THE ASSESSMENT AND TREATMENT OF EMOTIONAL DYSREGULATION IN ADOLESCENTS WHO SELF-HARM.

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

______________________________
Keren Geddes
Abstract

Self-harm among adolescents presents unique treatment challenges and significant economic difficulties for community-based Child and Adolescent Mental Health Services (CAMHS). Dialectical Behaviour Therapy adapted for adolescents (DBT-A) is a promising treatment (Miller, Rathus, Linehan, Wetzler, & Leigh, 1997). However, research suggests variability in its implementation, compromising its efficacy. Furthermore, emotion dysregulation, the core theoretical construct underpinning the DBT model, is not generally targeted in measures of treatment outcome.

This thesis reviews the literature on emotion dysregulation in the ontogenesis of self-harm, linking it to early developmental experiences of attachment disruption and trauma. A major aim of this thesis is to develop a suitable, validated measure of adolescent emotion regulation for use with clinical populations. The thesis also explores the feasibility of applying a DBT-A programme to self-harming adolescents presenting at community CAMHS clinics in Perth, Western Australia.

Part A, consisting of four interrelated studies, investigates the psychometric properties and clinical utility of a reworded version of an adult measure of emotion regulation, the Affective Control Scale (Williams, Chambless, & Ahrens, 1997). The four sub-scales of the MACS-A and its total scale measuring Fear of Emotion were found to be internally consistent in a sample of high school students (N = 2,128) aged between 12 and 17 years. The MACS-A was also found to successfully discriminate between matched clinical and non-clinical samples of adolescents (N = 60) on all of its scales, except for the Fear of Positive Emotion sub-scale. Exploratory factor analysis revealed four factors that explained 35.4% of the common variance. A comparison of factor loadings over a two-week period indicated a relatively stable factor structure. In a
further study, the MACS-A was also found to have moderate to high (0.68 – 0.93) internal consistency within a sample of young adults (N=73) aged 18 to 19 years of age.

Part B of this thesis sets out the development, implementation and evaluation of the 26-week DBT-A pilot programme, ‘Life Surfing’. All five components of the Miller et al. (1997) programme, with the exception of out-of-hours telephone support and a follow-up patient consultation group, were included. A parent of each adolescent was also required to attend the 18-week family skills group. All individual and group sessions were videotaped for review by the multidisciplinary supervision-consultation team, and for later evaluation of treatment adherence. Baseline, post-treatment and three-month follow-up measures indicated improvements in the ability of adolescents to regulate their affect and a reduction in trauma symptomology. Adolescents’ self-harm behaviours and suicidal ideation also decreased.

A general discussion of the unique contributions made by the five studies within Parts A and B of this thesis concludes this work. In particular, pragmatic issues related to further development and use of the MACS-A and recommendations regarding implementation of adolescent DBT programmes within community adolescent clinics are made from a scientist-practitioner perspective.
List of Original Publications

This thesis comprises the following publication:


This article is reproduced in the thesis in full, in Chapter 6.
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Chapter 1
Prelude and Overview to the Thesis

“Self-harm is about communication. It is like a scream perplexing. It can be confusing and terrifying for those who witness it and for those who do it.” (Collins, 1996, p. 463)

1.1 In the Beginning: Background and Substance of the Project

The impetus for this thesis came about as a matter of unmet need that was identified by clinicians working within a community Child and Adolescent Mental Health Service (CAMHS) in Perth, Western Australia. More specifically, admission data from the years 1999 through 2004, collected at intake from the South Metropolitan Child and Adolescent Mental Health Service (SMCAMHS) suggested that approximately 30% of all referrals were related to disorders of self-harm and related emotion regulation deficits, categorised by many (Meekings & O'Brien, 2004) as indicators of an emerging Borderline Personality. In fact, admissions to the Fremantle and Rockingham CAMHS clinics in the period of June to December 2004 showed over 50% were children and adolescents who were self-harming and suicidal. This population also frequently presents with co-morbid use of drugs and alcohol, eating disorders, Post Traumatic Stress Disorder (PTSD) and relationship difficulties (Bondurant, Greenfield, & Tse, 2004; A. James, Berelowitz, & Vereker, 1996)

Consequently, there was a growing concern amongst clinicians from these services regarding the numbers of young people presenting with significant, chronic and life-threatening (suicidal behaviour and self-harm) effects generally associated with an
emerging borderline pathology. Given that a standard treatment practice for these adolescents often involves long-term psychotherapy, the effects on burgeoning waitlists were of some concern to these services. Some studies of adults presenting with BPD have suggested some efficacy for short-term therapy programmes (Krawitz & Watson, 2000). These programmes are more cost-effective and resource-effective in a community mental health setting and, therefore, may provide greater access to therapy for a greater number of individuals.

In February of 2004, an interest group was formed within the SMCAMHS to address this problem by reviewing evidence-based treatment strategies and developing recommendations for acquiring more effective services for patients with self-harm and suicidal behaviours, and their families. This process identified Dialectical Behaviour Therapy (Linehan, 1993b) as the treatment of choice for this clinical profile. In February of 2005, the current author was invited to co-ordinate a project focused on the development and implementation of a Dialectical Behaviour Therapy programme for adolescents spanning the two CAMHS clinics of Fremantle and Rockingham, in fulfilment of a Doctor of Philosophy dissertation.

1.2 **Nature and Initial Aims of the Project**

1.2.1 **Borderline Personality Disorder (BPD): A diagnosis of adolescence?**

According to the Diagnostic and Statistical Manual of Mental Disorders he (American Psychiatric Association, 2013) diagnosis of Borderline Personality Disorder (BPD) in adulthood necessitates the individual to show “a pervasive pattern of instability of interpersonal relationships, self-image, and affects and marked impulsivity that begins by early adulthood and is present in a variety of contexts.” To be diagnosed
with BPD at least five of the following DSM-V (American Psychiatric Association, 2013) criteria must be met:

1) A pattern of intense and unstable interpersonal relationships
2) Frantic efforts to avoid real or imagined abandonment
3) Identity disturbance or problems with sense of self
4) Impulsivity that is potentially self-damaging (e.g. spending, sex, substance abuse, reckless driving, binge eating)
5) Recurrent suicidal or parasuicidal behaviour
6) Affective instability
7) Chronic feelings of emptiness
8) Inappropriate, intense or uncontrollable anger
9) Transient stress related paranoid ideation or severe dissociative symptoms

BPD is a chronic, severe, and often life threatening condition that is associated with significant levels of personal distress and family dysfunction, with concomitant high levels of psychiatric care and associated use of social services (Paris, 2000).

Due to its association with high levels of dysfunction, extreme management issues, and treatment resistance, BPD is a highly negative diagnostic label. Not surprisingly, mental health professionals are often reported to feel little sympathy for individuals given this diagnosis and to be generally pessimistic about working with these clients (Meekings & O’Brien, 2004). Yet, adult diagnostic criteria and terminology are used to identify both children and adolescents as young as 12 years of age (Harman, 2004; Meekings & O’Brien, 2004) presenting with a similar profile of symptoms, and this is despite the known evolving nature of the personality during these developmental periods. The negative implications of the BPD label combined with the realities of the changeable nature of the adolescent personality have led many to caution against using
this diagnosis in the adolescent period (Bondurant et al., 2004). Additionally, research indicates that abuse of all types is highly predictive of a borderline outcome (Zanarini et al., 2006) with 76% of women diagnosed with BPD reported to have a history of sexual abuse during childhood (Linehan, 1993b). Of importance is the finding that in comparison with non-abused children, abused children have been shown to experience much greater difficulty in regulating their emotions across childhood (Shipman, Schneider, & Brown, 2004). Thus, problematic emotion regulation has been argued, in turn, to underpin the BPD diagnosis (Linehan, 1993b).

Due to the negative implications of a BPD diagnosis, and its links to childhood trauma and related emotion regulation difficulties, the current author was keen to provide empirical support for a broader and more contextually valid framework from which to conceptualise adolescents described as having an ‘emerging borderline personality’. This led to the following review of the links between childhood trauma, emotion regulation, problematic behaviours and BPD.

### 1.2.2 Dialectical Behaviour Therapy (DBT): An overview

Dialectical Behaviour Therapy (DBT) is a form of psychotherapy developed by Marsha Linehan (Linehan, 1993a, 1993b; Linehan, Armstrong, Suarez, Allmon, & Heard, 1991) to treat chronically parasuicidal (self-harming) women who experience significant difficulties in regulating their emotions. DBT is of interest because it explicitly focuses on suicidal and parasuicidal behaviour (Swales, Heard, & Williams, 2000) rather than underlying depression or anxiety, the target of other more traditional Cognitive-Behavioural approaches. The DBT treatment package consists of a broad range of cognitive and behavioural strategies combined with Eastern (Zen) philosophy
and meditation practices. In its most basic form DBT combines three elements: acceptance and validation of current behaviours, the teaching of adaptive behaviour change skills, and mindfulness practices aimed at assisting the client to stay present in the moment as a way of calming the self.

As the name ‘dialectic’ suggests, an emphasis is placed on the integration of opposites, for example, accepting the person as they are, while at the same time helping them recognise the need to move towards more functional ways of being. The DBT approach has been widely accepted as efficacious in treating various populations experiencing significant emotional difficulties, including: substance abuse, eating disorders, domestic violence and others (Robins, Schmidt, & Linehan, 2004; Swales et al., 2000; Telch, Agras, & Linehan, 2001)

The adult program is manualised and highly structured, and includes weekly individual psychotherapy and group skills training (psycho-educational) that are conducted over a one-year period. Clients are also provided with telephone consultation between sessions and clinicians work together as a team, including weekly team supervision meetings. Within this environment, the therapist focuses on creating a context of validating the client rather than blaming, blocks or extinguishes unhelpful behaviours and draws out or reinforces helpful behaviours.

In 1997 Miller, Rathus, Linehan, Wetzler, and Leigh modified the adult DBT programme to suit suicidal adolescents, aged 13-19 years. In this programme, treatment was reduced to 12 weeks to enhance completion. Weekly individual psychotherapy was also provided and family members were included when family issues predominated. A family member was also included within the skills training group to act as a coach and to improve generalisation of treatment effects and reduce family dysfunction. The number of skills was reduced and the language simplified to improve learning within 12
weeks. Participants were also offered a 12-week follow-up patient consultation group, which relied on peer teaching and reinforcement, so that adolescents were able to help each other reinforce the skills they had learnt in the first three months of the programme.

1.2.3 The therapeutic relationship

The quality of the client-therapist relationship is argued to be fundamental to retaining clients within therapy and to achieving treatment gains within the DBT approach (Linehan, 1993b). Linehan placed emphasis on developing a strong therapeutic alliance through validation of the client and his/her experiences and provided a detailed and prescriptive method for establishing such a relationship. To date, however, there has been no empirical investigation of the nature of the therapeutic relationship that results from the DBT approach.

1.2.4 Clinical team relationship

Given that the consultation supervision team is a significant treatment component of the DBT approach, the quality of the relationship between team members is likely to be a critical factor in treatment outcome. Perseius, Kåver, Ekdahl, Åsberg, and Samuelsson (2007) found for clinicians using DBT in the treatment of self-harming young women, that the team supervision group was critical to their ability to work well with these clients and to ameliorate the therapists’ levels of stress and burnout. The quality of the clinical supervision team relationships in the practical application of DBT within community mental health clinics is an area still to be addressed by empirical studies.
1.2.5 Family processes

In an attempt to address the contextual factors that maintain maladaptive behaviours in adolescents, Miller, Glinski, Woodberry, Mitchell, and Indik (2002) included a family member within their DBT programme. Furthermore Woodberry, Miller, Glinski, Indik, and Mitchell (2002), in presenting their argument for the integration of DBT within a family systems model, emphasised the critical role played by the family in the maintenance of self-harm and suicide behaviours, particularly with regards to parental invalidation of the adolescent experience. Thus far, no empirical study of the impact of DBT on the quality of family relationships has been conducted.

1.2.6 Initial aims of the project

The foregoing raised five specific questions to be answered. First, was DBT an effective and practically useful treatment for adolescents presenting at community mental health clinics with self-harm and suicidal behaviours? Second, would DBT act to ameliorate emotional dysregulation and trauma symptomatology? Third, if DBT were shown to be effective, would improvements be maintained beyond the intervention period? Fourth, if the client-therapist relationship is pivotal to successful intervention, then what are the qualitative aspects of the therapeutic relationship that contribute to engagement and change? Fifth, given that these adolescents develop within problematic family environments, what was the nature of family processes that underpin and maintain presenting symptoms, and, are they changed by a DBT intervention?

In response to these questions the initial project had the following aims:

- Treatment Aim

To reduce self-harming behaviours, suicidal ideation/attempts, hospital admissions and emotional dysregulation of adolescents participating in the study.
• **Research Aims**

i) To test an adapted measure of emotional regulation.

ii) To evaluate the effectiveness of the DBT programme on several outcome measures related to hospital admissions, psychosocial functioning and core theoretical aspects of BPD.

iii) To investigate the effectiveness of a DBT intervention over time.

iv) To examine the client-therapist relationship as it related to patient retention and maintenance of gains.

v) To explore the reported quality of family relationships for adolescents and parents participating in the DBT program.

### 1.2.7 Expected contribution to scholarly knowledge

This thesis was expected to make the following contributions to scholarly knowledge:

- To provide a broader framework and contextually more valid way of conceptualising adolescents with an emerging borderline personality by linking maladaptive behaviours to measures of childhood trauma and emotion dysregulation.

- To establish the effectiveness and utility of using the DBT model in treating adolescents presenting with emerging borderline features within a community mental health setting.

- To develop a measure of emotion dysregulation suitable for use within an adolescent clinical population to assist in diagnosis and treatment planning.

- To provide insight into the nature of the therapeutic relationship established as part of the DBT approach.
• To explore the importance of the relationships within the supervision team when applying DBT in community mental health settings with adolescents.

• To provide insight into the family processes and parent-child relationships of emotionally dysregulated adolescents presenting with self-harm and/or suicidal behaviours.

1.2.8 Current thesis: Final aims and summary outline of chapters

The foregoing sets out the initial aims and expected contributions to scholarly knowledge that were envisaged at the commencement of this thesis. However, my experience in attempting to address all the ‘hoped-for’ aims and contributions to scholarly knowledge outlined above revealed some unexpected difficulties and many concessions had to be made along the way.

As a clinician and researcher, trained in the scientist-practitioner model, I found the development of the initial intentions of this research project exciting. However, putting projects such as this into real-world settings proved to be challenging, with a very steep learning curve involved. Despite this, the personal struggles and challenges presented by this project formed the major part of my learning, and have contributed greatly to my own growth as a clinician and researcher, privileged to be working with children, adolescents and families in one of the most socio-economically deprived areas of Perth, Western Australia.

My research journey is set out within this thesis and is divided into two parts: **Part A** relates to the construct of emotion regulation, with the major focus being a presentation of the four studies designed to test the psychometric properties of the Modified Affective Control Scale for Adolescents (MACS-A). This measure was
developed as a part of the current research project, specifically to test the outcomes of Part B of this thesis. As such, Part B presents the ‘Life Surfing’ programme. This programme was based on the DBT programme described by Miller et al. (1997) for treating adolescents who experience difficulties in regulating their strongly felt emotions, and who engage in self-harm and related suicidal thoughts/behaviours.

In Chapter 2, the constructs of emotion and emotion regulation are reviewed using a developmental lens, highlighting the impact of diverse and disparate definitions of these constructs on the evolution of research findings (see Special Issue of Child Development, Volume 75 for an extensive review), particularly in relation to the way that these constructs are measured. As such, the value of taking a functionalist theoretical position that acknowledges contextual factors is recognised. From this foundation, early developmental factors that influence the way in which emotion regulation develops are explored, illuminating the impact of the early infant-caregiver attachment relationship and traumatic experiences on the developing sense of self and capacity for adaptive self-regulation. The critical period of adolescence is specifically examined as the time in which self-harm and suicidality begin to reveal themselves in adolescents whose psychological integrity has been compromised, and who are vulnerable to the perceived threats of strongly felt emotions.

Chapter 3 provides an analysis of the measurement of emotion regulation during the adolescent period with a specific focus on self-report measures. It was concluded that current measures of adolescent emotion regulation remain limited, with further research needed to provide a psychometrically sound measure of emotion regulation in adolescents experiencing self-harm and suicidality, the subject of Chapter 4.
Chapter 4 presents the four studies used to assess the psychometric properties of the MACS-A, developed as a measure of treatment outcome for the current thesis. Specifically, the MACS-A’s internal consistency, ability to discriminate between clinical and non-clinical groups of adolescents, factor structure and temporal stability were evaluated.

Chapters 5 and 6 form Part B of this thesis with Chapter 5 being an expanded description of the DBT-A (Dialectical Behaviour Therapy for Adolescents) intervention, Life Surfing, developed for treating self-harming and suicidal adolescents. Chapter 6 presents the published study by Geddes, Dziurawiec, and Lee (2013) that piloted the Life Surfing intervention with suicidal adolescents in a community-based mental health setting.

Chapter 7 presents a general discussion, drawing together Parts A and B of this thesis, with clinical implications and specific recommendations for future research directions.
Part A

Developing a Measure of Adolescent Emotion Regulation
Chapter 2
A Review of Emotion and its Regulation: A Developmental Perspective

2.1 Conceptual and theoretical issues

Definitional ambiguity is the plague of emotion and emotion regulation literatures. Thus, distinguishing emotion regulation from dysregulation has been argued to be as difficult as trying to delineate what is ‘normal’ from what is ‘abnormal’ (Kring & Werner, 2004). Emotion and its regulation have been reported in the literature as spanning a number of dimensions including physiological, behavioural, cognitive, motivational and biological (Halle, 2003; Shipman et al., 2004). This diversity has lead to considerable differences in the way that these concepts have been operationalised within empirical studies.

The diversity of operational definitions holds important implications for the way in which research related to the regulation of emotions is communicated, and has an implicit link with measurement issues. For these reasons, some time will be spent defining what is meant by emotion dysregulation within the current context and how its operationalisation within this thesis relates specifically to developmental issues associated with self-harm and suicidal behaviours during adolescence, the focus of the current thesis. This thesis takes a developmental perspective in coming to an understanding of what is meant by the concept of emotion regulation.

Despite theoretical and conceptual differences with regards to emotion, researchers generally agree that physiological responses, subjective experiences, and observable behaviours interact in a complex fashion to form the basis of what we term
emotions (Frijda, 1999). As Halle (2003) points out, emotions undoubtedly are biological in origin, but it is only through social interaction that they become apparent and gain meaning. Consensus on what is meant by the term emotion regulation, however, is less clear (Kring & Werner, 2004).

2.2 Developmental origins of emotional regulation: How do children learn to manage their strong emotions?

Emotional development occurs within the context of relationships whereby the child, in interacting with significant caregivers, learns how to regulate or manage his/her emotions (Halle, 2003; Shipman et al., 2004). In their review of the development of emotion regulation, Cicchetti, Ganiban, and Barnett (1991, p. 15) referred to the concept of ‘emotion regulatory systems,’ which, they argued, were essential to maintain a “tolerable but flexible range of affective expression necessary for adaptive functioning across the life span.” Their conceptualisation of emotion regulation, like that of Shipman et al.’s (2003) analysis of emotions, emphasised both intrapersonal and interpersonal aspects. That is, emotion regulation is essential to goal attainment but needs to be finely tuned to match external and internal needs. The notion of a tolerable range of emotion is an important one, because it could be argued that this is largely a product of individual differences, intimately linked to one’s developmental history.

Based on studies of high risk children, Cicchetti et al. (1991) proposed a theory of development based on “transactions between people and their environment” (p16), arguing these transactions shape development. They provided a four-stage theory of the development of emotion regulation, which stresses the interplay between environmental factors (particularly caregivers), developing neurological systems and cognitive growth in the acquisition of emotional self-regulation. Their model was partly based on
integrating earlier works by others (e.g., Ainsworth, Blehar, Waters, & Wall, 1978; Bowlby, 1969/1982; Derryberry & Rothbart, 1988; Greenough, Black, & Wallace, 1987; Sroufe, 1979):

2.2.1 Stage 1: Homeostatic regulation

The first three months of life are argued to be centred on the attainment of “physiological homeostasis,” described as “a dynamic process through which individuals achieve internal consistency and stability” (Cicchetti et al., 1991, p. 18). In so doing, a state of internal equilibrium is reached. When an infant becomes uncomfortable or overly aroused, tension is generated, and the infant is motivated to communicate internal distress to caregivers by way of expressive means, e.g., crying. Of note here, is the idea that the degree of sensitivity of the caregiver to the infant during this time is fundamental to the development of a common language system (affective communication) between infant and caregiver.

Emotion self-regulation begins to crystallize during the first three months of life, as the infant becomes increasingly self-sufficient in his/her ability to establish a homeostatic balance. Early reciprocal interactions and, by extension, caregivers themselves are argued to influence the development of neurological networks within the brain, as part of this ‘open homeostatic system’. It is through the provision of stable routines and responsive caregiving that an infant’s sense of regulation over internal affective states becomes possible.

2.2.2 Stage 2: Differentiation of affect and management of cognitive and physiological tension

From the age of four to nine months, attention shifts from self to others, as the infant becomes increasingly interactive and sensitive to the dynamics of social exchanges. Emotional expression becomes more finely tuned, as behaviour becomes
more regulated and adaptive to caregiver responses. During this time, the meeting of internal self-related physiological needs blends with the evaluation of environmental contingencies, leading to the regulation of affective expression. Negotiation between self and other is a critical first step in an ongoing process of affective differentiation, assisted through maturation of the neurological system and cognitive growth.

The caretaking environment and socialization are the contextual factors within which children must adapt. Sensitive and responsive parenting is critical to the acquisition of stress tolerance and coping abilities during this period of development. Indeed, whether or not an infant feels safe and secure is largely reflective of the caretakers’ capacity to attenuate affective needs as the infant’s awareness of the outside world increases.

### 2.2.3 Stage 3: The development of a secure attachment

From nine to 12 months of age, the infant integrates previously acquired interactional patterns and expectations to form an “affective relationship” (Cicchetti et al., 1991, p. 27) with his/her caregiver. Affect, cognition and behaviour become entwined with the physical and emotional availability of the major caregiver, laying the groundwork for the nature and quality of the attachment formed. Differences in attachment quality and patterning are argued to mirror earlier stages of emotion regulation development, with more emotional synchrony predictive of a more secure relationship.

Cicchetti et al. (1991), using an information processing model, argued that working models or representations of the caregiver, gained during the earlier stages of homeostatic regulation and affect differentiation, become internalised. Because the
securely attached infant has internalised a representation of their caregiver as being responsive during times of stress, he/she is able to express negative feelings directly, knowing they will be comforted. The securely attached infant experiences manageable levels of distress and increased positive exchanges, and thus learns to associate distress with an expectation of comfort. Thus, regulation of emotion becomes a familiar way of being for securely attached infants. However, for the insecurely attached infant, distress is associated with a lack of comfort and dysregulation becomes the norm.

2.2.4 Stage 4: The development of the self system: Self-awareness and self-other differentiation

As children move from the sensorimotor to the representational stage of development, around the age of 18 to 36 months, their sense of self as an autonomous agent increases. Simultaneously, as the child becomes more separate, a reorganisation of the strategies used to regulate emotions occurs, with children becoming increasingly more self-regulated. During this stage children also become more adept at labelling emotions, intentions and cognitions of self and others.

In line with increasing symbolic thought, children are able to moderate their distress through symbolic representations of their caregiver. These growing symbolic capacities are accompanied by the development of working models of the self, consisting of both cognitive and affective components, which Cicchetti et al. (1991) argue, must be regulated in order for a child to function adaptively. This is an important point, as it suggests that emotion regulation is a necessary prerequisite of emotional adaptation generally.

Despite increasing psychological separateness during this time, caregiver accessibility and responsiveness remain critical elements of a child’s successful
acquisition of emotional self-regulatory skills. Children who have their emotional needs met in a timely and responsive manner are able to build working models of the self as acceptable and lovable. Thus, there is a close relationship between quality of the attachment relationship, sense of self, and children’s ability to self-regulate their emotions. Cicchetti et al.’s (1991) model suggests that the quality of the attachment relationship, underpinned by caregiver-child synchronicity, is tied to developing emotional and cognitive competence and sense of self. These, in turn, are intimately linked aspects of a developmental pathway, leading to adaptive self-regulation of emotion.

Infants who have failed to learn that distress is modifiable (Cole, Michel, & Teti, 1994), by extension also learn that they are inadequate when confronted with feelings of distress; their sense of self is challenged. Unable to regulate their distress, they are also unable to adapt to ever changing environmental demands and regulation of emotion is likely to become less viable and more chaotic. Therefore, children who have failed to achieve the basics of emotion regulation during the early months of life can be said to be dysregulated, in the sense that they are then unable to respond to their environment in a way that is healthy and functional and that promotes optimal developmental trajectories. As Cole et al. (1994) asserted “Context provides the frame of reference from which dysregulation is determined. Specifically, dysregulation implies that emotion regulation patterns are interfering with current functioning or jeopardising development” (p 85).

So in summary, our earliest beginnings, particularly, negative events that occur in the first three years of life are argued to shape a developmental pathway towards maladaptive emotion regulation. Given the overarching objective of the current thesis
was to evaluate the effectiveness of a DBT programme in treating the outcomes of
dysregulated affect, specifically self-harm and suicidal ideation in adolescents, the focus
of the literature to be reviewed in the next section will be in relation to self-harm and
suicidal ideation during the adolescent period. More specifically, a developmental
psychopathology framework will be used, that considers both normative development
and its deviations (Shields & Cicchetti, 1997), to look at the factors underpinning self-
harm and related suicidal behaviours that have a common link with dysregulated
emotion.

