (McGuire, 1985; Zimbardo and Lieppe, 1991; Wilson and Sherrell, 1993) and, although source variables are relegated to the periphery in the currently dominant models of attitude change
(Cacioppo and Petty, 1986, 1997; Eagly and Chaiken, 1993), a recent meta-analysis by Wilson and Sherrell (1993) found that source credibility continues to be the most influential factor in perceived message accuracy (Hovland et al, 1953; Wilson and Sherrell, 1993).

SOURCE (AND MODEL) VARIABLES

In the DICAM study source and model variables are considered to be more than mere associative factors (for review see Chaiken, 1986) and are perceived to contain both emotional and cognitive information.

The criteria for the selection of the source and models for the 'Integrated' film were discussed in Chapter 10. The film aims to create 'heroes' with whom the viewers will readily identify. These heroes include: the psychiatrist (who is also the source), models portraying people with schizophrenia and models portraying the families of people with schizophrenia. Cognitive data concerning credibility and relevance is complemented by emotional data concerning likeability.

In interpreting the results of the study, the effects of all the treatments should be considered in the light of source (and model) variables. For example: in the 'Integrated' film the source, who also plays the part of the psychiatrist within the drama, is not only established as a credible authority but is also portrayed as a gentle and caring practitioner; in the BBC Drama, the psychiatrists are portrayed as genuine but neutral and are shown to be rather difficult to access; and, in the Documentary the psychiatrist, who acts as the source, is a completely detached, professional observer.
In all three films the psychiatrists recommend drug therapy as the best known method for controlling the symptoms of schizophrenia but, only in the groups treated with the 'Integrated' film, was there a significant improvement in responses to items on the knowledge scale, which relate to the use of drug therapy. This supports the proposal of the DICAM that an interactive combination of cognitive and emotional information is more persuasive than cognitive or emotional data used independently. and suggests that the psychiatrist in the 'Integrated' film was more persuasive because he was not only a credible authority but also a likeable 'hero'.

**Cognitive and Emotional Source Variables**

**Relevance (cognitive empathy)**

Because the aim of the DICAM study was to reduce prejudice through the creation of accurate schemata and equitable attitudes, the promotion of model and source relevance in order to facilitate viewer involvement and promote cognitive empathy was seen as a crucial component of the 'Integrated' film. The assumption was that identification with a member of a stigmatised group would generalise to acceptance of other members of that group. The marked reduction in attitudes of fear and avoidance found in the groups treated with the 'Integrated' film, supported this assumption. This assumption was also supported by: the findings of Batson and his colleagues (1997), with regard to AIDS sufferers, the homeless and convicted murderers; and, by the finding of Elliot and Schenk-Hamlin (1979) that the documentary/drama 'All the Presidents Men', improved generalised attitudes towards journalists as a group. It is also consistent with an earlier study, which found that an episode of 'Sesame Street', promoting viewer identification with non-white children, moved a sample of 205 white children aged 3 - 5 to uniformly select a non-white playmate in sharp contrast to the playmate choices of a matched control group (Gorn et al, 1976).
Credibility (cognitive) vs Likeability (emotional)

Although much of the recent literature on attitude change (Eagly & Chaiken, 1993) discusses source effects in terms of peripheral affective cues such as likeability and attractiveness, in a meta-analysis of 114 studies of source effects, Wilson and Sherrell (1993) found source expertise continues to be the most dominant factor. Likeability was found to be important but credibility was still found to be paramount (Hovland, et al, 1953).

However the meta-analysis (Wilson and Sherrell, 1993) does not allow for a critical scrutiny of attentional primacy (Zajonc, 1980, 1984), as discussed in Chapter 9. In other words it is possible to speculate as to what attribute of the source first attracted the subjects' attention (Zimbardo and Lieppe, 1991). A likeable or attractive source may grab the subjects' attention quickly (emotional arousal) but, as has been found in a number of studies (for reviews see: Olson and Zanna, 1993; Eagly and Chaiken, 1993; Petty et al, 1997), over the duration of the whole program, cognitive elaboration (Cacioppo and Petty, 1987) may well ensure that the likeable or attractive source is disregarded if he or she proves to lack credibility (Hovland, 1957). Conversely, cognitive elaboration may endorse the credibility of a liked or attractive source, who is then chiefly remembered for being credible (Lang 1993; Cacioppo and Petty, 1986; Ledoux, 1994, 1996).

The 'Integrated' film was designed to capitalise on both the cognitive (credibility) and the emotional (attractiveness, likeability) effect not only by employing a likeable and expert source but also by embedding him in the drama as a relevant hero who is empathetic and available for personal identification (Batson, 1991).
This attempt to foster emotional empathy is facilitated, by the lofty expertise of his clinical role and academic qualifications being offset by his emotional and vulnerable personality, thus making him more accessible as a role model (Bandura, 1986; Rogoff et al 1993).

Of course, it is not possible to prove that the 'Integrated' film, based on the DICAM, was more successful in terms of knowledge and attitude change because subjects identified with the source, it can only be observed that it was more successful and suggest that this may have been a contributing factor in that success.

This suggestion is supported by the anecdotal evidence of verbal reports from a group of screen professionals (six independent producers, two BBC producers and two ABC producers). All 10 of these professionals thought that the impact of the source (Prof. Tim Lambert) was the major factor in their felt change in beliefs and attitudes and all of them attributed this to his humility and likeability (emotional factors) rather than his professional status (cognitive factor).

Identification with Source and Models

Similar anecdotal evidence supports the implicit research hypothesis that part of the success of the 'Integrated model' lies in its choice of 'heroes', as discussed in Ch.10. For example: many parents and caregivers have reported their heartfelt identification with the parents of 'Anna', the teenager with schizophrenia; the student nurses, who were mostly female, tended to refer to the film as being about 'Nicky' (the young nurse with schizophrenia); and, more interestingly because it was unexpected, a number of young men have reported feelings of anger and frustration with the illness as a result of identifying with 'Nicky's', boyfriend, 'Tony'.
As previously mentioned, in the 'Documentary only' treatment, the source was unequivocally credible but he was remote from the subjects, being clearly an 'expert' in 'lecturing' mode. Similarly the 'models', i.e., the real people with schizophrenia, were not specifically chosen to appeal to the target population. The relatively poor performance of the Documentary, which was a highly accurate cognitive intervention, tends to support the proposal that being able to identify both emotionally and cognitively, with source and models is likely to promote attitude change and cognitive restructuring.

In the BBC Drama there is no 'source' as such. The narrative is presented most strongly from the point of view of the family of the boy with schizophrenia and it is with them and not him, that the viewer is encouraged to empathise and to identify. The statistical evidence of a significant immediate change in attitudes towards family culpability in the group treated with the BBC Drama would indicate that the emotional effect of that identification was paramount. Interestingly enough, the immediate and dramatic increase in negative attitudes towards schizophrenia found for the 'Drama only' treatment also supported this assumption, because in this film, it is the family, rather than the boy, who are portrayed as the victims of the illness. However, as has already been discussed, without cognitive validation, these effects were not sustained.

The Use of Multiple Models

In the 'Integrated' film there are a variety of potentially relevant 'heroes' with whom the viewer may identify. The importance of using multiple models who are seen to be relevant (Zimbardo and Lipepe, 1991) was emphasised in a relatively recent study using TV spots to reduce prejudice (Vrij, Van-Schie and Cherryman, 1996).
This study concluded that it was essential to present more than one stigmatised (in this case ethnic) group.

In the DICAM study, post exposure discussions with different groups of people have revealed strong and varied identification with the different characters portrayed, largely determined by perceived self similarity i.e., relevance (cognitive empathy) and/or feelings of emotional empathy leading to identification.

However, because the program is spirally constructed so that information supplied about one of the models may be repeated in reference to another (for example the importance of drug therapy being stressed for all three of the characters portrayed as having schizophrenia), all cognitively and/or emotionally relevant information can be cognitively and/or emotionally validated during the course of the program, for each viewer, irrespective of which 'hero' is salient for him or for her.

This concept of 'chaining' or 'spiralling', whereby cognitive and emotional information is repeated, textured and validated throughout the program (Bruner, 1966; Vygotsky, 1978; Rogoff, 1990), both directly and by observation (Bandura, 1986), is the critical practical contribution of the DICAM.

'STAND ALONE' OR 'ON LINE' INTERVENTION

According to the DICAM the particularly marked improvement in short term knowledge can be attributed to the textured repetition of facts throughout the 'Integrated' film and the very strong and direct reiteration of cognitive information
right at the end of the program. This 'Documentary' post script is not without its own emotion. It is preceded by the heartbreaking image of a devoted father bringing flowers into the hospital. Over this image the voice of the psychiatrist informs the viewer that his daughter, once a beautiful and vivacious teenager:

'now lives permanently at the hospital, she seldom moves and does not speak at all. Her father continues to visit her, three times a week'.

The postscript then capitalises on the emotion aroused. It is presented by the psychiatrist, who has become a 'hero', speaking sincerely, directly and confidentially to the viewer. At the same time his authoritative status, as a professor of psychiatry and leader of a clinical research unit, is graphically captioned in an 'on screen' subtitle. The gravity of his presentation validates the pathos of the previous scene, which in turn lends emphasis to the factual information which is being very clearly and simply repeated.

Because the post-test was administered immediately after the screening, the participants' recall for facts so frequently and recently repeated was very high. Some loss of memory had to be expected and, according to this model, those facts least associated with the viewer's own emotional experience of the film would be those most likely to be forgotten. This was endorsed by anecdotal evidence: male participants who identified strongly with Nicky's boyfriend Tony, clearly remembered the 'symptoms' of schizophrenia, especially the frustrating obsessions, associated with the illness; while middle aged parents who viewed the program, were more accurately able to recall the aetiology (causes) of schizophrenia.
Providing all the components required for cognitive restructuring and attitude change within one ZPC or 'link in a chain' and then repeating that composition in a series of spirally textured links, within one integrated whole, is the very essence of the DICAM. The efficacy of the method of 'chaining' would appear to be further endorsed by the consistent maintenance of change in knowledge and attitudes over a nine month period, for the groups who had seen the 'Integrated' film, compared with the instability of the beliefs and attitudes of the subjects who had seen either the Documentary or the Drama.

This is consistent with the findings of Mackie and Asunciön (1990) who distinguish what they call 'on line' attitude change (whereby evaluations are formed during exposure to the message), from 'memory based' attitude change (which is related to subsequent recall of message content). They too found attitudes formed concurrently with the message to be comparatively strong and resilient. In order to achieve this sort of 'on line' attitude change, they found that it pays to be honest about the aims of the program. People tend to be resistant to change if they feel that they are being 'fooled' or 'brain-washed' (Brown, 1963; Zimbardo and Lipepe, 1991). In the Dutch study, Vrij, Van-Schie and Cherryman, (1996) also concluded that it was important to be 'up-front' about the purpose of the communication and stressed the benefits of identifying the aims of the message and making them explicit, straightforward and unambiguous. In the DICAM study, only in the 'Integrated' film is it made explicit that old schizophrenia schemata and attitudes are being challenged (Anderson, 1977). The Documentary, presents factual information in lecture, or 'talking head' format, punctuated by informational interviews and, The BBC Drama simply tells an emotional 'story'. However the 'Integrated' film confronts the viewer with painful emotional experiences (Lang, 1993), challenging cognitive concepts (Piaget and
Inhelder, 1969) and modelled representations of familiar schemata and attitudes (Bandura, 1986) which are then counter-argued and debunked (McGuire, 1964, 1985), both by further emotional experience and by further cognitive information.

The whole process of attitude change is modelled for the viewer during the course of the 'Integrated' film. There is no attempt to 'fool' the viewer, quite the contrary, because the 'heroes' start with similar attitudes to those initially held by the viewer (as established in the pilot studies and literature reviews) the viewer is reassured, he or she does not feel criticised and, when he or she is encouraged to change with the relevant 'hero' it is a positive experience for which he or she can expect to be both cognitively and emotionally reinforced (McGuire, 1985; Bandura, 1986).

Thus the 'Integrated' film, does not allow for the effects of reconstructive or selective memory (Pratkanis and Greenwald, 1989; Ross, 1989; Echabe and Rovira, 1989), which occurs when an intervention contains some information which challenges previously held beliefs and attitudes but which allows the subjects to go away and then select what they will remember. This will always be possible, unless the Intervention is complete in itself, i.e., unless the 'new' or modified beliefs and attitudes are firmly in place by the end of the intervention.

In conclusion, the aim of the DICAM study was, that the experimental intervention based on the DICAM, i.e., the 'Integrated' film, should be able to stand alone (Mackie and Asuncion, 1990), i.e., that it would generate cognitive restructuring and attitude change without any complementary resources (Gilmore, 1992) and, that the changes would be effected by the end of the film and not be contingent on subsequent cognitive elaboration (Pratkanis and Greenwald, 1989).
This would appear to have been achieved. However the results of the study need to be interpreted with some caution.

Limitations of the Study

Unlike the work of neuroscientists (Talbot et al, 1991; Nauman and Bartussek, 1991; Panksepp et al, 1991; LeDoux, 1992, 1993, 1994, 1996; Damasio, 1994) whose research has contributed so much to the conceptual development of the DICAM, the current study did not allow for the kind of precision which may be achieved by the scanning and measurement of neural activity within the brain. Many of the deductions presented in this discussion of the results of the DICAM study are inferential because they relate to presumed interactions taking place in the brain. For example, it is not possible to prove that the 'Integrated' film was more successful than the independent treatments because it was integrated. It is only possible to demonstrate that it was more effective in engendering a positive change in beliefs and attitudes towards people with schizophrenia and their families than either the cognitive, or the emotional treatment and to suggest that this was as a result of the dynamic interaction of cognition and emotion generated by the film.

The assumption that the integration of cognition and affect is more powerful than the simple addition of cognition and affect was not tested in the study. The complexity of the context combined with financial restraints to preclude the development and production of four custom-made interventions, which would be the only way to accurately test the effects of: a cognitive model (documentary); an affective model (drama); a cognitive plus affective model (e.g. a short documentary followed by a short drama) and an integrated model, with all other variables being held constant.
Furthermore, because the treatments chosen to represent 'purely cognitive' and 'purely affective' strategies for cognitive restructuring and attitude change were extant rather than custom-made, they are at best arbitrary.

As previously mentioned, an optimum experiment designed to test the DICAM would require four custom-made treatments, which was not an economic possibility for this study. This is partly due to an overestimation of the program length needed to achieve a high level of viewer identification and involvement. It was believed at the time, that in order to have the viewers thoroughly involved with the characters being portrayed, the film would have to be at least an hour long. However it is now speculated that the same results in terms of schema and attitude change might be achieved by a much shorter intervention, especially if the context chosen were simpler. In fact, the length of the treatments (60 minutes) proved a problem both methodologically and in terms of future use of the 'Integrated' film in educational settings. It is hoped that future educational resources based on the DICAM may be either shorter or segmented.

The experimental design of the study required six groups of randomly allocated subjects. Finding a sample large enough to support these six groups and then maintaining that sample over a period of nine months proved challenging. Because participation was voluntary, students who were approached in tutorial groups where the tutor was interested and supportive were the most likely to take part. Maximum participation was found in groups where the tutor herself participated. Students who were approached in tutorials watched the films during their lunch break. Significantly fewer students were willing to participate when approached in a lecture situation despite the fact that the films were shown during their normal lecture time.
There was a high rate of attrition over the nine month period and the delayed test results of both the Drama and the Documentary are based on the responses of only 16 subjects in each group. The consequent reduction in predictive power is acknowledged.

It is also a limitation of the study that it was, to a large extent, 'context driven', i.e., it was always the intention to create an intervention aimed at reducing the stigma associated with schizophrenia. The whole subject is not only controversial but also extraordinarily complex which made it difficult to isolate finite elements to be measured. It is therefore suggested that further research, aimed primarily at testing the refined model of the DICAM\textsuperscript{6} should adopt a simpler context and generate four short, custom made interventions. These interventions might have a limited number of very clear concepts and attitudes which would be easy to measure.

Finally, in the interests of accuracy concerning the optimum treatment of schizophrenia, an omission is acknowledged in the cognitive content of the 'Integrated' film. Because the film focuses primarily on the medical model of schizophrenia, due recognition was not given to the important role of therapy, especially family therapy (Barrowclough and Tarrier, 1987a, 1987b, 1990, 1992a, 1992b) in the treatment of schizophrenia. Although this omission does not affect the validity of the conceptual model itself, nor negate the value of the film as an educational tool, it still needs to be acknowledged as an omission.

\textsuperscript{6}To be presented in the following chapter.
Generalisability

The aim of this study was to create an educational tool which would correct inaccurate beliefs and generate equitable attitudes towards people with schizophrenia and their families. As discussed in Chapter 4., a literature review and preliminary qualitative research suggested that people with schizophrenia and their families were most adversely affected by the beliefs and attitudes of mental health professionals. Student nurses were chosen as the sample population for the study because mental health is included in their curriculum and because there is a large intake of students each semester. However it is a contention of this study that the educational tool which it has generated will have a similar effect on any population with a reasonably similar culture. This is consistent with the finding of McNeil et al (1982) as cited in Damasio' (1994) that physicians respond no differently to non-physician patients when presented with emotionally biased prognoses., i.e., being told that 90 per cent of persons receiving a recommended treatment are alive five years later as opposed to being told that 10 per cent are dead. Emotional appeal and emotional bias transcend social, political, economic and intellectual boundaries. Therefore it is assumed that interventions based on the DICAM will be persuasive no matter what the composition of the target population in terms of intellect or experience.

With regard to the application of the model: In this study the conceptual model of the DICAM has been used to generate an intervention aimed at changing detrimental beliefs and attitudes and it is hoped that it may be used to generate similar resources in other contexts, such as racial intolerance and child abuse. However, the DICAM is not only a model for persuasion it is also a model for learning and as such, provides a unique basis for the development of curriculum resources and teaching strategies.
This concludes the discussion of the results of the study. Some questions for future research have been indicated during the course of this discussion and will be considered in the final chapter. The next chapter will present the refined model of the DICAM which was developed during this five year study. The most recent literature has been integrated in the final conceptualisation of the model.
CHAPTER 15.

THE DYNAMIC INTERACTIVE COGNITIVE AND AFFECTIVE MODEL (DICAM)
FOR COGNITIVE RESTRUCTURING AND ATTITUDE CHANGE.

'Both the cognitive and emotional components of attitudes need to be addressed if
efforts to produce greater community tolerance of the mentally ill are to be
successful. Facts and logical arguments alone will be resisted... Research into the
effectiveness of various means of presenting information that corrects the
impression that all people with schizophrenia are likely to be violent would
constitute a worthwhile priority for future endeavours' (Levey and Howells, 1994).

The Dynamic Interactive Cognitive and Affective Model (DICAM) for cognitive
restructuring and attitude change, which has been developed as part of this
dissertation, attempts to bridge the gap identified by Levey and Howells (1994). It
concurs with Levey and Howells' perception, that models for attitude change continue
to minimalise the critical role played by emotion in the process of cognitive
restructuring and attitude change and proposes a model which gives equal emphasis
to emotion and cognition.

In this chapter there is a brief introduction to the development of the DICAM, followed
by a discussion of its underlying assumptions. The full model of the DICAM is then
presented and finally, the DICAM is considered in terms of its contribution to the two
current dominant models for attitude change, the Elaboration Likelihood Model
(Cacioppo and Petty, 1981, 1986) and the Heuristic Systematic Model (Chaiken, 1980;
Chaiken et al, 1989).
INTRODUCTION: The Role of Emotion in Cognitive Restructuring and Attitude Change

It is and indeed always has been acknowledged, that attitudes have an emotional component (Triandis, 1971; McGuire, 1985; Asch, 1987; Zanna and Olson, 1993; Eagly and Chaiken, 1993; Petty et al, 1997). More recently, it has been suggested that rather than assuming that all attitudes have an affective, a cognitive and a behavioural component, that these domains be treated as correlates of attitudes (Zanna and Olson, 1993), i.e., that emotional attitudes are based upon affective information (Zanna and Rempel, 1988), knowledge-based attitudes on cognitive information (Cacioppo and Petty, 1986) and self-perception inferences, on behavioural information (Bem, 1972). Nevertheless, whether discussing the affective component of an attitude or an affective attitude per se, basically attitude theorists have continued to consider the role of affect in attitude formation and change in terms of: conditioning or association (Edwards, 1990; Millar and Millar, 1990); peripheral cues (Petty and Cacioppo, 1997); simple learned heuristics (Chaiken et al, 1989); frequency of exposure (Arkes et al. 1991); and, mood factors (Davis et al, 1997) (For reviews of current attitude research see: Zanna and Olson, 1993; Eagly and Chaiken, 1993; Petty et al, 1997).

That the key to attitude formation and attitude change may lie in emotional experience is not in itself, an original proposition. As quoted before (Ch.7.), the 'mentor' of attitude theory for some three decades, Gordon Allport (1954), listed trauma, which he defined as, "a single intense emotional experience", as one of the four conditions for the formation of attitudes.
Similarly, despite his overtly cognitive stance in 1952, by 1987 Solomon Asch had concluded that the 'emotional component' of attitudes was frequently dominant and that it was this component that made attitudes resistant to extinction or change. This conclusion, is echoed in Lang's (1979, 1993) psychodynamic theories pertaining to the organisation of emotion in memory. Consistent with the propositions of the DICAM relating to emotional experience, empathy and identification, Lang claimed that it is propositions regarding felt emotional response which are salient in memory and, that it is the memory of emotional response which triggers and facilitates the memory for stimulus factors and meaning. This complements the neuroscientific evidence that implicit emotional memories stored in the amygdala, trigger more detailed declarative memories stored in the hippocampus, making both available to the cognitive ruminations of the pre-frontal cortex (working memory) (LeDoux, 1996; Damasio, 1994).


Initially developed from a synthesis of schema theory (Bartlett, 1932; Piaget and Inhelder, 1969, Anderson, 1977) and social cognitive theory (Bandura, 1986), the Dynamic Interactive Cognitive and Affective Model for cognitive restructuring and attitude change proposes a unique integration of the psychodynamic, psycho-biological and neuroscientific research cited above, with theories of learning, communication and attitude change.
ASSUMPTIONS OF THE DICAM

(The Dynamic Interactive Cognitive And Affective Model for Cognitive Restructuring and Attitude Change)

The DICAM proposes that both cognitive restructuring and attitude change can be initiated, facilitated, and achieved by a manipulation of cognitive conflict and emotional experience which is then repeated, textured and validated by further cognitive input or further emotional experience, or both. It proposes that such a manipulation mirrors the neural circuitry of the human brain reacting to sensory input.

The basic assumptions of the DICAM are:

1. That cognitive restructuring and attitude change take place within a Zone of Potential Change (ZPC) which is activated by cognitive and/or emotional cues.

2. That both emotion and cognition play a central role in the process of cognitive restructuring and attitude change.

3. That the process of cognitive restructuring and attitude change is facilitated by the dynamic interaction of cognition and emotion (and that this interaction produces an effect greater than the sum of the effects of either emotion or cognition when introduced independently)

4. That cognitive restructuring and attitude change are contingent on the validation of 'new' schemata and attitudes through cognitive and/or emotional elaboration.
The basic assumptions of the DICAM in action are:

5. That rapid 'on line' schema and attitude change can be achieved by an intervention based on the DICAM.

6. That beliefs and attitudes can be learned, reinforced and changed by observation alone.

ASSUMPTION 1. THE ZONE OF POTENTIAL CHANGE

The DICAM proposes that a Zone of Potential Change, ZPC (Baron and Misovich, 1993) is created, either by cognitive stimulation or emotional arousal, or both; and that within that zone, change in schemata and attitudes takes place as a result of the dynamic interaction of cognitive conflict and emotional experience.

The DICAM further proposes that as change takes place, the ZPC is regenerated to accommodate and facilitate further change through additional cognitive and emotional information. It likens the spiral effect of cognitive restructuring and attitude change through the dynamic interaction of emotion and cognition to 'links in a chain', each link having an independent outcome but also leading on to the next link and, together with all subsequent links, being part of the chain as a whole.
The Zone of Proximal Development

In developing the DICAM, the 'zone of potential change' was initially referred to as a 'zone of proximal development' or ZPD, as first conceived by the Russian scientist, Lev Vygotsky (1978). In Vygotskian terms the ZPD refers to the difference between what an individual or 'novice' is capable of achieving alone and what he or she is capable of achieving when working with a more capable individual or 'expert'. This achievement is not merely measured in practical terms but, as described in Barbara Rogoff's, 'Apprenticeship in Thinking' (1990), in terms of cognitive ability, the ability to 'think'. Vygotsky treated 'thought' as being structured through activity and language, first at a social level and then at the level of internalised processes (Vygotsky, 1981; Zinchenko, 1985).

In the development of the DICAM the term ZPD was originally used to describe the cognitively and affectively sensitive area (or group of schemata and attitudes), activated by emotional arousal and/or cognitive stimulation.

In the functional expression of the DICAM, the 'Integrated' film, it was intended to work within that area or 'zone', for each participating subject. The researcher (as the 'expert'), by means of exposing the subject (the 'novice') to 'the integrated' film, would build a spirally textured scaffold (Bruner, 1966; Vygotsky, 1978; Rogoff et al, 1991), whereby the responsive participant, by a process of cognitive elaboration, assimilation and accommodation, would climb to a new cognitive structure and consequently enter a new zone (of proximal development).
Limitations of the Concept of ZPD

This analogy was useful as far as it went, however the concept of a ZPD is associated with purely cognitive processes (Wertsch and Stone, 1985) and, as has already been stated, the DICAM gives equal, if not greater weight to the role of emotions and emotional intelligence in the formation and change of schemata and attitudes (Lazarus, 1991; LeDoux, 1992, 1994, 1996; Lang, 1993; Damasio, 1994; Goleman, 1996). Furthermore the very word 'development' has maturational implications (Kohlberg and Mayer, 1972) and indeed the concept of the ZPD has been employed virtually exclusively in studies of child development and school learning, whereas the research reported in this dissertation focuses more specifically on the modification and change of previously developed (frequently mature) schemata and attitudes.

From ZPD to ZPC

Baron and Misovich (1993) have proposed a useful alternative to the concept of a ZPD, which they developed by means of a conceptual integration of the theories of Vygotsky (1978) and Gibson (1979). Gibson's affordance theory also focuses on socially structured activity as being fundamental to the acquisition of knowledge, however, whereas Vygotsky emphasised activities that stimulate cognitive processes, Gibson emphasised activities that fall clearly within the affective domain, such as nurturing, cooperating, competing, dominating etc. What Baron and Misovich (1993) proposed was, that cognitive (Vygotsky, 1978) and affective (Gibson, 1979) stimuli combine to create a Zone of Potential Change (ZPC). They described this zone as:

"The difference between the range of attitude responses an individual may produce towards a given object on their own, and the range of attitude responses the individual may produce towards the object when in interaction with one or more other people whose attitudes differ from that person's initial position" (Baron and Misovich, 1993, p.57).
Baron and Misovich explained that the concept of the ZPC also finds its roots in social judgement theory (Sherif and hovland, 1961) because it acknowledges the constructive role of previously held attitudes in the process of attitude change. This is consistent with inoculation theory (McGuire, 1964, 1985) and social cognitive theory (Bandura, 1986), and with the functional expression of the DICAM, the 'Integrated' film, wherein previously held beliefs and attitudes (identified in the pilot studies and in the literature), are modelled and then counter-argued.

While adopting the concept of a Zone of Potential Change (ZPC) generated by cognitive and/or emotional stimuli, as a component of the DICAM, the DICAM proposes a broader theoretical definition of the concept. This is because:

(a) the DICAM proposes, not only to effect attitude change but also to effect cognitive restructuring, i.e. schema change; and,

(b) the definition of attitude 'change' described in this dissertation, is not limited to one of adopting opposite or 'different' attitudes, e.g., an attitude that is reinforced and strengthened may also be said to have 'changed' (Bright and Manfredo, 1997).

Therefore, the DICAM defines the concept of a ZPC as

a cognitively and emotionally sensitive area, created by cognitive and/or emotional sensory stimulation, wherein existing schemata and attitudes are dynamically present, i.e. currently active and available to the organism.
It is within this ZPC that the process of cognitive restructuring and attitude change takes place. Tentative 'new' or modified schemata and attitudes, formed in response to cognitive conflict and/or emotional experience are tested by a process of equilibration and elaboration, potentially involving further emotional experience and cognitive input/inquiry. During this process some 'new' or modified schemata and attitudes will be validated and accepted and some will be rejected. At the same time the process itself, plus the additional emotional experience and/or cognitive input will generate further 'new' or modified schemata and attitudes, thus creating a 'new' or expanded ZPC.

ASSUMPTION 2. THE CENTRAL ROLES OF EMOTION AND COGNITION

The DICAM regards both emotion and cognition as playing a critical and complementary role in the formation and change of attitudes and schemata.

The DICAM and Emotion

The DICAM elevates the role of emotion from a peripheral or heuristic function and places it in a central and powerful position, dynamically interacting with cognition to initiate, facilitate and validate schema and attitude change. In doing so it accepts the neurological (LeDoux 1986, 1992, 1993, 1994; Damasio, 1994) and biological (Ekman and Davidson, 1994) evidence presented and critiqued by Goleman in the first few chapters of 'Emotional Intelligence' (1996), i.e., that emotion is an integral, functional and occasionally independent, factor in the thought process.

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1The critical contribution of empirical research in neuroscience to the development of the DICAM was discussed at length in Ch.9.
In his analysis Goleman describes the emotional and the cognitive aspects (or neural circuitry) of the brain, in terms of 'mind'. Thus he refers to the 'emotional mind' and the 'rational mind' as having the power to be independent, complementary or integrated.

'These two minds, the emotional and the rational, operate in tight harmony for the most part intertwining their very different ways of knowing to guide us through the world. Ordinarily there is a balance between emotional and rational minds, with emotion feeding into and informing the operations of the rational mind and the rational mind refining and sometimes vetoing the inputs of the emotions. Still, the emotional and rational minds are still semi-independent faculties, each reflecting the operation of distinct but interconnected circuitry in the brain' (Goleman, 1996, p.9)

This neuro-biological analysis is mirrored: (a) in the socio-psychological work of Richard Lazarus (1984, 1991) who also proposes that emotional sensory input is a structural factor essential to the process of rational thought; and (b) in the psychodynamic work of P.J.Lang (1993) who discusses emotion in terms of three categories of informational propositions. Sensory information, information governing appropriate response and information that defines the meaning of the stimulus and response data.

Although Lang was not specifically addressing the topic of attitude change in his discussion of emotional imagery, the following passage could be read as a clinical expression of the functional integration of emotion and cognition in the DICAM:

'In discussing emotional imagery we proposed that emotion information is coded in memory in the form of propositions and that these propositions are organised into an associative network of the general sort first described by Quillian (1966) for semantic knowledge and later adapted to accommodate other types of information (e.g. Anderson and Bower, 1975; Kieras, 1978). The emotion information network is a sort of prototype or schema, which is processed as a unit when a critical number of propositions are accessed. This processing is held to be the cognitive work of emotional expression. Efferent outflow and action are the output events occasioned by the processing of response information (i.e., the efferent subroutines) in the network program' (Lang, 1993, p.75).
In conclusion, with regard to the role of emotion, the DICAM recognises: a) that emotion plays a central and indispensable part in the process of rational thought and thus in the formation and modification of schemata and attitudes (Lazarus, 1991; Hatfield et al, 1994; Damasio, 1994); b) that emotional response imprints the memory with an added degree of strength (LeDoux, 1992, 1994, 1996), serving as a trigger for later contextual recall (Lang, 1993); and, c) that emotional response can be strong enough to by-pass the thought process altogether (See Goleman, 1996).

The DICAM and Cognition

Despite its unique recognition of the complementary and powerful role played by emotion in the process of cognitive restructuring and attitude change, the DICAM was initially developed from cognitive learning theory (Bruner, 1966; Piaget, 1977; Anderson, 1977; Norman, 1980; Bandura, 1986) and, it remains basically a cognitive model. It accepts that genuine cognitive restructuring and enduring attitude change are ultimately contingent on a cognitive evaluation of tentative i.e., newly formed or modified, schemata and attitudes. Therefore it does not challenge but rather complements, the two currently dominant models for attitude change, the Elaboration Likelihood Model (ELM) (Cacioppo and Petty, 1981, 1986) and the Heuristic Systematic Model (HSM) (Chaiken, 1980; Chaiken et al, 1989) both of which emphasise cognitive processing as being the 'central' route to attitude change.

With regard to the role of cognition, the DICAM recognises: a) that emotional responses are less accurate than cognitive responses (LeDoux, 1993, 1994, 1996) and are generally interactively evaluated through the process of cognitive elaboration (Cacioppo and Petty, 1986; Goleman 1996); and, b) that the resolution of cognitive and/or emotional discomfort through cognitive elaboration (Cacioppo and Petty, 1986;
[systematic processing] Chaiken, 1987) and equilibration (Piaget and Inhelder, 1969; Anderson, 1977) remains the primary route to schema and attitude change (Olson and Zanna, 1993; Petty et al, 1997).

ASSUMPTION 3. THE INTERACTION OF COGNITION AND EMOTION

It was the cognitive scientist Donald Norman (1980) who cogently reminded learning theorists of the biological and neurological relationship between emotion, memory and cognition. His conceptual analysis of the complementary role of affect in information processing, foreshadowed Goleman's (1996) fascinating psycho-biological analysis of 'emotional intelligence', in which he reviews the neuro-biological evidence of emotional primacy and potency, and which has contributed so much to the development of the DICAM.

The DICAM assumes that the interaction between emotional information (or experience) and cognitive information is both dynamic and powerful and that therefore, the product of that interaction is greater than the sum of its parts. This is consistent with LeDoux's (1994) empirical research into the interaction between the amygdala and the hippocampus; and with Hatfield's (1994) analysis of the critical role of emotional information in the formation of cognitive mental representations. Thought of as a simple equation, the DICAM proposes a) that, if emotional sensory input = A and cognitive sensory input = B, then the product of A and B is greater than the sum of A and B, i.e., \( A \times B > A + B \); and b) that all perception and consequent schema formation or modification, is governed by this multiplication effect.
ASSUMPTION 4. THE CRITICAL IMPORTANCE OF VALIDATION

Although it has been found, especially in times of danger, that schemata and attitudes may be formed and acted upon instantly (LeDoux, 1994, 1996; Damasio, 1994, 1995; Bargh, 1994; Goleman, 1996), it has also been found, that these primarily 'emotional' representations, tend to be short lived (LeDoux, 1994, 1996)\(^2\). The DICAM assumes that tentative schemata and attitudes will be formed in response to cognitive and/or emotional data and that those tentative schemata and attitudes will be tested and evaluated within the Zone of Potential Change (ZPC).

Therefore the DICAM assumes: a) that the organism will take into account any further relevant cognitive or emotional information that occurs within that ZPC; b) that it may actively seek confirming or discounting cognitive data and/or emotional experience; and c) that, if sufficiently motivated, it will engage in cognitive elaboration in order to either validate or reject the immature schemata and attitudes. It also assumes that emotional data has more motivational power than cognitive data (LeDoux, 1992; Lang, 1993; Hatfield et al, 1994) and that therefore, emotional arousal is even more likely to stimulate cognitive elaboration than cognitive conflict. This has clear practical implications for the design of interventions based on the DICAM and leads naturally to the first assumption of the DICAM in action (assumption 5)

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\(^2\) This is a generalisation. As LeDoux (1996) points out some emotional responses are indelible.
ASSUMPTION 5. RAPID 'ON LINE' ATTITUDE CHANGE CAN BE ACHIEVED BY INTERVENTION

Because the DICAM assumes that emotional and cognitive information actively complement and enhance one another and that that interaction is ongoing and cumulative, it also assumes that exposure to an intervention which deliberately integrates emotion and cognition will result in a more powerful effect than exposure to either a cognitive or an emotional intervention, or both; and that therefore one integrated intervention will have more effect than two non-integrated interventions shown consecutively. It proposes that the integration of cognition and affect within the one intervention will facilitate the equilibration process and thus achieve 'on line' attitude change (Mackie and Asuncion, 1990).