2.3 Emotion Dysregulation: Childhood contexts, psychopathology and disordered selves

2.3.1 Adolescence and developmental psychopathology

A developmental psychopathology framework views maladaptive behaviour as
the product of “developmental tasks, processes and sequences” (Achenbach, 1992, p.
629) and is argued to provide a fuller understanding of the pathways that lead to both
developmental competence and psychopathology (Shields & Cicchetti, 1997).
Developmental changes that occur from birth to adulthood are dramatic, with far
reaching effects on the course of one’s later life, involving a complex interplay between
cognitive, physical, social and emotional factors. Achenbach (1992) made the point that
approaches used to study or define childhood disorders have traditionally been based on
norms and standards typically associated with adult disorders. A lack of recognition of
the rapid changes that occur from infancy, through childhood and into adolescence,
have tended to create biased perceptions of the way in which child psychopathology is
viewed and diagnosed. The diagnosing of personality disorders in adolescents is a case
in point that is pertinent to the current thesis, whereby adult diagnostic criteria and
terminology are used to identify both children and adolescents presenting with a similar
collection of symptoms, as being indicative of an emerging borderline personality (Bondurant et al., 2004).

The adolescent period itself is considered by developmental psychologists to represent a critical stage of development, as the child must negotiate the biological, cognitive and socio-emotional changes occurring at this time (Cicchetti & Toth, 1996; Heaven, 1994). Generally, theorists agree that dealing with increasing autonomy and developing a sense of identity, including a sexual identity, hold particular developmental significance (Jankowski, 2013). The notion of identity has long been considered to be a part of the developing self-concept involving exploration of the self (Heaven, 1994) and defined in terms of an awareness of the self as a continuing identity, separate from others (Moshman, 2009). The idea of acquiring a sense of identity or ego development was first postulated by Erikson (1950, 1968) who considered it to be a critical task of adolescence during the fifth stage of development, “Identity versus Diffusion.” According to Erikson’s stage theory, identity is acquired through a series of crises, with successful resolution of one stage allowing the individual to move on to the next level of development. Some children, who have failed to successfully negotiate previous stages of development, are vulnerable to increased difficulties during the adolescent period. Therefore, it becomes important to look at those factors that have impinged upon development in the years leading up to adolescence, and in the case of the current thesis, those factors that have interfered with functional emotion regulation. Given the tendency for many mental health professionals and researchers (e.g., Bondurant et al., 2004; Chanen, McCutcheon, Jovev, Jackson, & McGorry, 2007; Paris, 2000) to align BPD criteria, such as self-harm, with the term ‘emerging personality disorder,’ it is imperative that contextual factors are acknowledged in the aetiology of self-harm behaviours.
2.3.2 Emotion dysregulation, self-harm and suicidal ideation

Increasing attention is being given to emotion dysregulation (affective instability) as a significant indicator of most forms of psychopathology in children and adolescents (Dwivedi, 2004; Gross, 1998; Keenan, 2000; Kobak & Ferenz-Gillies, 1995; McLaughlin, Hatzenbuehler, Mennin, & Nolen-Hoeksema, 2011), with strong associations being shown with both internalising and externalising behaviour and problems (Shipman et al., 2004). One of the most concerning problems associated with difficulties in regulating strong emotions is deliberate self-harm (Gratz & Roemer, 2004; Yates, 2004), which is reportedly rising at a rapid rate both during childhood and adolescence (Fortune & Hawton, 2007; Hawton, Bergen, Kapur, et al., 2012; Hawton, Harriss, Simkin, Bale, & Bond, 2004; Kobak & Ferenz-Gillies, 1995) and particularly among young adolescent girls (Fortune & Hawton, 2005; Madge et al., 2011). Self-harm has also been found to correlate with completed suicide in young males (Bowen & John, 2001; J. Cooper et al., 2005).

Self-harm and associated behavioural difficulties during adolescence are difficult to manage, presenting overwhelming problems within school settings (Best, 2006) and placing considerable demands on clinical services (Meekings & O'Brien, 2004). The significance of this problem is borne out in current statistics from local community mental health services. For instance, a review of referral data from the South Metropolitan Child and Adolescent Mental Health Service (SMCAMHS), conducted by the current author from January to June 2005, revealed self-harming adolescent females to be the most common reason for referral to the two CAMHS clinics of interest to the current study. This population also has co-morbid use of drugs and alcohol, eating disorders, PTSD, high-risk sexual activity, aggression, and extreme
relationship difficulties (Bondurant et al., 2004; Bradley, Conklin, & Westen, 2005; Harman, 2004). Yet, despite knowledge of the important role played by emotion dysregulation in overall mental health functioning, we remain largely uninformed about the role that it plays in specific clinical disorders (Kendall & Ollendick, 2004).

One exception to this is the work done by (Linehan, 1993a, 1993b) who has developed a significant body of work related to the development and treatment of BPD in adults. In the presentation of her biosocial model, Linehan argued that dysregulated emotion underpins the cognitive, behavioural, interpersonal and self-dysregulation symptomatic of BPD. Other researchers interested in the developmental aspects of BPD in adults have also highlighted the centrality of emotional dysregulation (Paris, 2003; Putnam & Silk, 2005). Linehan (1993a) further argued that the self-harm and suicidal behaviours indicative of this population are maladaptive attempts to reduce or avoid extreme emotional pain and thus serve an emotion regulatory function. This argument has been supported in Australian research conducted by Murray, Warm and Fox (2005) who found that when adolescents ‘self-injure,’ usually in the form of cutting their arms and legs, they report temporary reductions in anxiety, confusion and depression.

Self-harm has a long history dating back to at least the time of ancient Greece, as exemplified by the following quote from Herodotus, a Greek historian, about a Spartan leader who was thrown into the stocks (Favaza, 2005). “And as he was lying there, fast bound, he noticed that all the guards had left him, except one, and he asked the man, who was his serf, to lend him his knife. As soon as the knife was in his hands, he began to mutilate himself, beginning on his shins” (Favaza, 2005).

Individual’s, who do self-harm, may be punished for this method of emotion regulation. Collins (1996) reported, “The self-harmer is frequently regarded as attention
seeking, manipulative, masochistic or even perverse” (p. 464). Collins argued that these attitudes lead to a re-traumatizing of the person with further exacerbation of the underlying difficulty. Recent qualitative research by Brown and Kimball (2013) supported this view, with the majority of self-harming individuals reporting feeling misunderstood by medical and mental health professionals, leading to increases in subjective distress and self-harm.

Negative labelling of adolescents who self-harm is an important issue given its treatment implications. If met with negative and invalidating attitudes from medical and mental health workers, it is unlikely that young people will acknowledge self-harm and receive the appropriate treatment. It is well documented that individuals who self-harm will often hide their scars from significant others due to a sense of shame and guilt (Long, Manktelow, & Tracey, 2013) and, in particular, children and adolescents are commonly labelled as attention-seeking due to these behaviours (Warm, Murray, & Fox, 2003). Hence, it is not surprising that there appears to be a “substantial under-estimation” of self-harm in young people (Hurry, 2000, p. 31). Invalidation by significant others is, in fact, a central component of a DBT biosocial model in the aetiology of BPD (Linehan, 1993a).

2.3.2.1 Conceptual and definitional issues

The notion of what constitutes self-harm, however, varies depending on the perspective or theoretical orientation of the researcher, which means that self-harm, like its counterpart emotion regulation, suffers from definitional and conceptual ambiguity. Self-harm has been referred to in the literature using various terminologies, most commonly; self-injury or self-harm (e.g., Murray, Warm, & Fox, 2005; Nixon, McLagan, Landell, Carter, & Deshaw, 2004), deliberate self-harm (DSH) (e.g., Best, 2006; Chapman, Gratz, & Brown, 2006; J. Cooper et al., 2005; Fortune & Hawton,
2005) and non-suicidal self-injury (NSSI) or non-suicidal self-harm (NSSH) (e.g., Laye-Gindhu & Schonert-Reichl, 2005; Perez, Venta, Garnaat, & Sharp, 2012; Voon, Hasking, & Martin, 2013). Other terms used in the literature include self-cutting and self-mutilation. In the past, DSH has also been linked with the term parasuicidal behaviour (Katz, Gunasekara, & Miller, 2002; Linehan et al., 1991) and, more recently, has been defined as suicidal phenomena (Evans, Hawton, & Rodham, 2004).

Most researchers, however, use definitions of self-harm that make reference to the intentional self-destruction of tissue, with some researchers referring to the stereotypic nature of self-harm, highlighting the repetitive and fixed patterning of behavioural expression, often seen in people with mental retardation, e.g., head banging (Favazza, 1992). Favazza, a prolific writer in this area, also included “skin-cutting and burning, interference with wound healing, self-punching, and extensive scratching”, as repetitive and habitual self-mutilation behaviours (p. 60). The habitual nature of self-harm has also been referred to as a “behavioural addiction” (Brown & Kimball, 2013) linked to an increase in opioid production following self-harm and leading to dependency (Sandman & Hetrick, 1995). Some other researchers include self-poisoning as a form of self-harm, defining self-harm as “intentional self-poisoning or self-injury, with or without suicidal intent” (Hawton, Bergen, Waters, et al., 2012), while others include attempted hanging (Skegg, 2005). Given the interdependence between conceptual definitions and their operationalisation, this is an area that needs attention with regards to what self-harm is or is not.

When adolescents themselves were asked to define self-harm, Laye-Gindhu and Schonert-Reichl (2005) found that their self-reports mirrored previous research findings, and included behaviours such as cutting, hitting, biting, bone breaking, and
recklessness. In addition, eating-disordered behaviours and pill-abuse were also perceived by adolescent girls to be a form of self-harm. In general the most commonly cited definition of self-harm comes from Gratz (2003, p. 192) “the deliberate, direct destruction or alteration of body tissue, without conscious suicidal intent but resulting in injury severe enough for tissue damage to occur”. Similarly, in their book outlining Dialectical Behaviour Therapy with suicidal adolescents, Miller, Rathus, and Linehan (2007, p. 8) clearly differentiate between suicide attempts and “non-suicidal self-injurious behaviour” (NSSI), defining the latter as “intentionally injuring oneself in a manner that often results in damage to body tissue, but without conscious suicidal intent”.

2.3.2.2 Self-harm and suicide: A clinical perspective

There are many philosophical and pragmatic arguments in the literature regarding the deliberateness of self-harm and whether or not suicide is the ultimate goal. These debates are important, as they raise issues pertinent to intent, and to the basic psychological functioning of young people participating in acts of self-harm. However, whether or not an adolescent intends to suicide or not may be peripheral to the fact that research indicates that acts of self-harm are a significant risk factor for completed suicide (Bowen & John, 2001; J. Cooper et al., 2005; Hawton, Zahl, & Weatherall, 2003; Owens, Horrocks, & House, 2002). For example, Laye-Gindhu and Schonert-Reichl (2005) found that 25% of self-harming adolescents drawn from the community reported a previous suicide attempt, with the majority of all self-harming adolescents reporting suicidal ideation. Certainly, debates over intent are important from a research perspective, if any clarity is to be gleaned from research findings. However, clinically, caution needs to be exercised when introducing terms such as non-suicidal self-injury, given the potential outcomes of these acts, together with the aforementioned tendency
for mental health workers to invalidate the adolescent experience of self-harm. Based on the literature, it would appear that self-harm and suicidality, do commonly co-occur.

### 2.3.2.3 Developmental issues

Research has identified early adolescence as the typical time period for the emergence of self-harm and suicidal behaviours (Favazza, 1998; Miller et al., 2007). In line with this, personal observations by the current author over a nine-year period of working in a CAMHS setting indicate that the typical age for a first presentation of self-harm is approximately 14 years. However, research from other countries indicates that a substantial number of children under the age of 14 years have also been found to present with self-harm behaviours.

In a recent epidemiological study, Hawton, Bergen, Waters, et al. (2012) examined data collected from six hospitals and three centres in England, spanning the years 2000 to 2007 (N = 5,205, 75% female) and found that 17.8% of the total sample (N = 929) were children aged between 10 and 14 years. Only four individuals were aged below 10 years. Furthermore, self-poisoning with paracetamol was the most common form of self-harm, followed by cutting. In a study conducted in India, investigating self-harm in children, Krishnakumar, Geeta, and Riyaz (2011) found children presenting to a paediatric clinic with self-harm were aged between 11 and 13 years, with the youngest being aged six years. The commonest form of self-harm in these children was self-poisoning with rat poison.

Research also suggests that the earlier the onset of self-harm behaviours the more pernicious the outcomes. Using retrospective reports from 290 adults diagnosed with BPD, Zanarini et al. (2006) found that 91% of all participants reported histories of self-harm, with 32.8% beginning to self-harm in childhood (12 years of age and
younger), 30.2% commencing between the ages of 13 and 17 years and 37% beginning from age 18 years and upwards. Furthermore, findings from this study indicated that those individuals who commenced self-harming in childhood, compared with those commencing at other periods, had particularly protracted periods of self-harm, with two-thirds self-harming over a 15-year period and longer. These individuals also used more varied means (four or more) of self-harming.

Factors associated with repeated acts of self-harm, which bear upon the issue of risk, are another important area to consider developmentally. Although widely researched in adults, they have received little attention in childhood and adolescence. Chitsabesan, Harrington, Harrington, and Tomenson (2003) investigated the variables that were likely to predict repeated self-harm in children aged 16 years within the UK. Data was collected over a six-month period. Factors that had strong associations with repeated acts of self-harm included depression, poor parental mental health and family dysfunction. Significantly, poor parental mental health was found to be the most “robust” predictor of repeated self-harm in these children.

While self-harm is commonly associated with clinical populations, with up to 40% of adolescent inpatients being found to self-harm (Muehlenkamp, 2005), evidence is beginning to emerge that self-harm is also present in non-clinical populations and is a growing area of concern (Hallab & Covic, 2010). In this regard, it has been argued that research into adolescent self-harm has been dominated by the examination of psychiatric samples as opposed to non-clinical samples of adolescents, thus limiting the generalisability of findings (Laye-Gindhu & Schonert-Reichl, 2005).
The emotion regulatory function of self-harm has been extensively examined in the literature, however, the ways in which emotion regulation and self-harm are conceptualised and measured are diverse, casting a shadow over research findings. For instance, in a study by Mikolajczak, Petrides, and Hurry (2009) assessing the protective role of trait emotional intelligence on self-harm behaviours, emotion regulation was measured using The Coping Styles Questionnaire, designed to assess how an individual reacts to stress. Self-harm was assessed using a combination of a questionnaire and interviews. Sim, Adrian, Zeman, Cassano, and Friedrich (2009) used a self-developed coping checklist in conjunction with The Emotional Expression Questionnaire for Children, as a measure of adolescent emotion regulation. Self-harm was assessed using an interview format. In addition, many instruments used in studies of emotion regulation and self-harm have not been evaluated using clinical groups, and many have also not been validated for use with adolescents. These crucial issues of conceptual clarity and measurement equivalence will be explored further in Chapter 3 of this thesis.

2.3.3 Emotion dysregulation and attachment

The developmental model of emotion regulation acquisition put forward by Cicchetti et al. (1991) alerts us to the fact that the first three years of life are pivotal to the way in which children learn to regulate their emotions, specifically identifying the criticalness of the nature and function of the infant-caregiver attachment relationship following birth. Accordingly, self-harm may be a learned pattern of self-regulation of emotions anchored to the quality of our earliest relationships. Perhaps more compelling is the notion generated by this model that, for some children, being in a state of dysregulated emotion is a normal part of everyday life, and the way that life is negotiated, including both intrapersonal and interpersonal aspects. From this
perspective, attachment can be seen as a way of self-regulating emotional states, aroused in the context of relationships.

The following definition of attachment acknowledges the profoundly dynamic and reciprocal nature of the early attachment relationship, argued by many to extend into later adult relationships (e.g., Feeney, 1999; Hazan & Zeifman, 1999):

Attachment is a deep long-lasting emotional connection established between a child and a caregiver in the first several years of life. It profoundly influences every component of the human condition - mind, body, emotions, relationships and values. This is not something that parents do to their children rather, it is something that children and parents create together in an ongoing reciprocal relationship. (Levy, 2005, p. 960)

Attachment relationships are classified as either secure or insecure (Ainsworth, 1979; Bowlby, 1969/1982), with those individuals who have developed an insecure (unsafe) attachment being vulnerable to both physical and mental health difficulties. A secure attachment is one in which the relationship is experienced as “valuable, reliable and safe” (Rees, 2008, p. 220). When a child is not valued or is met with unstable unreliable responses, or fear-inducing responses, insecure attachments are formed. These can lead to profound emotional, social and behavioural difficulties that may extend through adolescence and into adulthood.

Although it has been acknowledged that other factors such as genetics and temperament also play a part in patterns of relating (e.g., Vaughn & Bost, 1999), overall, attachment is considered the major contributor to the capacity for healthy interpersonal relationships, adaptation to inter-personal stresses (Hazan & Zeifman,
Ainsworth and colleagues (1978) developed a system of categorizing the attachments of infant-mother dyads, based on behavioural observations during separations and reunions, when an infant was exposed to stress during a “strange-situation”. Insecure attachment styles were defined as anxious, ambivalent or avoidant. An anxious attachment is one in which, although the child is valued, the relationship is experienced as unreliable. This may be due to factors such as substance abuse, maternal depression, stress, anxiety or fatigue. The finely attuned reciprocity (attunement) needed to establish safety in the relationship is marked by anxiety due to a lack of reliable responding. An ambivalent attachment develops when the relationship consists of times of attunement interleaved with times of aggressive parenting and, although the child learns to value closeness, at the same time closeness may be feared. This leads to a confusing pattern of relating, where closeness is both sought and spontaneously rejected. An avoidant attachment is one in which there is a pattern of consistent non-attunement, often through parental aggression, wherein the child learns to fear closeness and intimacy.

A further type of attachment, disorganized/disoriented, a term first coined by Main and Solomon (1986), in attempting to explain the behaviours of infants who did not fall into the other three categories, is seen to be the most damaging, being associated with extensive abuse and/or extreme neglect, whereby the caregiver is simultaneously the source of comfort and of terror (Lyons-Ruth & Jacobvitz, 1999). The child with a
disorganised attachment style is left with a confused sense of self, having little understanding of their own emotional world or that of others (Rees, 2008), along with impaired development of emotion regulation competency (Farber, 2008). Describing the profound nature of this attachment style, Lyons-Ruth and Jacobvitz (1999) explained, “the infant experiences inherently contradictory tendencies to both flee from and approach the caregiver, resulting in fright without solution” (p. 520). The term fright without solution comes from the work of Main and Solomon (1986).

Disorganised attachments are well documented to be associated with psychopathological outcomes, including BPD (Achenbach, 1992; Agrawal, Gunderson, Holmes, & Lyons-Ruth, 2004; A. James et al., 1996; Paris, 2003). A disorganized attachment can best be seen through the lens of infant fear, creating anxiety and anxiety-related behaviours. The fear associated with this attachment can come either directly from the caregiver in the form of frightening behaviours, for example, physical or sexual abuse, or when parents themselves appear frightened of their own infants. Parental fright can be seen in the form of maternal “trance-like or dissociative states, sudden unusual vocal patterns, or sudden looming into the infant’s face” all of which are generally reflective of the mother’s own trauma-related history. Children with this type of attachment are predicted to have increased vulnerability to both internalising and externalising behavioural difficulties, aggression, controlling behaviours over caregivers, dissociation and psychopathology in adolescence (see Lyons-Ruth & Jacobvitz, 1999, pp. 549 - 550).

2.3.3.1 Attachment in adolescence

A major task of adolescence is to develop autonomy and separation from earlier relational ties; however, this is not always easy to achieve. Paradoxically, the letting go of relational bonds is best achieved when secure attachments have been
developed (M. L. Cooper et al., 1998; Kimball & Diddams, 2007). In a discussion of the emotion regulatory functions of adolescent attachments, Allen and Land (1999) pointed out that a pivotal function of parent-adolescent attachments, is to provide a secure base from which the adolescent is able to negotiate the wide range of emotions evoked by the separation-individuation process. Moreover, research suggests continuities between attachment styles in adolescence with other points in the lifespan. For instance, adolescent autonomy and capacity for relatedness has been predicted from infant attachment classifications (Allen & Hauser, 1996) with serious psychiatric disturbance in adolescence predictive of attachment insecurity in young adulthood (Allen, Hauser, & Borman-Spurrell, 1996).

A review of the literature revealed a dearth of empirical research examining attachment and emotion regulation in adolescent populations. However, in a study by M. L. Cooper et al. (1998), exploring the connection between attachment styles, emotion regulation and adjustment in a large sample of adolescents aged between 13 and 19 years (N = 2,011) from New York (48% white and 44% black participants), the importance of investigating attachment, emotion regulation and psychosocial functioning during adolescence was revealed. Results indicated that adolescents with anxious attachments, compared to those with avoidant or secure attachments, were the least well adjusted, as shown by poorer self-concepts and high levels of symptomatology and risk behaviours. In contrast, although avoidant adolescents also had high levels of symptomatology and poor self-concepts they had similar levels of risk behaviours to securely attached adolescents. These findings indicate that the moderating or mediating effects of attachment in relation to adolescent emotion regulation, psychosocial functioning and risk for psychopathology warrant further investigation.


2.3.3.2 Attachment and self-harm

The role of attachment in relation to self-harm is also a much neglected area, with research being conducted almost exclusively on non-clinical populations (Hallab & Covic, 2010). In general, this research indicates insecure attachments to be a predictor of self-harm. For instance, Gratz, Conrad, and Roemer (2002) studied risk factors for self-harm in college students using a measure of parental attachment. Their findings demonstrated a significant predictive relationship between paternal insecure attachment, paternal emotional neglect, and self-injury in their children. In a study of self-harm, attachment and emotion regulation in a sample of university students, Kimball and Diddams (2007) found a direct relationship between anxious and avoidant attachment styles and self-harm. Furthermore, emotion regulation mediated this relationship, suggesting that these attachment styles may be a risk factor for emotional dysregulation as evidenced by self-harm. In another study of psychology undergraduate students, Hallab and Covic (2010) found stress to be a mediator of the relationship between self-harm and quality of attachment, suggesting that self-harm is used as a way of coping with increased emotional stress, and furthermore, that quality of attachment to parents is a vulnerability factor linked to stress management and self-harm.

There are various studies on self-harm that have examined factors associated with insecure attachment styles but have not directly looked at attachment. These associated factors include early loss of a parent or disrupted parental care (van der Kolk, Perry, & Herman, 1991) sexual, physical, and emotional abuse or neglect (Gratz, 2003; Low, Jones, MaCleod, Power, & Duggan, 2000; Tyler, Whitbeck, Hoyt, & Johnson, 2003), poor coping response such as avoidance (Haines & Williams, 2003), and difficulties with emotional regulation and expression (van der Kolk & Fisler, 1994; Zlotnick et al., 1996). More research in this area is needed to further our understanding.
of the specific role played by attachment in self-harm behaviours.

2.3.4 Emotion dysregulation and trauma

The literature reviewed above has implicated insecure attachment, particularly disorganised/disoriented attachment, as a vulnerability factor in the development of psychopathology. Underpinning this type of attachment is the concept of fear and fear-related responses, developed as part of the trauma received within the child-caregiver relationship. Early work by Gaensbauer, Mrazek, and Harmon (1981) showed that maltreated children display fear and related patterns of anger dyscontrol, labile emotions and flat or blunted affect. As well as this relational trauma, these children often present with complex trauma histories, having been exposed to, or been recipients of, other multiple traumas involving maltreatment and neglect (Lyons-Ruth & Jacobvitz, 1999), such as abandonment, physical assaults, sexual assaults, threats to body integrity, emotional abuse or the witnessing of violence and death (van der Kolk, 2005).

Children presenting with complex trauma are at increased risk of developing a number of psychiatric disorders, including PTSD, depression, self-harm behaviours, anxiety disorders, personality disorders and others (see Ford, 2005). Traumatized children often grow up in contexts where they have been exposed to domestic violence, child maltreatment, parental mental illness and substance abuse (Saxe, Ellis, Fogler, Hansen, & Sorkin, 2005). In presenting an information processing model for the treatment of children with complex trauma, Ford (2005) identified the negative impact of maltreatment on the capacity for ‘affect-regulation’. Furthermore, he explicated the neurological mechanisms within ‘mentalization’ (Fonagy, Gergely, Jurist, & Target, 2002), that is, the capacity to recognise that one’s own mental states and emotions are
distinct from those of others, as fundamental to the development of self-awareness and self-regulatory processes, inclusive of emotion regulation. Work by van der Kolk (2005) also acknowledged the impact of trauma on children, highlighting increased sensitivity to perceived threat, limited capacity to regulate emotions and emotional avoidance, as hallmarks of what he termed “Developmental Trauma Disorder”.

Kinniburgh, Blaustein, Spinazzola, and van der Kolk (2005) developed a comprehensive model for the treatment of traumatized children and youth that acknowledged the impact of trauma on attachment, self-regulation and emotional competency. Their “Attachment, Self-Regulation, and Competency” (ARC) framework recognised the contextual nature of these children’s presenting difficulties that needed to be addressed within treatment modalities. Specifically, traumatized children often have difficulty in expressing their emotions, presenting with either highly restricted affect or with highly labile emotions in response to real or perceived threat. Once activated, these children can remain highly aroused for extended periods of time, becoming reliant on maladaptive coping strategies, such as substance use or self-harm, to help modulate their emotions. As such, these children, once triggered by environmental stimuli, either real or perceived, exhibit an “extreme fear response” (Kinniburgh et al., 2005, p. 428).

2.3.4.1 The role of fear

The above-mentioned research suggests that fear plays an important role in the development of dysregulated emotional responses. Fear can be generated within the primary relationship between a child and his/her caregiver by way of direct fear-inducing behaviours, or through lack of availability and neglect. In both situations the infant or child is threatened by his/her own emotional responses that seem likely to overwhelm, and that are implicitly linked to survival. These emotional responses would
appear to be a fundamental component of the developing self. Once adolescence is reached, there is a concurrent need to individuate psychologically and develop a sense of self that is separate from that of the other. If the building blocks for this process are not fully developed, adolescence represents a significant period of crisis, whereby maladaptive behavioural responses are invoked as a way of managing the self.

Some research has found that fear can be managed through avoidance. A study by Olatunji, Moretz, and Zlomke (2010), involving a large sample of undergraduate students and using structural equation modelling, found that fear of losing control over one’s emotions mediated the relationship between cognitive avoidance and generalised anxiety symptoms. Likewise the experiential avoidance model put forward by Chapman (2006) proposes that self-harm is used to avoid intense unwanted emotional experiences linked to past trauma experiences. Other work by van der Kolk et al. (1996, p. 83) on PTSD suggests that individuals who have been exposed to childhood trauma report symptoms consistent with dissociation, somatization and affect dysregulation, described as “adaptations to trauma”. Furthermore, these individuals reported higher levels of these symptoms than those exposed to trauma as adults, again confirming the particularly damaging and long-term effects of early trauma.

Recognising the central role played by experiential avoidance in psychopathology related to abuse, Gratz, Bornovalova, Delany-Brumsey, Nick, and Lejuez (2007) explored the relationship between childhood abuse and experiential avoidance in an inpatient sample of drug and alcohol users. Results showed that individuals who had experienced moderate-severe sexual, physical, and emotional abuse showed a heightened degree of experiential avoidance and emotional non-acceptance, compared to those with no or low abuse histories. Similarly, in a study of fire-fighters
by Farnsworth and Sewell (2011), fear of emotion was shown to be the strongest predictor of PTSD and, in addition, played a mediating role in the capacity of these individuals to talk about their distress, with those more fearful of emotions showing greater distress and avoidance.

In his most recent work, van der Kolk (2014) highlighted the impact of fear on the emotional life of those who have experienced profound trauma in his statement, “Traumatized people are terrified to feel deeply. They are afraid to experience their emotions, because emotions lead to loss of control” (p335).

### 2.4 Summary and conclusions

There has been definitional and conceptual ambiguity around the constructs of emotion regulation and emotion dysregulation. This has impacted on the way in which they have been operationalised, creating some lack of clarity in research findings. Emotion regulation is a diverse concept and attempts to define it need to be guided by a sound theoretical position. In this chapter, emotion regulation was argued to assist the individual to adapting to a variety of environmental contingencies, thereby providing functionality across the life span. The quality of child-caregiver interactions during the first three years of life were argued to be critical to healthy emotion regulation development, providing the bedrock from which optimal developmental trajectories are determined.

Adolescence is a critical developmental period involving psychological separation, individuation and identity development. Successful negotiation of this period of life is dependent upon earlier stages of development and related contextual factors. Emotion dysregulation is linked to adolescent vulnerability and
psychopathology, particularly self-harm and suicidal behaviours. However, the literature suggests that self-harm can occur at much younger time periods, in latency-aged children, with far more damaging long-term outcomes. Self-harm has been reported throughout history, and continues to be associated with negative attitudes within the mental health field and beyond. Lack of compassionate responses to self-harm has a detrimental effect on treatment outcomes, and negative attitudes in general were argued to be a possible maintaining factor for continuing self-harm. Like the concept of emotion regulation, self-harm is poorly defined, casting a cloud over research findings. Philosophical and pragmatic arguments regarding the suicidal intent of self-harm were explored, with caution advocated regarding complacency when using the term non-suicidal self-harm in a clinical setting. There is a dearth of research pertaining to childhood and adolescent self-harm, however, parental mental health appears to be a salient predictor of both emotion dysregulation and self-harm, with evidence building that self-harm is also presenting in non-clinical populations of adolescents. Insecure child/caregiver attachments, particularly the disorganised/disoriented type, are related to significant emotion regulation difficulties and self-harm behaviours, being linked to profoundly traumatic childhood contexts. Children with complex trauma histories, through exposure to abuse and/or neglect, have a limited capacity to manage their strongly felt emotions, and associated thoughts and behaviours. These children are driven by fear-based responses, a lack of emotional awareness and understanding, and avoidance of emotion. For these children, self-harm is a way of bringing order to chaos, to take charge of feeling, to create feeling out of numbness, and to calm the self.

In the next chapter a review of the literature pertaining to the measurement of emotion regulation during adolescence will be provided, together with a rationale for
the need to develop a new measure of emotion regulation for adolescents who self-harm and experience related suicidal thoughts/behaviours.
Chapter 3
Measurement of Emotion Regulation during Adolescence

3.1 Overview

The conceptual ambiguity that plagues the emotion regulation literature is accompanied by a concurrent lack of empirically validated assessment tools. In a review of emotion regulation assessment in children, spanning from 1975 through to 2010, Adrian, Zeman, and Veits (2011) identified the following methods of measuring emotion regulation in children and adolescents:

- Self-report Questionnaires
- Self-report: Interviews and vignettes
- Other-report: Parent questionnaires
- Other-report: Parent interviews
- Other-report: Teacher, interviewer
- Observational methods

Of interest was their finding that 82.8% of published research on emotion regulation in children had occurred between 2000 and 2010, reflecting the consensus of other researchers (Bridges, Denham, & Ganiban, 2004; Cole, Martin, & Dennis, 2004; Eisenberg & Spinrad, 2004) that the development of this field of research has flourished only relatively recently. However, as Adrian et al. (2011) pointed out, progress in the assessment of emotion regulation has not kept pace with the amount of research conducted in the area. This has limited the quality of research produced and made the interpretation of mixed findings extremely difficult. With regard to adolescent
populations, self-report questionnaires have, overwhelmingly, been the method of choice when assessing emotion regulation (Adrian et al., 2011).

3.2 A review of self-report measures of emotion regulation

Historically there has been a remarkable absence of self-report measures that extend from childhood through adolescence and into adulthood (Wallbott & Scherer, 1989). The value of self-report questionnaires when evaluating child and adolescent emotional experience lies in their capacity to tap into less observable constructs, such as motivation, subjective feeling states and action tendencies (Wallbott & Scherer, 1989). However, self-report measures of emotional competence during childhood and adolescence have been few and inadequate, with the majority being normed exclusively on non-clinical populations (Gross, 1998; Zeman, Cassano, Perry-Parrish, & Stegall, 2006) thus compromising their validity when attempting to evaluate emotional functioning in more vulnerable groups experiencing significant emotional difficulties.

A review of extant literature revealed the following self-report measures of emotion regulation (in order of year publication) which have been developed for use with adolescents:

- Cognitive Emotion Regulation Questionnaire (CERQ) (Garnefski, Kraaij, & Spinhoven, 2001)
- Difficulties in Emotion Regulation Scale (DERS) (Gratz, 2004)
- Regulation of Emotions Questionnaire (REQ) (Phillips, 2007)
- Emotion Regulation Index for Children and Adolescents (ERICA) (MacDermott, Gullone, Allen, King, & Tonge, 2010).
• Emotion Regulation Questionnaire for Children and Adolescents (ERQ-CA) (Gullone & Taffe, 2012).

The following review examines the above-named self-report measures of emotion regulation with a particular focus on relevance to the current thesis. The goal of this review was to establish the current status of self-report measures purported to assess adolescent emotion regulation. Both strengths and weaknesses, as they relate to the current thesis, will be elucidated, specifically, the potential of these measures to reliably and validly assess treatment outcomes in adolescents presenting with acute and chronic psychopathologies, such as self-harm and suicidal ideation.

It is noteworthy that, in 2005, when the CAMHS DBT-A programme was being developed, there were no available measures of adolescent emotion regulation with which to evaluate the outcomes of the programme, which is the subject of Part B of this thesis, other than the CERQ developed by Garnefski et al. (2001), critiqued below. As acknowledged in the preceding review (Chapter 2), since that time, emotion regulation has begun to emerge as an important construct linked to adolescent psychopathology and several new measures have come into being.

The CERQ (Garnefski et al., 2001) is a self-report measure, developed in the Netherlands, that was designed to assess nine cognitive strategies argued to be associated with emotion regulation; self-blame, blaming others, acceptance, refocus on planning, positive refocusing, ruminations or focus on thought, positive reappraisal, putting into perspective, and catastrophising. Respondents answer the 36 items of the CERQ on a 5-point Likert scale, ranging from ‘almost always to almost never’, after reading the following instructions, “Everyone gets confronted with negative or
unpleasant events now and then and everyone responds to them in his or her own way.
By the following questions you are asked to indicate what you generally think, when
you experience negative or unpleasant events” (p. 1317).

Garnefski et al. (2001) validated the CERQ using a sample of 12 to 16 year old
(N = 547) students drawn from a single high school in the Netherlands. Exploratory
factor analysis supported the allocation of items to the scales, displaying “good” internal
consistency reliabilities (α = 0.66 - 0.92). Analysis revealed that coping strategies could
be further broken down into ‘more adaptive’ and ‘less adaptive’ coping strategies, with
less adaptive strategies associated with measures of depression and anxiety.

In their paper, Garnefski et al. (2001, p. 1313) argued that “the terms ‘cognitive
coping’ and ‘cognitive emotion regulation’ are used as interchangeable terms,” further
suggesting that coping and regulation can be considered as ways of managing
“emotionally arousing information.” The merging of these two terms, however, adds to
the aforementioned definitional and conceptual confusion surrounding the emotion
regulation construct. In essence, the CERQ is a measure of adolescents’ cognitive
coping strategies, with items focused on responses to specific stressful events, for
example, “I think I can learn something from this event” or “I think I can become a
stronger person as a result of what has happened” (Garnefski et al., p. 1319). The way
an adolescent thinks about or interprets stressful events upon reflection, particularly in
more vulnerable populations, is arguably theoretically, if not practically, distinct from
their ability to regulate or ‘be in control’ of their emotions when faced with
overwhelming subjective distress. Other authors (e.g., Cole et al., 1994) have
questioned the alignment of emotional control with regulation, asserting that emotional
dysregulation is regulation “operating in a dysfunctional manner” (p 80) and, as such, is
more than just a lack of control over one’s emotions. The CERQ also requires further
validation using a less select group of adolescents, together with an evaluation of its clinical utility.

The Difficulties in Emotion Regulation Questionnaire (DERS) (Gratz & Roemer, 2004) is a 36-item self-report questionnaire that was developed to assess clinically relevant difficulties in regulating emotions. Respondents are asked how often items apply to them on a 5-point Likert scale, ranging from ‘almost never’ to ‘almost always’. Psychometric properties of the DERS were assessed in a sample of 357 (female \(N = 260\), male \(N = 97\)) undergraduate psychology students, aged 18 to 55 years, from a broad range of socio-cultural backgrounds. The authors’ aim was to develop a measure of emotion regulation that would encompass a broader conceptualisation of emotion regulation than had been used in previous measures. Items chosen were based on established literature at the time, and reflected difficulties in four emotion regulation dimensions: awareness and understanding of emotions; acceptance of emotions; the ability to engage in goal-directed behaviour, and access to emotion regulation strategies perceived as effective. Factor analysis revealed six discrete dimensions of emotion regulation: lack of awareness of emotional responses, lack of clarity of emotional responses, non-acceptance of emotional responses, limited access to emotion regulation strategies perceived as effective, difficulties controlling impulses when experiencing negative emotions, and difficulties engaging in goal-directed behaviours when experiencing negative emotion.

In 2009, Weinberg and Klonsky, acknowledging the lack of a reliable and valid measure of emotion regulation for adolescents, validated the DERS using a community sample \((N = 428)\) of adolescents aged 13 to 17 years, drawn from a single high school in New York. Factor analytic results provided support for the original factor structure.
identified by Gratz and Roemer (2004), revealing six discrete factors that mapped well onto the original DERS and which accounted for 62.7% of the variance. In addition, the total scale was found to have high internal consistency (α = 0.93), with five sub-scales displaying adequate internal consistencies (α’s = 0.68 – 0.87), and one sub-scale, ‘Awareness,’ showing poor reliability (α = 0.38), although the authors described this as ‘modest.’ Construct validity was also demonstrated with significant correlations found between the DERS and measures of psychological difficulties; depression, suicidal ideation, anxiety, eating disorders and alcohol/drug abuse.

Importantly, in the context of the current thesis, the discriminative ability of the DERS has been questioned. Weinberg and Klonsky (2009) acknowledged a potential difficulty with regards to the discriminant validity of the sub-scales of the DERS. Specifically, they found that the sub-scales did not differentiate between internalising and externalising disorders, however, they suggested, it may well be that emotion regulation difficulties are seen in various disorders. The authors also identified the high inter-correlations among some of the sub-scales, (up to r = 0.68) as a further potential problem with regard to the scales’ capacity to discriminate between different groups.

The generalisability of the findings by Weinberg and Klonsky (2009) are argued to be limited due to their testing of a single, and in all probability, non-representative sample of adolescents drawn from one high school in New York. As pointed out by Raver (2004), in a review of the influence of sociocultural and socioeconomic contexts on the development of emotional self-regulation in children, factors such as poverty and cultural and ethnic marginalisation are complex, with diverse impacts on the way in which children learn to cope with “cumulative exposure to risk” (p 347). These outcomes might be an increased vulnerability, but might equally be, an increased
resilience. Regardless of the developmental outcome for each child, the fact remains that socioeconomic and socio-cultural contexts need to be accounted for when developing measures of emotion regulation, in order to establish measures that are “equivalent” (Raver, 2004, p. 347), that is, valid and reliable across diverse populations. Future research would benefit from undertaking further validation and comparison of the DERS using broader SES samples.

In a further validation of the DERS in adolescents, Neumann, van Lier, Gratz, and Koot (2010) conducted confirmatory factor analysis with the DERS in a sample of 870 adolescents, aged 11 to 17 years, drawn from a single high school in the Netherlands. Results indicated that the factor structure was equivalent to that found in adults in the study conducted by Gratz and Roemer (2004). Internal consistencies of the six factors were found to be satisfactory to high ($\alpha$’s = 0.72 – 0.87) and similar to those found by Gratz and Roemer. However, as the authors acknowledged, generalisability of the results was limited by the fact that adolescents were drawn from a single school. Furthermore, a review of the participants revealed that this school was classified as a “higher general secondary education” school, a type of school that represents higher levels of secondary education in the Netherlands (Neumann et al., 2010, p 140). This limitation compromises the study’s findings on the basis of a highly select sample with restricted socioeconomic and socio-cultural representation.

In the first study to investigate the clinical utility of the DERS, Perez et al. (2012) recognised the literature that draws together emotion regulation difficulties and risk of NSSI (e.g., Chapman et al., 2006; Cole et al., 2004; Kring & Werner, 2004), examined the factor structure of the DERS and tested its association with NSSI in a sample ($N = 218$) of adolescent inpatients aged between 12 and 17 years who had
admission for NSSI. Confirmatory factor analysis confirmed the original six-factor structure of the scale. However, only the “limited access to emotion regulation strategies” sub-scale was found to have a significant association with NSSI. This sub-scale is defined as a “belief that there is little that can be done to regulate emotions effectively once an individual is upset” (Gratz & Roemer, 2004, p. 47). Thus, this sub-scale of the DERS may be a useful indicator of vulnerability to NSSI during adolescence.

The Regulation of Emotions Questionnaire (REQ), was developed to ensure that both functional and dysfunctional emotion regulation could be assessed in the same tool (Phillips & Power, 2007). The researchers further classified these emotion regulation strategies into internal versus external. The 42 items used in the development of this questionnaire were focused on strategies used to regulate emotions and were generated by ‘10 experts’ in the field, for example, clinical psychologists, occupational therapists, child and adolescent psychiatrists. The resulting 32-item self-report questionnaire was administered to 225 young people from within the UK, aged 12 to 19 years, 53.1% of whom were female and 46.9% male. The response format consisted of a 5-point frequency scale, ranging from 1 (not at all) to 5 (always). Data was collected via a mail survey and the authors asserted that a broad range of SES groups were accessed; however, no information was provided with regard to the breakdown of SES groups actually surveyed.

Exploratory and confirmatory factor analysis conducted by Phillips and Power (2007) supported the researchers’ hypotheses with regards to a four-factor model of emotion regulation strategies: internal-functional, internal-dysfunctional, external-functional and external dysfunctional. The resulting scale consisted of 18 items, which
were reported by the authors to have acceptable internal consistency (α’s >0.7) with the exception of one sub-scale, ‘External-dysfunctional’ with an alpha level of 0.53. Construct validity was supported with expected relationships found between the sub-scales of the REQ and measures of adolescent emotional and behavioural problems, psychosomatic health problems and quality of life. It is noteworthy here to acknowledge that, whilst the DERS displayed poor discriminant ability between internalising and externalising disorders, the REQ did not exhibit the same difficulty, with the strongest relationships found between internal-dysfunctional emotion regulation and emotional symptoms, and between external-dysfunctional and conduct problems, providing further support for the validity of this measure.

The authors conceded the limitations of their study. First, adolescents were not consulted in the generation of items in the initial development of the scale. This may account for the significant reduction in items (32 to 18) following exploratory factor analysis, which may have impacted adversely on its psychometric properties. Second, exploratory and confirmatory factor analysis were conducted on the same sample of adolescents, compromising assertions made with regard to the scale’s theoretical structure and validity. Thus, further research is required to validate this measure for use with adolescents outside of the select sample that was used to develop the instrument. Its strength, however, lies in its potential capacity to differentiate between internalising and externalising difficulties and, therefore, it is clinically relevant.

Research by Nock et al. (2008) acknowledged the important, and yet much underexplored role of increased emotion reactivity in relation to emotion regulation difficulties and self-injury. In development of the Emotion Reactivity Scale (ERS), Nock et al. defined emotional reactivity in terms of emotional sensitivity, emotional
intensity and emotional persistence (i.e., difficulties in returning to baseline levels of arousal). They constructed a 21-item self-report questionnaire to measure emotional sensitivity using 87 young people, aged between 12 and 19 years (mean age 17 years). Participants consisted of a majority of females ($N = 68$) and were drawn from the local community and psychiatric clinics. Exploratory factor analysis elucidated three factors that summarised the data set, however, further analysis revealed these factors were highly correlated with each other. Therefore, a single factor of emotional reactivity was argued to provide the best explanation of the data, accounting for 43.4% of the total variance. The ERS was shown to have good internal consistency ($\alpha = 0.94$). Construct validity was demonstrated through convergent and divergent validity with behavioural inhibition/activation and temperament measures. Criterion validity was also established through strength of associations with specific types of psychopathology thoughts of self-injury, and self-injury.

Limitations of the validity and reliability of the study’s findings were acknowledged by the authors (Nock et al., 2008). In particular, the small ($N = 87$) and gender-biased sample (78% female) used for factor analysis was problematic and requires follow-up studies to be conducted using a larger and more gender-balanced range of participants. A further review of participants’ demographics also revealed that while the average age of participants was 17 years, the article does not state the number of participants engaging in self-injurious thoughts and behaviours, or how many had psychiatric diagnoses. Given the relatively small sample size and high mean age (17), it is argued that findings from this study have limited generalisability to younger-aged adolescents. Further to this, the authors reported link found in this study between psychopathology and self-injurious thoughts and behaviours, specifically, non-suicidal self-harm and suicidal ideation, needs further testing, identifying the proportion of
adolescents participating who are indeed reporting non-suicidal self-harm and suicidal ideation. The clinical utility of the ERS is, therefore, yet to be established.

MacDermott et al. (2010) recognised the importance of children and adolescents learning how to regulate their emotions in functional and adaptive ways in their development of the Emotion Regulation Index for Children and Adolescents (ERICA). The ERICA, a self-report measure, was constructed to suit Australian children, aged as young as nine years, through modification of the Emotion Regulation Checklist for Adolescents (ERCA), developed by Biesecker and Easterbrooks (2001). The original measure on which the ERCA, itself, was based, was the Emotion Regulation Checklist (ERC) for elementary-aged school children, a 24-item other-report measure developed by Shields and Cicchetti (1997, p. 910, cited in MacDermott et al., 2010) and whose theoretical underpinnings are worthy of mention within the context of the current thesis. In developing the ERCA, Biesecker and Easterbrooks (2001) reworded the items within the ERC to be more appropriate for adolescents aged up to 16 years. The concepts of affective instability, intensity, valence, flexibility, and situational appropriateness, incorporated within this measure, are of interest within the current thesis, due to their links to early developmental factors thought to be involved in the acquisition of functional emotion regulation, and set out in the model by Cicchetti et al. (1991) (see Section 2.2). Measurement of these aspects of emotion regulation are argued by the current author to be important, in as much as they are likely to relate to fundamental emotion regulation difficulties and be predictive of emerging psychopathology.

The psychometric properties of the ERCA were evaluated using a sample of adolescents with an average age of 16 years. The ERCA was shown to have good internal consistency ($\alpha = 0.81$) and convergent validity. The Emotion Regulation Index
for Children and Adolescents (ERICA) was developed by revising items within the ERCA to suit children as young as nine years of age, whilst remaining true to the original content and intent of the items in the ERCA. The psychometric properties of ERICA were evaluated in a sample of 1,389 (768 females and 621 males) Australian children and adolescents, aged 9 to 16 years. Exploratory and confirmatory factor analysis produced three factors, Emotional Control, Emotional Self-Awareness and Situational Responsiveness. The authors reported the scales showed good internal consistency, however, two of the three scales displayed only moderate internal consistencies, with alpha coefficients of 0.60 for the Emotional Self-Awareness factor and 0.64 for the Situational Responsiveness factor. Test-retest stability over a four-week period was good (α’s ranging between 0.75 and 0.83). However, with regards to the current study, the ERICA is limited, because it was developed for use with adolescents aged up to 16 years. Therefore, its suitability for older aged adolescents needs to be established. Furthermore, the clinical utility of the ERICA has not, as yet, been evaluated.

Building on the work by Gross and John (2003) in their development of the Emotion Regulation Questionnaire (ERQ) for adults, Gullone and Taffe (2012) developed the Emotion Regulation Questionnaire for Children and Adolescents (ERQ-CA). In their revision of the ERQ, Gullone and Taffe simplified the wording of items to suit children and adolescents, aged between seven and 17 years. Additionally, the 7-point Likert response scale of the adult version was reduced to a 5-point scale, ranging from strongly disagree to strongly agree with a neutral mid-point. The model underpinning the ERQ is based on previous work by Gross (1998) which takes a process-oriented approach to emotion regulation, focusing on the measurement of emotion regulation strategies. Two of these strategies, cognitive reappraisal and
expressive suppression, have been operationalised in research with young adults. The ERQ-CA consists of 10 items, with six items measuring cognitive reappraisal and four items measuring expressive suppression.

The ERQ-CA was found to have sound construct and convergent validity in a sample of 827 participants aged between 10 and 18 years of age, drawn from a large sample of primary and secondary schools in Melbourne, Australia. A review of items within the cognitive reappraisal factor include items such as “When I want to feel happier, I think about something different” and “When I’m worried about something, I make myself think about it in a way that helps me feel better”. These items tap into thought processes associated with distressing emotions and, although they are likely to be related to the capacity to cope with increased emotional distress, they may or may not be able to be invoked when a child or adolescent is experiencing high arousal. It may well be that items such as those mentioned above are linked to behaviours such as DSH. However, given that the measure has never been formally assessed with a clinic population, the clinical utility of the ERQ-CA remains unknown.

3.3 Summary and conclusions

The most widely researched measure of emotional regulation to date was found to be the DERS. One sub-scale of the DERS, measuring ‘limited access to emotion regulation strategies,’ was found to be a potentially useful scale for the measurement of emotion regulation in adolescents presenting with NSSI. However, because the development and validation of this scale occurred using select samples of participants, for example, adolescents drawn from a single high school, the capacity of this scale to validly measure emotion regulation functioning across different SES groups was called into question. An advantage of the DERS, however, is that it is the only measure to date
that has had its factor structure examined in a clinical group of adolescents.

The CERQ with its focus on cognitive processes in response to external events, though a valuable measure in its own right, by identifying adaptive versus less adaptive coping strategies, was not thought to tap into the more non-cognitive aspects of emotional responding in more problematic adolescents that have been linked to impulsive behaviours such as self-harm (e.g., Dougherty et al., 2009; Ghanem et al., 2013). In this regard, recent Australian research by Voon et al. (2013), examining the role of emotion regulation and rumination in NSSI, using a sample of 12 to 17-year-old adolescents (\(N = 2,507\)), concluded that “contextual, social and behavioural factors may have a stronger influence on NSSI than cognitive factors” (p. 110).

Like the CERQ, the REQ also focused on the measurement of strategies used to regulate emotions, displaying the capacity for clinical relevance in its potential to differentiate between internalising and externalising difficulties, unlike the DERS. However, in common with the DERS, the capacity of this scale to validly measure emotion regulation functioning across different SES and socio-cultural groups was called into question, again due to sampling issues. Questions were also raised with regard to the validity and theoretical structure of the scale, owing to both exploratory and confirmatory factor analysis being conducted on the same sample of adolescents.