The DICAM also proposes that presenting emotional and cognitive data concurrently, aids 'memory based' attitude change because the mnemonic salience of emotional response, stored in the amygdala, acts as a trigger for the recall of contextual details, stored in the hippocampus (Lang, 1993; LeDoux, 1994). Although memory based attitude change generally takes place some time after exposure to an intervention, it is also possible for some 'memory based' attitude change to take place during the actual exposure. This happens when the incoming sensory data 'reminds' the organism of an 'experience' (cognitive or emotional) earlier in the intervention, i.e., in a former 'link' or ZPC.

The DICAM proposes to create both 'on line' and 'memory based' attitude change through the technique of 'chaining'. It proposes that a validation of schemata and attitudes stimulated by cognitive and emotional data and the interaction of that data,
within the same ZPC and then, a further texturing and validation of those schemata and attitudes in a subsequent ZPC, maximises the possibility of generating immediate and enduring schema and attitude change. It likens each ZPC to a link in a chain. For example, in an intervention designed to counter the stereotypic image of a person with schizophrenia as being, violent, aggressive and somehow at 'fault' for suffering from the disorder, the concept of 'culpability' might be addressed thus:

1. The first link establishes that a vulnerable, artistic and innocent child (emotional information) is suffering from schizophrenia (cognitive information).

2. The next link: a) confirms this element of 'innocence', by establishing that an attractive and intelligent young woman also has schizophrenia (emotional and cognitive data); and, b) textures and extends her 'innocence' into 'sensibility', by having her acknowledge her illness and make every effort to learn about it (cognitive elaboration).

3. The next link confirms and extends her 'sensibility' into 'responsibility' as: she takes full control of her treatment (cognitive elaboration); suffers from stigma, as previously held attitudes are modelled (emotional elaboration); counters those perceptions (inoculation and repetition); and, begins to work with other people suffering from schizophrenia (cognitive elaboration).

Independently, the 'links' represent concepts of innocence, sensibility and responsibility. Together, they create a mental and emotional representation of an attractive, sensitive, intelligent and responsible person who, through no fault of her own, is suffering from a dreadful and debilitating illness; and who, despite this illness is capable of caring for others and achieving academic success. The emotional and
cognitive information about culpability has not only been textured and validated within each link but also in subsequent links, thus facilitating 'on line' attitude change. Similarly, because the emotional information has been designed to arouse a strong response, and because the complementary cognitive information has been designed to validate that response, the possibility of 'memory based' attitude change being triggered first by emotional and then by contextual recall, has been optimised.

ASSUMPTION 6. BELIEFS AND ATTITUDES CAN BE LEARNED AND REINFORCED BY OBSERVATION ALONE

This assumption simply accepts the empirical evidence provided by Bandura and his colleagues (Bandura, 1965, 1971, 1986; Bandura et al., 1961, 1963, 1967, 1969), that anything that can be learned by direct experience can also be learned by vicarious experience. It also accepts Bandura's proposal (1986) that the adoption of modelled behaviour can be promoted through modelled reinforcement. The DICAM extends this concept to propose that a 'way of thinking' is a form of behaviour and can be reinforced just like any other behaviour. Therefore the holding of beliefs and attitudes that are modelled in the intervention may be promoted by seeing the holding of those beliefs and attitudes be rewarded, even if that 'reward' is simply the approval of a credible and likeable 'expert' or 'hero'.

This concludes the discussion of the assumptions underlying the DICAM. A fuller account of the development of these assumptions is contained in the literature reviews presented in Chs. 7 - 10.
Fig. 21. Dynamic Interactive Cognitive And Affective Model (DICAM) for Cognitive Restructuring and Attitude Change
THE DYNAMIC INTERACTIVE COGNITIVE AND AFFECTIVE MODEL (DICAM)
FOR COGNITIVE RESTRUCTURING AND ATTITUDE CHANGE

Reading the figure from left to right.

In order to create a Zone of Potential change (ZPC) (symbolised by the large obloid enclosed by an unbroken line), it is necessary for the relevant schemata to be activated. This may happen:

a) simply as a result of emotional arousal [single descending arrow] (in the DICAM study a 'nightmare' sequence followed by the disturbing frozen image of a terrified child);

b) simply as a result of cognitive stimulation [Single ascending arrow] (in the DICAM study the word schizophrenia used as an on screen graphic); or,

c) as a result of the interaction between emotional arousal and cognitive stimulation [broken double headed arrow]. The DICAM suggests that this interaction [symbolised by the shaded ellipse] is the most likely and the most potent activator of schemata (in the DICAM study the concurrent presentation of the emotional and the cognitive information presents a confusing challenge deliberately designed to provoke cognitive elaboration). The DICAM also suggests that initial emotional responses are stronger than cognitive responses and therefore play an equal, if not greater part in the creation of a ZPC.

The first ZPC is symbolised by the unbroken obloid.

A complete cycle of the process of cognitive restructuring and attitude change, as conceived by the DICAM, is contained within this zone.

Tentative 'new' or modified schemata and attitudes are formed:
a) as a *response to emotional experience* [single descending arrow] (in the DICAM study, the simulated experiences of having schizophrenia *and* of having a family member, close friend or colleague with schizophrenia);

b) as a *response to cognitive conflict* [single ascending arrow] (in the DICAM study, factual information about schizophrenia which challenges current schemata and attitudes as identified in the literature and in pilot studies);

c) as a result of the *interaction between the cognitive and emotional data* [double headed broken arrow]; and,

d) as a result of *cognitive elaboration* provoked as a response to a) and/or b) and/or c).

The tentative 'new' or modified schemata and attitudes are then *evaluated* in the light of further emotional experience and cognitive input and the interaction between them. This additional cognitive and emotional information may be actively sought by the organism. However in the case of the DICAM, because it is an intervention study, the *additional cognitive and emotional data is given as textured information designed to complement, reinforce and validate the facts and experiences already given.*

The process of validation or rejection requires further cognitive elaboration and results in the *creation of a 'new' ZPC* (symbolised by an obloid enclosed by a broken line). At the same time the additional emotional and cognitive data, along with those schemata and attitudes that were rejected, will generate *further tentative 'new' or modified schemata and attitudes* which, along with those recently validated, will contribute to the 'new' ZPC.

Within this 'new' ZPC the process continues, with:

a) 'new' or modified schemata and attitudes being further validated and,

b) the tentative (including some of the rejected) schemata and attitudes being *textured* by further cognitive and/or emotional sensory input and either validated or further discounted.
CONTRIBUTION OF THE DICAM TO THE DUAL PROCESS MODELS OF ATTITUDE CHANGE: THE ELABORATION LIKELIHOOD MODEL (ELM) AND THE HEURISTIC SYSTEMATIC MODEL (HSM)

For the past decade attitude research, and particularly research into persuasion, has been dominated by two dual process theories. Petty and Cacioppo's (1981, 1986) Elaboration Likelihood Model (ELM) and Chaiken's heuristic-systematic model (Chaiken, 1987; Chaiken et al, 1989). Both models focus on attitude formation and change as being initiated, facilitated and achieved by means of two possible sets of process, or 'routes':

(a) a central route, requiring careful (and effortful) cognitive elaboration (Cacioppo and Petty, 1981, 1986), or systematic processing (Chaiken, 1980; Chaiken et al 1989), of incoming data, by able and motivated individuals⁵; and,

(b) a secondary route, consisting of peripheral cues (Cacioppo and Petty, 1986) or simple heuristics (Chaiken et al, 1989) which are generally seen to be associative and frequently affective, such as source attractiveness and credibility.

In essence, route (a) the 'central' (Cacioppo and Petty, 1986) or 'systematic' (Chaiken et al, 1989) route, is seen to be strong and enduring; and route (b) the 'peripheral' (Cacioppo and Petty, 1981, 1987) or 'heuristic' (Chaiken, 1980; Chaiken et al, 1989) route, is seen as supplementary or temporary.

⁵Having the ability to examine issue relevant arguments and being motivated to do so because of perceived personal consequences (see Ch.7.)
Dual Process Theories and Emotion

Although the ELM is basically a cognitive model Cacioppo and Petty argue that:

'The ELM recognises that people can scrutinise or elaborate upon feelings and behaviours as well as beliefs if they are perceived central to the merits of the attitude or object under consideration. In short, just as peripheral cues can be based on affective, cognitive or behavioural factors, a person's perception of the central merits of an attitude object can be based on these domains as well.' (Cacioppo and Petty, 1986 p.18)

Whether the ELM does allow for emotional primacy (Zajonc, 1980, 1984) or pre-eminence (Lang, 1993) in attitude change is a moot point since, as yet, there appears to be little or no empirical evidence of such an application.

In their most recent review of the literature on attitude formation and change, Petty et al (1997) continue to discuss the research effort in terms of cognitive elaboration and cue variables. Neither emotion nor affect are mentioned in their conclusions, although it can be inferred (Cacioppo and Petty, 1986; Eagly and Chaiken, 1993) that affective factors are present in the discussions concerning motivation and bias. Motivation and bias are discussed in terms of cue variables which impact on information processing (Petty et al, 1997).

Eagly and Chaiken (1993) acknowledge that Zajonc and his colleagues (Zajonc 1980, 1984; Zajonc and Markus, 1984; Zajonc, Murphy and Inglehart, 1989; Zajonc, Pietromomaco and Bargh, 1992) have long argued for recognition of affective primacy in attitude change. However, they (Eagly and Chaiken, 1993) also observe that Zajonc and his colleagues do not integrate the influences of cognition and affect and, that by treating them as governing functionally independent systems they may have exaggerated their autonomy.
The unique contribution of the DICAM is, that it views emotional arousal and ongoing emotional experience as being engaged in a dynamic, integrated and interactive relationship with cognition. Emotion is not treated merely as a 'mood' factor (Davis et al, 1997; Forgas, 1995; Wegener and Petty, 1996), or as an exposure factor (Zajonc, 1980; Murphy et al, 1995), or as a peripheral cue (Maheswaran, 1994), or as a stimulus for conditioning whether classical (De Houwer et al, 1994), or operant (Cacioppo et al, 1993). Instead, emotion is treated as a primary and functional factor in precipitating and facilitating cognitive restructuring (Lang, 1993, Lazarus, 1991) and attitude change.

The DICAM, and the Dual Process Models

The conceptual framework for the DICAM was initially developed from cognitive learning theory and, like the DICAM, the conceptual framework underlying both the ELM and the HSM accommodates the underlying principles of cognitive learning theory (including information processing theory) both in terms of the equilibration process, whereby schemata are formed or modified in response to incoming sensory data (Piaget and Inhelder, 1969; Anderson, 1977; Rummelhart and Ortony, 1977, Norman, 1980) and, in terms of social cognitive learning which is based on vicarious experience, modelling and observation (Bandura, 1986). Broadly speaking information can be said to be processed, or schemata modified by the central route, i.e. cognitive elaboration, while learning by observation and modelling can be said to occur through the 'secondary' route, i.e. learned heuristics or peripheral cues.
The DICAM aims not to challenge but to complement the ELM (Cacioppo and Petty, 1981, 1987) and the HSM (Chaiken, 1980, 1987). As previously stated, where the DICAM differs from the dual process models is in its perception of the role of emotion. It considers emotion from a different perspective: a synergistic viewpoint (Buck, 1985; Tucker, 1981, LeDoux, 1996; Goleman, 1996) which, as suggested by Eagly and Chaiken (1993), regards affect and cognition as operating jointly:

'...to produce effects that are more attributable to their combination than to either one alone.' (Eagly and Chaiken, 1993 p.423)

By accepting a synergistic view of emotion and cognition, the DICAM incorporates the conceptual bases of the ELM and the HSM but also offers another dimension of analysis which gives greater potency to the role of emotion.

To cite a simple example offered by Cacioppo and Petty:

'An advertiser might want to convince you that a certain kind of car got good gas mileage (belief change), so that your liking for the car would increase (attitude change) and that you would be more likely to buy the car the next time you needed one (behaviour change) (Cacioppo and Petty, 1981 p.7).

This straightforward cognitive analogy is accurate and powerful as far as it goes, however, the DICAM proposes that you might be equally or even more powerfully persuaded to like the car, because it is red, sleek and shiny and because you felt that you 'deserved' something smooth, smart and sexy at this time in your life. Either way, your decision as to whether to buy the car or not, might be motivated by its economic gas usage (cognition), its attractiveness (affect) or other factors like your bank balance (cognitive) or your self image (affective).
According to the dual process theorists (Cacioppo and Petty, 1981, 1986; Chaiken, 1980, 1987; Chaiken et al, 1989), a consumer would be inclined to systematically evaluate the arguments for buying the car with a thoughtful cognitive elaboration of the relevant issues, and would only rely heavily on peripheral or affective cues such as colour and shape, or heuristics such as the credibility of the salesman, if he or she is unable or unwilling to make the required cognitive effort. By contrast, what the DICAM postulates is, that a consumer, who's 'my new car' schema has been activated by an immediate emotional response to a fast, flamboyant and flaming red roadster, will then be engaged in a dynamic and interactive process involving both cognitive inquiry and emotional experience and, that the emotional experience will strongly influence the formation and validation of whatever attitude is finally adopted towards the car. Furthermore, the DICAM proposes that it is possible for the initial emotional response to the car to completely hijack (Goleman, 1996; LeDoux, 1987, 1992, 1994, 1996) the elaboration process altogether and thus, the consumer may simply determine, "to have that red car come hell or high water."

In Conclusion
The uniqueness and power of the DICAM as a model for cognitive restructuring and attitude change lies:

(a) in its unashamedly eclectic integration of: theories of attitude change, communication and persuasion and theories of cognitive and social cognitive learning with recent psycho-biological and neuroscientific evidence of the role played by emotion in the process of cognitive structuring and the formation and change of schemata and attitudes; and,
(b) in its functional application, i.e., in the practical possibilities it offers for the
construction of interventions designed to generate both 'on line' and 'memory
based' attitude change and, more specifically, interventions designed to reduce
prejudice and promote health.

The dynamic, cognitive and affective model for cognitive restructuring and attitude
change, the DICAM, purports to bridge the gap between attempts to influence
attitudes that are based on cognitive models and those that are based on affective
models and thus to meet the demand made by Levey and Howells (1994) that future
research must endeavour to combine both cognitive and emotional strategies if it is to
be effective in improving attitudes towards the stigmatised.
'By the end of the program I wished the viewer to have a new schizophrenia schema which would be based on accurate knowledge and which would generate fairer and more realistic attitudes than those previously held.' (Ch. 10 p. 183)

This research has developed the Dynamic Interactive Cognitive and Affective Model (DICAM) for cognitive restructuring and attitude change, an educational model grounded in theories of learning, psychology, attitude change, communication and neuroscience.

The DICAM is unique in that it views emotion and emotional information as playing a fundamental and central role in the formation and change of attitudes and schemata (Lazarus, 1991; Damasio, 1994; LeDoux, 1996). It proposes that emotional responses are stronger and more memorable than cognitive responses (LeDoux, 1992, 1994, 1996; Lang, 1993) and that they serve as a 'trigger' for more detailed and accurate cognitive responses (Goleman, 1996) both in precipitating cognitive elaboration (Cacioppo and Petty, 1986) for 'on line' schema and attitude change (Mackie and Asuncion, 1990) and in facilitating recall for 'memory based' attitude change (Lang, 1993; Damasio, 1994; LeDoux, 1996).

The DICAM is also unique in proposing that the process of equilibration can be manipulated and accelerated, i.e. that rapid 'on line' cognitive restructuring and attitude change can be precipitated, facilitated and achieved through the technique of 'chaining'. This technique involves creating a zone of potential change (Vygotsky, 1978; Baron and Misovich, 1993) through cognitive and emotional challenge (Piaget,
providing textured repetition of cognitive and emotional data through direct information (McGuire, 1985; Zimbardo and Lipe, 1991) and simulated experience (Bandura, 1986; Aune and Klinge, 1994) and, validating that data through further cognitive information and emotional experience.

The DICAM accepts Bandura's (1986) view of observational learning as expressed in his Social Cognitive Theory (Bandura, 1986), i.e., that anything that can be learned directly, can also be learned by observation and simulation.

In the persuasion paradigm, the DICAM proposes that the key cognitive strategy is the provision of accurate information by a credible (expert and trustworthy) source (Hovland et al, 1953; Wilson and Sherrell, 1993) and that the key emotional strategy is the promotion of identification (Hatfield et al, 1994; Batson et al, 1997), which includes both emotional and cognitive empathy. The DICAM further proposes, that the combination of emotional and cognitive strategies is interactive and produces an effect greater than the sum of its parts (Goleman, 1996; 1994; Batson et al, 1997). Thus the DICAM proposes that fundamental (enduring) cognitive restructuring and attitude change can be achieved by a single screen intervention which employs both cognitive and emotional strategies concurrently, in a series of spirally textured sequences, i.e. a documentary drama.

In order to test the DICAM, a documentary drama, the 'Integrated' film (Schizophrenia: from the Inside Looking Out), was created and tested with a sample of student health professionals. Its effects were measured by two newly developed instruments the KOSI (Knowledge of Schizophrenia Inventory) and the ATSI (Attitudes towards Schizophrenia Inventory).
The effects of the 'Integrated' film were compared with the effects of a cognitive model (a documentary), an affective model (a drama), a placebo (an 'emotional' documentary on a different subject), and no treatment at all. Every care was taken to select a high quality documentary and a high quality drama both with cognitive content similar to that of the 'Integrated' film (i.e. explicit or implicit information about schizophrenia). However, because both these programs were extant it was not possible to control for every variable, e.g. nationality, year of production, etc.

How Successful was the 'Integrated' film?

The immediate effect of the 'Integrated' film on knowledge of Schizophrenia was substantial. This was accompanied by a significant, positive shift in attitudes, particularly the strongly emotive attitudes of social distance and fear. After a period of nine months the overall gain in knowledge was still very marked, the changes in attitude had been maintained without loss and, in some cases, had become even more equitable.

This is consistent with the assumptions: that a spiral integration of cognitive conflict, emotional experience and validation can have a powerful and enduring impact on the process of cognitive restructuring and attitude change; that the dynamic interaction of emotion and cognition is integral to the promotion, facilitation and maintenance of schema and attitude formation and change; and, that emotional response serves as a cue for contextual recall. The fact that, without further support, participants did not revert to previously held beliefs and attitudes over a period of nine months would suggest that the change was fundamental.
The value of the model has to be assessed in terms of the aims of the study. The aim was

'To create an intervention grounded in theories of learning, attitude change, psychology, communication and neuroscience, aimed at inducing change in attitudes and underlying schizophrenia schemata (i.e. beliefs about schizophrenia and attitudes towards those suffering from it) and to investigate its effectiveness on experimental groups, drawn from a selected target population' (Ch.7, p.67).

It has already been demonstrated that the 'Integrated' film is an accurate representation of the model of the DICAM and it has already been argued that the DICAM is well grounded in theories of learning, psychology, attitude change, communication and neuroscience. The effectiveness of the model has now been investigated with a sample of the target population and it has been shown to induce a significant change in knowledge of and attitudes towards, schizophrenia. This change, which was maintained over a nine month period, could not be accounted for by age, gender, occupation, history or experience of schizophrenia.

It is therefore reasonable to accept that the 'Integrated' film, based on the DICAM, was successful in generating 'new' schizophrenia schemata based on accurate knowledge, which in turn generated fair and realistic attitudes towards people with schizophrenia. Therefore the original research hypothesis, that:

‘The schizophrenia schemata (and consequent attitudes) of a target population can be changed by means of a single video presentation, created in accordance with the DICAM and with documentary\drama production values at international broadcast standard.' (Ch.7, p.68)

is supported by the results of the study.
How successful was the model when compared with other models?

Comparisons of the test scores of subjects treated with the 'Integrated' film, with the scores of subjects who received no treatment at all, clearly demonstrate that a 'stand alone' video intervention can have a lasting effect on knowledge and attitudes. This information is important, however, in terms of the DICAM, all that it demonstrates is that a program about schizophrenia has more of an effect on perceptions of schizophrenia than no program at all.

Similarly, comparisons of the test scores of subjects treated with the 'Integrated' film with the scores of subjects treated with the placebo, demonstrate that a program about schizophrenia has more of an effect on perceptions of schizophrenia than a program with unrelated content. However, in neither case is it demonstrated that the effect of the 'Integrated' film is causally related to its being designed according to the principles of the theoretical model of the DICAM. In order to test the 'unique' effectiveness of the 'Integrated' film it was necessary to compare it with the effectiveness of non-integrated programs with similar content.

The 'Integrated' film Vs the Documentary

It was expected that the Documentary, which contained a great deal of clearly authentic, cognitive information, but which did not overtly involve the viewer in any form of subjective emotional experience, would have a strong immediate impact on knowledge. However, without the mnemonic salience of emotional response to complement the cognitive input, it was predicted that the immediate gain in knowledge would be less enduring for the Documentary than for the 'Integrated' film. It was expected that there would be some improvement in attitudes as a 'flow on' from the increase in knowledge but that the gains would be insignificant and short lived.
As it turned out the Documentary had very little impact all round, although there was some delayed gain in knowledge (speculatively, delayed by a temporary increase in negative attitudes). In the light of Linton's (1992) proposal that the documentary film has been much undervalued as a method of persuasion and in the light of the fact that the documentary clearly remains the favoured method of screen education, the poor performance of the Documentary is both interesting and problematic. It certainly suggests a need for further investigation. This is not meant to imply that documentary programs are not valuable. It simply means that as a method of persuasion they may only be 'preaching to the converted' (or at best the 'motivated') and, that as far as persuasion is concerned, especially persuasion dedicated to the reduction of stigma, the documentary may not be the optimum tool.

Anecdotally, the Placebo, which was also a documentary but with emotional content, did have an effect (see Ch.13), although not on the knowledge and attitudes being measured. According to the DICAM, the positive effect of the Placebo on the attitudes of student nurses towards voluntary service, could be accounted for by its use of emotional strategies, i.e. emotional arousal, identification and emotional contagion. Further research, in different contexts, might clarify whether a documentary with emotional content would be as effective as a documentary/drama. For example Anne Deveson's internationally acclaimed, 'Spinning Out' (Deveson, 1991), which does adopt a more personal and emotional approach to schizophrenia.

As far as my 'personal' journey is concerned, I remain deeply indebted to Anne Deveson for her inspiration, her encouragement and her support. However, it was not 'Spinning Out' that inspired me to want to make a dramatised film about schizophrenia. It was her profoundly moving and extraordinarily powerful book, 'Tell Me I'm Here'.
Consistent with the proposals of the DICAM, what I could not forget were the powerful emotional images that she created, her own heartbreaking story and my emotional response as I read it. Consistent with my speculations about the presentation of 'actuals' in documentaries about mental illness, my reaction to the people with schizophrenia presented in 'Spinning Out' was to feel sympathy and compassion, yes, but not empathy. I did not identify with them, they were 'different' from me and I certainly was not moved to tears. By contrast, when the 'Integrated' film was screened in a cinema, I watched adult men leave the theatre weeping. I believe that that is why it works.

The 'Integrated' film Vs the Drama

Comparison of the integrated model with the BBC Drama is less complicated but equally interesting. As expected, the Drama had a highly significant immediate impact on attitudes of social distance and fear and on attitudes of family culpability and, 'as expected', this effect did not endure. These highly emotional attitudes are extremely reactive, often being formed very quickly and then extinguished in the light of cognition, a clear example of the 'emotional brain' temporarily hijacking the 'rational brain' (Goleman, 1996). Without the confirming experience and cognitive validation textured into the integrated program, the immediate impact of the Drama faded into insignificance over the nine month period.

Although the results appear clear, a word of caution is appropriate. The long term effects of the Drama on attitudes was not statistically significant in this experiment but the raw data does indicate some sustained effect for each participant on the scales measuring attitudes of family culpability and of rights and blame. Due to attrition, the number of participants in the delayed test was reduced, lowering the power of the
experiment and increasing the possibility of a type II error. Although the Drama was
not as effective as the integrated model in inducing sustained attitude change, it
should not be assumed that drama alone will not produce some sustained attitude
change. Furthermore, the unexpectedly negative effect of this Drama on attitudes of
social distance and fear weakened the predictive value of the experiment because
negative attitudes towards the mentally ill are discouraged in the contemporary
political and social climate, hence cultural values could have assisted in the
spontaneous recovery of more positive attitudes.

Drama alone is generally more emotional than documentary, but it is not purely
emotional. Some cognitive data is implicit and, as already discussed the BBC Drama
did contain similar cognitive information to that presented in both the Documentary
and the 'Integrated' film. In this experiment, the cognitive and emotional information
in the BBC drama did not interact to foster cognitive elaboration and thus promote
enduring changes in schemata and attitudes, however, and again this is speculation, a
good dramatisation of Anne Deveson's 'Tell Me I'm Here' (Deveson, 1991) might well
do so. Even without the overt documentary element that was scientifically
incorporated into the 'Integrated' film, there would be textured repetition (chaining),
simply because that is 'how the story goes'.

Drama alone, as evidenced by the 'Grim Reaper' study (Stone, 1990) can lead to
cognitive restructuring and attitude change. The DICAM study suggests that a
documentary drama, based on the proposals of the DICAM and using the technique of
chaining will do it better but this is by no means proven. Furthermore, it should be
remembered that the 'Integrated' film and the Placebo were made in Australia in the
90s, the documentary in the US in the 80s and, the drama in the UK in the 70s.
Furthermore since this study did not test a film based on a simple addition of
cognition and emotion, it should be regarded as a preliminary study. In order to fully
and accurately test the conceptual model of the DICAM it would be necessary to create
four custom made interventions.

The conceptual model of the DICAM proposes that emotion can, and frequently does
pre-empt and even override cognition, therefore, any educational tool based upon it
will be designed primarily to create an emotional response and to complement that
response with cognitive data. The DICAM assumes that the 'Integrated' film will have
the same emotional effect on viewers whatever their pre-existing schema of the
context and that therefore, it will progress each viewer towards more accurate
schemata and more equitable attitudes, irrespective of prior knowledge and
experience.

Schizophrenia from the Inside Looking Out', the 'Integrated' film, based on the
conceptual model of the DICAM has already had exposure to a variety of populations.
It has had preliminary screenings at conferences for psychiatric research, social
psychology and mental health. It has attracted interest for use as an educational tool
from a variety of groups in Europe, Asia, Australasia and the United States. It has
been proposed for the in-service training of: mental health nurses, practising
psychiatrists, community health teams, medical students and the staff of non-
government organisations. It has also been requested by universities, colleges and high
schools, by self help groups, carers, parents and people with schizophrenia and by
general practitioners wishing to lend it to their patients, sufferers wishing to lend it to
their friends and by video stores for commercial hire.
Whether the intervention based on the DICAM has to be a film or television program is a matter for further research. Screen interventions are costly to produce but economic to use. Gilmore's (1992) study demonstrated the efficacy of a model using all the components of the DICAM while, at the same time, highlighting the complex and time consuming nature of using the components interdependently, rather than integrating them into one unit. Furthermore, the fact that the 'Integrated model' was effective in a 'stand alone' presentation does not mean that it wouldn't be more effective if accompanied by other educational resources. As always, further research would prove valuable.

The conceptual model is not limited to use in the area of health promotion, it is a model of persuasion for good or ill and, while it is already hoped to apply it in a study designed to promote racial tolerance, it is acknowledged that it could also be used for the making of subversive propaganda films. An agent for positive persuasion is by its very nature, also a potential agent for brainwashing and incitement to hatred. However, besides being a model of persuasion, the DICAM is also a model for learning and as such has a potential educational application beyond belief and attitude change. It is therefore suggested that the conceptual framework has much to offer in terms of innovative curriculum design and teaching strategies.

Questions for Future Research
To sum up, certain questions have emerged that would benefit from further research. The assumption of the DICAM that the effect of the integration of emotion and cognition is more powerful than the sum of the effects of emotion and cognition requires further testing. It is suggested that this would be best done by creating four short custom-made interventions dealing with a less complex context.
Shorter interventions with a limited number of concepts and attitudes to be measured would also help to clarify the interaction between emotion and cognition and the role played by each. This might be further clarified by investigating the effects of, a) an emotional documentary (such as Anne Deveson's (1990) documentary 'Spinning Out') and b) a drama specifically designed to spirally integrate emotion and (implicit) cognitive data, a possibility suggested in the text was a dramatisation of Anne Deveson's best selling book "Tell Me I'm Here" (Deveson, 1991).

Since the DICAM proposes to effect enduring change in beliefs and attitudes, more longitudinal studies are needed to test for the sustained effects of cognitive and emotional interventions. At the same time it would be useful to gauge the effect of supporting the integrated and non-integrated models with other resources such as post exposure discussion and written materials.

It was suggested in Ch.14. that a single screen resource based on the DICAM might successfully incorporate all the elements of Gilmore's (1992) intervention designed to reduce the risk of AIDS transmission. Conversely, it would be valuable to determine whether every educational tool based on the DICAM needs to be a screen intervention or whether it would be possible to generate other resources (e.g. written, enacted), which would incorporate all the conceptual elements of the model.

With regard to the research methods the extended Solomon IV design proved very satisfactory, however the comparison group who received no treatment was found through serendipity and in future investigations it is recommended: a) that such a group be part of the initial research plan; and b) that the study be administered in a fashion designed to maximise response from all potential participants.
Finally the two measuring instruments that were developed for the study, the Knowledge of Schizophrenia Inventory (KOSI) and the Attitudes Towards Schizophrenia Inventory (ATSI) would benefit from further piloting and it is suggested that the questions which were discarded at the second pilot stage be re-evaluated with a larger sample drawn from a more heterogeneous population.

*In conclusion*, the Dynamic Interactive Cognitive and Affective Model for cognitive restructuring and attitude change is the primary 'product' of this research project. It is offered not only as a model for attitude change but as a model for education in its broadest sense. Its unique contribution lies in the emphasis which it gives to the role of emotion in the process of thinking and learning. It is hoped that it will prove useful in generating resources that will make learning an exciting and dynamic personal experience; resources that will foster moral education; and resources which will combat prejudice and stigma.

PERSONAL POST-SCRIPT

*This has been a difficult journey. Creating a film, with no funding about a subject that people would rather avoid, was not easy. Trying to persuade people to watch it is not easy either. People still don't really want to know about schizophrenia, but...*

*...earlier this year my local newsagency changed hands. The couple who took over continued the tradition of keeping biscuits in the back room for my large and exuberant three legged dog. One day, while her husband was in the back room spoiling Apollo, Lucy and I got talking. She asked me what I did, so I told her and she told me that her daughter has schizophrenia.*
It was a familiar story, a couple who had been to hell and back, who had watched a beloved child become crazed and alien, who had had their family destroyed and who all the time had been blamed and blamed: blamed by their daughter, blamed by the social workers, blamed by the health professionals and blamed by their other children. Ultimately, through all her intense pain, along with her husband and the rest of her family, Lucy had come to 'hate' her daughter.

I asked Lucy to watch the film. She was hesitant, they had "been through enough" and, "no one in the family would want to know"... but she took the video and put it in her bag. Several months went by. Lucy was often embarrassed and apologetic when she saw me. She explained how busy they were, she never had time to watch 'anything'. She couldn't let the 'others' see. I reassured her... "one day you will watch it".

Recently I was going overseas, Lucy must have thought that I would need the tape back. One Monday I went into the shop. I knew straight away that she had seen it. She came from behind the counter, unheeded tears streamed down her cheeks and her eyes were shining. "How can I ever thank you?" she said, "I didn't believe you. I thought it would just be more pain. I didn't want to see it. But now.. I want my husband to see it, my mother, my children, everyone.. I want everyone to see it. It's changed my life. Everything is so clear now, so easy to understand. It's as if the whole weight, the shame the pain, has just lifted and there's hope for us now, as a family. I saw my daughter this weekend and I could love her. We talked. I could understand. We have a whole new relationship. I've got my daughter back. How can I ever thank you?"

Thank me? Lucy had just made the whole journey worth while.
APPENDICES FOR:

SCHIZOPHRENIA: FROM THE INSIDE LOOKING OUT

AN EDUCATIONAL INTERVENTION BASED ON THE DYNAMIC INTERACTIVE COGNITIVE AND AFFECTIVE MODEL (DICAM) FOR COGNITIVE RESTRUCTURING AND ATTITUDE CHANGE

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This thesis is presented for the degree of Doctor of Philosophy of Murdoch University
APPENDIX A. SCHIZOPHRENIA: LITERATURE REVIEW

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5. THE MEDICAL MODEL
6. THE COURSE
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CHAPTER 1. THE HISTORY OF SCHIZOPHRENIA

'The mind is its own place, and in itself
Can make a Heaven of Hell, a Hell of Heaven.' (Milton, 1665)

The literature suggests that schizophrenia is a relatively 'new' disease. There are no ancient accounts of people with symptoms characteristic of schizophrenia although there are many descriptions of other forms of madness found in Sumerian or Babylonian cuneiform, Egyptian hieroglyphics and in the writings of Hippocrates, Aristotle, Shakespeare and the Bible (Gottesman, 1991). The first clinically adequate descriptions of the disorder occurred concurrently in England and France in 1809. Why it should have appeared at this time we do not know. There are some theories related to the stress of industrialisation and the consequent breakdown of traditional family life but there is little evidence to support these theories. Although stress may be an exacerbating or 'triggering' factor in schizophrenia it now seems clear that it does not cause the disorder by itself (Wing, 1978, Hirsch et al, 1992) furthermore the exhaustive World Health Organisation report of 1988 confirmed that schizophrenia is not only universal but that it incidence is remarkably uniform across cultures as different as rural India and urban England (Jablensky et al, 1988). This implies that the illness is unlikely to have emerged as a result of either social or familial change.

In 1809 John Haslam, superintendent of the Bethlem Hospital in London (from whence the term 'bedlam' derived), wrote:

'There is a form of insanity which occurs in young persons... distinguished by prompt capacity and lively disposition....The attack is almost imperceptible; some months usually elapse before it becomes the subject of particular notice....
A degree of apparent thoughtfulness and inactivity precede, together with a diminution of the ordinary curiosity, concerning that which is passing before them; and they therefore neglect those objects and pursuits which formerly proved courses of delight and instruction. The sensibility appears to be considerably blunted: they do not bear the same affection towards their parents and relations: they become unfeeling to kindness, and careless of reproof. To their companions they show a cold civility, but take no interest whatever in their concerns....Thus in the interval between puberty and manhood, I have painfully witnessed this hopeless and degrading change, which in a short time has transformed the most promising and vigorous intellect into a slavering and bloated idiot' (Haslam, 1809, p.64-67).

In the same year Philippe Pinel, a French physician described cases of a disease which he called a 'démence' (loss of mind) these cases also clearly characterise schizophrenia. In 1852 Benedict Morel added the term 'précocité' meaning 'early' or 'premature' to more clearly describe the disorder, 'Démence Précoce' (Dementia Praecox) which he observed to start in adolescence with withdrawal, odd mannerisms and self neglect and to end in intellectual deterioration (Morel, 1852).

During the second half of the nineteenth century other psychotic syndromes such as catatonia (mute immobility and frozen postures), hebephrenia (giggling, silly behaviour) and paranoia (delusions of persecution and/or grandeur) were identified (Kahlbaum, 1863, Hecker, 1871). Opinion was divided as to whether these were all manifestations of the disease as outlined by Morel or whether they were discrete disorders. Although by the end of the nineteenth century both French and German psychiatrists had clearly identified manic-depressive psychosis as different from dementia praecox, opinion is still divided as to whether schizophrenia is a single disease with a variety of manifestations or whether it is a group of diseases with common or overlapping symptoms.
In 1893 Emil Kraepelin the famous German clinical psychiatrist from the Heidelberg Clinic published his definitive description of dementia praecox (Kraepelin, 1893\1904).

Kraepelin's classification was derived from studying both the symptoms and the course of the illness and to a large extent the terms that he derived from his clinical analyses of patients are still being used today. He originally divided the disorder into the three subtypes: catatonic, hebephrenic and paranoid and in 1913 he added a fourth type, 'dementia simplex', to describe those patients with only 'negative' symptoms. Kraepelin held that dementia praecox invariably led to chronic deterioration although he did allow that some 13% of patients appeared to recover completely and that ultimately 17% were able to return to work in the regular community (Gelder, 1989).