Non-representative sampling was also problematic in the development of the ERS by Nock et al. (2008) who used a relatively small sample size with a majority of older adolescents to examine the factor structure of their scale. The authors developed the scale using a group of clinic and community adolescents, and from this perspective their finding of a single factor of emotional reactivity makes a valuable contribution to
the literature. However, much work needs to be done to provide evidence of the psychometric soundness of this measure.

Psychometrically, the ERQ-CA, developed by Australian researchers Gullone and Taffe (2012), and the ERICA (MacDermott et al., 2010) appear to be the most sound. However, the ERQ-CA is underpinned by constructs that measure emotion regulation strategies, specifically, cognitive reappraisal and expressive suppression. Alternatively, the ERICA measures constructs more closely aligned with the goals and theoretical position of the current thesis, in as much as they relate to developmentally acquired constructs of emotional control, emotional awareness and situational responsiveness. However, the ERICA has not been validated in adolescents older than 16 years and the clinical utility of both the ERICA and the ERQ-CA have not, as yet, been established.

In conclusion, the foregoing review highlights the interdependence between measures of emotion regulation and the theoretical models on which they are based. Thus, the capacity of any measure of emotion regulation to adequately assess the multifaceted emotion regulation construct must necessarily be restricted by the limitations of its theoretical underpinnings. In turn, the predictive ability of any theoretical model is reliant on the quality of research used to establish the psychometric adequacy of the measures used to test it. Therefore, the call to establish “conceptual clarity” (Adrian et al., 2011, p. 17) and “measurement equivalence” (Raver, 2004, p. 347) resound within the current review.

This review also highlights that development of measures in this important area are still in their infancy, with more research testing various models and measures needed, for it to reach its maturity. In this regard, two areas stand out for future research
to aid the development of a valid and reliable assessment measure of emotion regulation. First, the majority of measures reviewed here were developed using biased samples that were not representative of socio-economic and socio-cultural diversity. Second, the development of measurement instruments using both normative and clinical populations was found to be lacking, and, as highlighted in this review, this deficiency is an important area for future research if, as Zeman, Klimes-Dougan, Cassano, and Adrian (2007, p. 395) assert, “the key components of emotion processes that lead to dysfunction” are to be evaluated.

### 3.4 Development of a measure of emotion regulation to assess treatment outcome in adolescents with NSSI and suicidal ideation

As mentioned previously, the current thesis was commenced at the beginning of 2005 and at that time, the CERQ was the only measure of adolescent emotion regulation that had been developed for use with adolescents. However, as discussed, the CERQ was considered unsuitable as a measure of treatment outcome in the population of interest. Therefore, the task of the current author was to develop a measure of emotion regulation suitable for use with adolescents presenting with NSSI and suicidal ideation.

As outlined in Chapter 2 of this thesis, there are strong theoretical and clinical links between emotion regulation deficits and behaviours central to borderline pathology, such as self-harm and suicidal ideation. Therefore, a search was conducted to find a measure of emotion regulation that was predictive of these behaviours within an adult sample that could be usefully modified for an adolescent population. This search revealed only one measure that had looked at this association, the Affective Control Scale (ACS) (Williams, 1992). In a study of 39 women presenting with borderline traits,
Yen, Zlotnick, and Costello (2002) found an association between the number of BPD criteria endorsed and the ability to regulate emotions, as measured by the ACS, regardless of the level of affect intensity. That is, the more items endorsed, the poorer the ability to regulate emotions.

The ACS was built upon the fear of emotions hypothesis, proposed by Williams, Chambless, and Ahrens (1997) in which the fear of anxiety, otherwise known as the ‘fear of fear’ concept (Goldstein & Chambless, 1978) was broadened to include the fear of strong emotions generally. Williams et al. proposed that individuals who are fearful of anxiety, that is, fear losing control over their anxiety, or fear physical harm (e.g., a heart attack), become fearful of anxiety itself, and are vulnerable to fearing other emotions, specifically, anger, depression and positive emotions. The focus of attention within their thesis was that of internal, rather than external events, and the perceived ability of individuals “to manage strong emotions” (p. 239).

Thus conceptualised, the ACS measured self-reported “fear of losing control over one’s emotions or of one’s behavioural reactions to emotions” (Williams et al., 1997, p241). The 42 items of the scale are rated on a 7-point Likert scale, making up four sub-scales: fear of anger (8 items), depressive mood (8 items), anxiety (13 items), and positive emotion (13 items). The total score, which measures fear of emotion, is equal to an average of all of the items.

The ACS was developed using 105 undergraduate psychology students. The psychometric properties of the final version of the scale were later assessed using 75 undergraduate psychology students (Williams et al., 1997). Internal consistency of the total scale was found to be satisfactory (Cronbach’s alpha 0.94) as were the sub-scale
scores (anger 0.72, depression 0.91, anxiety 0.89, positive affect 0.84). Test-retest of the total scale score was assessed over a 2-week period and was acceptable ($r = .78$). There was minimal correlation with the Marlowe-Crowne Social Desirability Scale, indicating no notable influence of social desirability responding. Concurrent validity was argued to be acceptable due to a large correlation (-.72) with the Emotional Control Questionnaire (Rapee, Craske, & Barlow, 1989).

Additional support for the internal consistency and construct validity of the ACS was provided in a study by Berg, Shapiro, Chambless and Ahrens (1998) on a sample of 103 female undergraduate students. Construct validity was supported via low correlations with the Eysenck Personality Questionnaire Lie and Psychoticism scales and by strong positive correlations with Neuroticism. Therefore, the ACS appears to be a psychometrically sound measure of the perceived ability to control or manage strong emotions within an adult population. A review of the items within the ACS revealed that with some changes made to the wording of the individual items, it had the potential to be suitable for use with adolescents.

It could be argued that the ACS is merely a measure of an individual’s perceived fear of emotions and therefore not a measure of emotion regulation per se. However, as noted in this review chapter of adolescent measures of emotion regulation, the connectedness between theoretical models of emotion regulation and measures evolved from them, are a critical reminder of how these measures are initially conceptualised and developed. Added to this is the recognition highlighted above, that the nature of emotion regulation itself is a multifaceted construct. Therefore no single measure of such a construct can adequately measure the whole and likewise, no single theory will adequately define the nature of the construct entirely.
Given the fundamental links between early developmental factors, fear of emotions, and behaviours central to BPD (see p. 55) such as self-harm and suicidality examined in depth in the foregoing review (see Chapter 2), it is argued that the concept of fearing one's emotions makes a significant contribution to further our understanding of the emotion regulation construct generally. Ultimately, the evidence outlined herein, makes a strong case for the construct of fear of emotions being a product of developmental contextual factors that lead to dysregulated behavioural outcomes, that is, self-harm. This makes it worthy as an important measure of emotion dysregulation, particularly within the clinical adolescent population of interest to this thesis. Unlike some other measures of emotional dysregulation (see review this chapter), the fear of emotions construct is based on a clearly defined theoretical premise and thus very clearly conceptualised as the “fear of losing control over one’s emotions or of one’s behavioural reactions to emotions” (see concluding comments page 54).

The current author, therefore, undertook the task of rewording the ACS (see Section 4.2.1.2 for a full description) so that it would be more appropriate for use within an adolescent population. The following chapter will present the four studies conducted to examine the psychometric properties of this new reworded version of the ACS, the Modified Affective Control Scale for Adolescents (MACS-A).
Chapter 4
An Exploration of the Psychometric Properties of the MACS-A

4.1 Chapter overview

The aim of the four studies to follow was to assess the psychometric properties and clinical utility of the 41-item MACS-A, a measure of emotion regulation developed by the current author and designed specifically for use with adolescents presenting with self-harm and suicidal ideation. The pivotal goal in developing the MACS-A was to provide a way of measuring emotion regulation prior to, during, and following on from, the implementation of the DBT-A intervention programme, ‘Life Surfing’, described in Part B of this thesis. Importantly, items within the MACS-A operationalise emotion regulation as the “fear of losing control over one’s emotions or of one’s behavioural reactions to emotions”, and as such build upon the fear of emotions hypothesis (Williams et al., 1997) an extension of the ‘fear of fear’ concept (Goldstein & Chambless, 1978).

Before going on to report on these four studies, it is also important to place the data collected for these studies within the context of other projects, and to acknowledge the persons involved in these data collections. Data used in the evaluation of the MACS-A was collected from three separate groups as follows:

a) Community sample: Adolescents attending seven high schools across the metropolitan area of Perth, Western Australia (see Section 4.2.1.1 for a full description of the sample). Both qualitative data from focus groups and quantitative data using the MACS-A were collected in 2006 by a team of six fourth year psychology students, in fulfilment of their Bachelor of Psychology
dissertations. These dissertations were supervised by Dr Suzanne Dziurawiec and co-supervised by the current author.

b) Clinical sample: Adolescents receiving treatment at community based child and adolescent mental health (CAMHS) clinics (see Section 4.3.1.1 for a full description of the sample). This data was collected in 2006 by the current author and was used in Study 3 of this thesis.

c) Undergraduate university students aged 18 and 19 years. This data was collected in 2012 by a group of postgraduate psychology students in fulfilment of their Postgraduate Diploma of Psychology dissertations. These dissertations were supervised by Dr Suzanne Dziurawiec in consultation with the current author.

Data collected in (a) above resulted in the following unpublished Bachelor of Psychology dissertations:


Pickles, R. (2006). “You get scared of what you might do”: Fear and control of emotion in adolescent girls in ‘day’ and ‘boarding’ schools. Qualitative analysis of focus group transcripts collected from adolescent high school students attending a private all-girls high school as either day or boarding students.


Published work produced from this data:


Data collected in (c) above is reported in the following unpublished dissertation in fulfilment of the post-graduate diploma in psychology:

(Cleator, 2012). Refining a new screening measure for youths at risk of Fear of Emotion: Psychometric properties and concurrent validation of the 16-item Modified Affective Control Scale for Adolescents.

Four interrelated studies incorporating the above data sets are presented within this chapter as follows:

**Study 1:** Internal consistency, of the MACS-A within a sample of high school students aged 12 to 17 years.

**Study 2:** Clinical utility of the MACS-A: Internal consistency and discriminative ability of the MACS-A in matched clinic and non-clinic adolescent samples.

**Study 3:** Factor structure and temporal stability of the MACS-A within a sample of high school students aged 12 to 17 years.

**Study 4:** Internal consistency of the MACS-A within a sample of young adults aged 18 to 19 years.
4.2 Study 1: Internal consistency of the Modified Affective Control Scale for Adolescents (MACS-A) within a high school sample (12 to 17 years)

4.2.1 Method

4.2.1.1 Participants

A total of 2128 adolescents, consisting of 1104 females, 791 males and 233 who did not indicate their gender participated voluntarily in the study at Time 1 (initial data collection). Ages ranged from 12 to 17 years with a mean of 14.53 years ($SD = 1.44$). Of the 18 secondary schools approached (representative of high, middle and low SES areas), seven schools consented to participate, representing a 44.4% response rate. The schools were located in the South Metropolitan region of Perth, Western Australia, with five mixed-sex private (independent) schools ($n = 1679$) and two public (government) schools ($n = 449$). The demographic profile of participants at T1 is presented in Table 4.1.

Approximately two weeks after the initial data collection, 1,188 (55.8%) students from the same seven schools as participated T1 took part in a second collection (T2). Due to issues of confidentiality, data collection needed to be de-identified and not all of the students who participated at T1 necessarily participated at T2. There were 768 females, 355 males and 65 who failed to indicate their gender. Each school determined its own level of involvement with some schools preventing year 11 and 12 students participating due to possible effects on their end of year exam preparation. Therefore, there was a reduced representation of older adolescents (16 to 17 years) in this study in comparison to younger adolescents (12 to 15 years). The demographic profile of participants at T2 is presented in Table 4.2 together with the number of completed surveys as a function of the test time (Table 4.3).
Table 4.1  *Demographic characteristics and distribution of the participants by school at T1 (N = 2,128)*

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Note. Percentage figures contained within parentheses.

Table 4.3  
*Number and percentage of completed surveys as a function of test time (N = 3,316)*

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Note. Percentage figures contained within parentheses.
4.2.1.2 Materials

The Modified Affective Control Scale for Adolescents (MACS-A).

The language of items in the original adult ACS was simplified for use with adolescents (see Table 4.4), aged 12 to 17 years. Item 10, which stated; having an orgasm is scary for me because I am afraid of losing control, was considered unsuitable for younger aged adolescents and was removed. Other items were reworded, based on an initial consultation between clinicians from the child mental health clinics and the primary researcher. Ambiguous terminology was broken down using more simple and adolescent-friendly language, and extended sentences were shortened to increase understanding. Additional changes to the wording of questions were made based on piloting the questionnaire with three adolescents, aged 12, 13 and 17 years. Some further changes were made and the scale was again piloted with five adolescents aged 12 to 17 years. The average time taken to complete the survey was approximately 10 minutes.

The MACS-A, in keeping with the adult version, consists of four sub-scales that measure fear of anger, fear of depressive mood, fear of anxiety and fear of positive emotion. Individual sub-scale scores are computed as the mean of the total number of items contained in the sub-scale. An overall scale score is computed as the mean of all 41 responses; the higher the mean score, the higher the perceived fear of emotion/s. The original scale format was retained and required participants to rate each item on a 7-point Likert scale, from very strongly disagree to very strongly agree, with a neutral mid-point. The ‘Anger’ sub-scale consists of 8 items (1,8,11,16 (R), 28, 30 (R), 34, 39) the ‘Positive Affect’ sub-scale 12 items (2, 6, 10,12 (R), 14, 18, (R), 22 (R), 23, 31 (R), 32, 36, 41, 42) the ‘Depressed Mood’ sub-scale 8 items (3, 4 (R), 13, 19, 25, 27 (R), 29, 37) and the ‘Anxiety’ sub-scale 13 items (5, 7, 9 (R), 15, 17, (R), 20, 21, (R), 24, 26, 33,
Reverse-worded items (R) were recoded such that a score of 1 was changed 7, a score of 2 was changed to 6, a score of 3 was changed to 5, a score of 5 was changed to 3, a score of 6 was changed to 2, and a score of 7 was changed to 1. For the purposes of data collection, the scale was renamed the ‘Adolescent Emotion Survey’. The survey contained no identifying information other than date of birth, gender and grade.

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<td>I am concerned that I will say things I'll regret when I get angry.</td>
</tr>
<tr>
<td>2</td>
<td>I can get too carried away when I am really happy.</td>
<td>I can go over the top when I am really happy.</td>
</tr>
<tr>
<td>3</td>
<td>Depression could really take me over, so it is important to fight off sad feelings.</td>
<td>Depression could really drag me down, so it is important to fight off sad feelings.</td>
</tr>
<tr>
<td>4</td>
<td>If I get depressed, I am quite sure that I'll bounce right back.</td>
<td>If get depressed, I am quite sure that I won't feel that way for long.</td>
</tr>
<tr>
<td>5</td>
<td>I get so rattled when I am nervous that I cannot think clearly.</td>
<td>I get so upset when I am nervous that I cannot think clearly.</td>
</tr>
<tr>
<td>6</td>
<td>Being filled with joy sounds great, but I am concerned that I could lose control over my actions if I get too excited.</td>
<td>Being really happy sounds great, but I am concerned that I could lose control over my actions if I get too excited.</td>
</tr>
<tr>
<td>7</td>
<td>It scares me when I feel &quot;shaky&quot; (trembling).</td>
<td>It scares me when I feel &quot;shaky&quot; (trembling).</td>
</tr>
<tr>
<td>8</td>
<td>I am afraid that I will hurt someone if I get really furious.</td>
<td>I am afraid I will hurt someone if I get really angry.</td>
</tr>
<tr>
<td>9</td>
<td>I feel comfortable that I can control my level of anxiety.</td>
<td>I feel comfortable that I can control how anxious I am feeling.</td>
</tr>
<tr>
<td>10</td>
<td>Having an orgasm is scary for me because I am afraid of losing control.</td>
<td>EXCLUDED</td>
</tr>
<tr>
<td>11</td>
<td>If people were to find out how angry I sometimes feel, the consequences might be pretty bad.</td>
<td>If people were to find out how angry I sometimes feel, the consequences might be pretty bad.</td>
</tr>
<tr>
<td>12</td>
<td>When I feel good, I let myself go and enjoy it to the fullest.</td>
<td>When I feel good, I let myself go and enjoy it to the max.</td>
</tr>
<tr>
<td>13</td>
<td>I am afraid that I could go into a depression that would wipe me out.</td>
<td>I am afraid I could go into a depression that would wipe me out.</td>
</tr>
<tr>
<td>14</td>
<td>When I feel really happy, I go overboard, so I don't like getting overly ecstatic.</td>
<td>When I feel happy, I go overboard, so I don't like getting overly excited.</td>
</tr>
<tr>
<td>15</td>
<td>When I get nervous, I think that I am going to go crazy.</td>
<td>When I get nervous, I think I am going to go crazy.</td>
</tr>
<tr>
<td>16</td>
<td>I feel very comfortable in expressing angry feelings.</td>
<td>I feel OK expressing angry feelings.</td>
</tr>
<tr>
<td>17</td>
<td>I am able to prevent myself from becoming overly anxious.</td>
<td>I am able to stop myself from becoming overly anxious.</td>
</tr>
<tr>
<td>18</td>
<td>No matter how happy I become, I keep my feet firmly on the ground.</td>
<td>No matter how happy I become, I don't get too carried away.</td>
</tr>
<tr>
<td>19</td>
<td>I am afraid that I might try to hurt myself if I get too depressed.</td>
<td>I am afraid I might try to hurt myself if I get too depressed.</td>
</tr>
<tr>
<td>20</td>
<td>It scares me when I am nervous.</td>
<td>It scares me when I am nervous.</td>
</tr>
<tr>
<td>21</td>
<td>Being nervous isn't pleasant, but I can handle it.</td>
<td>Being nervous isn't much fun, but I can handle it.</td>
</tr>
<tr>
<td>22</td>
<td>I love feeling excited -- it is a great feeling.</td>
<td>I love feeling excited - it is a great feeling.</td>
</tr>
<tr>
<td>23</td>
<td>I worry about losing self-control when I am on cloud nine.</td>
<td>I worry about losing control over myself when I am really happy.</td>
</tr>
<tr>
<td>24</td>
<td>There is nothing I can do to stop anxiety once it has started.</td>
<td>There is nothing I can do to stop feeling nervous once it has started.</td>
</tr>
<tr>
<td>25</td>
<td>When I start feeling &quot;down,&quot; I think I might let the sadness go too far.</td>
<td>When I start feeling &quot;down&quot;, I think I might let the sadness go too far.</td>
</tr>
<tr>
<td>26</td>
<td>Once I get nervous, I think that my anxiety might get out of hand.</td>
<td>Once I get nervous, I think that my feelings might get out of hand.</td>
</tr>
<tr>
<td>27</td>
<td>Being depressed is not so bad because I know it will soon pass.</td>
<td>Being depressed is not so bad because I know it will soon go away.</td>
</tr>
<tr>
<td>28</td>
<td>I would be embarrassed to death if I lost my temper in front of other people.</td>
<td>I would be embarrassed to death if I lost my temper in front of other people.</td>
</tr>
<tr>
<td>29</td>
<td>When I get &quot;the blues,&quot; I worry that they will pull me down too far.</td>
<td>When I get really unhappy, I worry that I will stay that way.</td>
</tr>
<tr>
<td>30</td>
<td>When I get angry, I don't particularly worry about losing my temper.</td>
<td>When I get angry, I don't really worry about losing my temper.</td>
</tr>
<tr>
<td>31</td>
<td>Whether I am happy or not, my self-control stays about the same.</td>
<td>Whether I am happy or not, I am able to control myself.</td>
</tr>
<tr>
<td>32</td>
<td>When I get really excited about something, I worry that my enthusiasm will get out of hand.</td>
<td>When I get really excited about something, I worry my enthusiasm will get out of hand.</td>
</tr>
<tr>
<td>33</td>
<td>When I get nervous, I feel as if I am going to scream.</td>
<td>32. When I get nervous, I feel as if I am going to scream.</td>
</tr>
<tr>
<td>34</td>
<td>I get nervous about being angry because I am afraid I will go too far, and I'll regret it later.</td>
<td>I get nervous about being angry because I am afraid I will go too far, and I'll regret it later.</td>
</tr>
<tr>
<td>35</td>
<td>I am afraid that I will babble or talk funny when I am nervous.</td>
<td>I am afraid that I will talk nonsense or talk funny when I am nervous.</td>
</tr>
<tr>
<td>36</td>
<td>Getting really ecstatic about something is a problem for me because sometimes being too happy clouds my judgment.</td>
<td>Getting really excited about something is a problem for me because sometimes being happy stops me from thinking clearly.</td>
</tr>
<tr>
<td>37</td>
<td>Depression is scary to me -- I am afraid that I could get depressed and never recover.</td>
<td>Depression is scary to me -- I am afraid that I could get depressed and never recover.</td>
</tr>
<tr>
<td>38</td>
<td>I don't really mind feeling nervous; I know it's just a passing thing.</td>
<td>I don't really mind feeling nervous; I know it will go away.</td>
</tr>
<tr>
<td>39</td>
<td>I am afraid that letting myself feel really angry about something could lead me into an unending rage.</td>
<td>I am afraid that letting myself feel really angry about something could cause me to totally lose it.</td>
</tr>
<tr>
<td>40</td>
<td>When I get nervous, I am afraid that I will act foolish.</td>
<td>When I am nervous, I am afraid that I will act stupid.</td>
</tr>
<tr>
<td>41</td>
<td>I am afraid that I'll do something dumb if I get carried away with happiness.</td>
<td>I am afraid that I'll do something stupid if I get carried away with happiness.</td>
</tr>
<tr>
<td>42</td>
<td>I think my judgment suffers when I get really happy.</td>
<td>I don’t think I make good decisions when I get really happy.</td>
</tr>
</tbody>
</table>

Note: The wording of items in **bold type** have **not** been changed from that of the original ACS.
4.2.1.3 Procedure

Ethical approval for this study was obtained from the Human Research Ethics Committee of Murdoch University. Schools either elected to administer the surveys themselves, or alternatively, a member of the research team administered the surveys. Parental consent was sought prior to administration (see Appendix A) The survey was administered according to a standard set of written instructions (see Appendix B), in a classroom setting during normal class times. All participants were provided with an information sheet and were required to fill out a consent form (see Appendix C) prior to completing the survey. They were reminded that participation was voluntary and that anonymity was assured. When completing the surveys, participants were asked to reflect on how they had been feeling over the past two weeks. The administrator collected completed surveys. Test-retest data was gathered in a second administration of the survey approximately two weeks later.

Data Coding and Entry: Each completed questionnaire was assigned its own unique identification number consisting of school number, O (original) or R (retest) and participant number. A central database was created that could be accessed online via a web version of the questionnaire. This facilitated data entry and reduced data entry errors by allowing each member of the research team to enter their own data collected.

Prior to data analysis, errors in the data set were screened through the cross-checking of every 25th entry against its corresponding questionnaire. If an error was found, a back-check and forward-check of three questionnaires on either side was conducted and relevant corrections made. In some cases, surveys were found to be incomplete. If there were 20 or more items incomplete on a single questionnaire then it was considered invalid and excluded from analysis. Surveys with obvious response
patterns, for instance mid-point responding, were also excluded. In all, a total of 237 questionnaires or 7%, were excluded from analysis.

4.2.2 Results

4.2.2.1 Overview

Data screening procedures are presented first, followed by an analysis of the internal consistency of the MACS-A sub-scales and total scale, including comparisons with the findings from Williams et al. (1997) on the original ACS. Scale and sub-scale descriptives and sub-scale intercorrelations are also presented.

4.2.2.2 Data screening

Raw data was entered into the Statistical Package for Social Sciences (SPSS) version 14 and screened by way of univariate descriptive statistics for accuracy of input and missing values. An error rate of < 1% was found in the data set. Reverse worded items were recoded appropriately (see Section 4.2.1.2). An analysis of missing data revealed a random distribution of missing values, therefore mean substitution was considered appropriate. Box plots were used to screen for univariate outliers. Nineteen outliers were detected and removed despite the large sample size \(N = 2128\), which would generally be considered to be robust against the effects of outliers.

4.2.2.3 Internal consistency of the MACS-A

Cronbach alpha coefficients were used to determine the internal consistency of the four sub-scales of the MACS-A, namely, Fear of Anger, Fear of Depressive Mood, Fear of Positive Affect and Fear of Anxiety, as well as that of the total scale, Fear of Emotion. In consideration of the exploratory nature of the current study, a given sub-scale was thought to be sufficiently reliable if the alpha level was equal to or greater
than 0.65. DeVellis (2012), in discussing scale development, defines 0.65 as minimally acceptable and 0.7 as respectable.

Means, standard deviations and reliability coefficients for the MACS-A in both public and private school samples, and the original ACS are presented in Table 4.5. The 41-item scale total scores of the MACS-A were normally distributed around a mean of 3.27 ($SD = 0.67$) in the private school sample and 3.37 ($SD = .78$) in the public school sample. Each of the sub-scale scores was normally distributed in both samples, with means ranging from 2.88 to 3.62 in the private school sample and 3.00 to 3.81 in the public school sample. Internal consistency was satisfactory for the total scale score and all four sub-scale scores in both school samples, and results across the two sample groups were comparable. The MACS-A displayed somewhat lower alpha coefficients to that of the original ACS, particularly the Fear of Anger sub-scale, however, results are generally comparable. Standard deviations of the MACS-A are reasonably consistent across the scale in both sample groups and parallel those of the original ACS.

Table 4.5  Means, standard deviations and internal reliability coefficients of the MACS-A compared with the original ACS (Williams et al., 1997)

<table>
<thead>
<tr>
<th>Fear of</th>
<th>MACS-A ^a^</th>
<th>MACS-A ^b^</th>
<th>ACS*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD (α)</td>
<td>Mean</td>
</tr>
<tr>
<td>Anger</td>
<td>3.62</td>
<td>0.83</td>
<td>0.65</td>
</tr>
<tr>
<td>Anxiety</td>
<td>3.20</td>
<td>0.80</td>
<td>0.83</td>
</tr>
<tr>
<td>Depressive Mood</td>
<td>3.23</td>
<td>1.03</td>
<td>0.80</td>
</tr>
<tr>
<td>Positive Emotion</td>
<td>2.88</td>
<td>0.66</td>
<td>0.75</td>
</tr>
</tbody>
</table>

^a^ Private schools ($n=1679$)
^b^ Public schools ($n=430$)
*Williams et al. (1997) ($n=105$)
Table 4.6 presents the correlations among the four sub-scales of the MACS-A. The moderately low correlations between all sub-scales indicate that relatively discrete dimensions of the fear of emotions are being measured. The results are comparable to those of the original ACS and, in fact, the degree of overlap between the Fear of Anxiety and Fear of Depressive mood sub-scales is noticeably lower than that found by Williams et al. (1997), suggesting a slightly greater independence between these sub-scales in the MACS-A. Likewise the degree of overlap between the Fear of Positive Emotion and Fear of Depressive Mood sub-scales is noticeably lower on the MACS-A than on the original ACS.

Table 4.6  

**Sub-scale intercorrelation of the MACS-A compared with the original ACS (Williams et al., 1997)**

<table>
<thead>
<tr>
<th>Fear of</th>
<th>Anger</th>
<th>Depressive Mood</th>
<th>Positive Emotion</th>
<th>Anxiety</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anger</td>
<td>1.00</td>
<td>0.55 (0.56)</td>
<td>0.53 (0.56)</td>
<td>0.56 (0.50)</td>
</tr>
<tr>
<td>Depressive Mood</td>
<td>1.00</td>
<td>0.45 (0.69)</td>
<td>0.61 (0.73)</td>
<td></td>
</tr>
<tr>
<td>Positive Emotion</td>
<td></td>
<td>1.00</td>
<td>0.61 (0.64)</td>
<td></td>
</tr>
<tr>
<td>Anxiety</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Figures in parentheses are original data taken from Williams, Chambless & Ahrens (1997)

---

**4.3 Study 2: Discriminative ability of the MACS-A in matched clinic and non-clinic samples of adolescents**

**4.3.1 Method**

**4.3.1.1 Participants**

Three groups of adolescents, aged between 12 and 18 years, participated voluntarily in this study. The first group (clinical) consisted of 62 currently engaged clients from three child mental health clinics in Perth, Western Australia. Two clients were excluded due to missing data (>10%), resulting in a final sample of 45 female (mean age 15.33, $SD = 1.38$) and 15 male (mean age 14.71, $SD = 1.57$) participants.
The second (public schools) and third (private schools) groups of participants were secondary school students drawn from the larger data set, described in Study 1 (Section 4.2.1.1), and matched to the clinical sample on age (within two months) and gender. Clients who attend child mental health clinics are mainly of low to medium socio-economic status and attend public high schools. A review of the 2001 Australian Bureau of Statistics Census data indicated the average median household income of the suburbs in which the three child mental health clinics were located to be $651 per week. The second group of participants were drawn from mixed sex public high schools with a relatively equivalent weekly median household income ($716) to that of the clinical group. The third group of participants were drawn from mixed sex private high schools with an average median household income of $1010 per week. The mean age of participants in the public school sample was 15.38 (SD = 1.36) for females and 14.72 (SD = 1.54) for males. In the private school sample, the mean age for females was 15.35 (SD = 1.34) and for males 14.75 (SD = 1.53).

4.3.1.2 Materials
The MACS-A, described in Study 1 (Section 4.2.1.2) was used for this study.

4.3.1.3 Procedure
Clinicians employed by the child mental health clinics conducted administration of the MACS-A. The principal researcher provided a document to all clinicians describing the aim and rationale of the study, a brief description of the MACS-A survey, and a clinician checklist listing the steps in administration of the survey (see Appendix D). A brief presentation on administration procedures was also provided to clinicians at a staff meeting.
It was explained that the MACS-A survey would take approximately 10 to 15 minutes to complete. Clinicians were instructed to administer the survey to adolescents who were currently engaged in therapy. Both the parent/guardian and participant read the accompanying information/consent forms (see Appendices E and F) and agreed to participate before completing the survey. For clients aged 16 years or over, mature consent was all that was necessary. The survey was conducted at the beginning of the session. The client filled out the survey without the presence of any parent/guardian. Clinicians were asked to provide the client with assistance, if sought, in terms of any difficulties understanding specific questions or in how to fill out the survey. Clients were instructed to think about how they had been feeling over the last two weeks when answering the survey. Clinicians were also asked to note down anything out of the ordinary resulting from a client’s participation in the survey and to ensure that surveys had been fully completed. The principal investigator collated the data.

4.3.2 Results

The 41-item total scale scores measuring Fear of Emotion were normally distributed around a mean of 4.34 for the clinical sample, and 3.81 and 3.60 for the matched public and private school samples, respectively. There was only minimal violation to the assumption of normality on the sub-scale scores of Fear of Anger (private schools only) and Fear of Positive Emotion (public schools only), but given that the groups were matched, transformation of data was considered inappropriate. Sub-scale means ranged from 3.82 - 4.80 for the clinical sample, 3.74 - 3.87 for the public school sample, and 3.53 - 3.73 for the private school sample. Scores clustered around the means for all three groups on each of the sub-scales and the overall scale (see Table 4.7). Comparison of mean scores indicated the clinical sample scored higher than both the matched control samples on three of the four sub-scales, Fear of Anger, Fear of
Depressed Mood and Fear of Anxiety, and on the overall scale score of Fear of Emotion.

Table 4.7  Descriptive and summarised inferential statistics across clinical, public school and private school groups

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>SD</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fear of Anger</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clinical</td>
<td>4.60</td>
<td>0.97</td>
<td><em>F (2, 177) = 12.794</em></td>
</tr>
<tr>
<td>Public school</td>
<td>3.91</td>
<td>0.75</td>
<td></td>
</tr>
<tr>
<td>Private school</td>
<td>3.73</td>
<td>0.64</td>
<td></td>
</tr>
<tr>
<td><strong>Fear of Depressive Mood</strong></td>
<td></td>
<td></td>
<td><em>F (2, 177) = 41.033</em></td>
</tr>
<tr>
<td>Clinical</td>
<td>4.80</td>
<td>1.14</td>
<td></td>
</tr>
<tr>
<td>Public school</td>
<td>3.74</td>
<td>0.78</td>
<td></td>
</tr>
<tr>
<td>Private school</td>
<td>3.38</td>
<td>0.69</td>
<td></td>
</tr>
<tr>
<td><strong>Fear of Positive Emotion</strong></td>
<td></td>
<td></td>
<td><em>F (2, 177) = 0.685</em></td>
</tr>
<tr>
<td>Clinical</td>
<td>3.82</td>
<td>0.92</td>
<td></td>
</tr>
<tr>
<td>Public school</td>
<td>3.86</td>
<td>0.58</td>
<td></td>
</tr>
<tr>
<td>Private school</td>
<td>3.72</td>
<td>0.54</td>
<td></td>
</tr>
<tr>
<td><strong>Fear of Anxiety</strong></td>
<td></td>
<td></td>
<td><em>F (2, 177) = 24.285</em></td>
</tr>
<tr>
<td>Clinical</td>
<td>4.37</td>
<td>0.84</td>
<td></td>
</tr>
<tr>
<td>Public school</td>
<td>3.74</td>
<td>0.67</td>
<td></td>
</tr>
<tr>
<td>Private school</td>
<td>3.53</td>
<td>0.49</td>
<td></td>
</tr>
<tr>
<td><strong>Fear of Emotions</strong></td>
<td></td>
<td></td>
<td><em>F (2, 177) = 25.994</em></td>
</tr>
<tr>
<td>Clinical</td>
<td>4.33</td>
<td>0.71</td>
<td></td>
</tr>
<tr>
<td>Public school</td>
<td>3.81</td>
<td>0.56</td>
<td></td>
</tr>
<tr>
<td>Private school</td>
<td>3.60</td>
<td>0.44</td>
<td></td>
</tr>
</tbody>
</table>

*n = 60 for all groups; *p < .01

Cronbach alphas were used to calculate internal consistency of the MACS-A within the clinical sample (*n* = 60) and were shown to be highly satisfactory, paralleling results found within the non-clinical sample in Study 1A: Fear of Anger *α* = .74; Fear of Depressive Mood *α* = .85; Fear of Positive Emotion *α* = .85; Fear of Anxiety *α* = .84 and the total scale score Fear of Emotion *α* = .91. In fact, the Fear of Anger sub-scale was somewhat more reliable in the clinical sample than in the non-clinical sample.

One-way between groups analyses of variance were conducted to test the significance of group mean differences. The Levene’s test for homogeneity of variances
was violated on all sub-scale and total scale scores, however, given that sample sizes were equal and large, the samples remain robust and population variances could be considered equal. Regardless, a more conservative significance level of 0.01 was used to determine significance. As shown in Table 4.6, there were significant differences across groups in mean scores on Fear of Anger, Depressive Mood, Anxiety and Emotion. Post hoc testing using the Tukey statistic revealed the clinical group to have the highest means, differing significantly ($p < .01$) from the school samples. No significant difference in group means was found for Fear of Positive Emotion.

4-1 Fear of Emotion (mean +/- 2 SE) for each school or clinic setting

A review of the means and their associated standard errors for the whole scale measure of Fear of Emotion (Figure 4.1) revealed an expected increase in the variability of the clinic sample compared with that of the public and private school samples. The non-overlapping confidence intervals between the clinic and non-clinic samples indicated a real difference between the populations on the whole scale measure of Fear of Emotion.
Figure 4-2 Fear of Anger scores (mean +/- 2SE) for each school or clinic setting

Figure 4-3 Fear of Depressive Mood scores (mean +/- 2SE) for each school or clinic setting
The means and associated standard errors for the MACS-A sub-scales of Fear of Anger, Fear of Depressive Mood and Fear of Anxiety (Figures 4.2 to 4.4) paralleled those of the Fear of Emotion whole scale, displaying non-overlapping confidence intervals between the clinic and non-clinic samples, again indicating a real difference between the populations on the measures of Fear of Anger, Fear of Depressive Mood and Fear of Anxiety.

**4.4 Study 3: a) Factor structure and temporal stability of the MACS-A within a sample of high school students aged 12 to 17 years**

**4.4.1 Overview**

Data screening is presented first followed by factor analysis of the MACS-A using Principal Axis Factoring, and then a description of the derived factors and psychometric properties of the new revised scale; the MACS-A Revised. Temporal stability of the MACS-A over a two-week period is then presented through a comparison of factor loadings at Time 1 and Time 2.
4.4.2 Participants, materials and procedure

Refer to Study 1 (Section 4.2) for a complete description of the participants, materials and procedure used in the data collection for this study.

4.4.3 Results

4.4.3.1 Data screening prior to analysis

Raw data was entered into the Statistical Package for Social Sciences (SPSS) version 14 and screened by way of univariate descriptive statistics for accuracy of input and missing values. An error rate of < 1% was found in the data set. Reverse worded items were recoded appropriately. Missing data was randomly distributed throughout the data set and therefore mean substitution of missing values was an acceptable method to use, minimising data loss that would otherwise occur through casewise deletion. Although mean substitution of missing data can lead to a reduction in the variance of a variable and thereby lower its correlation with other variables (Tabachnick & Fidell, 2007) a comparison of scale means, standard deviations, correlations and reliabilities before and after replacement of missing data, failed to show any noticeable differences. The dataset was checked for outliers, normality and linearity. The response distributions were checked via stem-and-leaf plots.

Factor analysis is generally considered to be robust against violations of normality, however, the solution is enhanced if variables are normally distributed (Costello & Osborne, 2005; Tabachnick & Fidell, 2007). A statistical check revealed skewness and kurtosis were present for a number of the items, but this was not unexpected since standard errors for both skewness and kurtosis tend to decrease with a larger N (Tabachnick & Fidell, 2007). Given there were 41 items in the scale, a check for linearity via examination of all pairwise scatterplots was not practical and therefore
a random check on a number of plots was run. None of these scatterplots displayed departure from linearity. All items, therefore, were included in the factor analysis.

4.4.4 Factor analysis of the MACS-A

4.4.4.1 Rationale for selection of Principal Axis Factoring over Principal Components Analysis

Given that the MACS-A was in its initial phase of development, exploratory factor analysis was used to examine its factor structure and obtain the minimum number of factors needed to represent the data set. Following the recommendations of Costello and Osborne (2005), factor analysis rather than principal components analysis was selected to analyse the data set. Factor analysis, unlike principal components analysis, discriminates between shared and unique variance, thereby avoiding the possibility of inflating estimates of variance. As Widaman (1993) has suggested, when the goal of the researcher is to come to an understanding of the patterns of observed co-variation among variables resulting from underlying variables or factors, then it is wisest not to choose component analysis.

4.4.4.2 Rationale for removal of Fear of Positive Emotion items

As described in Section 4.3.2 the MACS-A was able to clearly discriminate between matched clinical and non-clinical participants on the sub-scales measuring Fear of Anger, Fear of Anxiety and Fear of Depressive Mood, but not on the Fear of Positive Emotions sub-scale. Since this sub-scale did not discriminate between these two groups, these items were discarded, leaving 29 items in the current analysis.

4.4.4.3 Factorability of the final data set

Prior to analysis the data were inspected to determine the factorability of the correlation matrix. Bartlett’s (1950) Test of Sphericity was both large and significant ($\chi^2 = 18126, p > 0.000$) indicating that the correlation matrix had significant
correlations among at least some of its variables (Hair, Anderson, Tatham, & Black, 1998), however, given the substantial sample size, this was not unexpected (Tabachnick & Fidell, 2007). In this case the Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy was considered a more sophisticated measure of factorability and was found to be 0.93 (> .6), indicating an excellent measure of sampling adequacy (Tabachnick & Fidell, 2007). In addition, an inspection of the anti-image matrices revealed low anti-image correlations. Thus, the correlation matrix was considered appropriate for factor analysis. The data set of 2109 participants is considered an excellent size for factor analysis (Hair et al., 1998; Tabachnick & Fidell, 2007).

### 4.4.4.4 Factor extraction

Principal axis factoring which looks at the common variance between variables while ignoring their unique and error variance (Costello & Osborne, 2005; Tabachnick & Fidell, 2007) was used to explore the relationship between the remaining 29 items of the MACS-A. The variables within the MACS-A were related and, therefore, factors were rotated obliquely using oblimin rotation, which is argued to improve accuracy and increase the likelihood of achieving reproducible solutions (Costello & Osborne, 2005). This decision was also based on the fact that the primary goal of the factor analysis in the current study was to obtain several meaningful theoretical factors, and as Hair et al. (1998) point out, in any analysis there are very few factors that are uncorrelated.

### 4.4.4.5 Selection of factors

Eigenvalues criterion and scree test criterion were used to determine the number of initial factors to be extracted. Velicer and Jackson (1990) make the point, however, that eigenvalues are one of the least accurate methods for determining the number of factors to be retained. Furthermore, a study by Costello and Osborne (2005) indicated a 36% over-extraction of factors using eigenvalues. Scree test criterion, on the other hand,
is argued to be the best choice when other methods, such as parallel analysis are unavailable (Costello & Osborne, 2005).

An initial PFA with oblimin rotation extracted six factors with eigenvalues greater than one, accounting for 39.2% of the common variance, with the first factor accounting for 25.1% of the variance, factor two 4.2%, factor three 3.4%, factor four 2.6% factor five 2.0% and factor six 1.7%. A review of the scree plot revealed the presence of four or five prominent factors with factor one accounting for the majority of the variance. There were no cross-loaded items. Factor loadings less than .40 were suppressed from analysis, as the greater the loading, the more likely the variable is a pure measure of the factor (Tabachnick & Fidell, 2007).

In pursuit of the most parsimonious explanation of the constructs underlying the 29 items, two separate PAF runs were performed (Hair et al., 1998) specifying four and five factor solutions. Variables that loaded less than 0.40 were suppressed from all analyses, guided by the rule of thumb recommended by Tabachnick and Fidell (2007).

The four-factor solution yielded a clean factor structure, accounting for 35.4% of the variance. Following rotation 21 items were retained with no cross-loaded items. Factor 1 consisted of nine items and accounted for 27% of the variance: Factor 2, four items and 6.6% of the variance; Factor 3, six items and 5.5% of the variance; and Factor 4, two items and 4.6% of the variance. The rotated factor loadings and communalities for the four-factor solution are presented in Table 4.8 below:
The five-factor solution also yielded a clean factor structure, accounting for 37.2% of the variance. Following rotation 24 items were retained with no cross-loaded items. Factor 1 consisted of eight items and accounted for 27.0% of the variance; Factor 2, four items and 6.6% of variance; Factor 3, six items and 5.5% of variance; Factor 4, five items and 4.6% of variance; and Factor 5, one item and 4.3% of the variance. The rotated factor loadings and communalities for the five-factor solution are presented in Table 4.9 below:
When comparing the four-factor and five-factor solutions there was very little difference between the two with regard to the overall variance accounted for by the analyses. Likewise a review of the communalities rendered similar results.

Interpretability is also an important factor to consider when coming to an understanding of the basic structure underlying a set of variables (Hair et al., 1998; Tabachnick & Fidell, 2007; Yen et al., 2002). Both solutions offered similar interpretations of the factors (described below), however, in the five-factor solution, Factor 4 contained four

Table 4.9  
MACS-A (29 items) rotated factor loadings and communalities for the 5-factor solution for the 24 retained items (N = 2109)

<table>
<thead>
<tr>
<th>Item</th>
<th>Original Sub-scale</th>
<th>Factor 1</th>
<th>Factor 2</th>
<th>Factor 3</th>
<th>Factor 4</th>
<th>Factor 5</th>
<th>( h^2 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>19</td>
<td>Anxiety</td>
<td>0.55</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.43</td>
</tr>
<tr>
<td>23</td>
<td>Anxiety</td>
<td>0.54</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.37</td>
</tr>
<tr>
<td>25</td>
<td>Anxiety</td>
<td>0.52</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.53</td>
</tr>
<tr>
<td>14</td>
<td>Anxiety</td>
<td>0.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.41</td>
</tr>
<tr>
<td>32</td>
<td>Anxiety</td>
<td>0.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.37</td>
</tr>
<tr>
<td>34</td>
<td>Anxiety</td>
<td>0.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.36</td>
</tr>
<tr>
<td>39</td>
<td>Anxiety</td>
<td>0.47</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.41</td>
</tr>
<tr>
<td>5</td>
<td>Anxiety</td>
<td>0.44</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.30</td>
</tr>
<tr>
<td>7</td>
<td>Anxiety</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.28</td>
</tr>
<tr>
<td>16</td>
<td>Anxiety</td>
<td>0.48</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.30</td>
</tr>
<tr>
<td>9</td>
<td>Anxiety</td>
<td>0.47</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.30</td>
</tr>
<tr>
<td>20</td>
<td>Anxiety</td>
<td>0.43</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.24</td>
</tr>
<tr>
<td>37</td>
<td>Anxiety</td>
<td>0.43</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.24</td>
</tr>
<tr>
<td>18</td>
<td>Depression</td>
<td>-0.67</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.54</td>
</tr>
<tr>
<td>12</td>
<td>Depression</td>
<td>-0.67</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.59</td>
</tr>
<tr>
<td>36</td>
<td>Depression</td>
<td>-0.61</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.49</td>
</tr>
<tr>
<td>24</td>
<td>Depression</td>
<td>-0.60</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.58</td>
</tr>
<tr>
<td>28</td>
<td>Depression</td>
<td>-0.56</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.52</td>
</tr>
<tr>
<td>4</td>
<td>Depression</td>
<td>-0.45</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.32</td>
</tr>
<tr>
<td>26</td>
<td>Depression</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.24</td>
</tr>
<tr>
<td>3</td>
<td>Depression</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.16</td>
</tr>
<tr>
<td>8</td>
<td>Anger</td>
<td>0.80</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.58</td>
</tr>
<tr>
<td>10</td>
<td>Anger</td>
<td>0.54</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.40</td>
</tr>
<tr>
<td>38</td>
<td>Anger</td>
<td>0.51</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.48</td>
</tr>
<tr>
<td>1</td>
<td>Anger</td>
<td>0.46</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.24</td>
</tr>
<tr>
<td>33</td>
<td>Anger</td>
<td>0.46</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.46</td>
</tr>
<tr>
<td>15</td>
<td>Anger</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.45</td>
<td>0.23</td>
</tr>
<tr>
<td>27</td>
<td>Anger</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.32</td>
</tr>
<tr>
<td>29</td>
<td>Anger</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.09</td>
</tr>
</tbody>
</table>
items as opposed to only two items in the four-factor solution. Costello and Osborne (2005) assert that factors with less than three variables should be excluded. On this basis, a decision was made to accept the five-factor solution and to exclude the fifth factor, which contained only one variable with a low communality. When reviewing the items within Factor 3, item 4 indicated it was measuring control of depressive feelings rather than a fear of depressive feelings as measured by the other items in this factor. Given this item had the lowest loading on this factor it was decided to exclude it from Factor 3.

4.4.4.6 Description of the derived factors

The preceding analysis produced four factors containing a total of 22 items, described below:

Factor 1 “Fear of Anxious Feelings” (8 items): Includes items 5, 14, 19, 23, 25, 32, 34 and 39. A perception that feelings of nervousness or anxiety are overwhelming/unmanageable, for example, item 19 “It scares me when I am nervous” and item 23 ”There is nothing I can do to stop feeling nervous once it has started”.

Factor 2 “Control of Anxious Feelings” (4 items): Includes items 16, 9, 20 and 37. A perception that feelings of nervousness or anxiety are manageable, for example item 16 “I am able to stop myself from becoming overly anxious” and item 20 “being nervous isn’t much fun, but I can handle it”.

Factor 3 “Fear of Depressive Feelings” (5 items): Includes items 18, 12, 36, 24 and 28. A perception that feelings of depression or sadness are overwhelming/unmanageable. For example, item 18 “I am afraid I might try to hurt myself if I get too depressed” and item 24 “When I start feeling ‘down’, I think I might let the sadness go too far”.

Factor 4 “Fear of Angry Feelings” (5 items): Includes items 8, 10, 38, 1 and 33. A perception that angry feelings are overwhelming/unmanageable. For example, item 8 “I
am afraid I will hurt someone if I get really angry” and item 38 “I am afraid that letting myself feel really angry about something could cause me to totally lose it”.

4.4.4.7 Unweighted factor-based scales

Variables identified by the factor analysis were used to create unweighted factor scores (de Vaus, 1991) by summing the scores of the items from each derived factor and dividing that by the number of items to obtain a mean score. This method was selected as it is argued that this simple way of calculating factor scores has the most generalisability if comparisons with other studies are to be made (Costello & Osborne, 2005).

4.5 b) Internal consistency of the MACS-A Revised (22-item)

Cronbach alpha coefficients were used to determine the internal consistency of the four sub-scales; Fear of Anxious feelings, Control of Anxious Feelings, Fear of Depressive Feelings and Fear of Angry Feelings, as well as the total scale, Fear of Emotion making up the 22-item MACS-A Revised.

Means, standard deviations, inter-item correlations and reliability coefficients for the four derived factors and the total scale are presented in Table 4.10. The 22-item total scale scores (Fear of Emotions) were normally distributed around a mean of 74.21 (SD = 19.17). Each of the sub-scale total scores was normally distributed, with means ranging from 14.09 to 24.55. Internal consistency of the Fear of Emotions scale was good (α = 0.90) with item-total correlations ranging between 0.47 and 0.63. With regards to the derived factors; Fear of Anxious Feelings, Fear of Depressive Feelings and Fear of Angry Feelings, all displayed good internal consistencies (α’s > .70). Notably, the internal consistency of the Fear of Angry Feelings (α = .75) showed an
improvement in reliability when compared to that of the original MACS-A ($\alpha = .68$). However, the Control of Anxious Feelings factor displayed only marginally acceptable internal consistency ($\alpha = .59$) with item-total correlations of between 0.36 and 0.41. Removal of any of the four items within this scale would not improve its internal consistency and so all items were retained.