Kraepelin's work provided the foundation for the study of 'dementia praecox'. In less than a century this perplexing and varied form of insanity had emerged and increased in incidence to its current prevalence. In 1900 one in every one hundred people could be expected to develop the disorder before the age of 55 and since then there has been no noticeable increase or decrease in its incidence anywhere in the world (Gottesman, 1991).

It was Eugene Bleuler, Director of the Burghozli Clinic in Zurich, who re-named the disorder 'Schizophrenia', which literally means a splitting of the mind. Although generally in agreement with Kraepelin, Bleuler believed that Kraepelin's descriptions were based
on secondary rather than primary symptoms (Bleuler, 1911). His choice of the term schizophrenia was intended to denote the splitting and separating of normally integrated psychic functions. Later, and more poetically R.D. Laing was to call it a 'breaking of the soul or heart'. He referred to people with schizophrenia as literally "broken-hearted" (Laing, 1967). Unfortunately the misinterpretation of this concept has led to one of the most persistent myths in the history of mental illness i.e. that people with schizophrenia have a split or multiple personality. They do not (Gottesman, 1991).

So what do they have?

---

1 Bleuler observed a loosening of mental associations in his patients and saw this fragmentation or disordering of thought processes as fundamental to the illness. He also perceived autism, ambivalence and affective disturbance to be primary symptoms of the illness with delusions, hallucinations and catatonia (symptoms on which Kraepelin had focussed) being the result of these more fundamental disturbances (Bleuler 1911).
CHAPTER 2  A DIAGNOSTIC OVERVIEW

Trying to answer the question, "what is schizophrenia?" is somewhat akin to trying to answer the question, "what is poetry?" any answer, however comprehensive, can only fall short of a true and accurate description. It will be right and it will be wrong.

'poetry, n. Art, work of the poet; elevated expression of elevated thought or feeling in metrical form' (Oxford Dictionary).

'schizophrenia, n. Mental disease marked by disconnection between thoughts, feelings and actions' (Oxford Dictionary).

Schizophrenia: 'A lifetime sentence of poor care, social stigma, unemployment, isolation, abuse, and silence.' (Letter from a mother in Walsh, 1985)

Because there is no one physiological or psychodynamic abnormality definitive to the disorder, schizophrenia has traditionally been described in diagnostic terms, that is by a description of its psychopathology, its major symptoms or groups of symptoms.. Almost any text on schizophrenia will at some point present a diagnostic list of symptoms such as can be found in DSM IV (APS, 1994), the diagnostic manual of the American Psychiatric Association (APA, 1994) or its European counterpart ICD 10 (WHO, 1989)²

²See Tables 1 and 2. appended to this chapter.
To be diagnosed with schizophrenia a person must be found to have the required number of symptoms for a specified length of time, generally between one and six months depending upon the type of symptom. The symptoms fall into two major categories,

(a). 'Positive' symptoms which are characteristic of the 'active' phase of the illness. These are 'florid' symptoms which are present but should be absent, such as delusions, hallucinations and thought disorders.

(b). 'Negative' symptoms which are characteristic of the prodromic and residual (chronic) phases of the illness. These are symptoms of absence rather than presence, such as apathy, withdrawal, blunting (of affect), poverty of thoughts, slowness of movement and avolition.

'Verse is a composition in words that employs deliberate patterns of sound in its language. These patterns may follow the rules of regular or mixed meter... Poetry is, of course, verse -although not all verse is poetry.' (Stillman, 1966)

(in schizophrenia '...diseased brain processes which are intelligible to us affect the psychic life as though someone had struck a clockwork with a hammer to disturb it chaotically. On the other hand these processes appear as though someone had modified the clockwork in a complicated way to make the clock run differently, unaccountably, so that we say it is running crazily.' (Jaspers, 1949).

'What is schizophrenia? I'll tell you. The damnedest thing I ever ran into in my whole life. God must've been mad at us the day he came up with that one'. (Father of a chronic schizophrenic in Walsh, 1985).
Although there is no one symptom which is found only in schizophrenia, there are several which are common to schizophrenia and uncommon in other diseases. A simple but effective checklist was created by Kurt Schneider in 1959. Unlike Bleuler's 'fundamental' symptoms, Schneider's 'first rank' symptoms were not presumed to play any central psychopathological role (Gelder et al, 1989), however the presence of one or more of them should alert a physician to the possibility of schizophrenia. (Schneider, 1959).

This is his list of 'first rank' symptoms:

1. Hearing one's thoughts spoken aloud.
2. Hearing yourself discussed in the third person.
3. Hearing a commentary on your actions.
4. Bodily sensations imposed by an external force.
5. Thought insertion.
6. Thought withdrawal.
7. Thought broadcasting.
8. Feelings imposed by an external force.
9. Irresistible impulses imposed by an external force.
10. Volitional actions imposed by an external force.
11. Delusional perception.

At least three-quarters of schizophrenic patients have one or more of these symptoms (Fuller-Torrey, 1988) However they are all 'positive' symptoms, 'flatness' and 'withdrawal' which are equally common, do not feature, nor does lack of insight which is the most common symptom of all, being found in over 90% of cases (WHO, 1973).
Clearly schizophrenia should not be diagnosed lightly and the DSM IV advises mental health professionals to draw up a complete diagnostic picture of each patient and to monitor the progress of the illness for at least six months before confirming the diagnosis.

Because of its many and varied symptoms, schizophrenia has commonly been classified into subtypes similar to those outlined by Kraepelin at the turn of the century. Each subtype has a 'profile' or, cluster of symptoms which are frequently experienced in common. The DSM IV has a slightly different terminology but the categories are recognisably the same.

**Paranoid Type**

Paranoid schizophrenia is characterised by delusions of persecution and/or grandeur. Other delusions such as religiosity, reference or somatisation may also occur. All delusions are usually organised around a coherent theme. Hallucinations, especially auditory, are common and again are generally related to the delusional theme. Paranoid schizophrenics can tend to be anxious, angry, aloof and aggressive. During a 'bad episode' they may become violent and/or suicidal. Negative symptoms are less common and there is generally little cognitive or affective impairment. Onset tends to be later in life leading to a better prognosis especially with regard to employment and independent living.

**Hebephrenic (Disorganised) Type**

Hebephrenic schizophrenia is characterised by disorganised and inappropriate speech, behaviour and affect. Thought is disorganised and speech rambling and incoherent.
The mood is shallow often accompanied by giggling; silly, irresponsible or repetitive behaviour; mannerisms and grimacing. Onset tends to be early and insidious and the prognosis poor with a rapid development of negative symptoms, particularly flattening of affect and avolition.

**Catatonic Type**

Catatonic schizophrenia is characterised by marked psychomotor disturbances which may alternate between hyperkinesis and stupor. Negativism (motiveless physical and mental resistance), rigidity, automatic obedience, mutism, bizarre posturing (maintaining strange and often uncomfortable postures), waxy flexibility (allowing one's self to be placed in bizarre postures which are then maintained), mannerisms, grimacing, echolalia (echoing speech) and echopraxia (echoing movement) are all common symptoms. Catatonia is also observed in patients with affective disorders and severe systemic illnesses and while the DSM IV (APS, 1994) was in preparation, a task involving 13 committees, comprised of more than 1,000 people over a five year period, some researchers argued that catatonia should be considered a separate category of mental illness rather than a subtype of schizophrenia (Fink and Taylor, 1991; Pataki et al, 1992). It was suggested that patients who exhibit catatonia may be wrongly diagnosed as schizophrenic and consequently be wrongly medicated. The suggestion was not taken up but the DSM IV (APS, 1994) strongly recommends against early diagnosis of any form of schizophrenia. Its recommendation is that a diagnosis of *schizophreniform disorder* be made for the first six months of all schizophrenic symptoms.
The ICD10 issues the following caution against premature diagnosis of catatonic schizophrenia:

'In uncommunicative patients with behavioural manifestations of catatonic disorder, the diagnosis of schizophrenia may have to be provisional until adequate evidence of the presence of other symptoms is obtained. It is also vital to appreciate that catatonic symptoms are not diagnostic of schizophrenia. A catatonic symptom or symptoms may also be provoked by brain disease, metabolic disturbances, or alcohol and drugs, and may also occur in mood disorders.' (WHO, 1989).

**Undifferentiated type**

This is a diagnostic category to cover people exhibiting psychotic symptoms characteristic of schizophrenia but not conforming to a paranoid, disorganised (hebephrenic) or catatonic pattern.

**Residual type**

Residual schizophrenia is most often used to describe the chronic state of the disorder.

The prominent symptoms are negative but diagnoses presuppose at least one clear-cut psychotic episode meeting the diagnostic criteria for schizophrenia. During the residual phase, 'florid' symptoms, if present at all, are infrequent and reduced in intensity. Although the negative symptoms of residual schizophrenia are not necessarily irreversible a favourable outcome is seldom likely. More common is gradual deterioration to a passive state characterised by flatness of affect, poor communication, lack of initiative and inadequate self-care.

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\(^3\)The DSM IV (APS, 1994) also uses this category to refer to a time of transition between a full-blown episode and complete remission.
Simple Type

Simple schizophrenia was identified by Kraepelin in 1913. It is characterised by an insidious but progressive onset of the negative symptoms characteristic of residual schizophrenia (e.g. social withdrawal, blunting of affect, loss of volition), without any earlier manifestation of psychotic symptoms. It is difficult to diagnose and is not included in the DSM IV (APS, 1994)

Before discussing the symptoms which combine to create the varied experience of schizophrenia it should be noted that there are considerable international differences (and inter-individual) differences in the diagnosis of schizophrenia. In Britain diagnosis tends to be narrow after Kraepelin and Schneider with poor prognoses, while in the United States there has been more focus on psychodynamic processes leading to the inclusion of a far wider group of cases (Cooper et al, 1972; WHO, 1973). In France diagnosis has tended to follow Bleuler's symptoms of 'disassociation' and 'discordance' (Pichot, 1984; Van-Os et al, 1993). In Japan many cases which exhibit classic symptoms of schizophrenia are not diagnosed as such because doctors wish to protect patients and their families from the extreme stigma associated with the disorder (Munakata, 1989), while in Australia and Britain borderline cases may be given a diagnosis of schizophrenia in order to 'place' the patient within a community care system (Hyde, 1991). Nevertheless the rate of incidence reported world wide is relatively uniform and for the purposes of this study it is not necessary to determine whether or not the diagnosis of schizophrenia should be confined to those persons exhibiting 'nuclear schizophrenia' i.e. having first-rank symptoms.
This study is concerned with schizophrenia as it is likely to be diagnosed and with those people who are currently being diagnosed as having the illness whatever the basis for that diagnosis.

'Poetry employs the same battery of techniques as verse, but it transcends verse in a way that has escaped definition, despite numerous attempts by philosophers and poets to pin it down. Poetry seems to partake of the miraculous, as does all great art; it adds up to more than the sum of its parts.' (Stillman, 1966).

'Schizophrenia is a disease, or group of diseases, which cause the brain to malfunction. This malfunctioning frequently takes the form of psychotic episodes which are florid and frightening. Schizophrenia cannot be cured but can be controlled with medication. It affects one person in every hundred and, while the cause is not known, a genetic pre-disposition is evident. Schizophrenia is a biological/chemical condition and therefore cannot be caused or cured by psychosocial factors.' (Researcher's definition).
TABLE 1. **DIAGNOSTIC CRITERIA FOR SCHIZOPHRENIA (DSM IV)**

A. *Characteristic symptoms:* Two (or more) of the following, each present for a significant portion of time during a 1-month period (or less if successfully treated):

1. delusions
2. hallucinations
3. disorganised speech (e.g. frequent derailment or incoherence)
4. grossly disorganised or catatonic behaviour
5. negative symptoms i.e. affective flattening, alogia or avolition

**Note:** Only one Criterion A symptom is required if delusions are bizarre or hallucinations consist of a voice keeping up a running commentary on the person's behaviour or thoughts, or two or more voices conversing with one another.

B. *Social/occupational dysfunction:* For a significant portion of the time since the onset of the disturbance, one or more major areas of functioning such as work, interpersonal relations, or self-care are markedly below the level achieved prior to the onset (or where the onset is in childhood or adolescence, failure to achieve expected level of interpersonal, academic or occupational achievement).

C. *Duration:* Continuous signs of the disturbance persist for at least 6 months. This 6-month period must include at least one month of symptoms (or less if successfully treated) that meet criterion A (i.e. active phase symptoms) and may include periods of prodromal or residual symptoms. During these prodromal or residual periods, the signs of the disturbance may be manifested by only negative symptoms or two or more symptoms listed in Criterion A present in an attenuated form (e.g. odd beliefs, unusual perceptual experiences).

**Note:** Classification of a longitudinal course can be applied only after at least 1 year has elapsed since the initial onset of active-phase symptoms.

From DSM IV (APS, 1994) (APA 1994)(Abbreviated)
TABLE 2. **DIAGNOSTIC CRITERIA FOR SCHIZOPHRENIA (ICD.10)**

Although no strictly pathognomonic symptoms can be identified, for practical purposes it is useful to divide symptoms into groups that have special importance for the diagnosis and often occur together, such as:

(a) Thought echo, thought insertion or withdrawal, and thought broadcasting.
(b) Delusions of control, influence or passivity, clearly referred to body or limb movements or specific thoughts, actions or sensations: delusional perception.
(c) Hallucinatory voices giving a running commentary on the patient's behaviour, or discussing the patient 'among themselves', or other types of hallucinatory 'voices' coming from some part of the body.
(d) Persistent delusions of other kinds that are culturally inappropriate and completely impossible, such as religious or political identity, or superhuman powers and abilities (e.g. being able to control the weather, or being in communication with aliens from another world);
(e) Persistent hallucinations in any modality, when accompanied either by fleeting or half-formed delusions without clear affective content, or by persistent over-valued ideas, or when occurring every day for weeks and months on end;
(f) Breaks or interpolations in the train of thought, resulting in incoherence or irrelevant speech, or neologisms;
(g) Catatonic behaviour, such as excitement, posturing, or waxy flexibility, negativism, mutism and stupor;
(h) "Negative" symptoms such as marked apathy, paucity of speech, and blunting or incongruity of emotional responses, usually resulting in social withdrawal and lowering of social performance; it must be clear that these are not due to depression or to neuroleptic medication;
(i) A significant and consistent change in the overall quality of some aspects of personal behaviour, manifest as loss of interest, aimlessness, idleness, a self-absorbed attitude, and social withdrawal

*Diagnostic guidelines*

The normal requirement for a diagnosis of schizophrenia is that a minimum of one very clear symptom (and usually two or more if less clear-cut) belonging to any of the groups listed as (a) to (d) above, or symptoms from at least two of the groups referred to as (e) to (h), should have been present for most of the time during a period of one month or more.

Table. 2. From ICD10 (WHO 1989)
CHAPTER 3 EPIDEMIOLOGY

As mentioned before, regardless of diagnostic differences between countries and over periods of time, the lifetime risk of developing schizophrenia is approximately one in a hundred (Jablensky, 1986). This does not mean that all people have a risk factor of one percent, nor does it mean that a person who does have a one percent risk factor will be one percent at risk all his or her life. The risk of developing schizophrenia varies with age and sex. Few cases appear before the age of 15 or after the age of 50 so the risk for children and older people is low. Most cases appear between the age of 16 and 33 (Saugstad, 1989).

Although males and females are affected in roughly equal numbers, the age of onset is statistically later in females (age 27, as opposed to age 21 for males). This does not affect the rate of incidence (number of new cases which occur annually) between genders but it does affect the rate of prevalence (total number of patients alive at any one time), because a later onset is associated with a better prognosis (see Ch. 6.Course) and therefore fewer females overall will be found to have the disorder. Since schizophrenia tends to become chronic, the rate of incidence is far lower than the rate of prevalence, being estimated at approximately 1 per 10,000 per annum as opposed to one in a hundred.

The cause of schizophrenia has yet not been established although a great deal of evidence has been gathered to support the major theories outlined below (see Ch. 4.Aetiology). Despite the perseverance of the psychoanalytic and environmental theories which burgeoned in the sixties (Tietz, 1949; Laing, 1959; Lidz, 1960) a genetic predisposition to the disorder is now generally accepted (Eisenberg, 1986) and therefore close relatives of a person with schizophrenia are more at risk than people with no family history of the illness.
High-risk research has also shown winter births (Hare, 1975), birth complications (Woerner et al., 1973) and later births in large families (Farina et al, 1963) to be factors in increasing risk. Other factors such as homelessness, poverty and social and geographical isolation have been interpreted as risk factors however they are just as frequently alleged to be a result rather than a cause of the disorder since people with schizophrenia tend to become withdrawn, isolate themselves, find it hard to maintain employment and frequently neglect themselves.

The symptoms of the disorder can thus interact with its epidemiology. A high prevalence of the illness in lower socio-economic groups being accounted for by the downward drift of those affected. Goldberg and Morrison (1963) found that more than half of male schizophrenics aged 25-34, admitted to hospital for the first time in 1956, had been reared in a higher social class. Other demographic factors such as the high incidence of schizophrenia found in remote areas of Sweden (Book, 1953), or the low incidence found in tightly knit communities like the Hutterites (Eaton and Weil, 1955), may also be explained through its psychopathology. Social withdrawal is characteristic of the prodromal (early) stage of the illness, leading to the possible migration of embryonic schizophrenics in search of isolation (Gelder, 1989).

Although a genetic predisposition has been accepted as loading the risk factor for developing schizophrenia it should be noted that, probably due to low procreation rates among those affected, some 81% of people who become schizophrenic will have no family history of the disorder. It will come, so to speak, 'out of the blue' (Gottesman, 1991).
This is pertinent to the DICAM study, because it multiplies the problem of ignorance, misunderstanding and stigma. When someone in the family is diagnosed as having schizophrenia, 81 times in a hundred it is a first time experience both for the person who is sick and for his or her family. Mary Ellen Walsh in her extremely readable and somewhat poignant book 'Schizophrenia: Straight talk for Families and friends' makes the statistics meaningful for everybody:

Forty million families around the world know what it means to love a relative with schizophrenia.

That's 40 million families, not people. If each family consists of 4 members, a conservative guess, there are 160 million people caught up in the biological disaster known as schizophrenia. That's as many people as live in Great Britain, Canada, Australia, Israel, Norway, Sweden, Denmark, Ireland, Greece, Laos, Ecuador, Ghana and Angola. That many people, thirteen countries' worth must struggle with the most widespread brain disorder on the face of the planet. (Walsh, 1985, p.25)
CHAPTER 4. AETIOLOGY

The only absolutely sure statements that can be made about the aetiology of schizophrenia are that we do not know precisely what it is and that we do not know exactly what causes it. This is unfortunate given that the object of this research is to create a model for attitudinal change and that the importance of message certainty in influencing opinions about the mentally ill has been well established for over two decades (Nunally, 1960). On the basis of six years of research by a team of highly qualified investigators Jum C. Nunally concluded:

'The more certainty with which mental-health information is stated, the more favourable will be the attitudes towards concepts related to the message... (and)...The destruction of information about mental illness without supplying new information results in negative attitudes towards related concepts.' (Nunally, 1960 p. 164-5).

The dilemma is obvious: to be cautious in making statements concerning the nature and cause of schizophrenia is to invite public attitudes of fear and uncertainty; to be brazen, as were the psychodynamic theorists of the fifties and sixties, is to risk creating myths as resistant to extinction as Frieda Fromm-Reichman's schizophrenogenic mother (Fromm-Reichman, 1948). As Irving Gottesman puts it in his excellent and definitive text on the genesis of schizophrenia:

By the time Kraepelin wrote the final (eighth) edition of his textbook in 1913, he had concluded that the causes of dementia praecox were wrapped "in impenetrable darkness". Such a balanced perspective did not protect the field of schizophrenia research from subsequent extremist pronouncements about the causes of schizophrenia, but three quarters of a century worth of data gathering have made the darkness much less impenetrable. (Gottesman, 1991, p.82).
It is thus acknowledged that the aetiology of schizophrenia is by no means 'set in stone'. However current research is based on far more than the 'educated guesses' of such popular theorists as: Trude Tietze (1949) who concluded that schizophrenia was caused by over-anxious and obsessive mothers; Thomas Szasz (1960), who claimed schizophrenia to be a fake disease invented by psychiatrists; R.D. Laing (1965), who suggested that schizophrenia was the healthy reaction of the individual to an insane world and Gregory Bateson who, with Don Jackson, Jay Haley and John Weakland was responsible for the "double-bind, communication deviance" theory about the cause of schizophrenia (Bateson et al., 1956). This alleged that the 'damned if you do and damned if you don't' method of communication whereby children received ambivalent messages from their parents, literally drove them to schizophrenia. Despite the fact that this hypothesis was never statistically tested it was accepted holus-bolus:

'by two generations of mental health professionals who proceeded to blame the family (especially the mother) for causing the disease.' (E. Fuller-Torrey, 1988, p.378).

Unfortunately the concept of parents as "psychovermin" persists to this day. It was the opinion given to this researcher in March 1994 by a senior psychiatrist responsible for a large proportion of schizophrenia research in Western Australia. In this country it is still being taught to some medical students specialising in psychiatry and to students of psychology. It has been disproved but not discredited, despite two decades of campaigning by self help organisations such as the National Alliance for the Mentally Ill (NAMI), the Association for the Friends and Relatives of the Mentally Ill (ARAFMI) and the various schizophrenia fellowships around the world to promote a medical, as opposed to psychosocial, model of schizophrenia.
The psychodynamic and environmental theories outlined above were postulated without a sound scientific basis and accepted without rigorous scientific testing, however they were, and still are, presented to the families of schizophrenic patients and to the general public, as facts. They cause totally undeserved guilt and blame, frequently resulting in marital breakdown, depression and suicide (Fuller-Torrey, 1988). By contrast genetic, biochemical and neurological research has been, and continues to be, both rigorous, scientific. Nevertheless it remains relatively inconspicuous.

Acceptance of a genetic predisposition to the disorder is by no means new, Kraepelin himself believed that the illness was somehow inherited, as did Bleuler and even Freud. However research quickly demonstrated that it was not simply a matter of straightforward genetic transmission via some dominant trait. If it were then the monozygotic twins of probands, since they share identical genes could reasonably be regarded as having 100% risk of developing schizophrenia, whereas in fact, the risk is estimated at approximately 48% (Sheilds, 1978). Although twin and adoption studies have provided substantial evidence of genetic factors creating a predisposition for contracting schizophrenia (Kallmann, 1946; Inouye, 1972), until recently standard texts in psychiatry have been reluctant to acknowledge them. This may well be due to: the complex nature of the hereditary factor; the popularity and persistence of psychodynamic and environmental theories; the fact that no two cases of schizophrenia are identical and the unmistakable evidence that genes are not the whole answer.
What genetic research does show is that genetic factors are essential as a diathesis for schizophrenia but that they are not sufficient in themselves to cause the disorder.

Something else is needed to precipitate the onset. By the same token this 'something else' or 'triggering' factor, which may be a life stress, an illness\virus, an environment, a drug, etc. cannot of itself be regarded as 'causing' schizophrenia, since it will not 'trigger' the disorder in someone with no genetic diathesis. The polygenic nature of the genetic component makes preventive measures difficult as families are unlikely to know who is 'at risk'. However, since there is as yet no 'cure' for schizophrenia and since genetic engineering is still in its infancy, it is not surprising that considerable research has focussed on the identification and manipulation of these important, contributing factors:

Whether or not a person with such a (genetic) predisposition actually develops a schizophrenic condition appears to depend upon a number of other variables including psychological and environmental ones.... The various contributing factors are woven together in a complex way; any one of them may be necessary, but none of them on its own is sufficient to produce a schizophrenic condition....any given factor - biological, psychological or social - may play a large part in contributing to one particular person developing a schizophrenic condition, whilst playing a much smaller or even insignificant role in another person's case. (Watkins, 1988, p.22)

The main contenders for what Mary-Ellen Walsh calls factor X (Walsh 1985) fall into two main categories: chemical such as drugs, illness (including prenatal virus's) and diet, and psychosocial such as parenting, environment and stress. It is important to distinguish between factors that may be considered to contribute to the cause of the illness, often referred to as 'triggers' and factors that have been shown to affect the course of the illness, either by precipitating or obviating relapse. Some of these factors like stress and the use of marijuana and other street drugs may be indicated in both incidences but generalisations
should be made with care. For example the role of expressed emotion (EE) within families in precipitating relapse has been well-documented (Leff and Vaughan, 1985; Bebbington and Kuipers, 1988) but as yet it has not been scientifically demonstrated to be a cause of schizophrenia. Another example may serve to clarify the distinction: studies show that even where families are low in EE, discharged patients who have more than 35 hours per week of face to face contact with their families are roughly twice as likely to relapse as those having less (Vaughn and Leff, 1976). However nobody has been silly enough to suggest that having more than 35 hours per week face to face contact with one's family causes schizophrenia.

Schizophrenia is a disease of the brain. It has a biochemical component as demonstrated by the success of neuroleptic drugs in reducing positive symptoms. It may have other neurological and physiological components to be revealed through ongoing research such as PET, CT scanning and post mortem pathology (see Ch.2. A Diagnostic Overview,) and it is heavily influenced by both genetic and environmental factors BUT ...why it is that 99% of the population do not develop schizophrenia even when they are exposed to severe life-threatening or ego-shattering experiences and why it is that 54% of children with two schizophrenic parents do not themselves develop schizophrenia, we do not know. We can only conclude that:

'.based on the cumulative credible evidence, a large, rather specific, and important genetic factor(s), in conjunction with putative, unspecified nongenetic factors in most cases, leads to the development, over varying lengths of time, of varying severities of schizophrenia(s).' (Gottesman, 1991, p.216).
CHAPTER 5. THE MEDICAL MODEL

'What consoles me is that I am beginning to consider madness as an illness like any other and that I accept it as such'. (Van Gogh 1889).

'We know that something goes wrong chemically and or physically in the brain of a schizophrenic, but we do not yet know what'. (Gottesman 1991).

A comprehensive review of current medical research into schizophrenia is beyond the scope of this text, therefore only a brief overview of major theories and trends will be offered. Readers interested in a fuller discussion of complex neurodynamic, chemical and physiological research are referred to the Schizophrenia Bulletin, published quarterly by the National Institute of Mental Health. (U.S. Dept of Mental Health).

Broadly speaking what is known about schizophrenia boils down to three things. The first, that it tends to run in families and thus has a genetic component has already been discussed (see Aetiology p.18). The second is that anti-psychotic drugs (neuroleptics) tend to help the symptoms, and the third that people with schizophrenia may have abnormal brain structures (Hemmings, 1989).

The success of neuroleptic drugs in ameliorating the positive symptoms of schizophrenia has been the departure point for much current research into the disorder and provides the basis for the most popular neurodynamic hypothesis, the dopamine hypothesis. Dopamine is a neurotransmitter, one of a group of chemicals which carry messages from one neuron or brain cell to the next. An adult brain contains over a hundred billion neurons each with about 1,500 synapses (connections) to other neurons. Electrical\chemical signals are
transmitted across these synapses. Dopamine facilitates the transmission. Neuroleptic drugs block dopamine receptors and thus inhibit transmission...hence the theory that acute symptoms of schizophrenia are caused by an excess of dopamine in the brain. Put even more simply, too many messages get transmitted to too many places and either too many or the wrong connections are made, the chemical imbalance creates a mental imbalance (the implications of this will become clear in Ch.8. The Subjective Experience of Schizophrenia,). The dopamine hypothesis is supported by the fact that drugs such as PCP, crack and amphetamines, which exacerbate schizophrenia and can of themselves produce symptoms akin to schizophrenia all increase dopamine levels.

Such indirect evidence of the role of dopamine in schizophrenia is gradually being replaced by direct evidence obtained from the use of positron emission tomography (PET). PET scanners allow researchers to visualise the density of specific dopamine receptors such as D2, in the brains of living schizophrenics and controls (Wong et al, 1989; Gur and Pearlson, 1993). However PET is still in its infancy and has more often been used to study cerebral blood flow and the use of glucose by various parts of the brain. These too have been found to be abnormal in some people with schizophrenia (Conolly et al, 1983) but no single abnormality has been found to be common to all patients (Gur and Pearlson, 1993). Nevertheless there is a consensus that complex neuronal circuits are dysfunctional in schizophrenia (Hoffman & McGlashan 1993) and no doubt as the use functional imaging techniques becomes both more common and more sophisticated the picture will become clearer.
Just as PET has revolutionised research into brain function so computerised tomographic (CT) scanning and nuclear magnetic resonance (MRI) scanning have revolutionised the study of brain structure by providing non-invasive methods of investigating brain size and composition in living subjects. Formerly the examination and comparison of schizophrenic brains was limited to post-mortem pathology. The restrictions in terms of validity and generalisation are obvious given the likely sample bias towards long term illness, old age and traumatic death.

Much research into brain structure has concentrated in locating areas of disturbance or abnormality. Certain areas of the brain do appear to be more involved in schizophrenia than others (Hoffman and McGlashan, 1993), particularly the limbic system (including the hippocampus) which lies to the back (or base) of the brain. Although the strongest evidence linking the limbic system to schizophrenia has come from studies of electrical activity⁴, it has also been found⁵ that structural changes in the brains of schizophrenics tend to be concentrated in the limbic region (Heath et al, 1979). This is where all four lobes of the brain come together giving the limbic system direct connections to all areas of the brain including the brain stem and the cerebellum. Abnormalities in the limbic system can produce: profound emotional changes; inappropriate behaviour; gating (screening out of unimportant stimuli) impairment; distortions in perception; hallucinations; illusions; paranoia; depersonalisation and catatonia, all of which are characteristic of schizophrenia (Fuller-Torrey, 1988).

⁴Through PET scanning.

⁵Through CT scanning.
Other abnormalities that have been found in the brains of some (but not all) people with schizophrenia are ventricular enlargement, suggesting the shrinkage of brain tissue (Andreasen et al., 1982; Enoch, 1992) and a thickening of the corpus callosum which connects the two halves of the brain, suggesting an impairment of inter-hemispheric transfer (Rosenthal & Bigelow, 1972; Bogerts, 1993). Some 50 neuroanatomical postmortem studies in schizophrenia published over the last 20 years are reviewed by Bernhard Bogerts of Dusseldorf University in the Schizophrenia Bulletin (1993, 19 (2) 431-438.) He concludes:

"...The classical era of neuropathological schizophrenia research failed to demonstrate convincingly that the brains of schizophrenia patients had anatomical anomalies. However further research on schizophrenia has received a strong impetus from modern neuroimaging studies" (Bogerts 1993)

The note is hopeful although some cynics may say 'to each age it's scapegoat' (Walsh 1985).

In the fifties and sixties it was "family relationships and parenting", in the seventies and early eighties it was "environment and stress".

The nineties, at the suggestion of the National Advisory Mental Health Council (NAMHC)6, were declared 'the Decade of the Brain' by Congress (Public Law 105-508. 1989) and the majority of funding for schizophrenia research worldwide is focussed either in neuro-technology or pharmacology. However word of caution may be appropriate.

6NAMHC advises the the National Institute of Mental Health (NIMH) who in turn makes recommendations to Congress. The Decade of the Brain was initiated by Public Law 105-508, July 25, 1989.
Whatever abnormalities may be discovered either in neurotransmission or brain structure there is still considerable uncertainty as to whether such abnormalities are likely to be the cause or the result of schizophrenia, all that can be said with any real degree of confidence is that schizophrenia is a disease of the brain:

'In spite of intense research activity and the explosion of knowledge in the brain sciences, our ignorance of schizophrenia still seriously outweighs our understanding. Basic features of the illness remain unaccounted for: its waxing and waning course, age of onset, the neural basis for its many symptoms and cognitive disturbances, and its widely variable clinical outcomes. The ultimate goal - more definitive treatment - most likely awaits the attainment of an integrated perspective that reveals, at least in part, the nature of these different components of the illness. (Hoffman & McGlashan, 1993).

There are other theories and biological markers which are still being investigated such as the role of pre-natal virus's (Crow, 1984); left hemisphere dysfunction (Cutting, 1985); eye tracking dysfunction (Iacono, 1988) and even an excess of potato in the diet (Walsh, 1985).

What seems evident is that few or many physiological factors may play a part in each case of schizophrenia but, as with genes and psychosocial factors, the part played will vary from case to case. There are no hard and fast rules, no fixed prognoses and no definitive methods of treatment.

It is important to recognise schizophrenia as a disease of the brain that must be medically treated but it is also important to recognise the environmental and psychosocial factors that can precipitate its onset and affect its course. If this were not so then public knowledge and attitudes would have little impact. This is not the case especially with the
contemporary philosophy of de-institutionalisation and community care for psychiatric patients. A balanced view is essential as McLean demonstrates:

'. . . medical knowledge is reducible to neither natural nor social forces; it is instead produced by living actors who are constrained by their social and historical conditions and the exigencies of the mode of production in which these actors produce... NAMI members have succeeded in changing 'blame-the-family' ideologies about schizophrenia aetiology and treatment, but . . . the medicalised alternative they produced in redefining schizophrenia as a disease of the brain is itself limited and fraught with contradictions (e.g. reinforcing a depersonalising mind/body separation that inhibits healing). These contradictions highlight the difficulty of transcending the assumptions implicit in medical categories since they are tied to the dominant epistemology of the mode of production in which they are produced—one that bids our world views and limits the options we can generate.' (McLean, 1990. Abstract).

This research argues that accurate schizophrenia schemata and realistic attitudes towards people with schizophrenia are beneficial: for those people who have the disorder; for their relatives and friends and for society in general. Since the single most effective treatment for schizophrenia is drug therapy, where a choice must be made, the medical model is preferred. The medical model does not preclude an acknowledgement of the part played by psychosocial factors nor does it negate the value of some psychotherapeutic treatment where appropriate.
CHAPTER 6. THE COURSE

As with all other attempts to draw hard and fast conclusions concerning the nature of schizophrenia, attempts to classify the course of the illness have been severely hampered by the heterogeneous nature of the disorder. This has lead to a plethora of attempts to comprehensively cover the full spectrum of the illness by creating an ever-increasing list of more and more specific categories. In a recent extensive and detailed review of previous research and attempts to classify the courses of schizophrenia, Marengo observed:

'.the most pressing challenge raised by former studies is also the broadest one: How to fruitfully depict and meaningfully describe the vicissitudes of a multidimensional syndrome that is given to quantitative and qualitative change over time' (Marengo, 1994)

Marengo argues that there has been a serious loss of information in our knowledge of schizophrenia courses that lie between the 'well defined acute onset, episodic course, good outcome course', and the 'chronic onset, chronic course, severe outcome course.' In effect a large proportion of patients fall somewhere between these two possible courses, frequently exhibiting symptoms of both, or fluctuating between. It seems possible however, that the solution may not lie in creating a large and comprehensive classification of possible courses but rather in drawing broader overall categories and not attempting to lock any one patient firmly into any one category.
There does, of course, need to be some form of classification in order to provide a conceptual framework upon which prognosis, case management and treatment decisions may be based. It is not possible to treat each case on an individual symptomatic basis, however it must be born in mind that each case is potentially unique and all decisions may have to be made on a 'trial and error basis' with provision for continual monitoring and regular review.

Broadly speaking, in most (but not all), cases of schizophrenia the following pattern will be evident, although it may only be clearly recognisable in retrospect:

**Prodromal Phase:**

Prior to the actual onset of the disorder which may be abrupt or insidious, most people display some type of prodromal phase characterised by: withdrawal; loss of interest; poor grooming; erratic or emotional behaviour and a preoccupation with the 'meaning of life' which may lead to obsessive quests, cultism and religiosity. Since schizophrenia tends to emerge between the ages of 15 and 33 these symptoms are often disregarded in the general melee of adolescence and it is simply assumed that the individual is 'going through a phase'. This may last from 6 months to two years during which time the individual gradually appears to function less well.
**Acute phase:**

In most (but not all), cases the appearance of some positive or 'active phase' symptom will alert the physician to the possibility of schizophrenia. These are the category 'A' (DSM IV (APS, 1994) or first rank (Schneider, 1959), symptoms of psychosis, such as delusions, hallucinations and various thought disorders. Because these symptoms are generally responsive to medication (neuroleptic drugs), most diagnostic schedules no longer require that they be manifest for any fixed time period.

**Residual phase:**

Schizophrenia waxes and wanes. Positive symptoms are episodic and can be controlled by drugs but negative symptoms often persist in between episodes and may increase in strength and number as the positive symptoms fade out. In some (but not many), cases there will be no acute phase, the negative symptoms which began in the prodromal phase will simply continue and usually become progressively worse. The prognosis is least favourable for these cases.

As stated before there have been many attempts at definitive classifications for courses in schizophrenia, some have concentrated on course and outcome (Arnold, 1955; Ely 1959, Huber et al, 1980) while others have focussed on type of onset and patterns of syndrome change (Muller, 1951). Some longer and more recent studies, notably those of Bleuler and Ciompi have attempted a more comprehensive cover including: onset; course patterns and outcome (Bleuler, 1978; Ciompi, 1980) and the classifications that they employed have
served as a guide for subsequent research (Harding, 1988; Marengo et al., 1991a; Breier et al., 1991). Because their models concentrate on syndrome patterns rather than on types of symptom it does become easier to place cases. The results of their studies are reproduced below (table 3).

**TABLE 3 ONSET, COURSE & OUTCOME PERCENTAGES**

<table>
<thead>
<tr>
<th>Course categories</th>
<th>Percentage of patients</th>
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<tr>
<td><strong>Bleuler</strong> (1978. n.=205)</td>
<td></td>
</tr>
</tbody>
</table>
1. Acute onset, simple course\(^7\), severe outcome. | 1.0 |
2. Chronic onset, simple course severe outcome. | 12.0 |
3. Acute onset, simple course, mild and moderately severe outcome | 2.0 |
4. Chronic onset, simple course, mild and moderately severe outcome\(^8\) | 23.0 |
5. Undulating\(^8\) course, severe outcome | 9.0 |
6. Undulating course, mild and moderately severe outcome | 27.0 |
7. Undulating course, recovery | 22.0 |
8. Atypical course\(^9\) | 4.0 |

| **Ciompi** (1980a, 1980b. n.=228) | |  
1. Acute onset, simple course, moderate or severe outcome | 8.3 |
2. Chronic onset, simple course, moderate or severe outcome | 24.1 |
3. Acute onset, simple course, recovery or mild outcome | 5.3 |
4. Chronic onset, simple course, recovery or mild outcome | 10.1 |
5. Acute onset, undulating course, moderate or severe outcome | 11.9 |
6. Acute onset, undulating course, recovery or mild outcome | 25.4 |
7. Chronic onset, undulating course, recovery or mild outcome | 9.6 |
8. Chronic onset, undulating course, moderate or severe outcome | 5.3 |

Printed in Marengo (1994)

---

\(^7\)Simple is defined as long term but stable chronic psychosis

\(^8\)Undulating is defined as one or multiple acute episodes developing from a normal state of health or from a milder chronic condition.

\(^9\)Atypical defines courses that cannot be put into any of the categories.
Bleuler's and Ciompi's studies are often cited in U.S. literature partly because they were published in English and partly because their classifications are simple, consistent and easy to replicate. There is no doubt that standardisation would be beneficial and the eight categories are comprehensive, however they are not explicit and may therefore be difficult to use at the work face both for mental health professionals who must deal daily with the complete range of mental illness and for researchers who are concerned with particular research issues and may not be experts in mental health.

Marengo herself identifies 9 post-onset patterns of psychosis and residual symptoms in straightforward descriptive terms and complements these with 9 suggested longitudinal patterns of social, work and self-care capacity (see table 4). This simple functional classification may be easier to use although it must be remembered that all cases are likely to: (a) modulate between categories; (b) have aspects of more than one category or (c) not fit into any category at all. Indeed Marengo herself concludes, in reference to the nature and change rate of syndrome patterns across schizophrenia spectrum disorders that:

'The task of identifying important but previously ignored longitudinal distinctions in the evolution of these syndromes could be enhanced by employing a broader domain of symptom patterns in future course comparisons.' (Marengo, 1994)

This trend in relation to the classification of longitudinal course is partially reflected in the DSM IV (APS, 1994) (see table 5) although the classification is still somewhat confusing and clumsy.
Individual people will have these symptoms in varying degrees with some displaying exacerbations and remissions and others remaining chronically ill. Because of this, accurate predictions of outcome are seldom possible. However some relatively stable predictors of likely outcome have been outlined, some by factor (see table 6) and others by course (see table 7).

It is important to remember that these prognoses are being made on the assumption of a 'raw state' basis i.e. without considering other variables likely to affect the course of the illness once it is established such as family life, social stimulation and case management (these will be discussed in Ch.7. Treatment And Management).

Given that generalisations about prognoses are simply that - generalisations, the broad 'rule of thumb' statistics generally cited for schizophrenia are that one third recover completely, one third improve with treatment and can function reasonably well though generally at a lower level than before the onset of the disorder and one third become chronic, unable to care for themselves at all.

Fuller Torrey (1988) argues that research has demonstrated this 'rule of thirds' to be simplistic and out of date. He offers two simple models one based on longitudinal studies of a minimum of 10 years' duration and one based on studies of more than 30 years' duration (see table 9).
TABLE 4. MARENGO’S POST-ONSET PATTERNS OF SYMPTOMS AND SUGGESTED LONG-TERM OUTCOMES AND SUPPORT.

<table>
<thead>
<tr>
<th>Pattern</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Remission:</td>
<td>No psychotic or residual symptoms.</td>
</tr>
<tr>
<td>2. Episodic:</td>
<td>Episodes of psychosis followed by full remission of psychosis and no residual symptoms.</td>
</tr>
<tr>
<td>3. Improving:</td>
<td>Diminishing psychosis and no additional episodes of psychosis.</td>
</tr>
<tr>
<td>4. Residual:</td>
<td>No active psychosis but continuing residual symptoms.</td>
</tr>
<tr>
<td>5. Partial remission:</td>
<td>Persistent partial remission of psychosis and no additional psychotic episodes.</td>
</tr>
<tr>
<td>6. Shiftlike:</td>
<td>Partial remission of psychosis or the presence of residual symptoms with additional episodes of more severe psychosis.</td>
</tr>
<tr>
<td>7. Continuous:</td>
<td>Persistent severe psychosis without episodes.</td>
</tr>
<tr>
<td>8. Surging:</td>
<td>Persistent severe psychosis with additional psychotic episodes.</td>
</tr>
<tr>
<td>9. Progressive:</td>
<td>Worsening psychosis in terms of pervasiveness or severity but with no additional episodes.</td>
</tr>
<tr>
<td>1. Satisfactory:</td>
<td>No evidence of impairment in any area.</td>
</tr>
<tr>
<td>2. Episodic impairment:</td>
<td>Short lived but severe impairment in area(s) of social, work or self care that is followed by return to satisfactory functioning.</td>
</tr>
<tr>
<td>3. Improving:</td>
<td>Steady improvement in area(s) of social, work or self-care with no periods of severe impairment although satisfactory functioning is not yet attained.</td>
</tr>
<tr>
<td>4. Residual:</td>
<td>Persistent mild impairment in area(s) of social, work or self-care.</td>
</tr>
<tr>
<td>5. Partial remission:</td>
<td>Persistent moderate impairment in areas of social, work or self-care.</td>
</tr>
<tr>
<td>6. Shiftlike:</td>
<td>Mild/moderate impairment in area(s) of social, work or self-care punctuated by short periods of severe impairment.</td>
</tr>
<tr>
<td>7. Continuous:</td>
<td>Steady severe impairment in area(s) of social, work or self-care without periodic impairment in other areas.</td>
</tr>
<tr>
<td>8. Surging:</td>
<td>Steady severe impairment in one or more areas in a course showing additional periodic impairment in other areas.</td>
</tr>
<tr>
<td>9. Progressive:</td>
<td>Worsening impairment in one or more areas of social, work or self care. Impairment in area(s) of social, work or self-care without periodic impairment in other areas.</td>
</tr>
</tbody>
</table>

Marengo (1994)
TABLE 5  LONGITUDINAL COURSE (DSM IV)

Classification of longitudinal course (can only be applied after at least 1 year has elapsed since the initial onset of active-phase symptoms):

Episodic With Inter-episode Residual Symptoms (episodes are defined by the reemergence of prominent psychotic symptoms); also specify if: With Prominent Negative Symptoms

Episodic With No Inter-episode Residual Symptoms

Continuous (prominent psychotic symptoms are present throughout the period of observation); also specify if: With Prominent Negative Symptoms

Single Episode In Partial Remission; also specify if: With Prominent Negative Symptoms

Single Episode In Full Remission

Other or Unspecified Pattern


TABLE 6  FACTORS PREDICTING THE OUTCOME OF SCHIZOPHRENIA

<table>
<thead>
<tr>
<th>Good Prognosis</th>
<th>Poor Prognosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good premorbid adjustment</td>
<td>Poor premorbid adjustment</td>
</tr>
<tr>
<td>Acute or sudden onset</td>
<td>Insidious onset</td>
</tr>
<tr>
<td>Late onset</td>
<td>Early age onset</td>
</tr>
<tr>
<td>Being female</td>
<td>Being male</td>
</tr>
<tr>
<td>Short 'acute' phase</td>
<td>Extended psychotic episode</td>
</tr>
<tr>
<td>Prominent affective symptoms</td>
<td>Negative symptoms</td>
</tr>
<tr>
<td>Good inter-episode functioning</td>
<td>Poor inter-episode functioning</td>
</tr>
<tr>
<td>Being married</td>
<td>Single, separated, widowed or divorced.</td>
</tr>
<tr>
<td>No Family history of Schizophrenia</td>
<td>Genetic pre-disposition</td>
</tr>
<tr>
<td>Precipitating factors</td>
<td>No discernable precipitating factors</td>
</tr>
</tbody>
</table>

### TABLE 7. COURSES PREDICTING THE OUTCOME OF SCHIZOPHRENIA

<table>
<thead>
<tr>
<th>Favourable Social Recovery(^{10})</th>
<th>percentage of patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Monophasic (one single psychotic phase)</td>
<td>10.0</td>
</tr>
<tr>
<td>2. Polyphasic (average of five psychotic episodes)</td>
<td>12.1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Relatively Favourable Social Recovery</th>
<th>percentage of patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>3. Chronic pure psychoses</td>
<td>4.0</td>
</tr>
<tr>
<td>4. One manifestation to pure residue</td>
<td>6.2</td>
</tr>
<tr>
<td>5. Phasic then surging(^{11}) course to pure residue</td>
<td>10.0</td>
</tr>
<tr>
<td>6. Surging course with second positive bend (i.e. remission of chronic psychosis) to pure residue</td>
<td>5.8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Relatively Unfavourable Social Recovery</th>
<th>percentage of patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>7. Phasic or simple(^{12}) course to structural deformities</td>
<td>6.2</td>
</tr>
<tr>
<td>8. Simple course to pure residues</td>
<td>5.4</td>
</tr>
<tr>
<td>9. Surging course to pure residues</td>
<td>12.9</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Unfavourable Social Recovery</th>
<th>percentage of patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>10. Surging to mixed residues</td>
<td>9.6</td>
</tr>
<tr>
<td>11. Simple to mixed residues</td>
<td>7.2</td>
</tr>
<tr>
<td>12. Surging or simple to typically schizophrenic defect psychoses</td>
<td>10.5</td>
</tr>
</tbody>
</table>

--- Adapted from Huber et al. (1980, n.=502)

These models are broad enough to withstand the considerable fluctuations occasioned by improved treatment methods (both in terms of medication and psychotherapy) and changes in diagnostic schedules like the ICD10 and DSM IV (APS, 1994)\(^{13}\).

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\(^{10}\)Social recovery is defined as the patient's capacity to be fully employed at previous occupational level. Unfavourable social recovery is defined as an incapacity for work.

\(^{11}\)A surging course constitutes episodes of psychosis in a course of persisting psychosis.

\(^{12}\)Simple is defined as long-term but stable chronic psychosis.

\(^{13}\)The new recommendation in the DSM IV (APS, 1994) that all cases of less than six months duration be classified as a schizophreniform disorder rather than schizophrenia may have considerable impact on statistics in the future.
### TABLE 8  THE COURSE OF SCHIZOPHRENIA

<table>
<thead>
<tr>
<th>10 years later</th>
<th>25% completely recovered</th>
<th>25% much improved relatively independent</th>
<th>25% improved but require extensive support network</th>
<th>15% hospitalised unimproved</th>
<th>10% dead (mostly suicide)</th>
</tr>
</thead>
<tbody>
<tr>
<td>30 years later</td>
<td>25% completely recovered</td>
<td>35% much improved relatively independent</td>
<td>15% improved but require extensive support network</td>
<td>10% hospitalised unimproved</td>
<td>15% dead</td>
</tr>
</tbody>
</table>

---From Fuller-Torrey(1988)

For the purposes of this research the distinction between schizophreniform disorder and schizophrenia is not significant since the emphasis is on 'lay' rather than 'professional' opinion and it has been amply demonstrated that (a) lay opinion tends to lag behind professional research by several decades and that (b) it is frequently informed by media, film and fiction rather than academia (Nunally, 1960). Moreover, as stated in the preface, where schizophrenia is concerned, many top level mental health professionals are themselves still operating out of schizophrenia schemata based on long discredited theories favoured in the fifties and sixties. This research is concerned to address a theorised inaccuracy in the schizophrenia schemata of lay target population(s) by means of intervention. It does not intend to promote the creation of specialised in depth schemata but simply replace inaccurate general models with accurate ones. With this in mind both Fuller-Torrey's models are acceptable as guidelines in preparing instruments to assess overall public knowledge of outcome statistics for schizophrenia.
CHAPTER 7. TREATMENT AND MANAGEMENT.

"In the best of all possible worlds medical treatment would be straightforward: accurate and swift diagnosis; appropriate medication; and good results - that is, a patient relieved of his or her complaint. Schizophrenia is the worst of all possible worlds." (Walsh, 1985)

Schizophrenia is a disease of the brain which produces the symptom - madness. Diabetes is a disease of the pancreas which produces the symptom - excessive urination. We do not generally treat diabetes: by persuading the sufferer to stop urinating; by encouraging him to urinate till he can urinate no more; by giving him electric shocks; or by locking him up until he stops urinating. On the contrary we give him medicine which controls his illness and allows him to live a relatively 'normal' life. We can treat him but we can't cure him. Schizophrenia is very much like that.

This may seem rather a bizarre way to open this chapter but it is a fact that while in 1992 Jeanne Marecek, professor of psychology, was cautioning colleagues in Colombo against "the medical frame of reference that has dominated .. mental health care in the U.S." (Marecek 1992), some people suffering from schizophrenia here in Australia were still facing doctors and psychiatrists who were telling them that their symptoms were caused by bad parenting and stress, that it was 'all in the mind' and could be cured by love, psychotherapy and 'coming to terms with the past'. In short, doctors and psychiatrists who have not yet caught up with the 'medical' model of schizophrenia. In addition to this, surveys of lay opinion on both sides of the Pacific demonstrate that the general public still believe counselling to be the primary method of 'treating' schizophrenia with ECT not far behind (Douglas, 1992, Cheng et al, 1992).
DRUG THERAPY

Although it is true that some methods of psychosocial treatment, particularly family therapy, can be helpful in many cases of schizophrenia there is no doubt whatsoever that drugs have the most to offer to persons suffering from schizophrenia at this point in time and that other therapies are only useful as an adjunct to drug therapy (Hogarty et al, 1974). It is important to stress this point because our society has suffered from an over-use of drugs in the past and has a serious drug abuse problem in the present and, not surprisingly, it is now becoming 'drug-shy'. Families who are afraid to have a member become drug-dependent have sought alternative methods, from diet to exorcism. This is mostly because lay knowledge of drugs is dominated by fears of addiction. The types of drugs used in the treatment of schizophrenia are not addictive - but in most cases, they are effective.

The main drugs used in the treatment of schizophrenia are anti-psychotic drugs. They are also known as neuroleptics or major tranquilizers. They frequently do not produce tranquillisation so the last term is unfortunate, it is reproduced here only because it appears so often in the literature. These drugs emerged in the 1950's, the first, chlorpromazine (Largactil, Thorazine), being discovered in France in 1952. There are a number of different anti-psychotic drugs all of which are effective in the reduction of psychosis (the positive or acute symptoms of schizophrenia). Their effectiveness is currently attributed to their ability to block dopamine receptors in the brain. As the drugs have different chemical profiles, their effect on processes other than the transmission of dopamine also varies and thus their side effects are different. Unfortunately the only way to find out which drug is going to be the most suitable for the individual case is by trail and error.
Similarly the minimum (and therefore optimum) effective dose has been known to vary between cases from 1.25 mg. of fluphenazine every two weeks to 1,200 mg. of the same drug every day (Fuller-Torrey 1988). Just as the drugs are not addictive nor does the body slowly get used to them, doses do not need to be increased and when the drugs are stopped there are no 'withdrawal' symptoms.

Initially drugs are used to reduce or 'damp down' the florid symptoms of schizophrenia characteristic of the 'acute' phase such as hallucinations, delusions and thought disorders. Once these are 'under control' the drugs are generally used prophylactically to prevent relapse, often by means of depot (slow release) injections. Studies have shown antipsychotic drugs to be 50-60% effective in preventing relapse (Hogarty and Ulrich, 1977, Vaughn and Leff, 1976) however they have little or no effect on the debilitating negative symptoms of schizophrenia and unfortunately some of the side effects of some of the drugs such as lethargy, apathy and poverty of thought, are similar to some of these negative symptoms. This has led to further rejection of the drugs by sufferers and their families (and their doctors) who frequently attribute the negative symptoms of the disorder to the effects of the drugs (Fuller-Torrey, 1988, Hyde, 1994).

Drug therapy is the subject of constant research and despite poor funding compared to research for heart disease and cancer, new drugs are being identified and trailed regularly. Reports of this research usually appears in the Schizophrenia Bulletin, Schizophrenia Reports and the various national journals of psychiatry. Despite the undoubted benefits of
medication, people with schizophrenia are frequently reluctant or downright unwilling to take it at all and many will stop taking it against medical advice. There are a number of reasons for this, by far the most common being 'lack of insight'. The patients simply do not believe that they have schizophrenia. In fact lack of insight is the most common symptom of schizophrenia. The WHO study in 1973 revealed that while over 50% of all patients experienced flatness, feelings of external control and/or auditory hallucinations some 98% suffered from lack of insight (WHO, 1973). Even where patients do have some recognition of their illness they may continue to refuse medication as a form of denial. So long as they don't agree to take drugs they can convince themselves that they are not really ill. Problems of insight and denial may be compounded by: the current ethos against drug taking; attitudes that regard pills as unhealthy or the resort of the weak; religious objections; feeling better; or simply forgetting. It is very common for people who react favourably to medication to assume that they are now well enough to do without it. Others, feeling O.K. forget the medication and then as the residual effects wear off become ill and lose insight leading to greater non-compliance. Unfortunately 80% of people with schizophrenia are likely to be re-hospitalised if they fail to take their medication (Davis et al, 1980).

The other primary reason for non-compliance with medication is a fear or dislike of the associated side effects. Although, as mentioned before, in some cases symptoms of the illness such as flatness, slowness and poverty of thought are confused with side effects, it cannot be denied that the drugs do have some side effects which vary in severity from drug to drug and from case to case. Some of these such as drowsiness, dry mouth, constipation and blurry vision are minor and tend diminish or disappear after a few weeks.
More alarming to the uninitiated, is a dystonic reaction, whereby the neck muscles go rigid often causing the patient to 'lock up' with his head in a contorted position. Although this is very frightening both for the patient and his or her family it can quickly be remedied with an anti-cholinergic drug such as benztropine (Cogentin). Because dystonic reactions are quite common it is generally recommended that such anti-cholinergic drugs be administered prophylactically.

Other common and more serious side effects are: akathesia (restlessness); tremors of the hands and feet; akinesia (stiffness, rigidity and diminished spontaneity); slurring of speech; expressionless face; reduced sexuality and/or impotence; muscle spasms; extreme photosensitivity (to the sun); weight gain and tardive dyskinesia (involuntary movements especially of the mouth and tongue). The list seems quite long and daunting. It is important to keep it in perspective without belittling the suffering of those affected. First of all none of these effects are life threatening and frequently can be reduced or eliminated by waiting, changing to another anti-psychotic drug or reducing the drug dosage.

Furthermore, most patients will only experience a few of them and then, not all of the time and some, such as akinesia, akathesia and tremors, respond to other medication. On the other hand it is important not to dismiss them as many patients may feel 'robbed' of life's richness, peace or spontaneity and become depressed and/or suicidal. Many patients prefer to remain a 'little mad' than to be overdosed with major tranquilisers and Dr. E. Fuller-Torrey advocates that a sensitive doctor will respect their right to choose this alternative (Fuller-Torrey, 1988) as he quotes one of his own patients:
'Whereas I lived in a fascinating ocean of imagination, I now exist in a mere puddle of it. I used to write poetry and prose because it released and satisfied something deep inside myself; now I find reading and writing an effort and my world inside is a desert.' (Fuller-Torrey, 1988).

It is also important to remember the effect that some of these side effects can have on families, who may have to put up with a constant and irritating tremor day by day, or a sexually disinterested spouse, or someone who never seems to speak up or speak clearly, schizophrenia is hard to live with both for the sufferers and their families, it is not surprising that if the drugs seem to prevent extra problems they are frequently discontinued.

Encouraging drug compliance is a major aspect of family intervention therapy, to be discussed presently. Drugs can be regarded as a necessary evil or as Mary-Ellen Walsh puts it, "the chemical life raft to which we cling". However you choose to regard them, it is a fact that drugs give at least 60% of people with schizophrenia an opportunity to live a reasonable life within the community.

Because drugs are the first and most important form of treatment for schizophrenia it is recommended that patients are initially treated in hospital (Atkinson, 1989). The hospital is a place of safety and custody where trained people can observe the patient and design an appropriate treatment plan. All countries have some legal provision for the involuntary hospitalisation of people who need to be removed and possibly medicated for their own sake, or for the sake of others. The horror stories of people hidden and forgotten by ashamed relatives, incarcerated for decades against their will in overcrowded wards where every vestige of human dignity and privacy was denied them are, mercifully, a thing of the past.
Unfortunately the image lives on and the stigma attached to mental hospitals often deters patients and their families from recourse to hospitalisation. The global move to deinstitutionalise mental illness by gradually moving a large proportion of people suffering from treatable mental illness back into a community where a sufficient and flexible network of services are available to support them, does not mean that there is no longer a place for the psychiatric hospital or psychiatric ward. Even if such an ideal system existed there would still be the need for hospitalisation (a) at the onset of 'acute' schizophrenia, (b) in cases of 'acute' relapse and (c) for those patients who either do not respond to drugs or suffer from a chronic condition governed by extreme negative symptoms.

Denying people access to hospital and 'right' to treatment (even against their will) is just as invidious as locking them up and restraining them when they are quite capable of living at home. Despite the current emphasis on case management (Ellis, 1994; Wooff, 1991) and encouraging research descriptions of successful family interventions by skilled teams of case-workers (Barrowclough and Tarrier, 1992; Bellack and Meuser, 1993), the continued experience of patients and their families is that 'you can't get help unless there's a crisis'. Meetings of self-help groups such as the Schizophrenia Fellowship and ARAFMI here in Western Australia, are frequently dominated by the sad stories of patients and their families, who, on recognising the signs of relapse, have tried and yet been unable to access help until full blown psychosis has justified calling out the PET team (Psychiatric Emergency Team).
In summary, the hospital is the best place to begin the treatment of schizophrenia. Once the condition has been diagnosed and stabilised with suitable medication, alternative accommodation may be more suitable and other forms of treatment helpful. Should a really effective system of community care, tailored to meet individual needs and drawing on the resources of a number of agencies, including the health services, social services, housing departments and voluntary bodies, ever be successfully put in place then we could expect a demise of what is known as 'the revolving door' policy of care for people with schizophrenia (Atkinson, 1989). Unfortunately the 'ideal' is far from a reality in any country and despite the obvious desirability and justice of such a situation it is unlikely to be realised anywhere in the near future. An allocation of adequate resources would require an enormous shift in economic priorities at both national and local levels. In an effort to maximise the use of scant resources, mental health professionals in Western Australia have been forced to 'rob Peter to pay Paul', closing vital and well used facilities, such as Whatley House in Bayswater in order to staff essential services (in this case the Inner City Psychiatric Service based at Royal Perth Hospital) (Eastern Suburbs Reporter, October 18, 1994)\textsuperscript{14}.

**PSYCHOSOCIAL THERAPIES**

Opinions very greatly as to the value and efficacy of psychosocial treatment or therapy in schizophrenia. Because of the damage done to people with schizophrenia and their families by the ill-conceived and scientifically untested psychoanalytic theories of the 50's and 60's,

\textsuperscript{14} This literature review was undertaken in 1994, since that time Clozapine has been rigorously trialed in WA and is being used successfully with an increasing number of patients.
whereby schizophrenia was seen as a 'normal' reaction to 'abnormal' parenting, many psychiatrists have shied away from any form of 'talk' therapy altogether. It is therefore necessary make a very clear distinction between psychoanalysis or insight oriented psychotherapy whether in an individual or group setting and what is popularly known as 'supportive psychotherapy' such as the teaching of living skills and family intervention programs. Dr. Fuller-Torrey offers this somewhat cynical advice:

'Differentiating between insight-oriented psychotherapy and supportive psychotherapy can be reliably accomplished by the "Mother test": if on the first visit the psychotherapist asks the patient anything about Mother other than what she does for a living, then it is psychoanalysis and insight-oriented psychotherapy' (Fuller-Torrey, 1988)

Research indicates that psychoanalysis and insight oriented psychotherapy have no place in the treatment of schizophrenia (Mosher and Keith, 1980; Manschreck, 1981; Fuller-Torrey, 1988). Since most people with schizophrenia are already struggling with an overwhelming and confusing excess of internal and external stimuli, the last thing that they need is to probe into the echelons of their memory or lower consciousness in order to find more cause for disturbance. Increased arousal immediately increases the likelihood of psychosis and hence relapse. As Fuller-Torrey puts it:

'To do insight oriented psychotherapy with persons with schizophrenia is analogous to directing a flood into a town already ravaged by a tornado.' (Fuller-Torrey, 1988).

The same is true of the traditional form of group psychotherapy with its emphasis on interpersonal processes. This may seem self-evident, surely nowadays therapists don't still
address group members with comments like, "Bill how did you feel when Harry laughed it
you just now?" or "Susan, can you tell us when you last felt really angry?"... Yes they do.
And in a recent film 'Happy as Larry' which was reported in 'The Australian' on Friday
October 24th 1994 as aiming 'to change our minds on schizophrenia', just such a therapy
group was featured, not as an example of misguided therapy but apparently as a positive
model!

It is a difficult and confusing situation for people suffering from schizophrenia and their
families. Clearly psychoanalytic treatment and psychodynamic theories as to the cause of
schizophrenia are inappropriate and harmful, yet they are still in use and are called 'therapy'.
In reaction to this, many mental health professionals may have clung too rigidly to the
'medical' model of schizophrenia, i.e. that it is a brain disease or set of diseases transmitted
by genetic and/or prenatal and perinatal insult (Wyatt et al, 1988; Roberts, 1991) and
consequently assuming that the disorder can only be treated pharmacologically have not
encouraged the use of psychosocial interventions. However although it appears that no
psychosocial strategy is sufficient as a treatment for schizophrenia, it has been shown to be
effective when it is used in addition to drug therapy (Bellack and Meuser, 1993).

Family Intervention Therapy And The Concept Of Expressed Emotion (EE)
Just as the onset of schizophrenia can be caused by a combination of genetic predisposition
and psychosocial or environmental factors (See Ch.4. Aetiology), so the course of the
illness can be substantially affected by environmental factors (Hooley 1985, Goldstein and
Strachan 1987). While it is still almost impossible to predict who is likely to develop schizophrenia and thus not feasible to take early prophylactic measures, once the disorder is established it is possible to modify factors that may precipitate relapse.

For the past three decades research into factors affecting relapse has been dominated by the concept of EE (Expressed emotion). This was initiated by George Brown and his colleagues at the MRC (Medical Research Council) Social Psychiatry Unit in London. Following up patients discharged from large psychiatric hospitals it was discovered that, contrary to expectation, patients with schizophrenia were more likely to relapse and be readmitted to hospital if they returned to their families than if they lived alone or in a hostel. (Brown et al, 1962).

In a series of studies Brown and his colleagues developed and employed the CFI (Camberwell Family Interview). Families were interviewed and rated for EE, while their relative was in hospital for an acute episode. The rating consisted of a five dimensional scale measuring: critical comments; hostility; marked emotional over-involvement (EOI) both negative and positive; warmth; and positive remarks. However only the first three: criticism; hostility; and EOI are actually used for the assessment. These studies demonstrated a highly significant relationship between EE and relapse, in fact a high level of EE within the family emerged as the strongest single predictor of relapse (Brown et al, 1972).
The psychologist Christine Vaughn and social psychiatrist Julian Leff continued this research. They extended their frame of reference to include three variables: level of EE; continuing vs stopping medication; and, for the high EE families, number of hours of face-to-face contact between the patient and relatives. (Vaughn and Leff, 1976) See Table 9.

**TABLE 8. EXPRESSED EMOTION AND RELAPSE RATES**

<table>
<thead>
<tr>
<th>Subgroups</th>
<th>Relapse Rates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low EE</td>
<td></td>
</tr>
<tr>
<td>13%</td>
<td>12%</td>
</tr>
<tr>
<td>1. On Medication</td>
<td>12%</td>
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<td>2. Off Medication</td>
<td>15%</td>
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<td>N=12</td>
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<tr>
<td>&lt;35 hours</td>
<td>15%</td>
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<td>28%</td>
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<tr>
<td>4. Off Medication</td>
<td>42%</td>
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<tr>
<td>High EE</td>
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<tr>
<td>51%</td>
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<td>&gt;35 hours</td>
<td>53%</td>
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<tr>
<td>69%</td>
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<tr>
<td>6. Off Medication</td>
<td>92%</td>
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Adapted from Vaughn & Leff, 1976

The evident effect of high EE on relapse has given rise to a number of family intervention programs (Leff et al, 1982, 1985; Falloon et al, 1987; Tarrier et al, 1988; Barrowclough and Tarrier, 1990) all of which have been successful in reducing relapse by educating families about schizophrenia, stress control and coping strategies.
A comprehensive account of such an intervention can be found in Barrowclough and Tarrier's excellent book 'Families of Schizophrenic Patients: Cognitive Behavioural Intervention.' (Chapman and Hall, 1992).

In this review it is not possible to examine all the literature in the field of family intervention and EE. A definitive account of the effect EE can be found in 'Expressed Emotion in Families: Its Significance For Mental Illness' by Leff and Vaughn (New York, Guildford Press, 1985) and an overview of current trends in psychosocial treatment for schizophrenia by Bellack and Meuser was published recently in the Schizophrenia Bulletin (Vol.19 (2) 1993). The interventions have varied in style, length of application and follow up however Lam (1991) identifies 7 common components of those that have been most effective:

1. A positive and genuine working relationship between therapist and family.
2. Family therapy provided in a stable structured format with the therapist 'on call'.
3. A focus on coping with *current* stressors (not dwelling on past).
4. A focus on improved communication between family members.
5. A focus on respect for personal space/boundaries within the family.
6. The use of behavioural techniques e.g. breaking down the task.
7. The provision of factual knowledge re: the biological nature of the disorder (to reduce guilt/blaming).
As this list indicates the success of family intervention therapy cannot solely be attributed to the reduction of EE, several other factors must be embraced. The involvement of a casework team is a support factor in itself, patients are monitored and the likelihood of compliance with medication is increased.

It remains to be seen whether short term interventions (less than 9 months) will be adequate. Tarrier's model (Barrowclough and Tarrier, 1987) included 13 sessions spread over 9 months while Falloon and his colleagues used a 1-2 year approach. In the Falloon study 17% of patients from families who received therapy relapsed compared with 83% of the controls. In reviewing seven studies conducted between 1985 and 1990 Barrowclough and Tarrier conclude:

"...short education or counselling programs do not affect relapse rates; time limited family interventions, even of 9-12 months, may delay rather than prevent relapse. The implications of both are that many patients and their families will need long-term continuing intervention."(Barrowclough and Tarrier, 1992).

As always the balance will be decided between what is ideal and what is possible in terms of economics and, although on paper it is cheaper to keep a patient in the community with therapeutic support, it is a different matter trying to persuade government departments to allocate more staff to what is essentially a prophylactic service.
Nobody expects anti-psychotic medication to continue working after it has been discontinued. The same is likely to be true of family therapy and 'booster' sessions, or long term residual follow up will probably be needed in most cases. What is clear is that family support therapy and social skills training, whereby people with schizophrenia are helped to integrate in the community (Hogarty et al, 1991; Eckman et al, 1992; Bellack and Meuser, 1993), is demonstrably effective in preventing relapse and promoting social adjustment and an enhanced quality of life for people with schizophrenia and their families.

Recently research has moved towards a more dynamic and interactive model of family therapy. This makes sense as anyone who has had to live with a person with schizophrenia can attest. If EE was not present in the family before the onset of the disorder it is still likely to develop as a result of it. As Irving Gottesman puts it:

'The negative elements are very often elicited by the infuriating demands and outrageous behaviour of many schizophrenics living with, or even in telephone contact with, their relatives; only the rare "Mother Theresas" can maintain their composure and equanimity under such chronically exhausting conditions." (Gottesman, 1991).

One of the best accounts of the reality of having a person with schizophrenia in the family is Anne Deveson's remarkable book 'Tell Me I'm Here, which recounts her years of struggling with her son's illness, her search for a 'cure', her problems with stigma, prejudice and the hopelessly inadequate mental health system in Australia, her final relinquishing of 'control' and Jonathan's wretched suicide. Nothing could have 'cured' Jonathan but timely
and intelligent family intervention therapy might have averted an enormous amount of suffering for both him and his family (Deveson, 1991). This opinion from Bellack and Mueser is encouraging:

'As biological advances over the next decade continue to contribute to a better understanding of the aetiology, patho-physiology, and pharmacological treatment of schizophrenia, it is likely that the role of psychological intervention in enhancing social functioning and reintegrating patients into the community will become even greater than it is today. (Bellack & Mueser, 1993).

Self Help And Non-Government Organisations

The importance of family support is attested by the success of the various self-help groups that exist worldwide. NAMI, The Schizophrenia Fellowships, ARAFMI and many others provide a lifeline of information, publications, support and sympathy for people with schizophrenia and their families. It is from such groups that a new trend is emerging. That is to consult the consumer as to what is best for him or her. At the Western Australian Mental Health Week Conference 1994, Dave Mc Donald opened his remarks with the following somewhat cynical analogy:

'At present, the president of the West Australian Women's Rights Association is a man. The board is comprised of several individuals with various backgrounds and experience but with only one female represented. There is also a subcommittee which deals with legislative policies where no females are represented, although they do say that they receive much feedback from females through surveys and public forums.(Mc Donald, 1994).

Dave McDonald was the inaugural coordinator of Lorikeet Clubhouse, established in Perth by the Schizophrenia Fellowship WA in 1994. The clubhouse model has proved to be one
of the most effective models for promoting mental health in people with schizophrenia. The first clubhouse, 'Fountain House' was established in New York in 1948, there are now over 250 in operation in 14 countries. The aim of the clubhouse is to provide a place where people who have been socially and vocationally disadvantaged by mental illness, can regain the confidence and skills to lead active social and vocational lives (Karlovsky, 1994).

The clubhouse promotes a 'work ordered day' and it is run by its members. Staff are referred to as 'paid members' and may or may not have had a mental illness. Robby Vorspan who was a member of Fountain house and later became a paid member writes:

'No matter who you are, work has a profound meaning in your life. It gives you a sense of who you are among other people. Working pushes you to come in touch with your own very unique strengths, talents and abilities. As you discover and rediscover these things in yourself, you gradually begin to define a more and more consistent representation of who you are to yourself and how you are unique and how you are the same as those around you. This consistent sense of yourself, I think, is the absolute prerequisite to self-esteem and to the ability to develop real relationships.' (Vorspan, 1992).