Table 4.10  
*Means, Standard Deviations, Inter-Item Correlations and Internal Consistencies of the derived factors and total scale (MACS-A Revised)*

<table>
<thead>
<tr>
<th>Sub-Scale (Number of items)</th>
<th>Total Mean (SD)</th>
<th>Item Mean (SD)</th>
<th>((\alpha))</th>
<th>Range of Item-total correlations</th>
<th>Range of inter-item correlations</th>
<th>Mean inter-item correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fear of Anxious Feelings (8)</td>
<td>24.55 (7.77)</td>
<td>3.07 (0.83)</td>
<td>0.82</td>
<td>0.47 - 0.63</td>
<td>0.27 - 0.51</td>
<td>0.37</td>
</tr>
<tr>
<td>Control of Anxious Feelings (4)</td>
<td>14.09 (3.56)</td>
<td>3.52 (0.37)</td>
<td>0.59</td>
<td>0.36 - 0.41</td>
<td>0.21 - 0.40</td>
<td>0.27</td>
</tr>
<tr>
<td>Fear of Depressive Feelings (5)</td>
<td>14.44 (6.43)</td>
<td>2.89 (0.58)</td>
<td>0.85</td>
<td>0.62 – 0.69</td>
<td>0.46 – 0.59</td>
<td>0.52</td>
</tr>
<tr>
<td>Fear of Angry Feelings (5)</td>
<td>17.61 (5.66)</td>
<td>3.52 (1.25)</td>
<td>0.75</td>
<td>0.39 - 0.56</td>
<td>0.25 - 0.48</td>
<td>0.37</td>
</tr>
<tr>
<td>Fear of Emotions (22)</td>
<td>74.21 (19.17)</td>
<td>3.23 (1.77)</td>
<td>0.90</td>
<td>0.28 - 0.67</td>
<td>0.05 - 0.59</td>
<td>0.27</td>
</tr>
</tbody>
</table>

Table 4.11 presents the correlations among the four sub-scales and with the total scale. All correlations were found to be significant, suggesting that these four derived sub-scales are reliable measures of the fear of emotion construct. The total Fear of Emotion scale was highly correlated with the Fear of Anxious Feelings and Fear of Depressive Feelings sub-scales, while moderate correlations were found with the Control of Anxious Feelings and Fear of Angry Feelings sub-scales. Correlations between the four sub-scales were low to moderate, indicating relatively discreet dimensions of the fear of emotions construct were being measured. A possible exception to this was the correlation between the Fear of Anxious Feelings sub-scale
and the Fear of Depressive Feelings sub-scale, which displayed a comparatively higher degree of overlap \( r = .63 \).

**4.6 c) Temporal stability of the MACS-A**

Due to the need to maintain anonymity of participants, data was de-identified leading to unmatched comparison samples between Time 1 (T1) and Time 2 (T2). This sample issue would likely compromise validity if the usual Pearson product-moment correlation was used to assess test-retest reliability. Therefore, the current study used a comparison of factor analysis loadings on each of the four sub-scales at T1 and T2. School G with outliers removed \( n = 741 \) was selected, due to it having a good sample size and closely matched T1 and T2 samples (refer to Tables 4.1 and 4.2). Principal factors analysis (PFA) was conducted on the original (T1) and retest data (T2).

Table 4.12 presents the factor loadings on items for comparison at T1 and T2. Factor 1, Fear of Anxious Feelings had four common items; Factor 2, Control of Anxious Feelings two common items; Factor 3, Fear of Depressive Feelings, six common items; Factor 4, Fear of Angry Feelings, no common items. The PFAs at T1
and T2 produced relatively clean factor structures, similar to those found in the analysis of the original data. A comparison of items and their corresponding factor loadings at T1 and T2 show that the items underlying Factors 1, 2 and 3 were similar and, therefore, relatively stable over time. A review of individual items within Factor 4 showed that the three items extracted at T1 consisted of items related to Fear of Angry Feelings, while the two items extracted at T2 related to Control of Angry Feelings, and so, in more general terms, were broadly similar.

Table 4.12  Comparison of Factor Loadings at T1 and T2 for School G

<table>
<thead>
<tr>
<th>Item</th>
<th>Time 1 (n = 362)</th>
<th>Time 2 (n = 379)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F1</td>
<td>F2</td>
</tr>
<tr>
<td>34</td>
<td>0.74</td>
<td></td>
</tr>
<tr>
<td>39</td>
<td>0.69</td>
<td></td>
</tr>
<tr>
<td>32</td>
<td>0.59</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>0.50</td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>0.44</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>0.44</td>
<td></td>
</tr>
<tr>
<td>33</td>
<td>0.41</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>0.62</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>0.59</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>0.45</td>
<td></td>
</tr>
<tr>
<td>36</td>
<td>-0.66</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>-0.63</td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>-0.63</td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>-0.61</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>-0.54</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>-0.51</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td></td>
<td>0.72</td>
</tr>
<tr>
<td>1</td>
<td></td>
<td>0.43</td>
</tr>
<tr>
<td>38</td>
<td></td>
<td>0.42</td>
</tr>
</tbody>
</table>

NB: Items are in order of item weightings. Items with similarly loaded items in Time 1 are in bold type.
Key: F1 = Fear of Anxious Feelings, F2 = Control of Anxious Feelings, F3 = Fear of Depressive Feelings, F4 = Fear of Angry Feelings
4.7 Study 4: Internal consistency of the MACS-A in a sample of young adults aged 18 and 19 years.

The internal consistency of the MACS-A (41 items) in a sample of undergraduate students aged between 18 and 19 years is compared against the internal consistency of the original ACS (Williams et al., 1997).

4.7.1 Method

4.7.1.1 Overview

In presenting this study, reference is made to data collected by Cleator (2012) in partial fulfilment of the degree of Postgraduate Diploma of Psychology, Murdoch University. Cleator’s study developed an on-line survey instrument designed to assess the psychometric properties and construct validity of a short form of the MACS-A, using a community sample of young adults aged 18 to 19 years of age. The following is limited to a description of the data set drawn from this study that is relevant to the purposes of the current thesis. More specifically, only the data collected from the 41-item MACS-A was used within the current study.

4.7.1.2 Ethical considerations

This study received approval from the Human Research Ethics Committee at Murdoch University, Perth, Western Australia. On accessing the on-line survey, participants were presented with an information letter including the nature and purpose of the study and the voluntary nature of participation (see Appendix G). Anonymity and confidentiality were assured and information on how to access results was provided. Contact details for relevant counselling services if needed were also provided. Participants were requested to provide consent for participation (see Appendix H).
4.7.2 Participants
A total of 73 young adults participated voluntarily in the survey, consisting of 22 males, 49 females and two who failed to indicate their gender. This study specifically targeted young adults, aged 18 \( (n=56) \) and 19 years \( (n=15) \). Participants were recruited from the following sources (see Appendix I):

i) Psychology Subject Pool website

ii) Posters placed on the university campus

iii) An on-line advertisement via Facebook

iv) Researchers’ personal Facebook and email networks

4.7.3 Materials
The on-line survey consisted of four measures (see Appendix J) and was administered in the following order:

i) Modified Affective Control Scale for Adolescents (MACS-A, 41 items):
   described earlier in this thesis (Section 4.2.1.2)

ii) Depression, Anxiety and Stress Scale (DASS 21 item version)

iii) Anger Scale (7 items)

iv) MACS-A (16 items): a 16-item version of the MACS-A incorporating items selected from Principal Components Analysis and developed by the current author in consultation with her dissertation supervisor. An additional ‘Emotion Control Question’ was added by Cleator (2012) at the end of the survey:
   “Overall, how much control do you have over your emotions,” followed by a demographic questionnaire.

4.7.3.1 Procedure
Before ‘going live,’ the on-line survey was piloted with three individuals aged 17 to 19 years old. The survey took approximately 30 minutes to complete.

Advertisements of the survey included a rationale and on-line links that took participants directly to the survey website. A participation incentive was offered, being the opportunity to enter a draw for a $50 iTunes gift certificate. University students recruited through the Subject Pool website were given the option of earning an hour of psychology credit, rather than entering the draw.

Instructions for completing the survey were standardised by asking participants to read each statement and select the most applicable response in relation to how they had felt over the previous week.

4.7.4 Results

The data were analysed using the SPSS computer package, version 22.0 for Windows. Prior to analysis, data were screened by way of univariate descriptive statistics to ensure accuracy of data entry. Analysis revealed no missing values. Box plots were used to screen for univariate outliers. Three outliers were detected and individually reviewed, revealing one participant with extreme responding to most items. Analyses were run with and without this participant, with minimal impact on the final outcome. Therefore, this participant was retained in the analysis.

Cronbach alpha coefficients were used to determine the internal consistency of the four sub-scales of the MACS-A namely, Fear of Anger, Fear of Depressive Mood, Fear of Positive Affect and Fear of Anxiety, as well as that of the total scale, Fear of
Emotion. As discussed previously (Section 4.2.2.3), a given sub-scale was considered to be sufficiently reliable if the alpha level was greater than or equal to .65.

Means, standard deviations and reliability coefficients for the MACS-A in high school and young adult samples, and the original ACS are presented in Table 4.13. The 41-item scale total scores of the MACS-A in the young adult sample were normally distributed around a mean of 3.54 ($SD = 0.93$). Each of the sub-scale scores was normally distributed, with means ranging between 3.23 and 3.81. Internal consistency was satisfactory for the total scale score and four sub-scale scores. The MACS-A displayed similar alpha coefficients to that of the original ACS (Williams et al., 1997) with the exception of the Fear of Depressive mood sub-scale, which displayed a somewhat lower alpha coefficient in the high school and young adult samples to that of the original ACS. Standard deviations of the MACS-A are reasonably consistent across the scale and parallel those of the original ACS.

Table 4.13  
Means, standard deviations and internal reliability coefficients of the MACS-A in high school students and young adults compared with the original ACS (Williams et al., 1997)

<table>
<thead>
<tr>
<th>Fear of Emotion</th>
<th>MACS-Aa</th>
<th>MACS-Ab</th>
<th>ACS*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
</tr>
<tr>
<td>Anger</td>
<td>3.66</td>
<td>0.84</td>
<td>0.65</td>
</tr>
<tr>
<td>Anxiety</td>
<td>3.32</td>
<td>0.81</td>
<td>0.83</td>
</tr>
<tr>
<td>Depressive Mood</td>
<td>3.28</td>
<td>1.04</td>
<td>0.81</td>
</tr>
<tr>
<td>Positive Emotion</td>
<td>3.15</td>
<td>0.72</td>
<td>0.74</td>
</tr>
</tbody>
</table>

aHigh school students ($n=2109$)

b18 and 19 year olds ($n=73$)

*Williams et al. (1997) ($n=105$)
Table 4.14 presents the inter-correlations among the four sub-scales of the MACS-A in the young adult sample. As found in Study 1 using an adolescent sample, the moderately low correlations between all sub-scales indicate that relatively discrete dimensions of the fear of emotions are being measured. The results are comparable to those of the original ACS found by Williams et al. (1997). And again, reflective of Study 1, the degree of overlap between the Fear of Positive Emotion and Fear of Depressive Mood sub-scales is noticeably lower on the MACS-A than on the original ACS.

Table 4.14  

<table>
<thead>
<tr>
<th>Sub-scale inter-correlations of the MACS-A in young adult sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fear of Anger</td>
</tr>
<tr>
<td>Anger</td>
</tr>
<tr>
<td>Depressive Mood</td>
</tr>
<tr>
<td>Positive Emotion</td>
</tr>
</tbody>
</table>

NB: Figures in parentheses are original data taken from Williams, Chambless & Ahrens (1997)

4.8 Discussion of studies 1 through 4

4.8.1 Psychometric properties and clinical utility of the MACS-A

The internal consistency of the MACS-A was established in Studies One, Two and Four. Results from Study One, involving the assessment of a sample of 12-17 year old high schools students (N = 2,128), representative of high to low socio-economic areas, found the whole scale measure of Fear of Emotion, and each of its four sub-scales, measuring Fear of Anger, Fear of Depressive Mood, Fear of Positive Emotion and Fear of Anxiety displayed acceptable internal consistency. This pattern of results indicates that the 41 items within the MACS-A consistently measure the same construct, that is, the Fear of Emotions in adolescents aged between 12 and 17 years.
Likewise, results from Study Two indicated both the MACS-A whole scale and each of its four sub-scales were internally consistent within a sample of adolescents (N = 60) drawn from community mental health clinics. This finding is significant, since these adolescents often experience extreme difficulties in attention and concentration due to current states of depression and/or anxiety related conditions that potentially compromise the reliability of findings. Thus, these results suggest that the MACS-A is a reliable measure of difficulties in regulating emotions in clinical adolescent populations, in the form of fear of their own emotions or of their behavioural reactions to emotions.

Similarly, findings from Study Four assessing the reliability of the MACS-A (41-item) in a population of young adults (N = 73), aged 18 and 19 years, found the main scale and each of its four sub-scales to have satisfactory internal consistency within this population, and to be reflective of results found for the adolescent samples in studies 1 and 2. This result adds weight to confidence in the usefulness of this measure with adolescents, inclusive of ages 12 to 19 years.

The capacity of the MACS-A to effectively discriminate between adolescents presenting with known psychological difficulties, from those in the general population of adolescents was established in Study 2. Results indicated the MACS-A was able to clearly discriminate between matched clinical (those adolescents attending CAMHS) and non-clinical samples of adolescents (N = 60). Adolescents within the clinical sample scored significantly higher than adolescents within the non-clinical sample on both the whole scale measure of Fear of Emotion, and on the sub-scale measures of Fear of Anger, Fear of Anxiety and Fear of Depressive Mood. Thus, adolescents attending the CAMHS clinics reported poorer capacity to regulate their emotions than adolescents from either the public or private school settings across the range of emotions assessed.
Interestingly, the Fear of Positive Emotion sub-scale was, however, unable to
discriminate between the clinic and non-clinic samples, despite the suggested theoretical
importance of including positive emotions within measures of emotion regulation
(Walden, Harris, & Catron, 2003). This lack of discrimination between the two samples
on the Fear of Positive Emotion sub-scale may be reflective of the fact that the period of
adolescence, in contrast to adulthood, is generally seen as a period of high excitement
where the pursuit of fun and positive emotion is the expected norm. Therefore, it is less
likely that adolescents would endorse feeling afraid of high positive emotion, the focus
of questions within this sub-scale.

In study Three, exploratory factor analysis was conducted to examine the
underlying structure of the MACS-A in order to determine the minimum number of
factors needed to adequately represent the data set ($N = 2128$). Four factors emerged
from factor analysis: Factor 1 “Fear of Anxious Feelings” (8 items), Factor 2 “Control
of Anxious Feelings” (4 items), Factor 3 “Fear of Depressive Feelings” (5 items),
Factor 4 “Fear of Angry Feelings” (5 items). This new version of the MACS-A, the
MACS-A-Revised, consisted of a total of 22 items.

Reliability analyses for the MACS-A-Revised unweighted factor scores
indicated adequate internal consistency for Factor 1, Factor 3 and Factor 4, with
reliability coefficients ranging from .75 to .85, and .90 for the total score. Factor 2,
which assesses control, rather than fear of anxious feelings, displayed only marginal
internal consistency (.59). Notable, is the finding that the Fear of Anger sub-scale on the
MACS-A-Revised showed an improved degree of internal consistency ($\alpha = .75$)
amongst its items, when compared to that of the MACS-A in this sample ($\alpha = .65$),
adding further confidence in the overall reliability of this revised version of the MACS-A. In addition, relatively discreet dimensions of the fear of emotions construct were found to be measured by the four sub-scales of the MACS-A-Revised, with the exception of the Fear of Anxious Feelings and Fear of Depressive Feelings sub-scales, which showed a somewhat higher degree of overlap. The higher degree of overlap between these two sub-scales may be reflective of the known difficulties in differentiating between anxiety and depression in childhood and adolescence, with some features of anxiety found to be indistinguishable from those of depression (Bernstein & Garfinkel, 1986; Bress, Meyer, & Hajcak, 2015). In comparison, Factor 2, which measures control of anxious feelings, was relatively distinct from Factor 3, fear of depressive feelings, and for this reason is likely to be a worthwhile sub-scale to further refine in the future development of the MACS-A. The MACS-A-Revised developed as part of the current thesis, requires further psychometric development.

Study Three also looked at the temporal stability of the MACS-A across a two-week period by performing separate PFA’s at T1 and T2 with participants drawn from the same school. A comparison of factor loadings revealed the structure of the MACS-A to be relatively robust across this period, adding strength to the usefulness of the MACS-A as a reliable and valid way of measuring treatment outcome.

The limitations of the present studies need to be acknowledged. Specifically, the results may not extend to other clinic and non-clinic samples. This places some limitations on the degree to which findings from the current studies can be generalised to other populations, and needs to be addressed in future research. Furthermore, the way in which data was analysed to provide evidence of temporal stability was not optimal. It would have been preferable to find a confidential way of identifying, and therefore
linking individuals at T1 and T2, so that a more fine-grained test/retest analysis could have been conducted, and/or the calculation of discrepancy scores.

The current studies also had two noteworthy strengths. First, increased statistical power was obtained in the first and third studies by way of the large and heterogeneous nature of the sample, a requirement for estimating reliability, and, in particular, when conducting factor analytic studies. Second, the potential for confounds between the three sample groups of the second study was reduced by closely matching participants on gender and age variables. Both strengths add confidence to the potency of these studies’ findings.

The ability of the MACS-A to identify adolescents experiencing difficulties in regulating their emotions holds important practical and theoretical implications for the potential usefulness of this measure as an assessment tool within clinic and non-clinic settings. Most importantly, in light of the reported increase in the numbers of adolescents presenting with problems associated with dysregulated emotions, particularly self-harm and suicidal behaviours, evidence from the current studies suggest the MACS-A has the potential to reliably evaluate those ‘at-risk’ adolescents who would most benefit from interventions targeting emotional dysregulation difficulties.

The MACS-A also has an inherent potential as a measure of treatment outcome. It has been strongly argued that the period of adolescence is a critical developmental period in which to intervene (Cicchetti & Toth, 1996). At the time of the initial development of the MACS-A, there was no established measure of adolescent emotion regulation available to determine the success or not of adolescent interventions. Since that time, the DERS (Gratz & Roemer, 2004), reviewed in Chapter 3 of this thesis, was
re-evaluated for use in adolescent samples (Neumann et al., 2010; Weinberg & Klonsky, 2009). However, both the external validity and discriminative ability of the DERS were called into question (Section 3.2). Counter to this, the REQ (Phillips & Power, 2007) was found to have clinical relevance by way of its ability to discriminate between externalising and internalising difficulties although assertions made about its theoretical structure and validity were questioned and warrant further attention. Within the current methodological context, the MACS-A, more specifically its 22-item revision, is well positioned to address inadequacies of past research in this important area of emotional assessment, following further validation studies.

Furthermore, given that the construct of emotion regulation has the potential to unify a number of overarching psychosocial and behavioural difficulties, the MACS-A may prove useful as a tool for those working within clinical or educational settings. In this regard, future research may benefit from looking at developing a shorter version of the MACS-A, and testing its psychometric properties in other clinical, non-clinical and ethnic minority groups. There is also a need to test the ability of the MACS-A to converge with other independent measures of emotional reactivity.

In a discussion of the relationship between emotion regulation and childhood anxiety, Weems and Silverman (2006) argued that the perception of emotional control may bear little relationship to actual control, while others suggest a direct link between perceived or ‘illusory’ control and ‘true’ regulation (Taylor & Brown, 1988). The current findings would suggest that, in terms of adolescents fearing their own emotions, their perception of a lack of control is linked to actual problematic functioning and is not merely illusory. Future research with adolescents would benefit from a closer examination of this relationship by combining the measurement of emotion regulation
via the MACS-A with other clinical measures tied to actual outcomes, for example, measures of anxiety, anger and depression. Establishing the links between problematic levels of emotion dysregulation, as measured by a specific instrument such as the MACS-A, and specific clinical diagnoses is an important next step in understanding the impact of dysregulated emotion on adolescent functioning.

In particular, findings from Study Two indicated the likelihood of a predictable link between an adolescent’s fear of his/her negative emotions, specifically anger, depression and anxiety, and his/her mental wellbeing. This finding supports the theoretical positions of Linehan (1993a) and others (e.g., Gross & Muñoz, 1995; Keenan, 2000; Kobak & Ferenz-Gillies, 1995; Putnam & Silk, 2005), who have argued that difficulties in regulating emotions are linked to psychopathology, including the self-harm and suicidal behaviours of adolescents.

As discussed previously, Factor 2, which measures control of anxious feelings, shows an independence from other sub-scales on the MACS-A (Revised) while retaining its association with the whole-scale Fear of Emotion construct. As such, this sub-scale is likely to be a valuable addition to research efforts aimed at exploring adolescent emotional and mental health functioning. Future research needs to further develop additional items for this sub-scale, targeting self-perceived control of anxious feelings, with further reliability and validity studies conducted.

4.8.2 Summary and conclusions

The four studies presented in this chapter have established the following:
• Internal consistency of the MACS-A whole scale and its four sub-scales within the general adolescent population and a clinical sample of adolescents aged 12 to 17 years.

• Internal consistency of the MACS-A within young adults aged 18 and 19 years.

• Capacity of the MACS-A to discriminate between clinical and non-clinical adolescents.

• A new version of the MACS-A, the MACS-A-Revised, consisting of 22 items measuring Fear of Emotions and four sub-scales measuring Fear of Anxious Feelings, Control of Anxious Feelings, Fear of Depressive Feelings and Fear of Angry Feelings.

• MACS-A-Revised whole scale and sub-scales internally consistent with improvement in reliability over the MACS-A on the Fear of Anger sub-scale.

• Temporal stability of the MACS-A over a two-week period

In conclusion, further evaluation of the MACS-A and its revised version is needed. However, when considering the centrality of emotion dysregulation to adolescent behaviours, such as self-harm, suicide, drug and alcohol misuse, aggression and interpersonal difficulties, future research developing treatment programmes for this population of adolescents would likely benefit from the inclusion of the MACS-A. With regard to the context of the current thesis, the MACS-A was found to be reliable and to have a robust structure, adding weight to its construct validity. That is, the MACS-A can reliably and validly measure adolescents’ perceived fear of their emotions, which is argued within this thesis to be an important component of dysregulated emotional experience, with consequent maladaptive behavioural outcomes.
Part B

‘Life Surfing’: A Dialectical Behaviour Therapy Programme for Treating Self-Harm and Suicidal Ideation in Adolescents

‘Life Surfing’

One way of thinking about our emotions is to think of them like the ocean. If you imagine the sea, you might picture it as flat, calm and blue, or as crashing surf, or small rocking waves.

Just as the ocean can change, so can our emotions. With the ocean, it is the weather that might cause changes - high winds or still sunny days can make a difference to how the waves react. In our lives, it can be problems with friends or family, stress about school, things that happen in our environment and around us that may affect our emotions.

Sometimes you can see a storm brewing that might whip the waves up, other times the change may happen with little warning. But what we know for certain, about the sea and about our emotions – they chop and change.

So, like waves, our emotions may at one moment be calm and serene, and at another rocky and angry. We might float along on a happy emotion, or be swept away by anger, we might experience small emotional ups and downs, or we might get dumped by a big wave of sadness and hopelessness.

We can either let our emotions push us around and move us along - or we can learn how to harness our emotions. We can learn how to float with our feelings, letting them wash over us, or how to surf the big feelings, not letting them crash over us, but taking control, and riding the wave!

This programme is about learning how to ride the waves of emotion - not to be swept away by them, but to recognise weather changes (emotional warning signs), go with the flow, and deal with getting dumped by a wave. Once you know how to ride the waves, you should have these skills with you to surf any breaker that comes your way.

Kari Centre (CAMHS) DBT Consult Group:
Epeneesa Olo-Whaango, Maria Ludbrook, Kirsten Thickpenny-Davis, Carolyn Field, Helen Temperton
Chapter 5
Preamble to Study 5

5.1 Introduction

This chapter is an expanded preamble to the published study that is presented in the next chapter. That chapter is the end result of several years of work, however, for the most part that work cannot be fully appreciated by reviewing only the final published paper. The amount and detail of the work necessary to develop and implement the DBT-A programme within a community-based CAMHS setting, with no additional funding, bears important implications for those clinicians wishing to learn from the current author’s experience, and who hope to put similar programmes in place. In addition, the paper presented in Chapter 6 represents only the first piloting of the DBT-A programme, ‘Life-Surfing,’ carried out in 2006. A second ‘Life-Surfing’ programme was put in place in 2007, and was based on the knowledge gained from the 2006 programme. All the knowledge gained from implementing both programmes is not reflected in the reprinted paper.

Therefore, a major goal of this preamble chapter is to provide the reader with a broader understanding of the work that went into the development of the ‘Life-Surfing’ programme generally, inclusive of all those who made contributions to the final product and the projects that grew from the original data collection. A further goal is to explicate some of the finer details of how these programmes were implemented in order to maximise success.
5.2 **Life Surfing: Development and implementation**

The Life Surfing programme was developed over the course of 2005 and 2006, before the book, written specifically for working with suicidal adolescents, by Miller et al. (2007) was published. Every effort was made to develop the programme as closely as possible to that of the original programme set out by Miller, Rathus, Linehan, Wetzler, and Leigh, in their 1997 paper. However, difficulties arose as a matter of course, when trying to modify the adult programme for use with an adolescent population. Many decisions had to be made along the way, and at all times the current author, who also acted as the programme coordinator, consulted with the DBT supervision/consultation team. Programme structure and content was also heavily guided by the writings of Linehan (1993a, 1993b).

Challenges were often presented in relation to the finer points of delivery of the programme when applying essentially adult concepts to an adolescent group. For example, Linehan (1993a) advocates for the notion of ‘consultation-to-the-patient,’ in which patients are encouraged to negotiate effectively with their environment directly, rather than relying on the therapist to do this for them, an important strategy when working with adults. This strategy became somewhat more difficult to put into practice when working with adolescents under the care of their parents. For the most part, however, every effort was made to stay true to the principles and rationale underpinning such concepts in developmentally appropriate ways.

5.2.1 **Ethical considerations**

The gaining of ethical approval spanned the first 18 months of this project, from February 2005 to June 2006. The study received joint approval from the Human Research Ethics Committee at Murdoch University, Perth, Western Australia and the
Human Research Ethics Committee of the South Metropolitan Area Health Service, Perth, Western Australia. All adolescents and their parents were fully informed of the nature of the intervention offered, that all individual and group sessions would be videotaped and that their participation would be entirely voluntary. Adolescents and their parents were also advised they could withdraw from the study at any time without jeopardizing their right to alternative treatment.

5.2.2 Prevalence of child and adolescent mental health disorders

In 1995 the Western Australian Research Institute for Child Health conducted a Child Health Study (Zubrick et al., 1995) and found that the south metropolitan region of Perth, encompassing the two CAMHS clinics that took part in the current study, had the highest incidence of mental health disorder in WA, with a prevalence rate of 21%, compared to the state average of 16%. In 2006, a report, conducted by the WA Health Department, recent at the time of the commencement of this thesis, stated that this region was understood to receive the lowest per capita funding for mental health services to children and adolescents in the metropolitan area. In 2001 the population of children and adolescents (0-17 years) within the district was 25,534. By 2011 the predicted population growth rates for children and adolescents for the catchment area were: 0 to 14 years, 62% and 15 to 24 years, 86%. Prevalence studies and epidemiological surveys indicated that 3-7% of all children and adolescents required specialist mental health assessment and intervention for diagnosable mental health disorders. These figures indicated that some 800 to 1800 children within the catchment area servicing the two clinics of interest in the current study would require access to specialist mental health services in any one year. However, at that time, these clinics had the capacity to assess and treat only 250 children and adolescents per year.
5.2.3 Research design: The intent and the reality

Much has been written about the difficulties of putting theory into practice within ‘real’ world settings, and this project was no exception. The original intent of this author, after reviewing all of the available literature on adolescents and DBT, and taking into account the high numbers of referrals (30-50%) of adolescents who self-harm into the CAMHS clinics in question, was to carry out the gold standard of outcomes-based research, and conduct a randomized controlled trial complete with a treatment-as-usual comparison group.

The initial question to be addressed by this study was whether the DBT treatment package would lead to therapeutic change? And the basic design requirement to test this question, according to Kazdin (2003) was either a treatment versus no-treatment or a wait-list control design. For ethical reasons it is preferable to use the wait-list control option, whereby treatment is held off deliberately for a specified period of time. Additionally, the wait-list control design has the added advantage of allowing careful evaluation of treatment effects at different points in the design. Yet, withholding treatment may also be considered unethical, particularly when persons to be treated are considered at-risk, and this consideration is particularly salient when working with children and adolescents.

For this reason a natural wait-list control design was constructed to test the effectiveness of the DBT intervention. Random assignment of subjects and matched controls are not issues in this type of design, since subjects are essentially acting as their own controls. It was intended that that all new clients between the ages of 12 (13th year) and 17 years would fill out baseline measures at time of intake (T1, see below). In general, there is a routine waiting period of up to 12 weeks or greater before clients are
able to receive regular treatment, at which time pre-intervention (T2) measures would be taken. Clients considered to be at significant risk are generally managed by the clinical nurse specialist, as a part of standard practice procedures, and in some cases an initial assessment is carried out by a consultant psychiatrist.

However, a second question of interest was whether the DBT-A intervention would lead to better treatment outcomes than the currently used treatment-as-usual. To answer this question, it was necessary to use a comparative-treatment strategy, whereby one group would be treated using standard practice procedures (i.e., treatment as usual; TAU) and the other group with DBT-A.

A treatment-as-usual group was incorporated into the design as follows:

<table>
<thead>
<tr>
<th>T1</th>
<th>T2</th>
<th>TAU</th>
<th>T3</th>
<th>T4</th>
</tr>
</thead>
<tbody>
<tr>
<td>T1</td>
<td>T2</td>
<td>DBT-A</td>
<td>T3</td>
<td>T4</td>
</tr>
</tbody>
</table>

Time 1 = Baseline
Time 2 = Pre-intervention
Time 3 = Post-intervention
Time 4 = Follow-up (3, 6 and 12 months)

Matched controls would be randomly assigned to either the TAU group or the DBT-A group. Participants would be matched on their MACS-A scores, age and sex, in blocks of eight.

In this way, both TAU and DBT-A group comparisons could be made against baseline functioning and with each other. Past research looking at the effectiveness of DBT has limited itself to comparisons between TAU and DBT intervention groups.
only. The wait-list control design had the advantage of being a more sensitive indicator of treatment effectiveness.

However, despite the relatively high numbers of adolescents presenting with self-harm and associated borderline features, it became apparent that, due to the highly chaotic nature of these adolescent’s lives, and that of their families, engagement into the service was not a straightforward process. Much time was spent assisting clients to attend appointments, with many appointments being made which were either cancelled or unattended. Some clients were visited at home to facilitate engagement, however, in the majority of cases parents often proved to be most problematic, and tended to impede the engagement process. This difficulty with the engagement process was often due to high conflict present in the parent-child relationship, or in some cases the parent was reluctant to be a part of the programme and/or bring their child to the clinic for assessment. A second but related problem was that there were only a limited number of clinicians available who could participate as TAU clinicians. Therefore, a review of the research design needed to be conducted so that the project could be completed within a realistic time frame, and with the resources available. The issue of what design was best to use under the current circumstances was reassessed.

Given the difficulties, it was decided to run the project as a pilot study and to retain the natural waitlist control design, abandoning the TAU group. This still had the advantage of allowing clients to essentially act as their own control, and the design decision meant that they could be tracked across time for a period of 12 months. At this point it was hoped that several groups could be run across the life of the project.
5.2.4 The treatment group

5.2.4.1 Inclusion/Exclusion criteria

Adolescents were considered suitable for the programme if they met the following criteria:

- Aged between 12 (13th year) and 18 (19th year) years
- Average cognitive ability (based on clinicians’ notes, school records) and established reading level (year 5), as measured by the Neale Analysis of Reading Ability (Neale, 1999).
- Referred to the service because of deliberate self-harm and/or suicidal ideation in the previous 12 months.
- A minimum of three BPD features as determined by clinician assessment and according to DSM-V criteria

Clients were excluded from the programme on the basis of the following criteria:

- a primary diagnosis of a psychotic disorder
- a primary diagnosis of substance abuse
- an intellectual disability.

5.2.4.2 Recruitment of adolescents and parents into the programme

Prospective clients were identified during weekly intake meetings. The programme co-ordinator sent a letter of invitation to participate in research to parents and this was followed with a phone call one week later during which an appointment was made for an interview to complete baseline measures. At this early stage, a rationale was developed to maximize interest in the programme that involved presenting the programme as something ‘new’ and ‘special,’ requiring entry to be gained rather than assumed.
Thus, when speaking to parents prior to the initial interview, they were told that this was a new initiative of the service and was based on a programme that had been developed in the USA, specifically for adolescents who were experiencing difficulty regulating their emotions. It was explained that it was a joint treatment and research programme. It was also stressed that attending the interview did not mean they would be automatically accepted into the programme but that entry would be based on the adolescent meeting certain criteria, and that they would be required to fill out some questionnaires.

Both parent/s and adolescent were invited to the interview and were initially seen together. The interview was conducted by the programme coordinator and involved an explanation of the rationale underpinning the dialectical behavioural approach, specifically, emotion regulation difficulties and links to maladaptive solutions such as self-harm, alcohol and drug abuse, suicidal thoughts and relationship difficulties. The programme content, structure and commitments were then explained including research components and, most importantly, the videotaping of all sessions. Initial agreement to participate in the research was sought from parent/s and adolescent. The adolescent was then seen alone for assessment of their reading/comprehension, and completion of baseline/pre-treatment questionnaires.

5.2.4.3 Recruitment challenges

The following difficulties were encountered during this process:

- Clients failing to attend scheduled appointments on one or more occasions and failing to engage
Clients failing to return to the service following the waitlist period for various reasons, for example, hospitalisation, being evicted and changing catchment areas.

High-risk clients were often referred for psychiatric assessment. For various reasons these clients were often retained by the psychiatrist for medical management and psychotherapy, and were no longer suitable for the programme. While setting up the DBT programme, the service employed two new consultant psychiatrists onto staff and two psychiatric registrars. Only one psychiatrist became involved in the DBT programme and, at that time, was not working as a DBT therapist which meant that many potential clients were not considered for the DBT-A programme.

As a result, it was very difficult to engage the minimum number of clients (6) needed to get the programme under way, within a manageable time frame. An important point to note here is that a *pre-treatment period* of no less than eight weeks was identified as the minimum period for clients to engage with their individual therapist, and commit to the programme as a whole. Linehan (1993a) discusses the fundamental importance of this stage of treatment as being critical to successful treatment.

Therefore, a decision was made by the team to include currently engaged clients into the pilot programme. The recruitment procedure for these clients was the same as for new clients except for the initial stage, where adolescent and parent/s were informed of the programme by the client’s individual therapist rather than receiving a letter of invitation.

5.2.4.4 Recruitment strategies
The following strategies were found to facilitate willingness to attend the initial interview:

- Adolescents who were referred due to self-harm and/or suicidal behaviours were assessed at home by the CAMHS mental health nurse. The nurse was very proactive in presenting the DBT programme as a treatment option to these families and this lead to an increased interest and preparedness to attend the initial interview by families approached in this way.

- Adolescents were often very resistant to being part of the programme and parents would attempt to coerce or insist the adolescent be part of the programme. It therefore became important to provide the adolescent with the opportunity to choose to enter the programme. Adolescents who were initially reluctant were given some time, usually about a week, to think about being part of the programme and would then often agree in a more cooperative way when provided with a choice. In some cases, however, parents remained intrusive in the decision process.

5.2.4.5 Final adolescent/parent sample

The final sample consisted of six female adolescents, aged between 14.6 years and 15.7 years, with a mean age of 15.1 years. Three adolescents were currently engaged clients of the CAMHS clinic. The remaining three adolescents were new referrals to one of the clinics. All adolescents used English as their first language. A parent accompanied all adolescents. Four mothers and two fathers consented to participate in the programme. Of the six dyads participating, four dyads completed the entire 6-month programme and the remaining two dyads withdrew in the 15th week (23rd week of the programme) of the 18-week skills training group. All six dyads attended separate parent/adolescent focus groups in the week following the end of the programme.
5.2.5 Programme metaphor

In thinking of the best way to work with adolescents and their families, the consultation/supervision team wanted to facilitate interest, learning and participation by presenting the programme in an adolescent-friendly way. Following consultation with Dr Kirsten Thickpenny, the coordinator of an adolescent DBT programme in Auckland, New Zealand, named the ‘Riding the Wave’ programme, the consultation team decided to use a metaphor as a way of unifying programme information and of facilitating understanding of some of the concepts within DBT. The metaphor that was decided upon was ‘Life Surfing,’ as this exemplified the changeable nature of emotions, likened to the waves in the ocean that could be whipped up by a storm.

5.2.6 Programme components

The original DBT programme for adolescents, as described by Miller et al. (1997), consisted of four treatment components; individual therapy, a multi-family skills training group, phone consultation and a therapist consultation group. These researchers also added a further fifth component to their adolescent programme, a 12-week follow-up patient consultation group. It was the original intent of the author to adhere strictly to the original research programme of Miller et al. and provide all five treatment components, however, financial and staff limitations and a lack of insurance indemnity for out-of-work hours, meant that the phone consultation (out-of-hours) and follow-up consultation group components could not be implemented. The following is a description of the components of the DBT ‘Life Surfing’ programme specifically developed for this research project.

5.2.7 Supervision/Consultation team

As mentioned in the overview to this thesis, the idea for this project came about due to a need identified by an interested group of clinicians from within CAMHS. This
group of clinicians became the programme’s supervision/consultation team. This team met every week for two hours for the length of the programme. In the final year of the project, when a second group was run, the team met for one-and-half hours every fortnight until the second programme was completed. The team consisted of clinical psychologists, clinical psychology registrars, social workers, a consultant psychiatrist and the current researcher who coordinated the programme and chaired the team meetings.

When the programme was in the initial stages of its development, supervision/consultation team meetings consisted of two one-hour components and comprised the following:

a) A business meeting in which issues related to programme structure and content were discussed, including programme viability, funding, ethical considerations and clinical concerns.

b) Education of staff in DBT principles. Initially, the programme co-ordinator took on the role of presenting the first three chapters from Linehan’s (1993a) book and reviewing research papers related to adolescents and DBT (Rathus & Miller, 2000) (e.g., Katz, Cox, Gunasekara, & Miller, 2004; Miller, Wyman, Huppert, Glassman, & Rathus, 2000; Rathus & Miller, 2000; Rathus & Miller, 2002). Team members were then encouraged to take on responsibility for their own learning by summarising and presenting chapters from the book, and to facilitate discussion. This discussion often centered on perceived problems in modifying the adult programme to suit adolescents. Other adolescent programmes, for example, Adam Payne’s programme in the U.S.A.,

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1 Registrars have completed a four year undergraduate programme and a two year Masters degree or equivalent doctoral programme in clinical psychology
and the Riding the Wave programme in New Zealand, were reviewed by the team as part of developing Life Surfing.

Once the programme started, team meetings focused on client reviews including the reviewing of videotaped individual and group skills training sessions. Business meetings formed the first part of each meeting every other week.

5.2.7.1 Individual therapy

Clients were seen by their individual DBT clinician once a week (twice weekly, if needed) for the length of the programme. The structure of individual treatment was in line with the standard DBT protocol of Linehan (1993a), which set out a prescriptive treatment hierarchy consisting of four stages:

- A pre-treatment stage involving orienting the client to treatment, gaining commitment, and agreeing on the goals of treatment.
- First stage: focused on client stability, connection and safety, and structured with a specific sub-hierarchy of therapeutic goals:
  1. decrease life-threatening behaviours
  2. decrease therapy-interfering behaviours
  3. decrease quality-of-life interfering behaviours
  4. increase behavioural skills.
- Second stage: involving exposure and emotional processing of the past
- Third stage: looking at increasing respect for the self and individual goals

As per the recommendations of Miller et al. (1997), family members were invited to join individual sessions when dyadic issues dominated.
5.2.7.2 Family skills training group

Both parents were invited to accompany their daughter to the skills training group, however, in all cases only one parent of each daughter volunteered to attend. The group was highly structured and ran for two hours. There were three skills trainers leading the group who took turns in presenting the material. The group room was relatively small and adolescents generally sat next to their parent around a large rectangular table. Tasks were developed so that adolescents would at times be required to interact with each other, as were parents, but this was timed to occur after the first few sessions, when adolescents and parents became better acquainted. Sessions were psycho-educational in focus with an emphasis on learning and practicing of new skills. Each session would commence with a mindfulness exercise, followed by a review of diary cards and skills practiced during the previous week.

At the time of developing the programme, exact information on the content of the programme modules was unavailable and therefore programme materials were developed and written by the current author (available on request). This was achieved by referring to four sources:

- Handouts adapted from Miller, Rathus and Landsman (1999) for the original adolescent programme
- Skills training manual for treating BPD (Linehan, 1993b)
- Handouts produced by Adam Payne which, at that time, were available on line
- Lifeworx programme material – an adolescent DBT group programme developed in Perth, Western Australia by Proctor, Jones, Nathan, and Griffiths (2003)
There were five modules written for the Life Surfing programme in keeping
with the modified programme of Miller et al. (1997):

- Core Mindfulness
- Distress Tolerance
- Emotion Regulation
- Interpersonal Skills
- Middle Path

Modules were presented in the above sequence and each module ran for four
weeks with the exception of the core mindfulness module, which ran for two weeks.
Core mindfulness skills were revisited throughout the length of the programme, and by
the ninth week of the skills training group, adolescents and/or parents volunteered to run
the mindfulness exercise that commenced each week’s group skills training session. The
family skills training group ran for 18 weeks.

5.2.8 Programme phases

The Life Surfing Programme was developed as a research and treatment
programme that consisted of four distinct phases:

5.2.8.1 Phase 1. Gaining consent to participate in treatment and research

The family of the adolescent was contacted by the programme coordinator and
attended an initial appointment with the programme coordinator who explained the
programme content and commitments. Initial consent to participate in research was
gained from both parent/s and adolescent (see Appendix K). It was made clear that this
initial consent did not commit them to participate in the programme and, in fact, that
they may not be suitable for the programme. This initial appointment was to determine
their suitability for the programme, with the adolescent required to fill out two pre-
treatment questionnaires and complete an assessment of their reading and comprehension skills.

5.2.8.2 Phase 2. Adolescent pre-treatment/engagement and parent interviews

During this stage individual clinicians met with adolescents and spent time establishing the therapeutic relationship and gaining commitment, using strategies outlined by Linehan (1993a). The adolescent and family member participating in the family skills training group were also oriented to DBT and a formulation of the adolescent’s difficulties was provided, based on the Biosocial theory of Linehan (1993a). It was a requirement of commitment to the programme that adolescents and their parent/s signed a treatment contract by the 7th week of engagement (see Appendix L) together with individual and group clinicians. Refer to Section 5.2.10 below for specific commitments made by families and clinicians.

Within the first three weeks of the engagement period, parents were asked to attend an interview with the programme coordinator. Parents were informed that the interview would be audiotaped and signed the consent for approval to audiotape. The interview was presented to parents as an important part of evaluating the programme. The parents were also told that a post-programme interview would also be conducted in the same way, so that more knowledge could be gained about what worked and what did not from their perspective. All parents were very keen to be included in this way. These semi-structured interviews (see Appendix M) provided parents with an opportunity to confidentially express their beliefs, feelings, thoughts and ideas about their child, and their relationship with their child, as well as their expectations and hopes associated with participating in the DBT programme.
The parent interviews served a dual purpose; primarily, they were an important adjunct to research, providing a method of evaluating the programme, and of looking at treatment outcome from the parents’ perspective; additionally, they were a way of engaging with parents, assisting them to connect to the programme by validating their feelings and concerns about their adolescent, through active listening. With regard to this second purpose, research by Halaby (2004) has found that unsupportive parental attitude toward treatment was the most powerful predictor of non-compliance with DBT.

5.2.8.3 Phase 3. Treatment

Treatment consisted of weekly individual therapy sessions and the weekly family skills training group. Phase 2 and Phase 3 constituted the Life Surfing programme and ran for a total of 26 weeks.

5.2.8.4 Phase 4. Programme ending

At the end of the 26-week programme, all parents and adolescents returned to be part of a focus group designed to evaluate the Life Surfing programme and to provide a structured ending for all participants. Separate focus groups were run for parents and for adolescents (see Appendix N for focus group questions) and were facilitated by the programme co-ordinator. The focus groups were audiotaped for later analysis. Parents, adolescents and group leaders celebrated the end of the programme and adolescent and parent efforts were acknowledged with the awarding of individualised Certificates of Achievement (see Appendix O). Individual post-group parent interviews were also conducted in the three weeks following the end of the group.
5.2.8.5 Phase 5. Follow-up

Follow-up outcome measures were administered 3, 6 and 12 months post intervention.

5.2.9 Programme materials

5.2.9.1 Diary cards

Linehan (1993a) provided a framework for conducting individual sessions. Each session commenced with a review of diary cards designed to monitor, on a daily basis, client behaviours, emotions and level of distress, as well as a log of skills used or attempted, as a way of managing distress. In the Life Surfing Programme, adult diary cards (Linehan, 1993a) were adapted specifically for adolescents and labelled as the Life Surfing Diary (see Appendix P). The most significant change from the adult version was the inclusion of thoughts associated with maladaptive behaviours. These diary cards were used as a map for individual sessions, pinpointing therapeutic goals on the sub-hierarchy and allowing clients and therapists to develop a joint understanding of the intrapersonal and environmental factors contributing to client difficulties. Parent diary cards were also developed to monitor parent’s use or attempted use of skills learnt during family skills training.

5.2.9.2 Biosocial theory: adolescent/parent form and programme flyer

As a part of Linehan’s non-pejorative stance, adult clients are provided with a ‘biosocial’ formulation of their current difficulties that takes into account intrapersonal vulnerabilities and environmental factors. This explanation occurs very early on in the engagement process as a way of validating client difficulties. However, when working with both adolescent and parent, this approach became more difficult, as in validating the adolescents’ experience, there was a risk of invalidating the parents’ experience.
Therefore, extra care needed be taken in explaining the intergenerational nature of problem behaviours and maladaptive coping responses. To assist with this explanation, the DBT clinical team developed a diagrammatic explanation of the Biosocial theory, which could be referred to throughout the treatment period, in a non-blaming way (see Appendix Q). This model was enlarged and laminated and kept in view during individual and group sessions and became part of the programme promotional flyer (see Appendix R).

5.2.10 Programme parameters

Prior to commencing the programme, adolescents and parents were made aware of the parameters for treatment:

- that treatment would end after completion of the 6-month programme, however, that clients would be reviewed 3, 6 and 12 months post-programme completion, and that where possible, the group would meet again 6 and 12 months post treatment to review progress and practical application of skills learnt
- that withdrawal from the programme would mean that the adolescent would be placed back on the waitlist and be picked up by a non DBT clinician
- that failure to attend five consecutive individual and/or group sessions constituted a withdrawal from the programme, and placement back on the waitlist would follow

5.2.11 Programme commitments: adolescents, parents and clinicians

The behavioural underpinning of the DBT model places a heavy emphasis on the commitment of all people involved in DBT programmes. Therefore, adolescents, parents, individual and group skills clinicians and supervision/consultation team members all made a formal commitment to the Life Surfing programme prior to its
commencement. These commitments formed the basis of the Life Surfing contracts signed by all parties and consisted of the following agreements:

**Adolescents committed to:**
- Weekly individual therapy for the length of the programme (26 weeks)
- Weekly family skills training group (18 weeks)
- Videotaping of all individual and group sessions

**Parent/s committed to:**
- Weekly family skills training group (18 weeks)
- Videotaping of all group sessions

**Clinicians committed to work with clients for 6 months, which included:**
- Weekly individual therapy: 26 weeks (individual therapists)
- Weekly family skills group: 18 weeks (group therapists)
- Attend clinical consultation/supervision group (2hrs/week)
- Videotaping of all therapy sessions

Individual and group clinicians also committed to taking no more than two weeks leave within the six-month period of the programme.

### 5.2.12 Clinician experience and training

All members of the team received one full day of in-house DBT training conducted by two clinical psychologists who were members of the DBT consultation/supervision team. One of these clinicians had attended a five-day intensive training workshop on DBT, while the other clinician was currently coordinating an adult DBT programme and was also a co-leader of the group skills training component of that programme. In addition, Dr Christopher Lee, a recognised trainer in DBT and co-supervisor of the current research, provided two days of in-house training to the
CAMHS service. This training involved two days of lecture presentation with 50% practise of skills in small groups. Recent research indicates that practise-based training leads to better therapeutic outcomes for personality disorder patients than does passive learning (Bamelis, Evers, Spinhoven, & Arntz, 2014).

5.3 **Life Surfing: Measuring outcomes**

5.3.1 **Overview**

The following measures were used to evaluate the outcomes of the DBT intervention and are described in more depth in the published paper that forms Chapter 6 of this thesis:

- Trauma symptoms: Trauma Symptom Checklist for Children (TSCC) (Briere, 1996)
- Emotion regulation: Modified Affective Control Scale for Adolescents (MACS-A) (Geddes, Dziurawiec, & Lee, 2007)

In addition, the quality of the therapeutic relationship and the consultation supervision team relationship were two areas of interest within the original development of the current thesis (see Sections 1.2.3 and 1.2.4). With this in mind, the initial research design also incorporated the following measures:

5.3.2 **Measuring the therapeutic relationship: Barrett-Lennard Relationship Inventory (B-L RI, 1986)**

Barrett-Lennard (1962) developed the original scale based on the work of Carl Rogers (1951) which outlined three concepts necessary for therapeutic change; empathic understanding, unconditional positive regard, and congruence with the patient. Drawing upon these concepts, Barrett-Lennard developed the following four sub-scales of his Relationship Inventory to measure the patient’s perception of the therapeutic
relationship, argued to be indicative of the therapist’s competence.

**B-L RI dimensions (see (Barrett-Lennard, 1962, pp. 4-5):**

- **Level of regard** – positive and negative feelings constitute this sub-scale. Positive feelings of respect, caring, appreciation and others are weighed against negative feelings of dislike, disapproval, expressed indifference, impatience, contempt and others.

- **Empathic understanding** – involves the desire to closely engage with and know the other’s experience and to reach out to receive their feeling communication and meaning.

- **Unconditionality** – in its positive sense implies that A’s personal attitude or feeling toward B holds steady, regardless of what B shows of her inner self and experience. Conversely, conditionality (indicated by a negative mean score) implies A’s regard does vary according to the light that B shows herself in.

- **Congruence** – perceived genuineness, transparency, and honesty within the team.

The 64-item questionnaire comes in two forms; Form MO (my response to other) is completed by the therapist and is the therapist’s perception of the client, and Form OS (other’s response to self) is completed by the client and is the client’s perception of the therapist. Several research reviews (see Barrett-Lennard, 1962) indicate acceptable levels of reliability and validity for the four scales of the B-L RI. Barrett-Lennard developed several forms of this questionnaire to suit different contexts and situations.

The Relationship Inventory-OS-40 Low Literacy (BLRI-OS-40LL) (Hunt, 2007) in the written form was used in the current study to measure the quality of the relationship between the individual therapist and adolescent. This version of the original questionnaire consists of 40 items adapted for use with adolescents and was initiated to meet the needs of the current project. The four component scales (Positive Regard, Empathy, Unconditionality, and Congruence) consist of 10 items each, with 21 items
positively worded and 19 items negatively worded. Participants have a two-tiered response choice where in the first instance they decide if they agree or disagree with the statement: ‘Yes it is true’ or ‘No it’s untrue’. In the second instance the participant decides to what degree they concur with the statement: ‘Very true/untrue’, ‘Somewhat true/untrue’, or ‘A bit true/untrue’. Scoring of positively worded items ranges from 7 (‘Yes it is true – Very’) to 5 (‘Yes it is true – A bit’), with no midpoint score of 4, and 1 (‘No, it’s untrue – Very’) to 3 (‘No, it’s untrue – A bit’). Scoring reverses when a question is negatively worded. The possible scores range from 40 to 280 with higher scores indicating a stronger, more positive therapeutic relationship. Internal reliability of the OS-40LL for both clients and therapists was found to be very high with Cronbach’s alpha ranging between .87 and .91 (Hunt, 2007).