Work at the clubhouse is real and meaningful. It arises out of the actual needs of the members and the clubhouse itself. In other words it has to be done and someone has to do it. Nobody can do everything but everybody can do something. Members have the opportunity to flex skills that they already have and to learn new ones. You can't 'fail' at the clubhouse, you can simply find that you are more suited to some tasks and happier doing them, than others. Most clubhouses operate a transitional employment program whereby members are given the opportunity to gradually move back into the open work force on either a full, or part time basis.
The clubhouse is a meeting place where people form relationships both through working together and playing together. They have an opportunity to serve and to be served (Lisa 1994) by people who, suffering a mental illness themselves best understand who they are. 'Who they are' is simply, ordinary unique individuals just like everybody else, their illness is an addition, an extra thing which they have on top of being an ordinary person. It is important to recognise this. Very often people with schizophrenia are treated as if that is all they are i.e. schizophrenic, and it is because of this that many well meaning attempts at psychosocial and occupational therapy fail. Schizophrenia will not make a man who has been a lounge lizard all his life want to play basketball even if he does possess all the physical and mental capacities for doing so. One of the aims of this research is to enable people who do not have schizophrenia to understand that people who do have schizophrenia are exactly the same as them, with all the same mental and physical attributes, potentials and possibilities except for one thing: they have a (frequently intermittent) illness which needs to be controlled by medication and which, like most illnesses, may make it difficult for them to work to full capacity some of the time.

The clubhouse model is cheap and effective. It treats people with mental illness with respect and gives them every opportunity to build up their own self-respect. As Lisa, one of the first members of Lorikeet clubhouse told the WA Conference for Mental Health Week 1994:

'The support given by the clubhouse let's us begin to think positively, optimistically and realistically about future directions we may make and.. yes, we have a future.' (Lisa, 1994).
CHAPTER 8. THE SUBJECTIVE EXPERIENCE OF SCHIZOPHRENIA:

PUTTING THE SYMPTOMS IN CONTEXT

'As for me, you know that I shouldn't precisely have chosen madness if there had been any choice.' (Van Gogh, 1889)

Dr. Fuller Torrey issues this challenge:

'Those of us who have not had this disease should ask ourselves, for example, how we would feel if our brain began playing tricks on us, if unseen voices shouted at us, if we lost the capacity to feel emotions, and if we lost the ability to reason logically. This would certainly be burden enough for any human being to bear. But what if, in addition to this, those closest to us began to avoid us, or ignore us, to pretend that they didn't hear our comments, to pretend that they didn't notice what we did? How would we feel if those we most cared about were embarrassed by our behaviour each day?' (Fuller-Torrey, 1988).

What do people know about schizophrenia?

Despite the fact that one in every hundred people can be expected to develop schizophrenia, despite the fact that in 1985 forty million families around the world were coping with a relative who has schizophrenia (Walsh, 1985), all that the majority of these people have had to guide them are the myths that have been handed to them by our culture.

Mary-Ellen Walsh writes:

'To send families out to deal with the everyday intricacies of mental health care armed only with these notions was like sending a flight crew on a moon mission armed with the knowledge that the moon is made of green cheese .... To understand what the information gap has meant to families, imagine trying to deal with a mentally ill son when all you know about mental illness is what you learned from the movie 'Psycho'. The Alfred Hitchcock School of Psychiatry is all most of us had, and there we learned to be afraid of the mentally ill and never, never to take showers alone.' (Walsh, 1985, p.24).
Just as every individual has a unique experience of life so every person who suffers from schizophrenia has a unique experience of the disorder. It is not possible to give an adequate description of what it is like to have schizophrenia. Each person will have a different combination of symptoms, will experience those symptoms in different ways and different degrees of intensity and will react differently, both to the symptoms and to the medication. All that can be done here is to give a reasonably representative selection of first person accounts of the experience in general and of the most common symptoms. There are themes and patterns which are common to many cases, and while it is not possible to represent all of what everybody feels, it is hoped that any person suffering from schizophrenia will find much with which to identify within the selection and that those who have not experienced schizophrenia will at least be able to imagine with some accuracy what it might be like.

Alternatively they could watch:

'Schizophrenia: From the Inside Looking Out'.
A SELECTION OF EXTRACTS FROM FIRST PERSON ACCOUNTS OF SCHIZOPHRENIA


The reflection in the store window - it's me, isn't it? I know it is, but it's hard to tell. Glassy shadows, polished pastels, a jigsaw puzzle of my body, face and clothes with pieces disappearing whenever I move. And, if I want to reach out to touch me, I feel nothing but a slippery coldness. Yet I sense that it's me. I just know.

So I've searched, in library books and in articles about schizophrenia, hoping to find other solutions and answers to my whys, how longs, what's the cure. Some of the information is frightening - the case histories of patients, the descriptions of symptoms. Some of it is confusing, reaming with speculations, yet with every author being certain that his written word is better than the last answer in print. Schizophrenia is genetic - no' no' it's surely biochemical - definitely nutritional - sorry, but it's caused by family interactions, maybe stress, etc. Now, with the worship of the technological gods, the explanation is that schizophrenia is a brain disease colourfully mapped out by the PET scanner. I suddenly feel that my humanity has been sacrificed to a computer printout, that the researchers have dissected me without realising that I'm still alive. I'm not comfortable or safe in all their certain uncertainties - I feel they're losing me, the person, more and more.

.. schizophrenia is painful, and it is craziness when I hear voices, when I believe that people are following me, wanting to snatch my very soul. I am frightened to when every whisper, every laugh is about me; when newspapers suddenly contain cures, four letter words shouting at me; when sparkles of light are demon eyes. Schizophrenia is frustrating when I can't hold onto thoughts; when conversation is projected on my mind but won't come out of my mouth; when I can't write sentences but only senseless rhymes; when my eyes and ears drown in a flood of sights and sounds... and on, always more.

What's so "special"? Well, the times when colours appear brighter, alluring almost, and my attention is drawn into the shadows. the lights, the intricate patterns of textures, the bold outlines of the objects around me. It's as if all things have more of an existence than I do, that I've gone around the corner of humanity to witness another world where my seeing, hearing and touching are intensified, and everything is a wonder.

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'Half the time I'm thinking about one thing and thinking about half a dozen other things at the same time. It must look queer to people when I laugh about something that has got nothing to do with what I am talking about, but they don't know what's going on inside and how much of it is running around in my head.'

'It just becomes a lot of words that I would have to string together to make sense.'

'When people are talking I have to think what the words mean. You see there is an interval instead of a spontaneous response. I have to think about it and it takes time. I have to pay all my attention to people when they are speaking or I get all mixed up and don't understand them.'

'Everything is in bits. You put the picture bit by bit into your head. It's like a photograph that's torn into bits and put together again. If you move it's frightening. The picture you had in your head is still there but broken up. If I move there's a new picture that I have to put together again.'

'I can't concentrate on television because I can't watch the screen and listen to what is being said at the same time.'

'Colours seem to be brighter now, almost as if they are luminous painting. I'm not sure if things are solid till I touch them. I seem to be noticing colours more than before...the colours seem much clearer and yet at the same time there is something missing. The things I look at seem to be flatter as if you were looking just at the surface. Maybe it's because I notice so much more about things and find myself looking at things for a much longer time.(change in behaviour - often misunderstood) Not only the colour of things fascinates me but all sorts of little things, like markings on the surface'.

'My responses are too slow. Things happen too quickly. There's too much to take in and I try to take in everything. things happen but I don't respond. When something happens quickly or unexpectedly it stuns me like a shock. I just get stuck. I've got to be prepared and ready for such things. Nothing must come upon me too quickly'.

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'Sometimes I commit brief disappearances - my mind pauses and closes down for a short while, like falling asleep suddenly.'

'I saw everything very bright and rich and pure like the thinnest line possible. Or a shiny smoothness like water but solid. After a while things got rough and shadowed again'
'I used to get the sudden thing that I couldn't understand what people said, like it was a foreign language.'

'Everything looked vibrant, especially red: people took on a devilish look. With black outlines and white shining eyes: all sorts of objects - chairs, buildings, obstacles - took on a life of their own; they seemed to make threatening gestures, to have an animistic outlook.'

'lots of things seemed psychedelic; they shone. I was working in a restaurant and it looked more first class than it really was'.

'People looked deformed, as if they had had plastic surgery, or were wearing make-up with different bone structure'.

'People were deformed, squarish, like in plaster'.

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'I have to put things together in my head. If I look at my watch I see the watchstrap, watch, face, hands and so on. Then I have got to put them together to get it into one piece'

'I get shaky in the knees and my chest is like a mountain in front of me, and my body actions are different. The arms and legs are apart and away from me and they go on their own. That's when I feel that I am the other person and copy their movements, or else stop and stand like a statue. I have to stop and find out whether my and is in my pocket or not. I'm frightened to move or turn my head. Sometimes I let my arms roll to see where they will land.'

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'I tried sitting in my apartment and reading; the words looked perfectly familiar, like old friends whose faces I remembered perfectly well but whose names I couldn't recall; I read one paragraph ten times, could make no sense of it whatever, and shut the book. I tried listening to the radio but the sounds went through my head like a buzz saw. I walked carefully through traffic to a movie theatre and sat through a movie which seemed to consist of a lot of people wandering around slowly and talking a great deal about something or other. I decided, finally, to spend my days sitting in the park watching the birds on the lake.

'I sat in my basement with a fear that I could not control. I was totally afraid - just from watching my cat look out the window.'

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'I awoke one morning to hear a voice coming from the back of my head saying that I would have to serve humanity for the next ten years. I was very pleased to hear this, believing that the words in some way represented a spiritual aspect that had developed in me. I faced each day with a new sense of well being. My depression left me and I gave a great deal of thought to my premonitions'.

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'I got up at seven a.m., dressed and drove to the hospital. I felt my breathing trouble might be due to an old heart lesion. I had been told when I was young that I had a small ventricular septal defect. I decided that I was in heart failure and that people felt that I wasn't strong enough to accept this, so they weren't telling me. I thought about all the things that had happened recently that could be interpreted in that light. I looked up heart failure in a textbook and found that the section had been removed, so I concluded someone had removed it to protect me. I remembered other comments. A friend had talked about a 'walkie-talkie,' and the thought occurred to me that I might be getting medicine without my knowledge, perhaps by radio. I remembered someone talking about a one-way plane ticket; to me that meant a trip to Houston and a heart operation. I remembered an unusual smell in the lab and thought that might be due to the medicine they were giving me in secret. I began to think I might have a machine inside me which secreted medicine into my bloodstream. Again I reasoned that I had a disease no one could tell me about and was getting medicine for it secretly. At this point, I panicked and tried to run away, but the attendant in the parking lot seemed to be making a sign to motion me back. I thought I caught brief glimpses of a friend and my wife so I decided to go back to the hospital. A custodian's eyes attracted my attention; they were especially large and piercing. He looked very powerful. He had to be 'in on it', maybe he was giving medicine in some way. Then I began to have the feeling that other people were watching me. And, as periodically happened throughout the early stages, I said to myself that the whole thing was absurd, but when I looked again the people really were watching me.'

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Romme, M.A. and Escher, A.D. 1989 Hearing voices. *Schizophrenia bulletin*  
Vol 15 No. 2.

'Finally I decided to ignore the voices and asked them to leave me alone. In all my  
ignorance I handled this in totally the wrong way. You can't just put aside something that is  
existing in yourself and manifesting itself in such a strong way...Until then the voices had  
always been polite and friendly, but it changed in the opposite way: they said all kinds of  
strange things and they made the things that were important to me look ridiculous. It was a  
full-blown civil war.'

Van Dusen, W. 1973. The presence of spirits in madness. in Fadiman, J. & Kewman, D.  

', as though one is dealing with drunken bums at a bar who like to tease and torment just  
for the fun of it. They will suggest lewd acts and then scold the patient for considering  
them. They find a weak point of conscience and work on it interminably. For instance one  
man heard voices teasing him for ten years over a ten cent debt that he had already paid.  
They call the patient every conceivable name, suggest every lewd act, steal memories or  
ideas right out of consciousness, and threaten death and work on the patient's credibility in  
every way. For instance they will brag that they will produce some disaster on the morrow  
and then claim some honour for one in the daily papers. They suggest foolish acts...and  
tease if he does it and threaten if he doesn't...they threaten pain and can cause felt pain as a  
way of enforcing their power. The most devastating experience of all is to be shouted at  
constantly by dozens of voices... they invade every nook and cranny of privacy, work on  
every weakness and credibility, claim awesome powers, lie, make promises and then  
undermine the patient's will'. (Van Dusen. p.122)

Lovejoy, M. 1984. Recovery from schizophrenia: a personal odyssey. *Hospital and  
community psychiatry.* 35, 809-12.

'In the first stage, I feel just a bit estranged from myself. From my eyes the world seems  
brighter and more sharply defined, K! my voice seems to echo a bit. I start to feel  
uncomfortable being around people, and also uncomfortable in sharing my changing  
feelings.

In the second stage, everything appears a bit clouded. This cloudiness increases as does  
my confusion and fear, especially fear of letting others know what is happening to me. I try
to make logical excuses and to get control over the details of my life, and often make frantic efforts to organise everything; cleaning, cataloguing, and self-involved activity is high. Songs on the radio appear to have greater meaning and people seem to be looking at me strangely and laughing, giving me subtle messages I can't understand. I start to misinterpret peoples actions towards me, which increases my fear of losing control.

**In the third stage**, I believe I am beginning to understand why terrible things are happening to me: others are the cause of it. This belief comes with a clearing of sight, an increasing level of sound, and an increasing sensitivity to the looks of others. I carry on an argument with myself as to whether these things are true: "Is the FBI or the devil causing this?...No that's crazy thinking. I wonder why people are making me crazy."

**In the fourth and last stage**, I become chaotic and see, hear and believe all manner of things. I no longer question my beliefs but act on them.


'Now it was there. Now it grew out of me like a tumour, like a second head, and was part of me, though it could not belong to me at all, because it was so big. It was there like a huge dead, beast, that had once, when it was still alive, been my hand or my arm. And my blood flowed both through me and through it, as if through one and the same body. And my heart had to make a great effort to drive my blood into the Big Thing; there was hardly enough blood. And the blood entered the Big Thing unwillingly and came back sick and tainted. But the Big Thing swelled and grew over my face like a warm bluish boil and grew over my mouth, and already the shadow of its edge lay upon my remaining eye'.


'I was invited to play chequers and started to do so, but I could not go on. I was too much absorbed in my own thoughts, particularly those regarding the approaching end of the world and those responsible for the use of force and for the charge of homicidal intent...'


'My feelings about excessive light and truth were shown in ideas I had about glasses. I was afraid of people who wore glasses, and thought that I was being deliberately persecuted by doctors and nurses who refracted an excessive amount of light into my eyes by wearing glasses....I grabbed and broke two pairs of glasses worn by nurses.'
KYLIE 22
I thought I had body lice, that I was creating an epidemic. I believed my body was lined with lice inside and out.

LIONEL 52
I used to be brand new but I'm not any more. My mother thought I was a drop of sunshine.

It's like having chains around you. You can't break free of the things that are wrong with you. You can't shed it like a raincoat. It stays with you. There's a lot of people in this condition. It's like being a prisoner. It feels frustrating. A dull aggravating feeling.

GUISEPPE 36
I ended up feeling people around me to be mad. I had a zone around me where people became crazy. It was like people were asleep but I was awake. It was terribly frustrating.

At the moment I am unable to put anything into place about what it all is. I am trying to get rid of the medication and it's very hard to do. It's a real stress. I feel the medication that I have been subjected to by the Mental Health Department for the past fifteen years interferes with the chemical make up of myself.

I have had awful side effects with the medication. I have bowel disorders, changes in facial expression and I am overweight. I find it hard to motivate myself. I neglect my personal hygiene.

I also have problems with allergies. I have problems with everyone. A lot of the effects of the medication on me have been behavioural. I am really saddened by that. I was never that type of kid. I suppose I was in a way. I was pretty rowdy with myself but never towards other people so much. My personality has changed.

I don't meet many people. I go to a hotel and I sit there drinking a beer on me own. It's like I'm disconnected from everything. Completely disconnected. I know I have been a real damn hard person to get along with.... I have given a lot of people a terrible hard time. I've been very angry with life itself. Very angry. Really extremely angry at times.

My psychological makeup is blown to pieces. It's been fifteen years. I'm so detached from everyone I come into contact with, even my family. I have no personal relationship with them. My problem was a psychological problem. It wasn't what they term schizophrenia - brain chemistry.
JOHN 34
I hitch hiked to the Austin Hospital. You know it's rough when you think you've saved the world and saved yourself and put a lot of work into it, to be locked up in F12. It's pretty criminal when no crime was committed. Your only crime is saving the world.

The worst experience of all was being in hospital and I thought I was failing in my mission for God. I didn't hear voices. Only my conscience. You know Jesus suffered. He suffered a lot, but a lot of those people in hospital are suffering a lot more. Jesus got recognition for who he was. He got praise; he got put on a pedestal. He had the choice to say, 'I'll die for you.' But a lot of people have been kicked around all their life - they try to kill themselves to help the world. They've never had the recognition that Jesus had. They never had the sort of praise. All they've had is people saying, 'You're crazy. Give him medication.'

These people who are locked up and have no standing in society are laughed at. God is looking after all of them and watching how we look after them. Next time we laugh at someone who says they're Jesus, maybe we should think.

MARY 45
The day after I sat my final exams for midwifery, I was with a baby which turned blue. I didn't do anything. I was paralysed, and was put into a private psychiatric hospital two or three days later, but it turned out I had passed the exams well. My brain was working well intellectually even though other things were happening.

It's hard to describe what it is like to suffer from schizophrenia. You feel you are in a fog. You can't think clearly. It's a real battle. It's as if you have far too much stimulation at the same time. Too many thoughts spring into your head. Even physically, you rush from pillar to post.

When I was doing my degree I felt a bit suicidal. The Asians think if you do something dishonourable you should die. I felt working as a nurse and not coping was dishonourable.

Having a structured work environment is important for me. One of my brothers is the same. We both need to work within a good framework with clear guidelines. I also think it is very important to educate yourself about your illness and never give up.

PERRY 33
My relationship with my family was weird because one moment I'd love them like a family loves each other, then the next day the dream would say, 'Your brother is Poseidon, flatten him. He possesses you. Your father is Hermes who is protecting you. Love him. Now he is the devil. Hate him. Your mother is trying to poison you, she's a good cook - love her or hate her. Your brother is the Holy Ghost. He possesses you - kill him.'

I saw the film 'The Terminator' and dreamed it was me. I thought I was Satan's terminator. I thought that when I was born he made me the size of the universe but magically people saw me as flesh and blood. Really it is my head that is the size of the universe.
All the religious cultures possessed me and that was the cause of my suffering but the Holy Ghost saw and was going to bring me back to life.

SANDY 40
I am not afraid to claim my madness
but I would not wish it upon anyone else.
Who would want to know the ache
of the isolation of fragmentation.

They changed the medication from Valium to Largactil and Stelazine. It was terrible. It affected me dramatically. My neck was cramped and my tongue stuck at the back of my mouth. I couldn't speak. I was outside one day when my body suddenly seized up. I didn't know what was happening to me. They gave me Cogentin and after about twenty minutes it was O.K.

I take Cogentin all the time now with Modecate and Serenace. The only problem I have is that my eyes sometimes roll up into the back of my head and my mouth gets very dry. Sometimes I have a bit of restlessness ... The annoying thing with my eyes is that it can happen any time - I don't get any warning. I can be playing tennis or driving. It can last from twenty minutes to five hours. I just have to stop what I am doing and wait.

Schizophrenia is like falling down a black hole because you go deeper and deeper and deeper. Down, down, down. You never know when you're going to emerge from it. For me, there is always the fear that if I enter into a psychosis or an episode, I'm never going to come out of it again.

You never know when you are going to embarrass yourself, where it's going to be and who will see you. It's awful because you can do the craziest, stupidest things. Like a couple of years ago I went to see a friend who had just had a baby and said, 'Look you've just had the Messiah'. I was going to put an ad in the paper for her and announce that the Messiah had come.

There's a whole host of things you can do, and you never know when you're going to do it. You think 'Oh God, you're just being a nutter again in public and people are going to laugh at you. People do laugh. They don't understand.

MARIE 38
For a long time my father and mother were taking my face. This weekend I told them what would happen if they didn't stop. It upsets all my boyfriends. If they don't stop, I'll kill them.

My mother has started to do it with her thumbs. Dad started to do the same... In front of the TV at home Dad rolled off my face and put it on Mum. There's nothing wrong with my face.
..My mother stole my feelings and put me off... They think it's the right thing to take my arms and legs and exercise them. They don't know what they're doing. But I got them back by tidying up my room and doing some work here at the hostel.

I gave up cigarettes for three months in hospital at Larundel. A girl there pulled off half my head. She'll be there for the rest of her life now for doing it. Another girl smashed all the windows and tried to kill me. I've been bashed on the head whenever I've given up cigarettes. I'm smoking again now.

This other man took Marie away. It's not nice. He took my life... I've had most of my life stolen or misused.

JANET 28.
I worked in a busy French restaurant... one night when the place was full... I went into a sort of hazy dream state. I felt I was watching everything from outside my body. They told me afterwards I picked up a filleting knife and cut my hand. I wrapped a tea towel round it and went and had a cigarette in the toilet. I didn't feel any pain. It was as if I had stepped through a magic portal and left the stresses of the day behind.

You know the Chase story? She had multiple personalities. I'm not as extreme as her but the sense of me is so fragmented, it's like there are shades of personalities. Like various hues of colours revolving. Like the Janet you talked to last week is not the same as the Janet you are talking to now. It keeps on revolving.

I try to make myself disappear one way or another. I don't have the magical means to do so, so I try and do it in other ways. Like once I didn't eat for six weeks, just drank water.


I perceived a statue, a figure of ice which smiled at me. And this smile showing her white teeth, frightened me. For I saw the individual features of her face, separated from each other: the teeth, then the nose, then the cheeks, then one eye and the other. Perhaps it was this independence of each part that prevented my recognising her even though I knew who she was.

What did me the most amazing good was her use of the third person in speaking of herself, "Mama and Renee," not "I and you." When by chance she used the first person, abruptly I no longer knew her, and I was angry that she had, by this error, broken my contact with her.

..Horrible images assailed me, so vivid that I experienced actual physical sensation. I can not say that I really saw images; they did not represent anything. Rather I felt them. It seemed that my mouth was full of birds which I crunched between my teeth, and their
feathers, their blood and broken bones were choking me. Or I saw people whom I had
entombed in milk bottles, putrefying, and I was consuming their rotting cadavers. Or I was
devouring the head of a cat which meanwhile gnawed at my vitals. It was ghastly,
intolerable.

I knew that more and more I would let myself be controlled by the System, that I would
sink down in the Land of Enlightenment, or the Land of Commandment, as I also called it.

'During the visit I tried to establish contact with her, to feel that she was actually there,
alive and sensitive. But it was futile. Though I certainly recognised her, she became part
of the unreal world. I knew her name and everything about her, yet she appeared strange,
unreal, like a statue. I saw her eyes, her nose, her lips moving, heard her voice and
understood what she said perfectly, yet I was in the presence of a stranger. To restore
contact between us I made desperate efforts to break through the invisible dividing wall but
the harder I tried the less successful I was, and the uneasiness grew apace'.

'One day when I was in the principals office, suddenly the room became enormous,
illuminated by a dreadful electric light that cast false shadows. Everything was exact,
smooth, artificial, and extremely tense; the chairs and tables seemed models placed here
and there. Pupils and teachers were puppets revolving without cause, without objective. I
recognised nothing, nobody. It was as though reality had attenuated, had slipped away
from all these things and these people. Profound dread overwhelmed me and, as though
lost, I looked around desperately for help. I heard people talking, but I did not grasp the
meaning of the words. The voices were metallic, without warmth or colour. From time to
time a word detached itself from the rest. It repeated itself over and over in my head,
absurd, as though cut off by a knife'.


(At a Conference on Human Psychology. David has sent in a paper on the Origins of
Telepathy.)

Each speaker focused on David. By using allusions and non-verbal communications that
included pointing and glancing, each illuminated different aspects of David's contribution.
although his name was never mentioned, the speakers enticed David into feeling that he
had accomplished something supernatural in writing the paper.

A spiritually evolved person with great capabilities was the centre of attention.
Extraordinary powers of perception, a gift for telepathy, and the intellectual prowess of
Einstein were mentioned. David was certain that all of these allusions were to him when
one speaker, while discussing the telepathy hypothesis, said, "Our Shepherd." He was
compared to a lion. courageous, regal, and wholesome; or a bird that could soar high like
an eagle - extremely intuitive. He felt glorified.
David began to suspect then perceive that a federal agency was observing him. For a moment of insight explaining many peculiar, recent events in his life, he knew that he had been accused of treason for slandering Americans during his psychotherapy.... An agent at a local agency told him there was no investigation. David read the agent's mind, however, and determined that the CIA was conducting an investigation.

By electronic means the CIA let people around the world know what David said in therapy. Gradually everyone took sides either for or against the CIA and their opponent, David....

It dawned upon David that the CIA was listening to most of his thoughts wherever he went, even sometimes during sleep. David could not think privately in words. His thoughts in words gave rise to subvocal movements that produced specific patterns of sounds during breathing; the patterns were immediately picked up and deciphered by hidden CIA electronic equipment....Wanting a confession of treason, the CIA tormented David by playing his thoughts aloud and also by making comments and criticisms about his thoughts....

Because his thoughts were broadcast around him, David often felt that his consciousness was controlled from outside himself and that he had merged with the external environment.


My warning signs often begin when I am overtired or when I take on more than I can cope with (without realising), even enjoyable social stress can sometimes be more than I can cope with. I begin to feel increasing anxiety, and have difficulty putting my thoughts into words, I lose words (meaning I can't bring to mind and express the appropriate words that will make sense out of what I am trying to say). I experience periods of emotional over-reaction to things I would normally take in my stride. Also I can be overwhelmed by unexplained irritability and outbursts of anger, my tolerance drops to a low level, paranoia and depression overtake and restrict me. I begin to hear people around me, neighbours, general public in the street saying derogatory things about me. Making plans to hurt me, and laughing at me. Everyone seems to be talking about me, even on the radio. Another symptom I have experienced is a bad smell. Food will taste and smell bed and I smell bad to myself in spite of lots of showers and plenty of soap and deodorant.

The world becomes a very hostile place for me, I want to crawl into a safe place where no one can ridicule or hurt me and I can be myself without feeling guilty for it.... Death can seem to be the only option left when the torment of guilt and fear that is part of Schizophrenia, becomes overwhelming and inescapable.

I would like nothing more than to have proper employment and an active social life, but I have come to accept that this is not possible for me. This acceptance has somehow helped me feel more at peace with myself than I thought possible.
At present I live happily with my children, I manage to keep up with most of my household duties, I enjoy a little gardening, and I fill in my time with sewing, knitting, crochet, needlework, listening to music and reading.

Now, I only experience warning symptoms occasionally, and I take my medication when needed. For the majority of the time, I'm as normal as the next person.

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N.B. Carol North is now a psychiatrist

I felt something crawl up my ankle. I yanked my feet away from the bottom of the bed, folding my legs up against my chest. There were spiders down there! Suddenly I saw hordes of bugs swarming all over my pillow! I picked it up by its corner and tossed it on the floor. I spent the rest of the night huddled as far away as I could get from the foot of the bed. I wasn't particularly comfortable but at least I was safe. By morning, my limbs ached from keeping the same cramped position all night.

I drifted away from my friends. I dropped music lessons and dance classes and then quit orchestra, and finally dropped Spanish, which had previously been my favourite class. I was otherwise absorbed in trying to keep communication with God going at all times, so that no demon could overpower me in a weak moment.


My perceptions had changed. I had become vaguely aware of coloured patterns decorating the air. When I first noticed them I realised that I had actually been seeing them for a long time, yet never paid attention to them before. I thought that everyone saw them, that they were a visual equivalent to background noise, like a fan's hum that goes unnoticed. These patterns composed of tiny spicules and multicoloured squiggly lines, wiggled and wormed their way around the ant through each other like people milling in a crowd. The patterns looked like what I imagined the visual equivalent to of radio static to be, so I called them Interference Patterns. At times they intensified, sweeping across the front of my eyes like a veil, madly decorating everything I looked at.

Occasionally the Interference Patterns reflected visual sounds, altering their conformation to the changing quality of, say, the sound of a lead pencil scribbling across paper. A sneeze or a door slamming might release an explosion of associated designs and colours into the air. By an odd coincidence of the senses, I was actually seeing sounds.

In my more casual state of mind, I began to notice things in a more sensitive way than I ever had before. campus evergreens burst into the most intense contrasts of lights and darks and shades of greens that I had ever seen. I wandered around campus looking at everything I possibly could with great wonderment, as if I were seeing it all for the first
time. Like the fire in my childhood home, the sights were so intense that they were both horrible and spectacularly beautiful at the same time. Weighted down with the burden of Pure Perception, I had to move slowly and carefully....

I became so engrossed in perceptions that I forgot to move. Brush designs in the paint on walls fascinated me for hours.... Steve came and went, eating meals and working at his jobs. Each time he arrived back at his room, he found me still lying there on the bed, staring at the wall, not moving a muscle. I didn't even have to change my gaze to change what I was seeing; the Interference Patterns did it all for me, crawling over everything, creating new designs in swirls and colourful fluxes with every changing moment of my environment.

"Carol what's the matter?" Steve asked.
"Nothing," the voices answered for me.
Wow, what a trip I thought. Now I don't have to talk. They're doing it for me. I don't need to move or do anything. Everything's being taken care of for me.
"Carol? Won't you talk to me?"
Of course I'm talking to you, Steve. My thought waves were bouncing all over the room. This was a new advance in communication.

"I'm losing you Carol," Steve said. "Please don't go away from me like this. I love you, I don't want you to leave me. I'm going to have to take you to the hospital. Don't be mad at me - I don't know what else to do."

No! Don't! Just let me lie here. If I move I'll fall into that time warp forever, and everything will be lost. Please, no!

He couldn't hear my silent screams. Kneeling beside the bed, he wrapped my arms around his neck. "Now put your legs around my waist," he said, hoisting me onto his back. I was powerless to resist. My limbs were petrified onto his back, in rigor mortis. There would be no letting go.... Steve stepped up on the bus with me... Steve sat down sideways on the first seat. Because he couldn't make me unlock my legs from round his waist, we rode the whole way like that. The other passengers tittered and snickered at the spectacle. I didn't feel embarrassed as I normally would have; it made no difference in the world to me, because I was no longer in this world.

..As we approached the light at the end of the sidewalk, I could see dried up swarms of ivy crawling round the edges of the ancient wooden door.

Wait, this is no hospital, I thought. This is some medieval mistake.

Steve rang the bell. A woman in a blue short sleeved jacket opened the door and welcomed us. Her eyes sparkled against the door's light.

We're here. I hope they can help. I hope to God the hospital is immune from the Evil Forces.

The walls engulfed us at funny angles. Even inside the hospital the air was saturated with that colourful cosmic granularity and with the Interference Patterns. Steve unloaded me onto an easy chair in the waiting room, unwrapping my stiff arms and legs from around
him.
Steve, where are you going? Don't leave me, I'll fall off. I'm on the edge of this precarious cliff, don't you see, and if I move one muscle fibre I'll fall off into the endless time warp. Steve, stay here and hold up my world.

Far away my nose is itching. Never mind, it's only an existential itch. I left the real itch off at the last bus stop with my tears.

Itch. Who said that? Not I. It echoes in here it echoes in here it echoes in here.

"Carol, is that your name? Carol?" Snap, a man in white snapping rubber fingers right in front of my face, twelve colours radiating off them like sunrise in the Grand Canyon.

I screamed in my thought waves, Damn it, stop that, stop killing me, here I am torn by terror into billion dimension-spaces and you are doing a cosmic watercolour in front of my eyes.

Now I was a hunk of red meat bumping along on a butcher cart under long rows of white lights and institutional ceiling tiles flashing by, accelerating to the speed of light and beyond, into special, special relativity. a set of double doors swallowed me headfirst. Is this the entrance to infinity, here goes...

"She's not with it," I heard someone say. "Let's get her clothes off."

Hey! Wait a minute! I'm modest! I didn't say that... did I? Hey! Stop it!

Ignoring my silent screams the man in white unzipped my jeans. No, don't move me, don't send me over the brink! Steve, help me! Where are you?

"Don't you worry," said one of my voices. "We're here with you. We've taken care of Steve, too." The voice laughed hideously.

"Aw, shuddup," a second voice answered the first. Then to me the voice said, "Don't listen to him. Listen to me..."

Yet another voice said, "Three hundred milligrams in five see-sees water ought to do it." It sounded like the man in white talking, though I couldn't be sure. I was getting all these voices mixed up.

"Okay, let's stick the medicine in her vein now," he said.

No, no drugs, please. I Haven't done anything bad!

My last words bounced around the tiny examining room, garbled over by everything else being said by many voices.

Ow! Someone jabbed a needle into my right arm, on the inside of my elbow. They'd done it now, they'd pushed me off the edge into infinity...

I closed my eyes and waited for the trip. The room began to twirl.

Next I felt a hand pinching my right eyebrow hard. A husky voice connected to the pincher fingers said, "Are you with us?"

I looked up to see an overweight, gray haired, bearded doctor staring into my face from six inches away. The voice sounded closer than before. "We're going to help you sit up now."

Things didn't look any better from the vertical perspective. The room was still turning.

"How do you feel?" he asked impatiently.

I reached up and touched my hand to my face, and it felt normal, no Grand Canyon, no echoes. "Okay," I said timidly.
I froze, not wanting to produce further patterns from the stimulation of my bodily movement.

A nurse sat down next to me on the couch and put her hand on my arm. "Carol, what's going on with you? You're just sitting there doing nothing. Are you bored?"

The sound of her voice created new waves of Interference Patterns sent hurtling through the air in front of us.

Hush don't you understand what you're doing" For God's sake, don't help the Other Side. She shook my arm gently. "Why. Carol, I believe you look scared, am I right."

Oh, no, now you've done it, you've inadvertently hurled us into that bottomless pit. With the force of your movement you've made us start to fall again.

The nurse got up and went for help. She returned with two male aides, who picked me up off the couch, carried me to my bed, and left me lying alone there in the dark. The whole time, the patterns swirled through the air, crashing over my head like a tidal wave. Would any of us survive this ordeal?

On my bed, undisturbed, unmoving, I applied the powers of my concentration, gradually settling the turbulent waters of the Other Side. The Interference Patterns began to fade back into the air. If I could only lie still indefinitely, I might have a chance.

By morning, only dim vestiges of the patterns remained. I had survived that battle, preventing the Other Side from taking over more than a little chip of the world.

The medicine counteracted the catatonia; instead I was being motorised. I felt as if I had an unstoppable motor running in my chest, twenty-four excruciatingly long hours a day, making me unable to sit or lie down or relax. The motor chest made me walk. Hours on end, I paced from one end of the hospital to another, wearing trails down each of the hallways leading from the hub of the dayroom. I had never experienced restlessness like this before. It was so intense it was worse than pain. It felt like a live worm growing inside my chest, and as soon as it got big and strong enough it would burst right out of my chest. In the meantime, it wiggled around inside of me, giving me the wiggles too.

"What's the matter?" a nurse asked me. "Can't you go sit down? Why are you pacing like this?"

"I've got the walkies" I told her. "I can't help it."

At first I tried to ignore the humming sounds coming from my houseplants in front of the room's only window. When I looked up, the noise stopped. I swilled down more coffee and resumed my studying. (I was determined to finish the section on metastatic kidney disease. The humming began to sound more like moaning. I read another paragraph before I looked up again. The plants looked sinister. I supposed it could be the lighting that made them look that way. I didn't want to jump to conclusions.

The plants stretched out their stems towards me as if they were grasping for me. I sat perfectly still, undecided as to whether I should go over and inspect them or run upstairs to my room. I couldn't judge if the crux of the decision was bravery versus cowardice, or foolishness versus caution. The indecision was paralysing me. The plant stems grew in
length, their leaf tips reaching closer and closer. Somehow I had been granted knowledge of the explanation for this: the plants had retained some vestiges of the earlier encounter with the Other Side. They were about to engulf me.

I pulled my feet close to myself in the chair, and, as I did so I knocked my empty coffee cup onto the carpet. I stretched out my arm to retrieve it but my arm had shrunk so much that I could not reach the cup. The cup had landed right side up, and it began to emit a cold force shield which wrapped itself around the front of my chair. The shield felt very powerful. The plants could not reach into the shield. This was a victory of Good over the Forces of Chaos. I would be safe.

I read the rest of the chapter...

Norma McDonald  1960 Living with schizophrenia. Canadian medical association journal. 82, 2-8-221 & 678-681

N.B. Norma McDonald is now a psychiatric nurse

What I do want to explain if I can, is the exaggerated state of awareness in which I lived before, during, and after my acute illness. At first it was as if parts of my brain "awoke" which had been dormant, and I became interested in a wide assortment of people, events, places and ideas which normally would make no impression on me. Not knowing that I was ill, I made no attempt to understand what was happening, but I felt that there was some overwhelming significance in all this, produced either by God or Satan, and I felt that I was duty bound to ponder on each of these new interests, and the more I pondered the worse it became. The walk of a stranger on the street could be a "sign" to me which I must interpret. Every face in the windows of a passing streetcar would be engraved on my mind, all of them concentrating on me and trying to pass me some sort of message. Now, many years later, I can appreciate what had happened. Each of us is capable of coping with a large number of stimuli, invading our being through any one of the senses. We could hear every sound within earshot and see every object, line and colour within the field of vision, and so on. It's obvious that we would be incapable of carrying on any of our daily activities if even one-hundredth of all of these available stimuli invaded us at once. So the mind must have a filter which functions without our conscious thought, sorting stimuli and allowing only those which are relevant to the situation in hand to disturb consciousness. And this filter must be working at maximum efficiency at all times, particularly when we require a high degree of concentration. What had happened to me in Toronto was a breakdown of the filter, and a hodge-podge of unrelated stimuli were distracting me from things which should have had my undivided attention. To feel that the stranger passing on the street knows your innermost soul is disconcerting.

There are some highlights to the months spent in mental hospital, times when I grasped ideas that led to a new world of light. One was the realisation that I was sick and could get well - this I recall was promoted by a "sane" fellow inmate who suffered from nothing more
than alcoholism.....

Simplest of all is perhaps the knowledge that this illness rests very definitely upon physical factors. When I was in hospital the doctors told me that if I hoped to remain well I *must* have three square meals, my necessary nutrients, and at least eight hours' sleep nightly. Lapses have proven to me that they were absolutely right.

Often sick leave is necessary because of utter exhaustion; because I have had to listen to a party next door until one or two a.m. I have no inner resources to cope with such emergency situations. A day or two lying quietly in bed and living on soup or a light diet seems to restore the delicate physical balance and allow a slow revival of mental powers. Job situations which might reduce me to tears and tantrums and lead even to aggressive behaviour and re-hospitalisation one day, may be well within my control; after a day of complete rest. For years I have had to ask for time off every eight to twelve weeks, simply stating that I am "sick" and having to exaggerate symptoms of a cold or a touch of stomach upset for an excuse. I dream of a day when I can say, "I am mentally sick and I need a day in bed." It seems to me a very valid reason, since years of experience have proven the necessity for it. But I can just imagine what would happen if I told the truth!

During my years as a psychiatric nurse I have realised that I am not likely ever to know if my problems are shared by other schizophrenics or not, for the acutely ill are as much of a puzzle to me as the are to the staff who have never known the illness. So incapable of communication, the schizophrenic cannot seem to make any of his needs or wishes clear....I can empathise with many patients more easily than a staff member who hasn't shared or experiences. Their fears and disturbances are familiar territory to me. I've been there. But when it comes to understanding what goes on in the patients mind to cause the moods, then anyone's guess is as good as mine. I have almost reached the conclusion that there is no common meeting ground for schizophrenics, whether acutely ill or recovered. Schizophrenia seems to consist of explorations in fathomless worlds of unreality, sometimes controlled and channeled into creative thought. At best it seems to lead to deep introspection. Since it is a law of nature that no two snowflakes are alike, and that no two human beings are alike, it is practical to realise that no two minds are very similar at all, even in the more understandable conscious part. Since the schizophrenic wanders about in a bottomless unconscious, and I suspect on bypaths leading into a far reaching collective consciousness, it is not likely that I will ever know what goes on in the mind of a fellow sufferer.

Living with schizophrenia can be living in hell, because it sets one so far apart from the trend of life followed by the majority of persons today, but seen from another angle it can be really living, for it seems to thrive on art and education, it seems to lead to a deeper understanding of people and liking for people. and its an exciting life being an explorer in a territory where no one else has ever been. I am often glad that the illness caused my mind to "awaken" 11 years ago, but there are other times when I almost wish it would go back to sleep. For it is a constant threat, A breakdown in physical health, too much pressure, too many responsibilities taken on because they sound interesting to the "well" side of me, and
I could be plunged back into the valley. Am I to live in a chair on a basement ward of a mental hospital, forced to endure a meaningless existence because people don't know how important freedom is to survival, or am I to move ahead to find a place in the modern world outside hospital walls? It's like being on a swing.

When this fear arises I have to think, "What if I am thrown from the swing? It doesn't matter. I am playing about in the void. See, the mind can act as its own control. Find the balance again, get back to that delicate psychological homeostasis that keeps your feet on the ground and your head in the clouds. That way a schizophrenic can live."


My white coat and nametag offered me no immunity to schizophrenia. Pharmacy students are vulnerable just as everyone else is, in spite of the fact that we are taught about all diseases as if we are an immune group.

Inside, while I spoke to this patient I wanted to say, "Yes, I too sense danger everywhere, each morning and all day. It's hard for me to get out of bed. To go out of the house, to talk to people; it's hard just to get dressed and get outside and function. I'm afraid of people, of change. I'm sensitive to sunlight and noise. I never watch the news or read a newspaper because it frightens me.

What scared me most was the fact that this disease could prevent me from doing something that I really wanted to do and needed to do to be psychologically healthy - that is, complete pharmacy school - and the knowledge that schizophrenia does this to many people's lives. I could not accept the fact that intellectually I could be capable of something that I may not at times be capable of emotionally.

.. I began to understand a little better my own non-compliance with psychotropic drugs; how unacceptable my illness was not only to me, but would have been to others if they had known my diagnosis. I didn't take the medicine at times because I didn't want the disease, its problems, and its stigma. I wanted to be normal.
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APPENDIX B. 1  KOSI PILOT ONE (75 items)

1. Aggression and violence are common symptoms of schizophrenia.
2. People with schizophrenia often prefer to be alone.
3. A split-personality is a strong indication of schizophrenia.
4. People become schizophrenic because they can't cope with normal life.
5. Schizophrenia can usually be controlled without drugs.
6. Mild doses of electroshock therapy are necessary in most cases of schizophrenia.
7. Schizophrenic behaviour is caused by neural dysfunction.
8. People with a happy and secure family background seldom develop schizophrenia.
9. Schizophrenics are often dirty and smelly.
10. A single life stress or trauma cannot cause schizophrenia.
11. Only people who hear 'voices' have true schizophrenia.
12. Most people with schizophrenia have brain damage.
13. People with schizophrenia can be helped by treatment temporarily but will eventually need permanent hospital care.
14. It is common for people with schizophrenia to have delusions.
15. People with schizophrenia sometimes laugh at sad things.
16. People who get schizophrenia when they are young have a better chance of recovering.
17. Family therapy can help to prevent relapse in schizophrenia.
18. The idea that schizophrenics have delusions of grandeur is a myth.
19. People with schizophrenia tend to neglect themselves.
20. Schizophrenia is a medical condition like arthritis or diabetes.
21. Schizophrenia is less common in third world countries than it is in America, Europe and Australia.
22. People with schizophrenia should be encouraged to do without drugs.

23. Strange mannerisms and postures are a symptom of schizophrenia.

24. People with schizophrenia are seldom artistic or creative.

25. Most people with schizophrenia had learning difficulties in primary school.

26. Stress alone cannot cause schizophrenia.

27. People with schizophrenia lack motivation.

28. Most, but not all, schizophrenics suffer from a split personality.

29. People with schizophrenia tend to be emotionally flat.

30. Most schizophrenics suffer from auditory hallucinations.

31. People with schizophrenia are generally below average intelligence.

32. Nutrition is not an important factor in treating schizophrenia.

33. Schizophrenia tends to make people more tolerant and able to empathise with other people’s problems.

34. People with schizophrenia can be helped by treatment but not enough to function independently.

35. Schizophrenia occurs more often in women than men.

36. People with schizophrenia need to remain in hospital until they are cured.

37. Only about one out of every 500 people will become schizophrenic.

38. People develop schizophrenia because they are emotionally weak or unstable.

39. Schizophrenia is caused by environmental stress e.g. poverty, job pressure.

40. Many people with schizophrenia have an exaggerated idea of their own importance.

41. Most people with schizophrenia suffer from frequent headaches.

42. Schizophrenics tend to be happy go lucky sort of people.

43. People with schizophrenia are less likely to relapse if they live with their families.
44. Schizophrenia can be cured with the right treatment.

45. Schizophrenia is most frequently diagnosed in the late teens and early twenties.

46. People with schizophrenia are generally warm and emotionally responsive.

47. Schizophrenia is associated with low intellect and feeble-mindedness.

48. Schizophrenia affects about one person in every 5,000.

49. People develop schizophrenia because their parents give them conflicting messages.

50. Schizophrenia is a disease of the brain.

51. Schizophrenia cannot be genetically transmitted.

52. Poor parenting cannot cause schizophrenia.

53. There is no cure for schizophrenia.

54. Individual psychotherapy is seldom effective with schizophrenics.

55. About one in every hundred Australians has schizophrenia.

56. Schizophrenia is a psychological disorder which cannot be controlled by drugs.

57. Hospitalisation is seldom necessary in cases of schizophrenia.

58. Family therapy cannot really help once schizophrenia has been diagnosed.

59. Schizophrenia is inherited.

60. Most people with schizophrenia have over-involved and dominating mothers.

61. Drugs are the most effective treatment for schizophrenia.

62. Most people with schizophrenia will recover if they are given enough love and encouragement.

63. People who are emotionally secure do not develop schizophrenia.

64. With schizophrenia, the older you are the worse it gets.

65. People with schizophrenia can live normal lives once they get off medication.
66. You are more likely to get schizophrenia if you smoke marijuana.

67. Schizophrenia can be controlled with the right treatment but a relapse is always possible.

68. Schizophrenia is a psychological problem it is not a disease.

69. Schizophrenics tend to be suspicious and paranoid.

70. Traumatic experiences in early childhood can cause schizophrenia.

71. Adoption studies show that schizophrenia is a learned behaviour.

72. People usually know that they have schizophrenia before it is diagnosed by a doctor.

73. 'Abandoned' children are more likely to develop schizophrenia than children brought up in a happy home.

74. Schizophrenia can normally be controlled by long term therapy with a trained counsellor.

75. The incidence of schizophrenia has increased in the last 25 years.
APPENDIX B.2. KOSI PILOT 2. (50 items)

1. Aggression and violence are common symptoms of schizophrenia.
2. Less than one, out of every 1,000 people will become schizophrenic.
3. People become schizophrenic because they can't cope with normal life.
4. Schizophrenics are careless about personal hygiene.
5. People with schizophrenia can be helped by treatment temporarily but will eventually need permanent hospital care.
6. It is common for people with schizophrenia to have delusions.
7. People with schizophrenia sometimes laugh at sad things.
8. People who get schizophrenia when they are young have a better chance of recovering.
9. Family education helps prevent relapse in schizophrenia.
10. The idea that schizophrenics have delusions of grandeur is a myth.
11. A split-personality is a strong indication of schizophrenia.
12. Schizophrenia is a medical condition like arthritis or diabetes.
13. Schizophrenia is less common in third world countries than it is in America, Europe and Australia.
14. People with schizophrenia should be encouraged to do without drugs.
15. Strange mannerisms and postures are a symptom of schizophrenia.
16. People with schizophrenia lack motivation.
17. Stress alone cannot cause schizophrenia.
18. People with schizophrenia tend to be emotionally flat.
19. Most schizophrenics suffer from auditory hallucinations.
20. Nutrition and lifestyle are not important factors in treating schizophrenia.
21. Schizophrenics tend to be sympathetic to other people's problems.
22. People with schizophrenia can be helped by treatment but not enough to function independently.

23. Schizophrenia occurs more often in women than men.

24. People with schizophrenia tend to neglect themselves.

25. People develop schizophrenia because they are emotionally weak or unstable.

26. Schizophrenia is caused by environmental stress e.g. poverty, job pressure.

27. Most people with schizophrenia suffer from frequent headaches.

28. Schizophrenics tend to be happy go lucky sort of people.

29. Schizophrenia can be cured with the right treatment.

30. Schizophrenia is most frequently diagnosed in the late teens and early twenties.

31. Schizophrenia is a brain disorder.

32. Schizophrenia cannot be genetically transmitted.

33. Inadequate parenting cannot cause schizophrenia.

34. There is no cure for schizophrenia.

35. About one in every hundred Australians has schizophrenia.

36. Schizophrenia is a psychological disorder which cannot be controlled by drugs.

37. A period of hospitalisation is necessary in most cases of schizophrenia.

38. A susceptibility to schizophrenia is inherited.

39. Most people with schizophrenia have over-involved and dominating mothers.

40. Drugs are the most effective treatment for schizophrenia.

41. Most people with schizophrenia will recover if they are given enough love and encouragement.

42. With schizophrenia, the older you are the worse it gets.
43. You are more likely to get schizophrenia if you smoke marijuana.

44. Schizophrenia is a psychological problem it is not a disease.

45. People with schizophrenia are often paranoid.

46. Traumatic experiences in early childhood can cause schizophrenia.

47. People with schizophrenia often refuse to believe that they are ill.

48. 'Abandoned' children are more likely to develop schizophrenia than children brought up in a happy home.

49. Schizophrenia can normally be controlled by long term therapy with a trained counsellor.

50. The incidence of schizophrenia has increased in the last 25 years.
APPENDIX B.3  ANALYSIS OF 50 SELECTED ITEMS BY CATEGORY

1. SYMPTOMS

1. Aggression and violence are common symptoms of schizophrenia

CROSSTABS
Response: Experts Nurses Workers Novices
Right  7  13  12  22  50.5%
Wrong  4   4  49  49.5%

ASCORE 2C
LOCATION VALUE  CHI-SQUARE  PROBABILITY
.835  .066  .792

Q clearly discriminates between experts and novices and has a high degree of difficulty. It is important in terms of stereotyping and stigma.

2. People with schizophrenia often prefer to be alone

CROSSTABS
Response: Experts Nurses Workers Novices
Right  5  10  5  32  48.2%
Wrong  2   7  7  39  51.4%

ASCORE 2C
LOCATION VALUE  CHI-SQUARE  PROBABILITY
1.296  2.097  .121

Q is difficult and the response ambiguous. Q is not significant as far as stigma is concerned.

5. People with schizophrenia sometimes laugh at sad things

CROSSTABS
Response: Experts Nurses Workers Novices
Right  6  16  10  52  78.5%
Wrong  1   1  2  19  21.5%

ASCORE 2C
LOCATION VALUE  CHI-SQUARE  PROBABILITY
.694  1.881  .145

Q discriminates reasonably well between Experts and novices. The CHI-SQ is high due to over-discrimination between the lowest and the highest group. Inappropriate affect is a common symptom of schizophrenia which may lead to misunderstanding and stigma.

7. The idea that schizophrenics have delusions of grandeur is a myth

CROSSTABS
Response: Experts Nurses Workers Novices
Right 6 15 5 49 70.1
Wrong 1 2 7 22 29.9

ASCORE 2C
LOCATION VALUE CHI-SQUARE PROBABILITY
155 2.384 .096

Q discriminates well between mental health professionals and other groups. Being diagnostic it is valid despite the response of the workers. It is more successful than paired Q.40. Many people with schizophrenia have an exaggerated idea of their own importance

8. Schizophrenics are often dirty and smelly

CROSSTABS
Response: Experts Nurses Workers Novices
Right 4 5 4 12.3%
Wrong 3 12 51 87.7%

ASCORE 2C
LOCATION VALUE CHI-SQUARE PROBABILITY
3.677 1.161 .259

Q proved extremely difficult with even the experts giving a divided response. The words used are negative and emotive and the vast majority of respondents were reluctant to agree with the statement. The content of the Q is sufficiently covered by Q.19 People with schizophrenia tend to neglect themselves

10. A split-personality is a strong indication of schizophrenia

CROSSTABS
Response: Experts Nurses Workers Novices
Right 7 17 11 35 66.0%
Wrong 1 35 34.0%

ASCORE 2C
LOCATION VALUE CHI-SQUARE PROBABILITY
.075 1.685 .169

Q discriminates very highly between experts and novices. One half of the novices still believe this myth.

11. Only people who hear 'voices' have true schizophrenia

CROSSTABS
Response: Experts Nurses Workers Novices
Right 7 17 12 66 96.2%
Wrong 4 3.8%

ASCORE 2C
Q is too easy.

12. People with schizophrenia lack motivation.

CROSSTABS
Response: Experts Nurses Workers Novices
Right 7 11 7 25 46.7%
Wrong 6 5 46 53.3%

ASCORE 2C
LOCATION VALUE  CHI-SQUARE  PROBABILITY
1.038 1.397 .214

Q discriminates well between the experts and the other groups. Experts treat this Q as a diagnostic symptom not a value judgement. The CHI-SQ is increased by a high level of discrimination between the top group and the middle and lowest groups.

13. Most schizophrenics suffer from auditory hallucinations

CROSSTABS
Response: Experts Nurses Workers Novices
Right 6 13 5 49 68.2%
Wrong 1 4 6 22 30.8%

ASCORE 2C
LOCATION VALUE  CHI-SQUARE  PROBABILITY
.079 6.264 .000

Q discriminates well between health professionals and others. The worker's response has affected the probability however the Q is particularly pertinent to the experiment and thus warrants retaining at least until the next stage.

14. It is common for people with schizophrenia to have delusions

CROSSTABS
Response: Experts Nurses Workers Novices
Right 7 17 11 62 90.7%
Wrong 1 9 62 9.3%

ASCORE 2C
LOCATION VALUE  CHI-SQUARE  PROBABILITY
-1.187 2.063 .125

Although the percentages are small the Q does discriminate between experts and novices. The CHI-SQ is fairly high due to the question being highly discriminating between groups. The Q could be useful as an anchor at the easy end of the scale.
19. Schizophrenics tend to be happy go lucky sort of people.

CROSSTABS
Response: Experts Nurses Workers Novices
Right 7 16 12 48 77.6%
Wrong 1 23 22.4%

ASCORE 2C
LOCATION VALUE CHI-SQUARE PROBABILITY
.603 .241 .612
Q clearly discriminates between experts and novices and the fit is good.

20. People with schizophrenia tend to be emotionally flat.

CROSSTABS
Response: Experts Nurses Workers Novices
Right 6 12 6 31 51.4%
Wrong 1 5 5 40 47.7%

ASCORE 2C
LOCATION VALUE CHI-SQUARE PROBABILITY
.735 .403 .511
Q discriminates well between experts and novices and has excellent fit. The response of
the nurses and workers is difficult to explain, given that 'blunting of affect' is a very
common symptom of schizophrenia. It is possible that they, like the novices, are over-
aware of the more florid, positive symptoms of the illness at the expense of the more
pervasive negative symptoms.

22. People with schizophrenia tend to neglect themselves.

CROSSTABS
Response: Experts Nurses Workers Novices
Right 7 15 6 40 63.6
Wrong 2 6 31 36.4

ASCORE 2C
LOCATION VALUE CHI-SQUARE PROBABILITY
.162 3.057 .052
Q discriminates well between health professionals and others. The CHI-SQUARE is
inflated due to overdiscrimination between the top group and the middle and lower groups.
It is more successful than Q.8. Schizophrenics are often dirty and smelly.

23. Strange mannerisms and postures are a symptom of schizophrenia

CROSSTABS
Response: Experts Nurses Workers Novices
Right 7 16 7 52 76.6%
Wrong 1 5 19 23.4%

**ASCORE 2C**
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<tr>
<th>LOCATION VALUE</th>
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<td>-.067</td>
<td>.002</td>
<td>.961</td>
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Q discriminates well between experts and novices and the fit is good. As the worker's response indicates, this is not one of the most common symptoms of schizophrenia but it is not rare, if misunderstood the symptom can lead to fear and avoidance.

---

24. People with schizophrenia are seldom artistic or creative

**CROSSTABS**

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<th>Response: Experts</th>
<th>Nurses</th>
<th>Workers</th>
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<tr>
<td>Right</td>
<td>7</td>
<td>17</td>
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<td>-1.852</td>
<td>.368</td>
<td>.530</td>
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Of the few novices who got this question wrong there were more in the high and middle groups than in the lowest group.

---

28. Most, but not all, schizophrenics suffer from a split personality

**CROSSTABS**

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<th>Response: Experts</th>
<th>Nurses</th>
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<tr>
<td>Right</td>
<td>7</td>
<td>17</td>
<td>11</td>
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<tr>
<td>Wrong</td>
<td>1</td>
<td></td>
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**ASCORE 2C**
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<th>LOCATION VALUE</th>
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<tr>
<td>.514</td>
<td>11.765</td>
<td>.000</td>
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Content of Q is adequately covered by Q 3. *A split-personality is a strong indication of schizophrenia.*

---

31. People with schizophrenia are generally below average intelligence

**CROSSTABS**

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<th>Response: Experts</th>
<th>Nurses</th>
<th>Workers</th>
<th>Novices</th>
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<tr>
<td>Right</td>
<td>6</td>
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<tr>
<td>Wrong</td>
<td>1</td>
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<th>LOCATION VALUE</th>
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<th>PROBABILITY</th>
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<tbody>
<tr>
<td>-1.865</td>
<td>.209</td>
<td>.637</td>
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Q appears too easy to be of much use, also new data suggests that it may not be accurate.
33. Schizophrenia tends to make people more tolerant and able to empathise with other people's problems

CROSSTABS
Response: Experts Nurses Workers Novices
Right 7 17 11 59 87.9
Wrong 1 12 11 12.1%

ASCORE 2C
LOCATION VALUE CHI-SQUARE PROBABILITY
-.868 3.641 .027

Q is confusing because it contains two concepts: a) tolerance and b) the ability to empathise. An inability to 'take the role of the other' is a symptom of schizophrenia. The response of the novices contrasts strongly with that of the other three groups. The fit statistics are affected by an unexpectedly poor performance by the middle group. Q could be reworded: Schizophrenics tend to be sympathetic to other people's problems.

40. Many people with schizophrenia have an exaggerated idea of their own importance

CROSSTABS
Response: Experts Nurses Workers Novices
Right 4 8 3 48 58.9%
Wrong 3 9 12 41.1%

ASCORE 2C
LOCATION VALUE CHI-SQUARE PROBABILITY
.822 19.289 .000

Q is ambiguous. The experts are divided. The content is covered adequately in Q.18. The idea that schizophrenics have delusions of grandeur is a myth.

41. Most people with Schizophrenia suffer from frequent headaches

CROSSTABS
Response: Experts Nurses Workers Novices
Right 7 16 12 33 63.6%
Wrong 1 12 38 36.4%

ASCORE 2C
LOCATION VALUE CHI-SQUARE PROBABILITY
.693 .534 .449

Q discriminates very highly between experts and novices. However among novices only the fit is poor with the lowest group performing better than the highest group.

46. People with schizophrenia are generally warm and emotionally responsive

CROSSTABS
Response: Experts Nurses Workers Novices
Right  6  16  9  49  74.8  
Wrong  1  1  3  22  25.2  

**ASCORE 2C**  
LOCATION VALUE  CHI-SQUARE  PROBABILITY  
.109  .020  .883  

Content of Q may be adequately covered by Q.29, and Q.42.

69. Schizophrenics tend to be suspicious and paranoid

**CROSSTABS**  
Response: Experts  Nurses  Workers  Novices  
Right  4  15  6  62  81.3%  
Wrong  3  2  6  9  18.7%  

**ASCORE 2C**  
LOCATION VALUE  CHI-SQUARE  PROBABILITY  
-.240  8.361  .000  

Although paranoia is one of the most common symptoms of schizophrenia the experts and workers are divided and the fit is poor.

72. People usually know that they have schizophrenia before it is diagnosed by a doctor

**CROSSTABS**  
Response: Experts  Nurses  Workers  Novices  
Right  4  13  12  54  78.3%  
Wrong  3  4  16  21.7%  

**ASCORE 2C**  
LOCATION VALUE  CHI-SQUARE  PROBABILITY  
-.055  1.570  .186  

The experts are divided which suggests either that the Q is ambiguous or that the experts are discriminating between 'doctor' and psychiatrist. 97% of people with schizophrenia suffer from a lack of insight and thus deny their illness. The Q could be reworded:  
*People with schizophrenia often refuse to believe that they are ill.*

**2. CAUSES**

2. Traumatic experiences in early childhood can cause schizophrenia.

**CROSSTABS**  
Response: Experts  Nurses  Workers  Novices  
Right  7  10  9  20  43.0%  
Wrong  7  3  51  57.0%  

**ASCORE 2C**  
LOCATION VALUE  CHI-SQUARE  PROBABILITY  
1.229  .159  .680  
Q discriminates very highly between novices and the other groups and the fit is excellent. The responses of the nurses may indicate the strength of this myth since it is prevailing with a substantial minority despite their training and (assumed) knowledge.

3. People become schizophrenic because they can’t cope with normal life.

CROSSTABS
Response: Experts Nurses Workers Novices
Right 7 17 11 56 85.0%
Wrong 1 1 15 15.0%

ASCORE 2C
LOCATION VALUE CHI-SQUARE PROBABILITY
1.181 .537 .447

A difficult Q which discriminates well between novices and other groups. The fit is good. Q was a particularly successful discriminator with mental health professionals in PILOT 2.

7. People with a happy and secure family background seldom develop schizophrenia.

CROSSTABS
Response: Experts Nurses Workers Novices
Right 6 15 12 54 81.3%
Wrong 1 2 17 18.7%

ASCORE 2C
LOCATION VALUE CHI-SQUARE PROBABILITY
-.271 1.795 .257

Q.52 Inadequate parenting cannot cause schizophrenia has similar content but discriminates more highly between experts and novices and between groups.

8. Schizophrenia cannot be genetically transmitted.

CROSSTABS
Response: Experts Nurses Workers Novices
Right 6 17 8 54 79.4%
Wrong 1 4 17 20.6%

ASCORE 2C
LOCATION VALUE CHI-SQUARE PROBABILITY
.715 .428 .498

Q discriminates very highly between mental health professionals and other groups, it was particularly successful in PILOT 2. The fit statistics are good.

9. Schizophrenia is a medical condition like arthritis or diabetes.

CROSSTABS
Response: Experts Nurses Workers Novices
Right 7 12 6 52 72.0%
Q discriminates well between experts and other groups, it is particularly pertinent to this experiment and performed well as a discriminator in PILOT 2.

7. People with a happy and secure family background seldom develop schizophrenia.

CROSSTABS
Response: Experts Nurses Workers Novices
Right 6 15 12 54 81.3%
Wrong 1 2 17

Q.52 Inadequate parenting cannot cause schizophrenia has similar content but discriminates more highly between experts and novices and between groups.

9. Schizophrenic behaviour is caused by neural dysfunction.

CROSSTABS
Response: Experts Nurses Workers Novices
Right 7 15 3 54 75.2%
Wrong 2 9 15 24.8%

Q does discriminate between experts and novices but the fit is poor. The Q is too jargonistic. Q.49 Schizophrenia is a brain disorder is a more successful medical Q.

10. A single life stress or trauma cannot cause schizophrenia.

CROSSTABS
Response: Experts Nurses Workers Novices
Right 7 10 1 21 36.4
Wrong 7 11 50 63.6%

Q discriminates extremely well between experts and novices. The response of the workers and some of the nurses suggests that they may not have discriminated between a cause and a precipitating factor. The content of the Q is reasonably well covered in Q.39 Schizophrenia is caused by environmental stress e.g. poverty, job pressure.
12. Most people with schizophrenia have brain damage

CROSSTABS
Response: Experts Nurses Workers Novices
Right 6 17 12 62 90.7%
Wrong 9 9.3%

ASCORE 2C
LOCATION VALUE CHI-SQUARE PROBABILITY
-1.110 .577 .431

Q is too easy.

17. People develop schizophrenia because they are emotionally fragile.
[Originally: People develop schizophrenia because they are emotionally weak or unstable]

CROSSTABS
Response: Experts Nurses Workers Novices
Right 7 17 12 49 80.2%
Wrong 21 19.8%

ASCORE 2C
LOCATION VALUE CHI-SQUARE PROBABILITY
.763 .975 .303

Q discriminates extremely well between novices and other groups. It has been reworded in the current idiom.

18. Schizophrenia is caused by environmental stress e.g. poverty, job pressure.

CROSSTABS
Response: Experts Nurses Workers Novices
Right 7 17 12 46 77.1%
Wrong 24 22.9%

ASCORE 2C
LOCATION VALUE CHI-SQUARE PROBABILITY
.586 .828 .343

Q discriminates extremely well between novices and other groups. It also performed particularly well in PILOT 2.

21. Schizophrenia is a brain disorder. [Originally: Schizophrenia is a disease of the brain]

CROSSTABS
Response: Experts Nurses Workers Novices
Right 6 16 9 58 83.2%
Wrong 1 3 13 16.8%

ASCORE 2C
LOCATION VALUE CHI-SQUARE PROBABILITY
Q discriminates well mental health professionals and other groups and has excellent fit. There is some hesitancy over calling Schizophrenia a brain 'disease' as opposed to the safer term a brain 'disorder'.

23. Inadequate parenting cannot cause schizophrenia.
   [Originally: Poor parenting cannot cause schizophrenia]

**CROSSTABS**

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<tr>
<td>Right</td>
<td>7</td>
<td>15</td>
<td>9</td>
<td>39</td>
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<tr>
<td>Wrong</td>
<td>2</td>
<td>3</td>
<td>32</td>
<td>34.6%</td>
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<tr>
<td>.126</td>
<td>.412</td>
<td>.506</td>
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Q discriminates well between mental health professionals and other groups. It has been reworded to adequately cover deleted Q. 7 People with a happy and secure family background seldom develop schizophrenia

27. A predisposition for schizophrenia is inherited. [Originally: Schizophrenia is inherited]

**CROSSTABS**

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<th>Experts</th>
<th>Nurses</th>
<th>Workers</th>
<th>Novices</th>
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<tr>
<td>Right</td>
<td>5</td>
<td>10</td>
<td>2</td>
<td>25</td>
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<td>Wrong</td>
<td>2</td>
<td>7</td>
<td>10</td>
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**ASCORE 2C**

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<tr>
<td>1.239</td>
<td>3.656</td>
<td>.027</td>
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Q discriminates well between mental health professionals and other groups. However it over-generalises. Nurses know that what is inherited is a genetic predisposition only and that something else is usually needed to ‘trigger’ the illness.

29. You are more likely to get schizophrenia if you smoke marijuana.

**CROSSTABS**

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<th>Response:</th>
<th>Experts</th>
<th>Nurses</th>
<th>Workers</th>
<th>Novices</th>
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<tbody>
<tr>
<td>Right</td>
<td>5</td>
<td>4</td>
<td>1</td>
<td>20</td>
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<tr>
<td>Wrong</td>
<td>2</td>
<td>13</td>
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<td>50</td>
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<tr>
<td>1.834</td>
<td>7.942</td>
<td>.000</td>
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This is a very difficult Q and particularly pertinent to the experiment. Resistance to accepting the link between marijuana and psychoses is extremely strong, even among mental health professionals.
30. Schizophrenia is a psychological problem it is not a disease.

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<tr>
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<th>Workers</th>
<th>Novices</th>
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<td>Right 7</td>
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<td>57.9%</td>
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<tr>
<td>Wrong 1</td>
<td>3</td>
<td>41</td>
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<td>42.1%</td>
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ASCORE 2C

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<tr>
<td>.518</td>
<td>1.115</td>
<td>.269</td>
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A relatively difficult Q which clearly discriminates between mental health professionals and others. The CHI-SQUARE is inflated due to overdiscrimination.

32. 'Abandoned' children are more likely to develop schizophrenia than children brought up in a happy home.

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<th>Workers</th>
<th>Novices</th>
<th>Prob.</th>
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<td>56</td>
<td>81.3%</td>
</tr>
<tr>
<td>Wrong 1</td>
<td>2</td>
<td>2</td>
<td>15</td>
<td>18.7%</td>
</tr>
</tbody>
</table>

ASCORE 2C

<table>
<thead>
<tr>
<th>LOCATION VALUE</th>
<th>CHI-SQUARE</th>
<th>PROBABILITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>.783</td>
<td>.793</td>
<td>.354</td>
</tr>
</tbody>
</table>

Q is harder than Q.70. *Traumatic experiences in early childhood can cause schizophrenia* although the content is similar. Both Qs have been retained to assist in forming subtests.

26. Stress alone cannot cause schizophrenia

<table>
<thead>
<tr>
<th>Response: Experts</th>
<th>Nurses</th>
<th>Workers</th>
<th>Novices</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Right 6</td>
<td>12</td>
<td>8</td>
<td>43</td>
<td>64.5%</td>
</tr>
<tr>
<td>Wrong 1</td>
<td>5</td>
<td>4</td>
<td>28</td>
<td>35.5%</td>
</tr>
</tbody>
</table>

ASCORE 2C

<table>
<thead>
<tr>
<th>LOCATION VALUE</th>
<th>CHI-SQUARE</th>
<th>PROBABILITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>.573</td>
<td>3.477</td>
<td>.033</td>
</tr>
</tbody>
</table>

Q does not fit well.

27. Most people with schizophrenia had learning difficulties in primary school

<table>
<thead>
<tr>
<th>Response: Experts</th>
<th>Nurses</th>
<th>Workers</th>
<th>Novices</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Right 6</td>
<td>16</td>
<td>12</td>
<td>63</td>
<td>90.7%</td>
</tr>
<tr>
<td>Wrong 1</td>
<td>1</td>
<td>8</td>
<td></td>
<td>9.3%</td>
</tr>
</tbody>
</table>
Q is too easy.

47. Schizophrenia is associated with low intellect and feeble-mindedness

<table>
<thead>
<tr>
<th>CROSSTABS</th>
<th>Response: Experts</th>
<th>Nurses</th>
<th>Workers</th>
<th>Novices</th>
</tr>
</thead>
<tbody>
<tr>
<td>Right</td>
<td>7</td>
<td>17</td>
<td>12</td>
<td>63</td>
</tr>
<tr>
<td>Wrong</td>
<td>8</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The question is very easy and the fit is poor.

50 People develop schizophrenia because their parents give them conflicting messages

| CROSSTABS | Response: Experts | Nurses | Workers | Novices | |
|------------|-------------------|--------|---------|---------|
| Right      | 7                 | 16     | 12      | 66      | 94.4% |
| Wrong      | 1                 |         |         | 5       | 5.6%  |

Q is too easy.

60. Most people with schizophrenia have over-involved and dominating mothers

<table>
<thead>
<tr>
<th>CROSSTABS</th>
<th>Response: Experts</th>
<th>Nurses</th>
<th>Workers</th>
<th>Novices</th>
</tr>
</thead>
<tbody>
<tr>
<td>Right</td>
<td>7</td>
<td>16</td>
<td>12</td>
<td>62</td>
</tr>
<tr>
<td>Wrong</td>
<td>1</td>
<td></td>
<td></td>
<td>9</td>
</tr>
</tbody>
</table>

Although this is an easy Q the fit is very good. It is also an important Q because this myth has proved hard to erase. A pilot with an older population may well have elicited a larger proportion of incorrect answers.

63. People who are emotionally secure do not develop schizophrenia

<table>
<thead>
<tr>
<th>CROSSTABS</th>
<th>Response: Experts</th>
<th>Nurses</th>
<th>Workers</th>
<th>Novices</th>
</tr>
</thead>
<tbody>
<tr>
<td>Right</td>
<td>7</td>
<td>17</td>
<td>12</td>
<td>58</td>
</tr>
</tbody>
</table>
Wrong 13 12.1%

ASCORE 2C
LOCATION VALUE  CHI-SQUARE  PROBABILITY
-.896  6.646  .000

Content of Q is covered adequately by the more successful Q.38. *People develop schizophrenia because they are emotionally weak or unstable.*

71. Adoption studies show that schizophrenia is a learned behaviour

<table>
<thead>
<tr>
<th>CROSSTABS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Response: Experts</td>
</tr>
<tr>
<td>Right</td>
</tr>
<tr>
<td>Wrong</td>
</tr>
</tbody>
</table>

ASCORE 2C
LOCATION VALUE  CHI-SQUARE  PROBABILITY
-1.432 .286 .580

The Q is very easy and although the fit is reasonable it is likely that those answering incorrectly may have been confused by the jargonistic style of the Q.

3. **TREATMENT**

4. Schizophrenia can usually be controlled without drugs

<table>
<thead>
<tr>
<th>CROSSTABS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Response: Experts</td>
</tr>
<tr>
<td>Right</td>
</tr>
<tr>
<td>Wrong</td>
</tr>
</tbody>
</table>

ASCORE 2C
LOCATION VALUE  CHI-SQUARE  PROBABILITY
1.135 .277 .586

Q discriminates well and provides a match to Q.22 *People with schizophrenia should be encouraged to do without drugs* for use in the subtests.

6. Mild doses of electroshock therapy are necessary in most cases of schizophrenia

<table>
<thead>
<tr>
<th>CROSSTABS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Response: Experts</td>
</tr>
<tr>
<td>Right</td>
</tr>
<tr>
<td>Wrong</td>
</tr>
</tbody>
</table>

ASCORE 2C
LOCATION VALUE  CHI-SQUARE  PROBABILITY
-1.444 1.172 .257

Q is too easy.
15. People with schizophrenia should be encouraged to do without drugs.

CROSSTABS
Response: Experts Nurses Workers Novices
Right  7  16  9  44  71.0%
Wrong  1  3  27  29.0%

ASCORE 2C
LOCATION VALUE CHI-SQUARE PROBABILITY
.149  .061  .799

Q clearly discriminates between mental health professionals and others and has excellent fit. It is more difficult than matched Q5 Schizophrenia can usually be controlled without drugs and should therefore be used in subtest 2 (the post-test).

17. Family therapy can help to prevent relapse in schizophrenia

CROSSTABS
Response: Experts Nurses Workers Novices
Right  5  11  12  55  78.3%
Wrong  2  6  15  21.7%

ASCORE 2C
LOCATION VALUE CHI-SQUARE PROBABILITY
-.049  13.780  .000

The term 'therapy' may be misunderstood. The fit is poor. The Q could be reworded. It is not vital to this experiment.

26. A period of hospitalisation is necessary in most cases of schizophrenia. [Originally: Hospitalisation is seldom necessary in cases of schizophrenia]

CROSSTABS
Response: Experts Nurses Workers Novices
Right  5  13  10  49  72.0%
Wrong  2  4  2  22  28.0%

ASCORE 2C
LOCATION VALUE CHI-SQUARE PROBABILITY
.203  .152  .687

Q is important because an initial brief period of hospitalisation is advisable in almost all cases of schizophrenia. However the responses of experts, nurses and workers suggest that the question is ambiguous and it has therefore been reworded.

28. Drugs are the most effective treatment for schizophrenia.

CROSSTABS
Response: Experts Nurses Workers Novices
Right  7  16  10  51  78.5%
Wrong 1 2 20 21.5%

ASCORE 2C
LOCATION VALUE  CHI-SQUARE  PROBABILITY
.613       .302       .570

Q discriminates well novices and other groups. It over-discriminates strongly among the novices and is particularly pertinent to the experiment. Although over-medication can be debilitating the consequences of under-medication are even worse both for the patient and his/her socio-familial group.

32. Schizophrenia can normally be controlled by long term therapy with a trained counsellor.

CROSSTABS
Response: Experts Nurses Workers Novices
Right 7 12 9 13 38.3%
Wrong 5 3 58 61.7%

ASCORE 2C
LOCATION VALUE  CHI-SQUARE  PROBABILITY
1.611       1.815       .153

A difficult Q which clearly discriminates between experts and novices. The CHI-SQUARE is inflated due to overdiscrimination. It is more successful than paired Q.54.Individual psychotherapy is seldom effective with schizophrenics

32. Nutrition is not an important factor in treating schizophrenia

CROSSTABS
Response: Experts Nurses Workers Novices
Right 3 10 12 50 70.8%
Wrong 4 7 20 29.2%

ASCORE 2C
LOCATION VALUE  CHI-SQUARE  PROBABILITY
.341       17.395      .000

The experts are divided and the fit is poor.

36. People with schizophrenia need to remain in hospital until they are cured

CROSSTABS
Response: Experts Nurses Workers Novices
Right 7 17 12 69 98.1%
Wrong 2 1.9%

ASCORE 2C
LOCATION VALUE  CHI-SQUARE  PROBABILITY
-2.957       .530       .450

Q is too easy
43. People with schizophrenia are less likely to relapse if they live with their families.

<table>
<thead>
<tr>
<th>Response: Experts</th>
<th>Nurses</th>
<th>Workers</th>
<th>Novices</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Right: 7</td>
<td>7</td>
<td>10</td>
<td>57</td>
<td>75.7%</td>
</tr>
<tr>
<td>Wrong: 10</td>
<td>2</td>
<td>14</td>
<td></td>
<td>24.3%</td>
</tr>
</tbody>
</table>

**ASCORE 2C**

<table>
<thead>
<tr>
<th>LOCATION VALUE</th>
<th>CHI-SQUARE</th>
<th>PROBABILITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>.084</td>
<td>15.163</td>
<td>.000</td>
</tr>
</tbody>
</table>

Q is ambiguous. Research shows that people living with their families are more likely to relapse because of interpersonal stress. The nurses may be reacting to the problems of self neglect that occur when patients are not adequately housed and supervised. This may also account for the lack of fit.

54. Individual psychotherapy is seldom effective with schizophrenics.

<table>
<thead>
<tr>
<th>Response: Experts</th>
<th>Nurses</th>
<th>Workers</th>
<th>Novices</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Right: 5</td>
<td>4</td>
<td>3</td>
<td>12</td>
<td>22.4%</td>
</tr>
<tr>
<td>Wrong: 2</td>
<td>13</td>
<td>9</td>
<td>59</td>
<td>77.6%</td>
</tr>
</tbody>
</table>

**ASCORE 2C**

<table>
<thead>
<tr>
<th>LOCATION VALUE</th>
<th>CHI-SQUARE</th>
<th>PROBABILITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.486</td>
<td>8.132</td>
<td>.000</td>
</tr>
</tbody>
</table>

The response to this Q is bizarre, suggesting that only the experts know the difference between psychiatry and psychotherapy. Q.74. *Schizophrenia can normally be controlled by long term therapy with a trained counsellor covers the same content, is a better discriminator and has good fit.*

56. Schizophrenia is a psychological disorder which cannot be controlled by drugs.

<table>
<thead>
<tr>
<th>Response: Experts</th>
<th>Nurses</th>
<th>Workers</th>
<th>Novices</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Right: 7</td>
<td>17</td>
<td>11</td>
<td>64</td>
<td>92.5%</td>
</tr>
<tr>
<td>Wrong: 1</td>
<td>7</td>
<td></td>
<td></td>
<td>7.5%</td>
</tr>
</tbody>
</table>

**ASCORE 2C**

<table>
<thead>
<tr>
<th>LOCATION VALUE</th>
<th>CHI-SQUARE</th>
<th>PROBABILITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>-1.495</td>
<td>3.757</td>
<td>.023</td>
</tr>
</tbody>
</table>

Although the Q is very easy it may be useful in a pre-test, post-test situation with another sample of the population. The CHI-SQ is high because the item over-discriminates between groups.

58. Family therapy cannot really help once schizophrenia has been diagnosed.

<table>
<thead>
<tr>
<th>Response: Experts</th>
<th>Nurses</th>
<th>Workers</th>
<th>Novices</th>
</tr>
</thead>
</table>
Right 5 17 12 68 95.3%
Wrong 2 3 4.5%

**AScore 2C**

<table>
<thead>
<tr>
<th>LOCATION VALUE</th>
<th>Chi-Square</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>-1.789</td>
<td>.433</td>
<td>.495</td>
</tr>
</tbody>
</table>

Q is too easy.

62. Most people with schizophrenia will recover if they are given enough love and encouragement

**Crosstabs**

<table>
<thead>
<tr>
<th></th>
<th>Experts</th>
<th>Nurses</th>
<th>Workers</th>
<th>Novices</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Right</td>
<td>7</td>
<td>16</td>
<td>9</td>
<td>41</td>
<td>69.5%</td>
</tr>
<tr>
<td>Wrong</td>
<td>1</td>
<td>3</td>
<td>28</td>
<td>30.5%</td>
<td></td>
</tr>
</tbody>
</table>

**AScore 2C**

<table>
<thead>
<tr>
<th>LOCATION VALUE</th>
<th>Chi-Square</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>.982</td>
<td>2.469</td>
<td>.089</td>
</tr>
</tbody>
</table>

Q clearly discriminates between experts and novices. The Chi-SQ is inflated because the item discriminates very highly. It could however be argued that this is an attitudinal rather than a knowledge Q.

---

**4. Prognosis/Outcome**

4. With schizophrenia, the older you are the worse it gets

**Crosstabs**

<table>
<thead>
<tr>
<th></th>
<th>Experts</th>
<th>Nurses</th>
<th>Workers</th>
<th>Novices</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Right</td>
<td>7</td>
<td>17</td>
<td>11</td>
<td>55</td>
<td>84.1%</td>
</tr>
<tr>
<td>Wrong</td>
<td>1</td>
<td>16</td>
<td>16</td>
<td>15.9%</td>
<td></td>
</tr>
</tbody>
</table>

**AScore 2C**

<table>
<thead>
<tr>
<th>LOCATION VALUE</th>
<th>Chi-Square</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>-.558</td>
<td>.628</td>
<td>.411</td>
</tr>
</tbody>
</table>

Q discriminates well and has good fit statistics. It is similar in content to Q.16. *People who get schizophrenia when they are young have a better chance of recovering* it is a good, moderately easy, general Q.

6. People who get schizophrenia when they are young have a better chance of recovering.

**Crosstabs**

<table>
<thead>
<tr>
<th></th>
<th>Experts</th>
<th>Nurses</th>
<th>Workers</th>
<th>Novices</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Right</td>
<td>7</td>
<td>16</td>
<td>10</td>
<td>51</td>
<td>78.3%</td>
</tr>
<tr>
<td>Wrong</td>
<td>1</td>
<td>2</td>
<td>19</td>
<td>21.7%</td>
<td></td>
</tr>
</tbody>
</table>

**AScore 2C**

<table>
<thead>
<tr>
<th>LOCATION VALUE</th>
<th>Chi-Square</th>
<th>Probability</th>
</tr>
</thead>
</table>
Q clearly discriminates between experts and novices

12. Schizophrenia can be cured with the right treatment.

<table>
<thead>
<tr>
<th>CROSSTABS</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Response: Experts</td>
<td>Nurses</td>
<td>Workers</td>
<td>Novices</td>
</tr>
<tr>
<td>Right</td>
<td>7</td>
<td>10</td>
<td>36</td>
</tr>
<tr>
<td>Wrong</td>
<td>1</td>
<td>2</td>
<td>35</td>
</tr>
</tbody>
</table>

ASCORE 2C

LOCATION VALUE | CHI-SQUARE | PROBABILITY |
               |            |             |
.205           | 1.699      | .168        

The Q is very important. It discriminates very highly between experts and novices and between groups of novices. It performed especially well in PILOT 2 and provides a good match to Q.53. There is no cure for schizophrenia for subtesting.

13. People with schizophrenia can be helped by treatment temporarily but will eventually need permanent hospital care

<table>
<thead>
<tr>
<th>CROSSTABS</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Response: Experts</td>
<td>Nurses</td>
<td>Workers</td>
<td>Novices</td>
</tr>
<tr>
<td>Right</td>
<td>7</td>
<td>11</td>
<td>62</td>
</tr>
<tr>
<td>Wrong</td>
<td>1</td>
<td>9</td>
<td>9.3%</td>
</tr>
</tbody>
</table>

ASCORE 2C

LOCATION VALUE | CHI-SQUARE | PROBABILITY |
               |            |             |
-1.174         | .499       | .464        

Q is too easy. It discriminates very highly.

14. People with schizophrenia can be helped by treatment but not enough to function independently.

<table>
<thead>
<tr>
<th>CROSSTABS</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Response: Experts</td>
<td>Nurses</td>
<td>Workers</td>
<td>Novices</td>
</tr>
<tr>
<td>Right</td>
<td>6</td>
<td>12</td>
<td>54</td>
</tr>
<tr>
<td>Wrong</td>
<td>1</td>
<td>17</td>
<td>16.8%</td>
</tr>
</tbody>
</table>

ASCORE 2C

LOCATION VALUE | CHI-SQUARE | PROBABILITY |
               |            |             |
.972           | .264       | .595        

Q discriminates well between experts and novices. It overdiscriminates among the novices and is a good anchor for the easy end of the scale.

24. 53. There is no cure for schizophrenia.
Right  7  17  10  48  76.6%
Wrong  2  23  

**ASCORE 2C**

<table>
<thead>
<tr>
<th>Location Value</th>
<th>Chi-Square</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>541</td>
<td>.456</td>
<td>.484</td>
</tr>
</tbody>
</table>

An easier version of Q.44 *Schizophrenia can be cured with the right treatment*. The concept is essential enough to warrant retaining both.

65. People with schizophrenia can live normal lives once they get off medication.

**CROSSTABS**

<table>
<thead>
<tr>
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<th>Nurses</th>
<th>Workers</th>
<th>Novices</th>
</tr>
</thead>
<tbody>
<tr>
<td>Right</td>
<td>5</td>
<td>11</td>
<td>9</td>
</tr>
<tr>
<td>Wrong</td>
<td>1</td>
<td>5</td>
<td>2</td>
</tr>
</tbody>
</table>

**ASCORE 2C**

<table>
<thead>
<tr>
<th>Location Value</th>
<th>Chi-Square</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>-.092</td>
<td>3.175</td>
<td>.046</td>
</tr>
</tbody>
</table>

Q is ambiguous.

67. Schizophrenia can be controlled with the right treatment but a relapse is always possible.

**CROSSTABS**

<table>
<thead>
<tr>
<th>Response: Experts</th>
<th>Nurses</th>
<th>Workers</th>
<th>Novices</th>
</tr>
</thead>
<tbody>
<tr>
<td>Right</td>
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<td>17</td>
<td>12</td>
</tr>
<tr>
<td>Wrong</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**ASCORE 2C**

<table>
<thead>
<tr>
<th>Location Value</th>
<th>Chi-Square</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>-2.507</td>
<td>1.201</td>
<td>.251</td>
</tr>
</tbody>
</table>

Q is too easy.

5. **GENERAL EPIDEMIOLOGICAL**

16. Less than one, out of every 1,000 people will become schizophrenic.

[Originally: *Only about one out of every 500 people will become schizophrenic*]

**CROSSTABS**

<table>
<thead>
<tr>
<th>Response: Experts</th>
<th>Nurses</th>
<th>Workers</th>
<th>Novices</th>
</tr>
</thead>
<tbody>
<tr>
<td>Right</td>
<td>7</td>
<td>15</td>
<td>11</td>
</tr>
<tr>
<td>Wrong</td>
<td>2</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

**ASCORE 2C**

<table>
<thead>
<tr>
<th>Location Value</th>
<th>Chi-Square</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>.147</td>
<td>.337</td>
<td>.548</td>
</tr>
</tbody>
</table>

Q discriminates highly, fits well and performed especially well in PILOT 2 but 3 items covering the prevalence of schizophrenia are too many so it has been reworded to cover Q.
Schizophrenia affects about one person in every 5,000 and can be matched in a subtest with the more difficult Q55 About one in every hundred Australians has schizophrenia.

21. Schizophrenia is less common in third world countries than it is in America, Europe and Australia.

CROSSTABS
Response: Experts Nurses Workers Novices
Right 6 12 9 36 58.9%
Wrong 1 5 3 35 41.1%

ASCORE 2C
LOCATION VALUE CHI-SQUARE PROBABILITY
.913 1.398 .214

Q clearly discriminates between experts and novices. It would have been interesting to have seen if the intervention affected this Q, as the answer would have had to be inferred.

25. About one in every hundred Australians has schizophrenia.

CROSSTABS
Response: Experts Nurses Workers Novices
Right 6 14 11 28 55.7%
Wrong 1 3 1 42 44.3%

ASCORE 2C
LOCATION VALUE CHI-SQUARE PROBABILITY
.613 .336 .548

Q clearly discriminates between experts and novices. It also discriminates very highly among the novices. It is intrinsically important as schizophrenia is a relatively common illness (1% world-wide). It is more difficult than Q37 Only about one out of every 500 people will become schizophrenic and is therefore most useful in subtest 2 (the post-test).

31. 35. Schizophrenia occurs more often in women than men.

CROSSTABS
Response: Experts Nurses Workers Novices
Right 7 16 11 52 80.4%
Wrong 1 1 19 19.6%

ASCORE 2C
LOCATION VALUE CHI-SQUARE PROBABILITY
.799 .395 .515

Q discriminates well and the fit statistics are good.

34. 75. The incidence of schizophrenia has increased in the last 25 years.

CROSSTABS
Response: Experts Nurses Workers Novices
A difficult question which discrimines extremely between mental health professionals and other groups. The fit is excellent.

45. Schizophrenia is most frequently diagnosed in the late teens and early twenties

<table>
<thead>
<tr>
<th>Response: Experts</th>
<th>Nurses</th>
<th>Workers</th>
<th>Novices</th>
</tr>
</thead>
<tbody>
<tr>
<td>Right</td>
<td>7</td>
<td>16</td>
<td>12</td>
</tr>
<tr>
<td>Wrong</td>
<td>2</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

Although the percentages are small the Q clearly discriminates between experts and novices.

48. Schizophrenia affects about one person in every 5,000

<table>
<thead>
<tr>
<th>Response: Experts</th>
<th>Nurses</th>
<th>Workers</th>
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</tr>
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<tr>
<td>Right</td>
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</tr>
<tr>
<td>Wrong</td>
<td>2</td>
<td>6</td>
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</tbody>
</table>

The content of this Q is now adequately covered by Q.37. Less than one, out of every 1,000 people will become schizophrenic.
APPENDIX B. 4. KOSI: EXPERIMENTAL INSTRUMENT A PRE-TEST

1. Schizophrenia can be cured with the right treatment.
2. Schizophrenia is a psychological problem it is not a disease.
3. People become schizophrenic because they can't cope with normal life.
4. Schizophrenia can usually be controlled without drugs.
5. *You are more likely to get schizophrenia if you smoke marijuana.
6. *People who get schizophrenia when they are young have a better chance of recovering.
7. *The idea that schizophrenics have delusions of grandeur is a myth.
8. Schizophrenia cannot be genetically transmitted.
9. *Schizophrenia is a medical condition like arthritis or diabetes.
10. *A split-personality is a strong indication of schizophrenia.
11. Schizophrenics tend to be happy go lucky sort of people.
12. *Aggression and violence are common symptoms of schizophrenia.
13. *Most schizophrenics suffer from auditory hallucinations
14. *People with schizophrenia can be helped by treatment but not enough to function independently.
15. *A period of hospitalisation is necessary in most cases of schizophrenia.
16. Less than one, out of every 1,000 people will become schizophrenic.
17. 'Abandoned' children are more likely to develop schizophrenia than children brought up in a happy home.
18. *Schizophrenia is caused by environmental stress e.g. poverty, job pressure.
19. *The incidence of schizophrenia has increased in the last 25 years.
20. People with schizophrenia tend to be emotionally flat.
21. *Schizophrenia is a brain disorder.
22. *People with schizophrenia tend to neglect themselves.
23. *Inadequate parenting cannot cause schizophrenia.
24. *Drugs are the most effective treatment for schizophrenia.
25. *Schizophrenia occurs more often in women than men.
APPENDIX B.5. KOSI: EXPERIMENTAL INSTRUMENT B POST-TEST

1. *Aggression and violence are common symptoms of schizophrenia.
2. Traumatic experiences in early childhood can cause schizophrenia.
3. *Schizophrenia is a medical condition like arthritis or diabetes.
4. *A split-personality is a strong indication of schizophrenia.
5. People with schizophrenia sometimes laugh at sad things.
6. *Schizophrenia is a brain disorder.
7. People with schizophrenia should be encouraged to do without drugs
8. People develop schizophrenia because they are emotionally fragile.
9. *People with schizophrenia tend to neglect themselves.
10. About one in every hundred Australians has schizophrenia.
11. People with schizophrenia lack motivation.
12. *The idea that schizophrenics have delusions of grandeur is a myth.
14. *People with schizophrenia can be helped by treatment but not enough to function independently.
15. A predisposition for schizophrenia is inherited.
16. *Schizophrenia occurs more often in women than men.
17. *You are more likely to get schizophrenia if you smoke marijuana.
18. *Schizophrenia is caused by environmental stress e.g. poverty, job pressure.
19. Schizophrenia can normally be controlled by long term therapy with a trained counsellor.
20. *A period of hospitalisation is necessary in most cases of schizophrenia.
21. *People who get schizophrenia when they are young have a better chance of recovering.
22. *Drugs are the most effective treatment for schizophrenia.
23. *Inadequate parenting cannot cause schizophrenia.
24. There is no cure for schizophrenia.
25. *The incidence of schizophrenia has increased in the last 25 years.
1. S Aggression and violence are common symptoms of schizophrenia.
2. C Traumatic experiences in early childhood can cause schizophrenia.
3. C People become schizophrenic because they can't cope with normal life.
4. T Schizophrenia can usually be controlled without drugs.
5. S People with schizophrenia sometimes laugh at sad things.
6. P People who get schizophrenia when they are young have a better chance of recovering.
7. S The idea that schizophrenics have delusions of grandeur is a myth.
8. C Schizophrenia cannot be genetically transmitted.
9. C Schizophrenia is a medical condition like arthritis or diabetes.
10. S A split-personality is a strong indication of schizophrenia.
11. S People with schizophrenia lack motivation.
12. P Schizophrenia can be cured with the right treatment.
13. S Most schizophrenics suffer from auditory hallucinations.
14. P People with schizophrenia can be helped by treatment but not enough to function independently.
15. T People with schizophrenia should be encouraged to do without drugs.
16. G Less than one, out of every 1,000 people will become schizophrenic.
17. C People develop schizophrenia because they are emotionally fragile.
18. C Schizophrenia is caused by environmental stress e.g. poverty, job pressure.
19. S Schizophrenics tend to be happy go lucky sort of people.
20. S People with schizophrenia tend to be emotionally flat.
21. C Schizophrenia is a brain disorder.
22. S People with schizophrenia tend to neglect themselves.
23. C Inadequate parenting cannot cause schizophrenia.

24. P There is no cure for schizophrenia.

25. G About one in every hundred Australians has schizophrenia.

26. T A period of hospitalisation is necessary in most cases of schizophrenia.

27. C A predisposition for schizophrenia is inherited.

28. T Drugs are the most effective treatment for schizophrenia.

29. C You are more likely to get schizophrenia if you smoke marijuana.

30. C Schizophrenia is a psychological problem it is not a disease.

31. G Schizophrenia occurs more often in women than men.

32. C 'Abandoned' children are more likely to develop schizophrenia than children brought up in a happy home.

32. T Schizophrenia can normally be controlled by long term therapy with a trained counsellor.

34. G The incidence of schizophrenia has increased in the last 25 years.
APPENDIX B.7 KNOWLEDGE OF SCHIZOPHRENIA INVENTORY (FOSI)
(Final 24 questions analysed in the experimental study)

1. Aggression and violence are common symptoms of schizophrenia.
2. Traumatic experiences in early childhood can cause schizophrenia
3. People become schizophrenic because they can’t cope with normal life.
4. Schizophrenia can usually be controlled without drugs
5. People with schizophrenia sometimes laugh at sad things.
6. People who get schizophrenia when they are young have a better chance of recovering.
7. Schizophrenia can normally be controlled by long term therapy with a trained counsellor.
8. Schizophrenia cannot be genetically transmitted.
9. Schizophrenia is a medical condition like arthritis or diabetes.
10.A split-personality is a strong indication of schizophrenia.
11. Abandoned’ children are more likely to develop schizophrenia than children brought up in a happy home.
12. Schizophrenia can be cured with the right treatment.
13. Most schizophrenics suffer from auditory hallucinations.
14. People with schizophrenia can be helped by treatment but not enough to function independently.
15. People with schizophrenia should be encouraged to do without drugs.
16. Schizophrenia is a psychological problem it is not a disease.
17. People develop schizophrenia because they are emotionally fragile.
18. You are more likely to get schizophrenia if you smoke marijuana.
19. Drugs are the most effective treatment for schizophrenia.
20. A predisposition for schizophrenia is inherited.
21. Schizophrenia is a brain disorder.
22. About one in every hundred Australians has schizophrenia.
23. Inadequate parenting cannot cause schizophrenia.
24. There is no cure for schizophrenia.
APPENDIX B.8.

FACTORS PREVIOUSLY USED TO MEASURE PERCEPTIONS OF SCHIZOPHRENIA

Bogardus' & Triandis' Factors (Behavioural component of Attitude)

Social Distance
Marital
Friendship
Respect
Superordination

Cohen & Streuning's Factors (Opinions about Mental Illness)

A: Authoritarianism
B: Benevolence
C: Mental Hygiene
D: Social Restrictiveness
E: Interpersonal Aetiology

Nunnally's Factors (Opinions about mental illness)

1. Look & act different
2. Will power
3. Sex distinction
4. Avoidance of morbid thoughts
5. Guidance and support
6. Hopelessness
7. External causes vs personality
8. Non-seriousness
9. Age function
10. Organic causes

Otto Wahl's Factors (Conceptions of Schizophrenia [Knowledge])

1. Symptoms
2. Causes
3. Treatment

Furnham & Bower's Factors (Academic & Lay Theories of Schizophrenia)

1. Aetiology
2. Behaviour
3. Treatment
4. Function of Hospital
5. Patient rights
6. Patient duty
7. Society rights
8. Society duty
Furnham & Rees' Factors

(1. Beliefs about Schizophrenia)
1. Dangerous
2. Amoral
3. Egocentric
4. Vagrant

(2. Causes of Schizophrenia)
1. Stress & Pressure
2. Biological
3. Genetic
4. Backward
5. Brain Damage

Trute, Teft & Segall's Factors  [See also Trute & Lowen]

(Beliefs, attitudes & Behavioural intentions towards the mentally ill)

A. Social rejection scale

1. Rejection in Social relations: date; love; marry; street; board.
2. Rejection in social responsibility: hire; rent; next door; residential area; work; welcome (community affairs)

B. Experience Scale

1. Intimate contact: self; family.
2. Social contact: friend; work; public.
3. Impersonal/indirect contact: reside; visit; learn; facts.

Independent variables used in these studies = Education; Dangerousness; Experience; Age.

**Murphy, Black, Duffy, Kieran & Mallon's factors. (Attitudes towards mentally ill)

1. Fear
2. Lack of Sympathy
3. Perceived Community Rejection
4. Personal rejection

COMMON FACTORS

1. Degree of acceptable intimacy - Social distance
   including: marriage\love; friendship; work; neighbourhood.

2. Degree of respect: for individual rights (cognitive-impersonal affective-humanitarian)

3. Judgement: apportioning of culpability and or responsibility.

4. Approach\avoidance: degree of fear and\or repulsion.
1. I would not like my brother or sister to go out with a schizophrenic.

2. People with schizophrenia contribute nothing to society.

3. In spite of what they say most people are afraid of schizophrenics.

4. People with schizophrenia are just ordinary people with an illness.

5. Schizophrenics have the right to personal freedom if they do not break the law.

6. Most patients with schizophrenia could do a lot more if they tried.

7. If the children of a person with schizophrenia were raised by normal parents they would probably not develop schizophrenia.

8. The seriousness of the mental health problem in this country has been exaggerated.

9. It would bother me to share a house with someone who has schizophrenia.

10. I am not really interested in schizophrenia.

11. People with schizophrenia should not be treated in the same hospital as people with a physical illness.

12. People suffering from schizophrenia really scare me.

13. Society has a duty to provide places where schizophrenics can go for help with their problems.

14. Mental hospitals should be used to teach schizophrenics to act responsibly so they can fit in with society.

15. If parents loved their children more there would be less schizophrenia.

16. I would not mind a group home for schizophrenics being set up in my area.

17. A man would be foolish to marry a woman who has schizophrenia.

18. Unlike physical illness which makes most people sympathetic, schizophrenia tends to repel most people.
19. I would not really feel safe in the company of a schizophrenic.

20. People with schizophrenia should be accepted and treated like any other normal person.

21. Pouring funds into schizophrenia is a waste of taxpayers money.

22. Nobody would have schizophrenia if they were given the choice.

23. Although they usually aren't aware of it, many people develop schizophrenia to avoid the problems of everyday life.

24. Mental hospitals are best used to remove schizophrenics from stressful homes to quieter settings.

25. It is not society's fault that people become schizophrenic, we all have to live here.

26. People with schizophrenia let their emotions control them: normal people think things out.

27. Schizophrenics have the right to be treated as responsible adults.

28. It is unwise to turn your back on a schizophrenic.

29. People with schizophrenia are usually stupid but it is not their fault.

30. Schizophrenics find it hard to get along in society as people don't give them a chance.

31. I would be quite willing to work on the same job with a schizophrenic.

32. Although some people with schizophrenia seem all right, it is dangerous to forget for a moment that they are mentally ill.

33. People with schizophrenia should be prevented from having children by a painless operation.

34. The patients of a mental hospital should have something to say about the way the hospital is run.

35. Schizophrenia appears suddenly without any warning.

36. Having schizophrenia is no worse than having any other mental illness.

37. Every mental hospital should be surrounded by a high fence.

38. More tax money should be spent in the care and treatment of people with schizophrenia.

39. People who are successful in their work seldom develop schizophrenia.
40. I cannot imagine myself falling in love with someone who has schizophrenia.

41. The schizophrenic individual must cooperate fully with those treating him/her.

42. Only a few people with schizophrenia are dangerous.

43. Society has the right to protect its people from schizophrenics.

44. If parents disciplined their children properly there would be less schizophrenia.

45. I would prefer not to have a schizophrenic as a close friend.

46. Schizophrenics should not be judged morally for their actions since they have little control over what they do.

47. I would be willing to ask a woman with Schizophrenia to baby-sit.

48. There is something about schizophrenics that makes them easy to tell from normal people.

49. There is too much emphasis on mental illness these days.

50. The law should allow a woman to divorce her husband if he has schizophrenia.

51. People with schizophrenia were often pressured by their parents as children.

52. Regardless of how you look at it, patients with chronic schizophrenia are no longer really human.

53. I would not mind if my boss had schizophrenia.

54. It is better for people with schizophrenia to live in groups of their own kind.

55. I would not like to be left alone with a schizophrenic.

56. The schizophrenic has a duty to take responsibility for his/her actions and their outcomes.

57. People with schizophrenia should be given a choice as to whether or not to take medication.

58. People with schizophrenia are seldom prepared to help themselves.

59. The needs and rights of the family are as important as those of the person with schizophrenia.

60. Schizophrenia is a 'normal' reaction to a 'sick' society.
61. People with schizophrenia should not be allowed to marry.

62. It would be ridiculous to have to take orders from a schizophrenic.

62. Many schizophrenics exaggerate their troubles in order to get sympathy.

63. People with schizophrenia are like children.

64. The best way to handle patients in mental hospitals is to keep them behind locked doors.

65. You cannot really blame people for being reluctant to give a job to someone with schizophrenia.

66. Modern society is too tolerant towards schizophrenics.

67. Schizophrenia is not a hopeless condition.

68. I would not leave my children with a schizophrenic.

69. Schizophrenics have the right to be left alone as long as they do not break the law.

70. Cancer research should take precedence over schizophrenia research.

71. Schizophrenic behaviour is the result of dreadful treatment by other people.

72. People with schizophrenia are generally unpredictable and dangerous.

73. People hospitalised with schizophrenia should not be allowed to vote.

74. Most people with schizophrenia are willing to work.

75. People with schizophrenia usually come from homes where people took little interest in their children.

76. People with schizophrenia are the responsibility of the state, not the family.

77. People with schizophrenia don't need sympathy, they need to be put to work.

78. I would rent a room in my house to a person with schizophrenia.

79. I think too much fuss is made about schizophrenia.

80. Fear for one's own safety is a concern when working with people with schizophrenia.
81. The most effective way of treating schizophrenics is to improve the society in which they live.

82. One of the main causes of schizophrenia is a lack of moral strength or willpower.

83. You could not put a person with schizophrenia in a responsible position.

84. People with schizophrenia are capable of looking after others.

85. I would rather my child had leukaemia than schizophrenia.

86. It is the right of the schizophrenic to be cared for by society.

87. Schizophrenia in children is often caused by the separation or divorce of their parents.

88. If our mental hospitals had enough well trained doctors, nurses and aides, many of the patients would get well enough to live outside the hospital.

89. I think most people with schizophrenia could pull themselves together if they really tried.

90. Schizophrenia is a devastating illness.

91. People with schizophrenia should be cared for by their families.

92. Most people with schizophrenia would prefer to live on a pension than get a job.

93. If the children of normal parents were raised by a schizophrenic they would probably develop schizophrenia.

94. People with schizophrenia expect too much from society.

95. People with schizophrenia are usually below average intelligence.

96. I would be nervous of someone who was known to have schizophrenia.

97. Most people with schizophrenia can recover if they are given enough love and encouragement.

98. It is society's duty to provide people and places to treat schizophrenics.

99. It is our attitudes towards people with schizophrenia that limit their progress.

100. I would rather have schizophrenia than cancer.

THANKYOU FOR PARTICIPATING IN THIS SURVEY
### ATSI SOCIAL DISTANCE QUESTIONS

- **VE** indicates greater (increased) Social Distance

<table>
<thead>
<tr>
<th>SD No</th>
<th>Q. No</th>
<th>Col No.</th>
<th>QUESTION</th>
<th>+ VE</th>
<th>% RESP 1 + 2</th>
<th>% RESP 4 + 5</th>
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<tbody>
<tr>
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<td>1</td>
<td>R3</td>
<td>I would not like my brother or sister to go out with a schizophrenic.</td>
<td>-VE</td>
<td>50.9</td>
<td>22.6</td>
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<td>2</td>
<td>R3</td>
<td>You cannot really blame people for being reluctant to give a job to someone with schizophrenia.</td>
<td>+VE</td>
<td>42.4</td>
<td>38.7</td>
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<td>3</td>
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<td>R3</td>
<td>I would not mind a group home for schizophrenics being set up in my area.</td>
<td>+VE</td>
<td>67.7</td>
<td>15.3</td>
</tr>
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<td>4</td>
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<td>R3</td>
<td>A man would be foolish to marry a woman who has schizophrenia.</td>
<td>-VE</td>
<td>23.6</td>
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<tr>
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<td>R3</td>
<td>I would be quite willing to work on the same job with a schizophrenic.</td>
<td>+VE</td>
<td>73.6</td>
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<td>I cannot imagine myself falling in love with someone who has schizophrenia.</td>
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<td>36.8</td>
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<td>I would prefer not to have a schizophrenic as a close friend.</td>
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<td>18.0</td>
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<td>The law should allow a woman to divorce her husband if he has schizophrenia.</td>
<td>-VE</td>
<td>21.7</td>
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<td>54</td>
<td>R3</td>
<td>It is better for people with schizophrenia to live in groups of their own kind.</td>
<td>-VE</td>
<td>7.6</td>
<td>71.7</td>
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<td>I would rent a room in my house to a person with schizophrenia.</td>
<td>+VE</td>
<td>39.0</td>
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<td>11</td>
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<td>You could not put a person with schizophrenia in a responsible position.</td>
<td>-VE</td>
<td>13.3</td>
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<td>97</td>
<td>R4</td>
<td>There is too much emphasis on mental illness these days.</td>
<td>-VE</td>
<td>9.4</td>
<td>82.0</td>
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<td>13</td>
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<td>R4</td>
<td>It would bother me to share a house with someone who has schizophrenia.</td>
<td>-VE</td>
<td>30.2</td>
<td>39.7</td>
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</table>
## ATSI FEAR QUESTIONS

- **VE** indicates a Fear response (+VE = lack of fear)

<table>
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<tr>
<th>No</th>
<th>Q No</th>
<th>Col No.</th>
<th>QUESTION</th>
<th>+VE - VE</th>
<th>%RESP 1 + 2</th>
<th>%RESP 4 + 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3</td>
<td>R3 C6</td>
<td>In spite of what they say most people are afraid of schizophrenics.</td>
<td>-VE</td>
<td>92.4</td>
<td>6.6</td>
</tr>
<tr>
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<td>R3 C7</td>
<td>People with schizophrenia are just ordinary people with an illness.</td>
<td>+VE</td>
<td>92.4</td>
<td>3.8</td>
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<tr>
<td>3</td>
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<td>R3 C9</td>
<td>People with schizophrenia should not be treated in the same hospital as people with a physical illness.</td>
<td>-VE</td>
<td>31.2</td>
<td>51.1</td>
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<td>R3 C15</td>
<td>People suffering from schizophrenia really scare me.</td>
<td>-VE</td>
<td>14.3</td>
<td>72.4</td>
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<tr>
<td>5</td>
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<td>R3 C22</td>
<td>I would not really feel safe in the company of a schizophrenic.</td>
<td>-VE</td>
<td>15.1</td>
<td>69.9</td>
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<tr>
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<td>R3 C23</td>
<td>People with schizophrenia should be accepted and treated like any other normal person.</td>
<td>+VE</td>
<td>85.8</td>
<td>7.5</td>
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<td>R3 C30</td>
<td>Although some people with schizophrenia seem all right, it is dangerous to forget for a moment that they are mentally ill.</td>
<td>-VE</td>
<td>25.5</td>
<td>65.1</td>
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<td>R3 C31</td>
<td>People with schizophrenia are usually stupid but it is not their fault.</td>
<td>-VE</td>
<td>4.8</td>
<td>92.3</td>
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<tr>
<td>9</td>
<td>29</td>
<td>R3 C32</td>
<td>It is unwise to turn your back on a schizophrenic.</td>
<td>-VE</td>
<td>25.8</td>
<td>62.9</td>
</tr>
<tr>
<td>10</td>
<td>34</td>
<td>R3 C37</td>
<td>Every mental hospital should be surrounded by a high fence.</td>
<td>-VE</td>
<td>9.4</td>
<td>82.1</td>
</tr>
<tr>
<td>11</td>
<td>41</td>
<td>R3 C44</td>
<td>Schizophrenia appears suddenly without any warning.</td>
<td>-VE</td>
<td>29.3</td>
<td>52.8</td>
</tr>
<tr>
<td>12</td>
<td>42</td>
<td>R3 C45</td>
<td>Only a few people with schizophrenia are dangerous.</td>
<td>+VE</td>
<td>76.4</td>
<td>11.3</td>
</tr>
<tr>
<td>13</td>
<td>43</td>
<td>R3 C46</td>
<td>There is something about schizophrenics that makes them easy to tell from normal people.</td>
<td>-VE</td>
<td>21.7</td>
<td>58.5</td>
</tr>
<tr>
<td>No</td>
<td>Q No</td>
<td>Col No.</td>
<td>QUESTION</td>
<td>+VE - VE</td>
<td>%RESP 1 + 2</td>
<td>%RESP 4 + 5</td>
</tr>
<tr>
<td>----</td>
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<td>----------</td>
<td>-------------</td>
<td>-------------</td>
</tr>
<tr>
<td>14</td>
<td>47</td>
<td>R3 C50</td>
<td>I would be willing to ask a woman with Schizophrenia to baby-sit.</td>
<td>+VE</td>
<td>22.6</td>
<td>40.6</td>
</tr>
<tr>
<td>15</td>
<td>52</td>
<td>R3 C55</td>
<td>Regardless of how you look at it, patients with chronic schizophrenia are no longer really human.</td>
<td>-VE</td>
<td>1.9</td>
<td>93.4</td>
</tr>
<tr>
<td>16</td>
<td>64</td>
<td>R4 C5</td>
<td>People with schizophrenia should not be allowed to marry.</td>
<td>-VE</td>
<td>3.8</td>
<td>90.4</td>
</tr>
<tr>
<td>17</td>
<td>67</td>
<td>R4 C8</td>
<td>Schizophrenia is not a hopeless condition.</td>
<td>+VE</td>
<td>85.7</td>
<td>6.7</td>
</tr>
<tr>
<td>18</td>
<td>68</td>
<td>R4 C9</td>
<td>I would not leave my children with a schizophrenic.</td>
<td>-VE</td>
<td>35.6</td>
<td>29.8</td>
</tr>
<tr>
<td>19</td>
<td>72</td>
<td>R4 C13</td>
<td>I would be nervous of someone who was known to have schizophrenia.</td>
<td>-VE</td>
<td>20.0</td>
<td>69.6</td>
</tr>
<tr>
<td>20</td>
<td>80</td>
<td>R4 C21</td>
<td>Fear for one's own safety is a concern when working with people with schizophrenia.</td>
<td>-VE</td>
<td>27.6</td>
<td>49.5</td>
</tr>
<tr>
<td>21</td>
<td>84</td>
<td>R4 C25</td>
<td>People with schizophrenia are capable of looking after others.</td>
<td>+VE</td>
<td>61.9</td>
<td>12.4</td>
</tr>
<tr>
<td>22</td>
<td>92</td>
<td>R4 C33</td>
<td>I would rather my child had leukaemia than schizophrenia.</td>
<td>-VE</td>
<td>11.5</td>
<td>49.0</td>
</tr>
<tr>
<td>23</td>
<td>95</td>
<td>R4 C36</td>
<td>People with schizophrenia are usually below average intelligence.</td>
<td>-VE</td>
<td>2.9</td>
<td>88.6</td>
</tr>
<tr>
<td>24</td>
<td>96</td>
<td>R4 C38</td>
<td>Schizophrenics are generally unpredictable and dangerous.</td>
<td>-VE</td>
<td>21.7</td>
<td>62.3</td>
</tr>
<tr>
<td>25</td>
<td>10</td>
<td>R4 C41</td>
<td>I would rather have schizophrenia than cancer.</td>
<td></td>
<td>35.0</td>
<td>22.6</td>
</tr>
<tr>
<td>BA No</td>
<td>Q No</td>
<td>Col No</td>
<td>QUESTION</td>
<td>+VE</td>
<td>-VE</td>
<td>%RESP 1+2</td>
</tr>
<tr>
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<td>-----</td>
<td>-----------</td>
</tr>
<tr>
<td>1</td>
<td>9</td>
<td>R3 C12</td>
<td>It is our attitudes towards people with schizophrenia that limit their progress.</td>
<td>+VE</td>
<td></td>
<td>82.1</td>
</tr>
<tr>
<td>2</td>
<td>10</td>
<td>R3 C13</td>
<td>I am not really interested in schizophrenia.</td>
<td>-VE</td>
<td></td>
<td>6.7</td>
</tr>
<tr>
<td>3</td>
<td>18</td>
<td>R3 C21</td>
<td>Unlike physical illness which makes most people sympathetic, schizophrenia tends to repel most people.</td>
<td>-VE</td>
<td></td>
<td>88.5</td>
</tr>
<tr>
<td>4</td>
<td>22</td>
<td>R3 C25</td>
<td>Schizophrenics find it hard to get along in society as people don't give them a chance.</td>
<td>+VE</td>
<td></td>
<td>84.0</td>
</tr>
<tr>
<td>5</td>
<td>35</td>
<td>R3 C38</td>
<td>The schizophrenic individual must cooperate fully with those treating him/her.</td>
<td>-VE</td>
<td></td>
<td>49.1</td>
</tr>
<tr>
<td>6</td>
<td>36</td>
<td>R3 C39</td>
<td>Having schizophrenia is no worse than having any other mental illness.</td>
<td>-VE</td>
<td></td>
<td>44.4</td>
</tr>
<tr>
<td>7</td>
<td>45</td>
<td>R3 C48</td>
<td>Schizophrenics should not be judged morally for their actions since they have little control over what they do.</td>
<td>+VE</td>
<td></td>
<td>32.0</td>
</tr>
<tr>
<td>8</td>
<td>63</td>
<td>R4 C4</td>
<td>People with schizophrenia are like children.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>65</td>
<td>R4 C6</td>
<td>People with schizophrenia contribute nothing to society.</td>
<td>-VE</td>
<td></td>
<td>2.9</td>
</tr>
<tr>
<td>10</td>
<td>66</td>
<td>R4 C7</td>
<td>Modern society is too tolerant towards schizophrenics.</td>
<td>-VE</td>
<td></td>
<td>1.9</td>
</tr>
<tr>
<td>11</td>
<td>77</td>
<td>R4 C18</td>
<td>People with schizophrenia don't need sympathy, they need to be put to work.</td>
<td>-VE</td>
<td></td>
<td>11.6</td>
</tr>
<tr>
<td>12</td>
<td>79</td>
<td>R4 C20</td>
<td>I think too much fuss is made about schizophrenia.</td>
<td>-VE</td>
<td></td>
<td>17.1</td>
</tr>
<tr>
<td>13</td>
<td>85</td>
<td>R4 C26</td>
<td>Most people with schiz-o-phrenia would prefer to live on a pension than get a job.</td>
<td>-VE</td>
<td></td>
<td>8.6</td>
</tr>
<tr>
<td>14</td>
<td>87</td>
<td>R4 C28</td>
<td>Schizophrenia is a devastating illness.</td>
<td>+VE</td>
<td></td>
<td>77.2</td>
</tr>
</tbody>
</table>
### ATSI QUESTIONS OF RIGHTS AND DUTIES

+VE supports the Rights of the Schizophrenic & the Duty of Society; -VE supports the Rights of Society

<table>
<thead>
<tr>
<th>RD No</th>
<th>Q No</th>
<th>Col No</th>
<th>QUESTION</th>
<th>+VE</th>
<th>%RESP 1 + 2</th>
<th>%RESP 4 + 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>5</td>
<td>R3 C8</td>
<td>Schizophrenics have the right to personal freedom if they do not break the law.</td>
<td>+VE</td>
<td>94.3</td>
<td>3.7</td>
</tr>
<tr>
<td>2</td>
<td>13</td>
<td>R3 C16</td>
<td>Society has a duty to provide places where schizophrenics can go for help with their problems.</td>
<td>+VE</td>
<td>95.2</td>
<td>1.9</td>
</tr>
<tr>
<td>3</td>
<td>21</td>
<td>R4 C24</td>
<td>Pouring funds into schizophrenia is a waste of taxpayers money.</td>
<td>-VE</td>
<td>2.9</td>
<td>94.3</td>
</tr>
<tr>
<td>4</td>
<td>33</td>
<td>R3 C36</td>
<td>People with schizophrenia should be prevented from having children by a painless operation.</td>
<td>-VE</td>
<td>2.8</td>
<td>82.1</td>
</tr>
<tr>
<td>5</td>
<td>37</td>
<td>R3 C40</td>
<td>The patients of a mental hospital should have something to say about the way the hospital is run.</td>
<td>+VE</td>
<td>76.4</td>
<td>10.4</td>
</tr>
<tr>
<td>6</td>
<td>38</td>
<td>R3 C41</td>
<td>More tax money should be spent in the care and treatment of people with schizophrenia.</td>
<td>+VE</td>
<td>70.8</td>
<td>7.5</td>
</tr>
<tr>
<td>7</td>
<td>48</td>
<td>R3 C51</td>
<td>Society has the right to protect its people from schizophrenics.</td>
<td>-VE</td>
<td>26.4</td>
<td>46.2</td>
</tr>
<tr>
<td>8</td>
<td>49</td>
<td>R3 C52</td>
<td>Schizophrenics have the right to be treated as responsible adults.</td>
<td>+VE</td>
<td>80.1</td>
<td>6.6</td>
</tr>
<tr>
<td>9</td>
<td>53</td>
<td>R3 C56</td>
<td>People with schizophrenia should be given a choice as to whether or not to take medication.</td>
<td>+VE</td>
<td>37.7</td>
<td>39.6</td>
</tr>
<tr>
<td>10</td>
<td>69</td>
<td>R4 C10</td>
<td>Schizophrenics have the right to be left alone as long as they do not break the law.</td>
<td>+VE</td>
<td>85.7</td>
<td>8.6</td>
</tr>
<tr>
<td>11</td>
<td>73</td>
<td>R4 C14</td>
<td>People hospitalised with schizophrenia should not be allowed to vote.</td>
<td>-VE</td>
<td>15.3</td>
<td>69.5</td>
</tr>
<tr>
<td>12</td>
<td>93</td>
<td>R4 C34</td>
<td>It is the right of the schizophrenic to be cared for by society.</td>
<td>+VE</td>
<td>58.1</td>
<td>16.2</td>
</tr>
<tr>
<td>13</td>
<td>94</td>
<td>R4 C35</td>
<td>People with schizophrenia expect too much from society.</td>
<td>-VE</td>
<td>10.3</td>
<td>68.9</td>
</tr>
<tr>
<td>14</td>
<td>98</td>
<td>R4 C39</td>
<td>It is society's duty to provide people and places to treat schizophrenics.</td>
<td>+VE</td>
<td>83.0</td>
<td>5.7</td>
</tr>
</tbody>
</table>
ATSI CULPABILITY QUESTIONS: PATIENT/PERSON WITH SCHIZOPHRENIA

-VE indicates the culpability of the Patient/Schizophrenic

<table>
<thead>
<tr>
<th>CP No</th>
<th>Q No</th>
<th>Col No</th>
<th>QUESTIONS</th>
<th>+VE -VE</th>
<th>%RESP 1 + 2</th>
<th>%RESP 4 + 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>11</td>
<td>R3 C14</td>
<td>Most patients with schizophrenia could do a lot more if they tried.</td>
<td>-VE</td>
<td>22.9</td>
<td>46.6</td>
</tr>
<tr>
<td>2</td>
<td>14</td>
<td>R3 C17</td>
<td>Mental hospitals should be used to teach schizophrenics to act responsibly so they can fit in with society.</td>
<td>-VE</td>
<td>50.4</td>
<td>37.2</td>
</tr>
<tr>
<td>3</td>
<td>23</td>
<td>R3 C26</td>
<td>Although they usually aren't aware of it, many people develop schizophrenia to avoid the problems of everyday life.</td>
<td>-VE</td>
<td>17.9</td>
<td>57.6</td>
</tr>
<tr>
<td>4</td>
<td>26</td>
<td>R3 29</td>
<td>People with schizophrenia let their emotions control them: normal people think things out.</td>
<td>-VE</td>
<td>27.4</td>
<td>59.5</td>
</tr>
<tr>
<td>5</td>
<td>30</td>
<td>R3 C33</td>
<td>Nobody would have schizophrenia if they were given the choice.</td>
<td>+VE</td>
<td>78.3</td>
<td>17.0</td>
</tr>
<tr>
<td>6</td>
<td>32</td>
<td>R3 C35</td>
<td>Most people with schizophrenia can recover if they are given enough love and encouragement.</td>
<td>-VE</td>
<td>32.0</td>
<td>37.8</td>
</tr>
<tr>
<td>7</td>
<td>39</td>
<td>R3 C42</td>
<td>People who are successful in their work seldom develop schizophrenia.</td>
<td>-VE</td>
<td>5.7</td>
<td>82.1</td>
</tr>
<tr>
<td>8</td>
<td>70</td>
<td>R4 C11</td>
<td>People with schizophrenia are seldom prepared to help themselves.</td>
<td>-VE</td>
<td>16.2</td>
<td>71.4</td>
</tr>
<tr>
<td>9</td>
<td>74</td>
<td>R4 C15</td>
<td>Most people with schizophrenia are willing to work.</td>
<td>+VE</td>
<td>64.4</td>
<td>13.5</td>
</tr>
<tr>
<td>10</td>
<td>82</td>
<td>R4 C23</td>
<td>One of the main causes of schizophrenia is a lack of moral strength or willpower.</td>
<td>-VE</td>
<td>15.3</td>
<td>72.4</td>
</tr>
<tr>
<td>11</td>
<td>89</td>
<td>R4 C30</td>
<td>I think most people with schizophrenia could pull themselves together if they really tried.</td>
<td>-VE</td>
<td>14.3</td>
<td>64.8</td>
</tr>
</tbody>
</table>
ATSI CULPABILITY QUESTIONS: FAMILYK
-VE Resp indicates an attitude of blaming the family for their member's schizophrenia. Although this is not directed specifically against the schizophrenic it is highly significant in a study concerned with stigma.

<table>
<thead>
<tr>
<th>CF No</th>
<th>Q No</th>
<th>Col No</th>
<th>QUESTION</th>
<th>+VE</th>
<th>%RESP 1+2</th>
<th>%RESP P4+5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>7</td>
<td>R3 C10</td>
<td>If the children of normal parents were raised by a schizophrenic they would probably develop schizophrenia.</td>
<td>-VE</td>
<td>15.2</td>
<td>60.0</td>
</tr>
<tr>
<td>2</td>
<td>15</td>
<td>R3 C18</td>
<td>If parents loved their children more there would be less schizophrenia.</td>
<td>-VE</td>
<td>9.6</td>
<td>80.9</td>
</tr>
<tr>
<td>3</td>
<td>24</td>
<td>R3 C27</td>
<td>Mental hospitals are best used to remove schizophrenics from stressful homes to quieter settings.</td>
<td>-VE</td>
<td>34.0</td>
<td>47.1</td>
</tr>
<tr>
<td>4</td>
<td>44</td>
<td>R3 C47</td>
<td>If parents disciplined their children properly there would be less schizophrenia.</td>
<td>-VE</td>
<td>1.8</td>
<td>91.5</td>
</tr>
<tr>
<td>5</td>
<td>51</td>
<td>R3 C54</td>
<td>People with schizophrenia were often pressured by their parents as children.</td>
<td>-VE</td>
<td>13.2</td>
<td>58.5</td>
</tr>
<tr>
<td>6</td>
<td>75</td>
<td>R4 C16</td>
<td>People with schizophrenia usually come from homes where people took little interest in their children.</td>
<td>-VE</td>
<td>8.6</td>
<td>76.2</td>
</tr>
<tr>
<td>7</td>
<td>76</td>
<td>R4 C17</td>
<td>People with schizophrenia are the responsibility of the state, not the family.</td>
<td>+VE</td>
<td>12.4</td>
<td>66.6</td>
</tr>
<tr>
<td>8</td>
<td>86</td>
<td>R4 C27</td>
<td>If the children of a person with schizophrenia were raised by normal parents they would probably not develop schizophrenia.</td>
<td>-VE</td>
<td>7.6</td>
<td>78.1</td>
</tr>
<tr>
<td>9</td>
<td>90</td>
<td>R3 C31</td>
<td>Schizophrenia in children is often caused by the separation or divorce of their parents.</td>
<td>-VE</td>
<td>10.6</td>
<td>64.4</td>
</tr>
<tr>
<td>10</td>
<td>91</td>
<td>R4 C32</td>
<td>People with schizophrenia should be cared for by their families.</td>
<td>-VE</td>
<td>32.1</td>
<td>31.1</td>
</tr>
</tbody>
</table>
ATSI CULPABILITY QUESTIONS: SOCIETY

+VE response indicates that society is at fault as opposed to the schizophrenic or his/her family.
-VE response is -ve to the sufferer.

<table>
<thead>
<tr>
<th>CS No</th>
<th>Q No</th>
<th>Col No</th>
<th>QUESTION</th>
<th>+VE</th>
<th>-VE</th>
<th>%RES P 1 + 2</th>
<th>%RESP 4 + 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>8</td>
<td>R3 C11</td>
<td>The seriousness of the mental health problem in this country has been exaggerated.</td>
<td></td>
<td>-VE</td>
<td>13.2</td>
<td>79.2</td>
</tr>
<tr>
<td>2</td>
<td>25</td>
<td>R3 C28</td>
<td>It is not society's fault that people become schizophrenic, we all have to live here.</td>
<td></td>
<td>-VE</td>
<td>53.8</td>
<td>15.4</td>
</tr>
<tr>
<td>3</td>
<td>71</td>
<td>R4 C12</td>
<td>Schizophrenia is a 'normal' reaction to a 'sick' society.</td>
<td></td>
<td>+VE</td>
<td>12.4</td>
<td>61.9</td>
</tr>
<tr>
<td>4</td>
<td>81</td>
<td>R4 C22</td>
<td>The most effective way of treating schizophrenics is to improve the society in which they live.</td>
<td></td>
<td>+VE</td>
<td>51.4</td>
<td>25.7</td>
</tr>
<tr>
<td>5</td>
<td>88</td>
<td>R4 C29</td>
<td>If our mental hospitals had enough well trained doctors, nurses and aides, many of the patients would get well enough to live outside the hospital.</td>
<td></td>
<td>+VE</td>
<td>43.8</td>
<td>31.4</td>
</tr>
</tbody>
</table>

Ratings of 'undecided'

There were 31 respondents with 20+
      of those there were 10 with 30+
      and of those there were 3 with 40+

All respondents with 20+ 'undecided' responses were novices.
No expert had more than 10 'undecided' responses.
APPENDIX B.11 EXPERIMENTAL ATSI ITEMS BY SUBSCALE (56 ITEMS)

SUBSCALE 1. SOCIAL DISTANCE\FEAR

1. You cannot really blame people for being reluctant to give a job to someone with schizophrenia.

2. I would not mind a group home for schizophrenics being set up in my area.

3. I would be quite willing to work on the same job with a schizophrenic.

4. I would rent a room in my house to a person with schizophrenia.

5. You could not put a person with schizophrenia in a responsible position.

6. It would bother me to share a house with someone who has schizophrenia.

7. People suffering from schizophrenia really scare me.

8. I would not really feel safe in the company of a schizophrenic.

9. Although some people with schizophrenia seem all right, it is dangerous to forget for a moment that they are mentally ill.

10. It is unwise to turn your back on a schizophrenic.

11. I would be willing to ask a woman with Schizophrenia to babysit.

12. I would not leave my children with a schizophrenic.

13. I would be nervous of someone who was known to have schizophrenia.

14. Fear for one's own safety is a concern when working with people with schizophrenia.

15. Schizophrenics are generally unpredictable and dangerous.

SUBSCALE 2. BENEVOLENCE\AUTHORITARIANISM

1. The schizophrenic individual must cooperate fully with those treating him/her.

2. Having schizophrenia is no worse than having any other mental illness.

3. People with schizophrenia are like children.

4. People with schizophrenia don't need sympathy, they need to be put to work.

5. I think too much fuss is made about schizophrenia.

6. Most people with schizophrenia would prefer to live on a pension than get a job.
7. Schizophrenia is a devastating illness.

8. It is better for people with schizophrenia to live in groups of their own kind.

9. People with schizophrenia should not be treated in the same hospital as people with a physical illness.

SUBSCALE 3. RIGHTS & DUTIES

1. People with schizophrenia should be prevented from having children by a painless operation.

2. The patients of a mental hospital should have something to say about the way the hospital is run.

3. People hospitalised with schizophrenia should not be allowed to vote.

4. It is the right of the schizophrenic to be cared for by society.

5. People with schizophrenia expect too much from society.

SUBSCALE 4. CULPABILITY\PATIENT\PERSON WITH SCHIZOPHRENIA

1. Mental hospitals should be used to teach schizophrenics to act responsibly so they can fit in with society.

2. Although they usually aren't aware of it, many people develop schizophrenia to avoid the problems of everyday life.

3. People with schizophrenia let their emotions control them: normal people think things out.

4. People who are successful in their work seldom develop schizophrenia.

5. People with schizophrenia are seldom prepared to help themselves.

6. One of the main causes of schizophrenia is a lack of moral strength or willpower.

7. I think most people with schizophrenia could pull themselves together if they really tried.

SUBSCALE 5. CULPABILITY\SOCIETY

1. The seriousness of the mental health problem in this country has been exaggerated.

2. It is not society's fault that people become schizophrenic, we all have to live here.

3. Schizophrenia is a 'normal' reaction to a 'sick' society.
4. The most effective way of treating schizophrenics is to improve the society in which they live.

5. If our mental hospitals had enough well trained doctors, nurses and aides, many of the patients would get well enough to live outside the hospital.

6. Society has the right to protect its people from schizophrenics.

7. There is too much emphasis on mental illness these days.

SUBSCALE 6. CULPABILITY/FAMILY

1. If the children of normal parents were raised by a schizophrenic they would probably develop schizophrenia.

2. If parents loved their children more there would be less schizophrenia.

3. Mental hospitals are best used to remove schizophrenics from stressful homes to quieter settings.

4. People with schizophrenia were often pressured by their parents as children.

5. If the children of a person with schizophrenia were raised by normal parents they would probably not develop schizophrenia.

6. Schizophrenia in children is often caused by the separation or divorce of their parents.

SUBSCALE 7. HARD QUESTIONS

1. I would not like my brother or sister to go out with a schizophrenic.

2. I cannot imagine myself falling in love with someone who has schizophrenia.

3. I would prefer not to have a schizophrenic as a close friend.

4. Schizophrenia appears suddenly without any warning.

5. There is something about schizophrenics that makes them easy to tell from normal people.

6. People with schizophrenia should be given a choice as to whether or not to take medication.

7. Most people with schizophrenia can recover if they are given enough love and encouragement.
APPENDIX B. 12.

EXPERIMENTAL ATSI: FORM A PRE-TEST

1. I would not like my brother or sister to go out with a schizophrenic. 1 2 3 4
2. You cannot really blame people for being reluctant to give a job to someone with schizophrenia. 1 2 3 4
3. People with schizophrenia should not be treated in the same hospital as people with a physical illness. 1 2 3 4
4. People with schizophrenia don't need sympathy, they need to be put to work.
5. The most effective way of treating schizophrenics is to improve the society in which they live.
6. People suffering from schizophrenia really scare me.
7. Mental hospitals should be used to teach schizophrenics to act responsibly so they can fit in with society.
8. If parents loved their children more there would be less schizophrenia.
9. I would not really feel safe in the company of a schizophrenic.
10. There is too much emphasis on mental illness these days.
11. I would rent a room in my house to a person with schizophrenia.
12. Mental hospitals are best used to remove schizophrenics from stressful homes to quieter settings.
13. It is not society's fault that people become schizophrenic, we all have to live here.
14. People with schizophrenia let their emotions control them; normal people think things out.
15. Although some people with schizophrenia seem all right, it is dangerous to forget for a moment that they are mentally ill.
16. People with schizophrenia are seldom prepared to help themselves.
17. If the children of normal parents were raised by a schizophrenic they would probably develop schizophrenia.
18. Most people with schizophrenia can recover if they are given enough love and encouragement.

19. People with schizophrenia should be prevented from having children by a painless operation.

20. The schizophrenic individual must cooperate fully with those treating him/her.

21. I would not mind a group home for schizophrenics being set up in my area.

22. The patients of a mental hospital should have something to say about the way the hospital is run.

23. People who are successful in their work seldom develop schizophrenia.

24. I cannot imagine myself falling in love with someone who has schizophrenia.

25. Schizophrenia appears suddenly without any warning.

26. Fear for one's own safety is a concern when working with people with schizophrenia.

27. Schizophrenia is a 'normal' reaction to a 'sick' society.

28. I would be willing to ask a woman with Schizophrenia to babysit.

29. Schizophrenia is a devastating illness.

30. People with schizophrenia were often pressured by their parents as children.

31. People with schizophrenia should be given a choice as to whether or not to take medication.

32. I think most people with schizophrenia could pull themselves together if they really tried.

33. People with schizophrenia are like children.

34. People hospitalised with schizophrenia should not be allowed to vote.

35. It is the right of the schizophrenic to be cared for by society.
APPENDIX B. 13

EXPERIMENTAL ATSI FORM B POST-TEST

1. I would not like my brother or sister to go out with a schizophrenic.
2. People with schizophrenia expect too much from society.
3. I would be nervous of someone who was known to have schizophrenia.
4. If the children of a person with schizophrenia were raised by normal parents they would probably not develop schizophrenia.
5. The seriousness of the mental health problem in this country has been exaggerated.
6. It is the right of the schizophrenic to be cared for by society.
7. It would bother me to share a house with someone who has schizophrenia.
8. If parents loved their children more there would be less schizophrenia.
9. Schizophrenia in children is often caused by the separation or divorce of their parents.
10. I think most people with schizophrenia could pull themselves together if they really tried.
11. Although they usually aren't aware of it, many people develop schizophrenia to avoid the problems of everyday life.
12. Mental hospitals are best used to remove schizophrenics from stressful homes to quieter settings.
13. Schizophrenics are generally unpredictable and dangerous.
14. People with schizophrenia let their emotions control them: normal people think things out.
15. Most people with schizophrenia would prefer to live on a pension than get a job.
16. I think too much fuss is made about schizophrenia.
17. I would be quite willing to work on the same job with a schizophrenic.
18. Most people with schizophrenia can recover if they are given enough love and encouragement.
19. People with schizophrenia should be prevented from having children by a painless operation.

20. If our mental hospitals had enough well trained doctors, nurses and aides, many of the patients would get well enough to live outside the hospital.

21. Having schizophrenia is no worse than having any other mental illness.

22. It is unwise to turn your back on a schizophrenic.

23. People who are successful in their work seldom develop schizophrenia.

24. You could not put a person with schizophrenia in a responsible position.

25. One of the main causes of schizophrenia is a lack of moral strength or willpower.

26. There is something about schizophrenics that makes them easy to tell from normal people.

27. I would prefer not to have a schizophrenic as a close friend.

28. People with schizophrenia are like children.

29. Society has the right to protect its people from schizophrenics.

30. Fear for one's own safety is a concern when working with people with schizophrenia.

31. People with schizophrenia should be given a choice as to whether or not to take medication.

32. It is better for people with schizophrenia to live in groups of their own kind.

33. Schizophrenia is a normal reaction to a 'sick' society.

34. People hospitalised with schizophrenia should not be allowed to vote.

35. I would not leave my children with a schizophrenic.
### EXPERIMENTAL ATSI FORM C DELAYED TEST

1. I would not like my brother or sister to go out with a schizophrenic. | 1 2 3 4

2. You cannot really blame people for being reluctant to give a job to someone with schizophrenia. | 1 2 3 4

3. People with schizophrenia should not be treated in the same hospital as people with a physical illness. | 1 2 3 4

4. If the children of normal parents were raised by a schizophrenic they would probably develop schizophrenia. etc.

5. The seriousness of the mental health problem in this country has been exaggerated.

6. People suffering from schizophrenia really scare me.

7. Mental hospitals should be used to teach schizophrenics to act responsibly so they can fit in with society.

8. If parents loved their children more there would be less schizophrenia.

9. I would not really feel safe in the company of a schizophrenic.

10. I would not mind a group home for schizophrenics being set up in my area.

11. Although they aren't aware of it, many people develop schizophrenia to avoid the problems of everyday life.

12. Mental hospitals are best used to remove schizophrenics from stressful homes to quieter settings.

13. It is not society's fault that people become schizophrenic, we all have to live here.

14. People with schizophrenia let their emotions control them: normal people think things out.

15. Although some people with schizophrenia seem all right, it is dangerous to forget for a moment that they are mentally ill.

16. It is unwise to turn your back on a schizophrenic.

17. I would be quite willing to work on the same job with a schizophrenic.
18. Most people with schizophrenia can recover if they are given enough love and encouragement.

19. People with schizophrenia should be prevented from having children by a painless operation.

20. The schizophrenic individual must cooperate fully with those treating him/her.

21. Having schizophrenia is no worse than having any other mental illness.

22. The patients of a mental hospital should have something to say about the way the hospital is run.

23. People who are successful in their work seldom develop schizophrenia.

24. I cannot imagine myself falling in love with someone who has schizophrenia.

25. Schizophrenia appears suddenly without any warning.

26. There is something about schizophrenics that makes them easy to tell from normal people.

27. I would prefer not to have a schizophrenic as a close friend.

28. I would be willing to ask a woman with Schizophrenia to babysit.

29. Society has the right to protect its people from schizophrenics.

30. People with schizophrenia were often pressured by their parents as children.

31. People with schizophrenia should be given a choice as to whether or not to take medication.

32. It is better for people with schizophrenia to live in groups of their own kind.

33. People with schizophrenia are like children.

34. People hospitalised with schizophrenia should not be allowed to vote.

35. I would not leave my children with a schizophrenic.

36. People with schizophrenia don't need sympathy, they need to be put to work.

37. Schizophrenia is a 'normal' reaction to a 'sick' society.

38. I would be nervous of someone who was known to have schizophrenia.

39. I would rent a room in my house to a person with schizophrenia.
40. People with schizophrenia are seldom prepared to help themselves.

41. If the children of a person with schizophrenia were raised by normal parents they would probably not develop schizophrenia.

42. Fear for one's own safety is a concern when working with people with schizophrenia.

43. The most effective way of treating schizophrenics is to improve the society in which they live.

44. One of the main causes of schizophrenia is a lack of moral strength or willpower.

45. You could not put a person with schizophrenia in a responsible position.

46. I think too much fuss is made about schizophrenia.

47. Most people with schizophrenia would prefer to live on a pension than get a job.

48. Schizophrenics are generally unpredictable and dangerous.

49. Schizophrenia is a devastating illness.

50. If our mental hospitals had enough well trained doctors, nurses and aides, many of the patients would get well enough to live outside the hospital.

51. I think most people with schizophrenia could pull themselves together if they really tried.

52. Schizophrenia in children is often caused by the separation or divorce of their parents.

53. It is the right of the schizophrenic to be cared for by society.

54. People with schizophrenia expect too much from society.

55. There is too much emphasis on mental illness these days.

56. It would bother me to share a house with someone who has schizophrenia.
FINAL ATSI  30 ITEMS BY SUBSCALE

SUBSCALE 1: SOCIAL DISTANCE AND FEAR

1. You cannot really blame people for being reluctant to give a job to someone with schizophrenia.

2. People suffering from schizophrenia really scare me.

3. I would not feel really safe in the company of a schizophrenic.

4. I would rent a room in my house to a person with schizophrenia. R

5. I cannot imagine myself falling in love with a schizophrenic.

6. I would be willing to ask a woman with schizophrenia to babysit. R

7. I would not like my brother or sister to go out with a schizophrenic.

8. Fear for one's own safety is a concern when working with people with schizophrenia.

9. would be nervous of someone who was known to have schizophrenia.

10. Schizophrenics are generally unpredictable and dangerous.

11. I would be willing to work on the same job as a schizophrenic. R

12. You could not put a person with schizophrenia in a responsible position.

13. There is something about schizophrenics that makes them easy to tell from normal people.

14. I would prefer not to have a schizophrenic as a close friend.

15. Society has the right to protect its people from schizophrenics.

SUBSCALE 2: RIGHTS AND BLAME

1. People with schizophrenia don't need sympathy, they need to be put to work.

2. The patients of a mental hospital should have something to say about the way the hospital is run. R

3. People with schizophrenia should be prevented from having children by a painless operation.
4. People who are successful in their work seldom develop schizophrenia.

5. I think most people with schizophrenia could pull themselves together if they really tried.

6. People hospitalised with schizophrenia should not be allowed to vote.

7. Although they usually aren't aware of it, many people develop schizophrenia to avoid the problems of everyday life.

8. Most people with schizophrenia would prefer to live on a pension than to get a job.

9. One of the main causes of schizophrenia is a lack of moral strength or willpower.

SUBSCALE 3: FAMILY CULPABILITY

1. If the children of normal parents were raised by a schizophrenic they would probably develop schizophrenia.

2. People with schizophrenia were often pressured by their parents as children.

3. If parents loved their children more there would be less schizophrenia.

4. Mental hospitals are best used to remove schizophrenics from stressful homes to quieter settings.

5. If the children of a person with schizophrenia were raised by normal parents they would probably not develop schizophrenia.

6. Schizophrenia in children is often caused by the separation or divorce of their parents.
### Correlation Coefficients

#### Correlation Matrix: Four Treatment Groups. Pre-tests.

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### Correlation Matrix Four Treatment Groups Post-tests Including Group 6 (Integrated film without Pretest)

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### Correlation Matrix. Four Treatment Groups. Delayed Test.

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### Correlation Matrix. Entire Population. Delayed Test. Including Group 6 Integrated film without pre-test and Group 5 No Film.

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