Data collected on the relationships between adolescents and their therapists during the two pilot DBT programmes of 2006 and 2007 using the B-L RI were employed in the Master’s thesis by Back (2008), which explored the impact of using validation strategies on the quality of the therapeutic relationship. This exploratory study revealed that the greater use of validation strategies by therapists did not necessarily correlate positively with adolescents self-reported quality of their relationship with their therapist. However, it was also found that anti-DBT tactics by therapists were likely to cancel out any gains they made through the use of validation. Interestingly, further analysis revealed that the validating strategy of ‘cheerleading’ was associated with a stronger self-reported therapeutic relationship.

5.3.3 Measuring the clinical team relationship

A team version of the B-L RI was used to measure the relationship felt by each DBT team member in relation to the DBT team as a whole, and was collected in
confidence. In its most general sense, the B-L RI hones in on trust, and thus indicates the level of safety felt by team members. The quality of the clinical team relationship was measured across the length of the two pilot programmes from May 2006 until October 2007 and results were reported to the clinical supervision team at completion of the programme in 2007 (see Appendix S). These results indicated that the quality of the relationship of each team member to the group as a whole declined markedly over time, across all four subscales measuring Level of Regard, Empathy, Unconditionality and Congruence.

5.4 Dialectical dilemmas of programme implementation

The following difficulties, interpreted as dialectical dilemmas, were experienced when implementing the Life Surfing programme:

- Balancing adolescents’ and parents’ needs for validation: Throughout the programme, balancing both the parent’s and adolescent’s need for validation was difficult, and this was thought to be mainly due to parents having their own significant trauma histories. Clinicians needed to be skillful at implementing DBT principles, for instance, ‘finding the kernel of truth,’ in both adolescent and parent perspectives.

- During the commitment and contracting phase, it was critical for engagement that the adolescent made an active choice to participate in the programme. This became difficult as most parents, due to their own distress and a long history of conflict with their child, felt a need to push their child into the programme.

- Dilemma of adolescents already engaged with non-DBT clinician: As discussed previously, some adolescents, on entering the programme were already in treatment and needed to change to a new way of working with their therapist.
• Dilemma for clinician moving into new model: Some clinicians had been working within a particular therapeutic frame, often for many years, and needed to work within the structure of the DBT model.

Following the end of the 2006 programme, the supervision/consultation team agreed that most struggles were experienced in trying to work with both adolescents and their parents. For this reason, a recommendation was made for the 2007 programme that parents needed to commit to individual therapy for the length of the programme. In the 2007 programme every parent was assigned their own DBT clinician. This, in turn, was not without problems, and, in particular, it became vital for all clinicians to attend the weekly supervision/consultation group to prevent splitting between clinicians in the system, as some parents were engaged in the adult mental health service.

5.5 Projects evolved from the current thesis

A significant amount of data was collected for the current thesis in pursuit of its initial aims. However, it was not viable to analyse and report on all of this data. Other theses were developed from the data collected in the implementation of the current thesis, a time period of approximately three years. These dissertations were supervised by Dr Suzanne Dziurawiec and co-supervised by the current author:


2. Ziazan, L (2008). "The impact of six months of dialectical behaviour therapy on a group of adolescents and their parents: An interpretative phenomenological analysis." Honours thesis, which provided an analysis of the data collected from parents and
adolescents in the focus group exit interviews, conducted by the current author.

Chapter 6
Dialectical Behaviour Therapy for the Treatment of Emotion Dysregulation and Trauma Symptoms in Self-Injurious and Suicidal Adolescent Females: A Pilot Programme within a Community Based Child and Adolescent Mental Health Service.

This is a preprint of an article published in the Psychiatry Journal, Hindawi Publishing Corporation. This article has also appeared as a book chapter in the following text:

Hassan (2015). Adolescent Mental Health: Connections to the Community.

The article that follows is reproduced in full, being a product of the research conducted by the current author in partial fulfilment of a Doctor of Philosophy dissertation. Modifications were made to the referencing style to fall in line with the current thesis.
Dialectical Behaviour Therapy for the treatment of emotion dysregulation and trauma symptoms in self-injurious and suicidal adolescent females: a pilot programme within a community based Child and Adolescent Mental Health Service.

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6.1 Abstract

Literature suggests a link between childhood trauma and maladaptive emotion regulation strategies, including non-suicidal self-injury (NSSI) and suicidality. This study developed and piloted a Dialectical Behaviour Therapy programme for adolescents (DBT-A) based on the original work of Alec Miller and colleagues. The feasibility and effectiveness of DBT-A in improving emotional regulation, and reducing trauma symptoms, suicidality and non-suicidal self-injury (NSSI) in a community based adolescent mental health clinic was evaluated. Six adolescents participated in the 26-week programme, together with a parent. Pre/post and three month follow-up comparisons of emotional regulation, trauma symptoms, suicidality and NSSI determined treatment effectiveness. Treatment integrity, noted as problematic in previous studies, was addressed through the rating of a random sample of videotaped sessions. A further improvement over previous studies was the development and use of adolescent specific measures of outcome. At termination of treatment and at three-month follow-up, adolescents reported a decrease in trauma symptoms, suicidality and NSSI. Moreover, 90% of adolescents ceased to self-injure while 65% reported no further suicidal ideation. Adolescents also reported improved emotion regulation post-treatment that was maintained three months later. It was concluded that future research would benefit from incorporating measures of trauma symptoms and emotion dysregulation when evaluating DBT-A outcomes. Furthermore, that the introduction of DBT-A into community based adolescent mental health settings is both feasible and effective despite the practical challenges often presented.

6.2 Introduction

A large percentage of adolescents present at community based mental health clinics following acts of non-suicidal self-injury, such as cutting or burning, due to
significant difficulties with self-regulation of their emotions (Best, 2006; Fortune & Hawton, 2005; Miller et al., 2007; Nixon et al., 2004). These adolescents often report using self-injury strategies to overcome emotional numbing (Miller et al., 2007), and many will experience ongoing suicidal ideation, while some go on to make at least one and often more suicide attempts (J. Cooper et al., 2005; Gould, Greenberg, Velting, & Shaffer, 2003; Miller et al., 2007). Given the nature of their presenting difficulties, many would argue that these adolescents have an 'emerging borderline personality structure’ (Bondurant et al., 2004; Bradley et al., 2005; Harman, 2004; A. James et al., 1996).

These distressed adolescents, and the family systems in which they have developed, have been shown to be remarkably difficult to treat (Miller et al., 2002), so that many will graduate from Child and Adolescent Mental Health settings to become long-term patients of Adult Mental Health services, with multiple hospital admissions due to high levels of dysfunction, extreme management issues, and treatment resistance (Chanen et al., 2007; Miller et al., 2007). The economic costs to government-funded health services both in the public and private sectors within Australia are compelling (Pasieczny & Connor, 2011), with some estimates indicating prevalence rates of between 11%-14% of adolescents living in the community presenting with these difficulties (Chanen et al., 2007).

There is a well-established body of literature linking NSSI and suicidal behaviours with emotional dysregulation (Kring & Werner, 2004; Linehan, 1993b; Miller et al., 2007; Paris, 2000) and childhood traumatic experiences, such as physical and sexual abuse (Yates, 2004). In fact, it has been argued that these behaviours are used as a compensation strategy in post-trauma adaption, functioning to assist with intra
and interpersonal regulation (Yates, 2004). Thus, emotion dysregulation and childhood trauma are argued to be intimately linked aspects of the developmental process underpinning NSSI and suicidal behaviours. Support for the primacy of emotional dysregulation as a mediator of self-injury was provided in a randomised controlled trial of Cognitive-Behavioural Therapy (CBT) for 15 to 35 year olds presenting with these difficulties (Slee, Spinhoven, Garnefski, & Arensman, 2008). Results indicated that emotion regulation difficulties, specifically, impulse control and goal-directed behaviours, partially mediated significant reductions in self-injury, however, in contrast, measures of depression, anxiety and suicidal thoughts played no mediating role. It was therefore recommended, that interventions focused on reducing self-injury need to specifically target emotional dysregulation in preference to other associated mental health disorders.

A promising intervention aimed at improving emotional regulation is Dialectical Behaviour Therapy (DBT), developed by Marsha Linehan (1993b) to treat chronically suicidal women diagnosed with Borderline Personality Disorder (BPD). Linehan’s biosocial theory, central to this intervention, argues that BPD is principally the result of a dysfunctional emotion regulation system associated with instability of thoughts, emotions, behaviors, relationships and self-image.

The original programme (1991) was conducted over a one-year period, was highly structured, and included four specific treatment components: weekly individual psychotherapy; weekly group skills-based training; telephone consultation between sessions, and weekly team consultation-supervision meetings. Using principles and strategies drawn from behaviour therapy and Zen Buddhism, DBT is recognised as the first empirically validated treatment developed for adults with BPD (Groves, Backer,
van den Bosch, & Miller, 2012) and has been accepted as an efficacious way of treating various populations experiencing emotional dysregulation difficulties (Robins et al., 2004; Swales et al., 2000).

Research to date suggests that adult women diagnosed with BPD show improvements following DBT intervention. Specifically, DBT has been found to be effective in reducing targeted problem behaviours, such as self-injury and suicidality, thereby reducing hospital admissions and treatment dropout rates in severely impaired populations. In less severe populations, DBT also appears to produce specific improvements in suicidal ideation, depression and hopelessness (Linehan et al., 1991; Linehan, Tutek, Heard, & Armstrong, 1994; Swales et al., 2000).

In 1997, the adult DBT program was modified to suit 13 to 19 year old suicidal adolescents presenting with borderline personality traits (Miller et al., 1997). Treatment was reduced from one year to 12 weeks to enhance completion, and weekly individual psychotherapy was also provided, with family members included when family issues predominated. A family member was also included within the skills training group to act as a coach, improve generalisation of treatment effects, and reduce family dysfunction. The number of skills taught was reduced and the language was simplified to improve learning within 12 weeks. A fifth skills module, “Walking the Middle Path” was also added. Adolescents who completed the programme were also offered a 12-week follow-up patient consultation group, which relied on peer teaching and reinforcement, so that adolescents were able to help each other strengthen the skills learnt in the first three months of the programme.

At the time of the current study’s development only three clinical trials of the modified programme (Miller et al., 1997) involving comparisons between a treatment-
as-usual group and a DBT-A group had been conducted on adolescents presenting with suicidal and self-injurious behaviours. The first was a non-randomised controlled trial for adolescents, aged 14-19 years, who were predominantly female, and compared a DBT group with a treatment-as-usual group (Miller et al., 2000). The DBT-A group included adolescents who had attempted suicide and who also presented with a minimum of three additional borderline features. The treatment-as-usual group included suicide attempters only. No difference was found between the groups on rates of suicide attempts, however, DBT-A adolescents had a lower rate of treatment dropouts and fewer days of inpatient care. Within the DBT-A group, significant reductions in suicidal ideation, anxiety and depression were shown. Significant reductions were also found in self-reported BPD symptoms in the areas of confusion about self, impulsivity, emotional dysregulation and interpersonal problems (Miller et al., 2000).

Another non-randomised controlled trial was conducted with adolescent girls residing in three juvenile rehabilitation units (Trupin, Stewart, Beach, & Boesky, 2002). This four-week adaptation of DBT found mixed results when comparing measures of behavioural problems and staff punitive responsiveness between groups of adolescents receiving DBT in a mental health unit with those receiving DBT in a general population unit, against a treatment-as-usual group. Notably, no inclusion or exclusion criteria were used and adolescents in the two DBT comparison groups were distinctly different from each other in terms of behavioural problems, with the mental health adolescent group presenting with more severe mood and thought disturbance. Not unexpectedly, the mental health group showed a marked reduction in problem behaviours following the four week DBT intervention, however, the general population group showed no reduction in problem behaviours.
In the third trial, adolescents aged between 14 and 17 years were treated with a two-week adaptation of the original DBT-A programme (Miller et al., 1997) whilst inpatients in a psychiatric unit (Katz et al., 2004). Comparisons were made with a treatment-as-usual group and indicated similar improvements in depression, suicidal ideation and hopelessness for both groups. However, the DBT-A group also showed significantly reduced behavioural incidents on the ward.

A review of the above studies highlighted that the quality of the data was highly questionable due to factors of selection bias, confounding variables, difficulties with outcome measures and measurement errors (Quinn, 2009). The review (Quinn, 2009) concluded that the efficacy of DBT-A in reducing mental health symptoms in adolescents, based on the findings from these studies, was yet to be established, and some specific recommendations for future research were made. Firstly, that treatment needed to occur in outpatient settings to minimise the influence of confounding environmental factors on treatment outcome, as can occur in hospital-based settings. Secondly, that developmentally appropriate measures be used, as all studies incorporated adult and/or child measures that were likely to have been clinically insensitive to the symptomatology of adolescent presentations.

Apart from these three trials, there has also been a study using a with-in case design to test DBT with adolescent females, aged between 13 and 19 years, presenting with NSSI and suicidal behaviour within an outpatient setting (Fleischhaker et al., 2011). The programme model consisted of weekly individual therapy, a weekly multi-family skills group and telephone support, conducted over a 16-24 week period. Results from this study were promising, with adolescents showing reductions in NSSI and suicidal behaviour, as well as improvements in interpersonal relationships, identity disturbance, impulsivity and depression over the course of the treatment and at one-year
follow-up. However, given the lack of a supervision/consultation group, it could be argued that treatment integrity was somewhat problematic, given this was one of the four treatment components specified in the original model (1997). More recently it has also been noted that without treatment adherence ratings, it is difficult to assess whether or not patients actually receive DBT-A treatment (Groves et al., 2012). In this regard, it is noteworthy that the most recent study to date (Fleischhaker et al., 2011) did not address the issue of treatment adherence.

Given the aforementioned associations between childhood trauma, emotional dysregulation and later self-injury and suicidal behaviours, it could be argued that measuring changes in the ability of adolescents to regulate their emotions is critical to making the link between application of DBT-A and clinical outcome measures such as reductions in NSSI, suicidal behaviour and depression. Furthermore, establishing the capacity of DBT-A to ameliorate trauma symptomatology will make a valuable contribution to the growing body of evidence supporting the usefulness of this treatment in adolescent populations.

From this basis the aim of the present study was to develop and pilot a DBT-A programme, based on the original adolescent programme (Miller et al., 1997), and assess its feasibility and effectiveness in treating a community based outpatient population of adolescents presenting with NSSI and suicidality. Based on the literature, two specific research questions were addressed: (1) Does DBT-A lead to improvements in adolescents capacity to regulate their emotions? And, given the links between emotion dysregulation, Borderline Personality symptoms and early trauma experiences, (2) would improvements in emotion regulation produce comparable reductions in trauma-related symptoms, self-injurious behaviours and suicidality? Attention was paid
to ensure that measures that were appropriate to the age group and collected by independent assessors were used to evaluate outcome.

Importantly, emotional dysregulation was operationalised within the present study as the “fear of losing control over one’s emotions or of one’s behavioural reactions to emotions” (Williams et al., 1997) (p 241) and relates to the measure of emotional regulation developed for the current study, the Modified Affective Control Scale for Adolescents (MACS-A) (Geddes et al., 2007). In the development of the original adult measure, the Affective Control Scale, (Williams et al., 1997) the fear of fear concept (Chambless, Caputo, Bright, & Gallagher, 1984) was extended to include the fear of other strong emotions, specifically, depression, positive emotion and anger. The focus of attention within their thesis was that of internal events, and the perceived ability of individuals to cope with strong emotions. Reflection on the original work of Linehan (Linehan, 1993b) reveals her acknowledgement of the part played by the fear of anger and of losing control over anger in self-injuring borderline patients, stating “In almost all cases, the under expressive borderline individuals have a marked fear and anxiety about anger expression; at times they fear that they will lose control if they express even the slightest anger, and at other times they fear that targets of even minor anger expression will retaliate” (p 16). Indeed, research in adult populations has found that a fear of ones own emotions is associated with maladaptive psychological outcomes such as, Posttraumatic Stress Disorder, Generalized Anxiety Disorder and Borderline Personality symptoms (Price, Monson, Callahan, & Rodriguez, 2006; Roemer, Salters, Raffa, & Orsillo, 2005; Yen et al., 2002).

Two predictions were generated within the present study. First, it was predicted that 14 to 16 year old adolescents presenting at a community based Child and
Adolescent Mental Health Service with NSSI and suicidality, would report a decrease in trauma based symptoms on the Trauma Symptom Checklist for Children (Briere, 1996) and reduced acts of self-injury and suicidal thoughts following participation in a 26 week DBT-A programme. Second, it was predicted that a reduction in trauma symptoms, self-injury and suicidal thoughts would be associated with improvements in emotion regulation as measured by a decrease in scores on the Modified Affective Control Scale for Adolescents (MACS-A).

6.3 Method

6.3.1 Ethical considerations

This study received joint approval from the Human Research Ethics Committee at Murdoch University, Perth, Western Australia and the Human Research Ethics Committee of the South Metropolitan Area Health Service, Western Australia. All adolescents and their parents participating in this research did so voluntarily.

6.3.2 Participants

Six female adolescents aged between 14.6 years and 15.7 years, with a mean age of 15.1 years, participated in this pilot programme. Three adolescents were current clients of the Child and Adolescent Mental Health Service (CAMHS) while the remaining three adolescents had been recently referred to CAMHS. A parent accompanied all adolescents to the family skills training component, so that the final group included four mothers and two fathers. Of the six dyads participating, four dyads completed the entire 26-week programme and the remaining two dyads were withdrawn from the programme by their parents, three weeks prior to treatment completion. All six dyads were available for post treatment (t2) assessments while five dyads were available for three-month follow-up (t3).
Adolescents were considered appropriate for the DBT-A programme based on the following criteria:

### 6.3.2.1 Inclusion criteria
- Aged between 13 and 18 years
- Average cognitive ability (clinician’s notes, school records) and established reading level (year 5), as measured by the Neale Analysis of Reading Ability (Neale, 1999).
- Referred to the service because of deliberate self-harm and/or suicidal ideation in the previous 12 months.
- A minimum of three BPD features, as determined by clinician assessment and according to DSM-5 criteria.

### 6.3.2.2 Exclusion criteria
- A primary diagnosis of a psychotic disorder
- A primary diagnosis of substance abuse
- An intellectual disability

### 6.3.2.3 Design
The process of implementation and assessment of this 26-week pilot group was as follows:

- **8-week engagement and commitment to DBT-A**: Treatment contracts were signed by adolescents and parents, and individual and group clinicians.
  - (t1) Pre-treatment measures administered prior to engagement

- **18-week DBT-A treatment**
  - (t2) Post-treatment measures administered at completion of programme

- **Follow-up**
  - (t3) 3-month follow-up measures administered
6.3.3 Measures

6.3.3.1 Intake measures

Assessment of Borderline Personality Features: Past researchers (Miller et al., 1997) investigating the effectiveness of DBT-A in the treatment of suicidal adolescents presenting with borderline features have used a structured clinical interview, the SCID-11 (Spitzer, Williams, Gibbon, & First, 1990), to determine suitability for the DBT-A programme. However, the SCID-11 was designed for use with individuals aged 18 years and older and its construct validity and predictive ability with adolescents has been challenged (Bondurant et al., 2004). Therefore, assessment of borderline features for the purposes of this study was determined in a clinical interview, by reference to criteria set out in the Diagnostic and Statistical Manual IV (1994).

Neale Analysis of Reading Ability (Neale, 1999): Adolescents were screened individually on this measure of reading ability. The Neale Analysis is a standardised measure of both reading accuracy (word recognition in context) and reading comprehension (assessed by the ability to answer a series of questions about a passage). A reading age equivalent of age 10 years was needed to understand programme content.

6.3.3.2 Outcome measures

Self-Harm/Suicidal Thoughts Questionnaire: Parent and Adolescent Versions. A self-report questionnaire, developed specifically for this programme, consisted of three sections: section one assessed various forms of self-injurious behaviours, inclusive of abuse of medications, burning, scratching or cutting, hitting or punching the self; section two assessed the extent of each self-injurious behaviour, including age when commenced, frequency, recency, and seriousness (requiring medical treatment); section three assessed frequency of suicidality.
Modified Affective Control Scale for Adolescents (MACS-A)(Geddes et al., 2007): This 41-item self-report questionnaire was developed specifically for the current programme as a measure of adolescent’s capacity to regulate their emotions, and is a reworded version of an adult measure of emotion regulation, the Affective Control Scale (ACS) (1992). This scale consists of four sub-scales that measure Fear of Anger (8 items), Fear of Depression (8 items), Fear of Anxiety (13 items) and Fear of Positive emotion (12 items). Participants rate each item on a 7-point Likert scale, from ‘very strongly disagree’ to ‘very strongly agree’, with a neutral mid-point. Individual sub-scale scores are computed as the mean of the total number of items contained in the sub-scale. An overall scale score is computed as the mean of all 41 responses, with the higher the mean score, the higher the perceived fear of emotion/s and the greater the difficulty in emotional regulation. The MACS-A was found to be internally consistent in both clinic and non-clinic adolescent samples and to effectively discriminate between these two groups with the exception of the Fear of Positive Emotion sub-scale (Geddes et al., 2007). For this reason, results from this sub-scale were not included in the current analysis.

Trauma Symptom Checklist for Children (TSCC)(Briere, 1996): This 54-item self-report measure assesses a variety of symptoms associated with trauma experiences in children, aged between 8 and 16 years. Participants rate each item on a 5-point Likert scale, from ‘not at all characteristic’ to ‘very characteristic’ of themselves. The measure has two validity scales (under-responding and over-responding) and six clinical scales: Anxiety, Depression, Anger, Posttraumatic Stress, Sexual Concerns and Dissociation. There are also two additional sub-scales: Sexual Concerns (Sexual Preoccupation and Sexual Distress) and Dissociation (Overt Dissociation, Fantasy). The reliability and validity of the TSCC was independently examined in a clinical sample of adolescents, including a
percentage with a history of sexual abuse (Sadowski & Friedrich, 2000). These researchers found that all six scales and four sub-scales of the TSCC were a reliable and valid measure of distress in a psychiatric adolescent sample. The current study does not report on results from Dissociation (Fantasy) or the Sexual Concerns sub-scales.

6.3.4 Procedure

Both parent/s and adolescent attended an initial appointment with the programme co-ordinator. Programme content and commitments were explained, and consent forms completed including consent for the videotaping of all individual and group sessions.

6.3.4.1 DBT-A programme development (Life Surfing)

This programme was developed over the course of 2005 and 2006, based on a previous adaption of DBT for adolescents (Miller et al., 1997) and adult programme content (Linehan, 1993b). Similar to previous versions (Miller et al., 1997) there were four treatment components: individual therapy, a multi-family skills training group, phone consultation and a therapist supervision/consultation group. All four components were built into this pilot programme entitled ‘Life-Surfing’ with the exception of the out-of-hours phone consultation, due to lack of clinician indemnity. In addition, the family skills group ran for 18 weeks, whereas the original DBT-A programme (Miller et al., 1997) ran for 12 weeks. The following is a description of the components of the DBT-A, ‘Life-Surfing’ programme:

1. Individual therapy: Adolescents were seen weekly (twice weekly, if needed) for the length of the programme. The structure of individual treatment was in line with the standard DBT protocol (Linehan, 1993b), which set out a prescriptive treatment hierarchy consisting of four stages:
a. A pre-treatment stage involving orienting the client to treatment, gaining commitment, and agreeing on the goals of treatment.

b. First stage: focused on client stability, connection and safety, and structured with a specific sub-hierarchy of therapeutic goals:
   i. decrease life-threatening behaviours
   ii. decrease therapy-interfering behaviours
   iii. decrease quality-of-life interfering behaviours
   iv. increase behavioural skills.

c. Second stage: involving exposure and emotional processing of the past

d. Third stage: looking at increasing respect for the self and individual goals.

As recommended (Miller et al., 1997), family members were invited to join individual sessions when systemic issues dominated.

2. Family Skills Training Group: This group was highly structured and ran for two hours each week. Sessions were psycho-educational in focus with an emphasis on acquisition and practicing of new skills. There were five modules written for the DBT-A programme: Core Mindfulness, Distress Tolerance, Emotion Regulation, Interpersonal Skills and Middle Path. Modules were presented in the above sequence and each module ran for four weeks, with the exception of the core mindfulness module, which ran for two weeks. Core mindfulness skills were revisited throughout the length of the programme, and, by the ninth week of the skills training group, adolescents and/or parents volunteered to run the mindfulness exercise that commenced each week’s group skills training session. The family skills training group ran for 18 weeks.

3. Phone Consultation: Provided during business hours and focused on helping adolescents use skills learnt during the programme.
4. **Supervision/Consultation Team**: A group of interested CAMHS clinicians formed the supervision/consultation team. This team met every week for two hours during the initial stages of the programme development, and then throughout the length of the programme implementation. This was a multidisciplinary team consisting of individuals trained in clinical psychology, social work and psychiatry. Initially, the purpose of this team was to develop the programme content and structure, including programme viability, funding, ethical considerations and clinical concerns, as well as providing ongoing education regarding the implementation of the DBT model. Once treatment commenced, this group provided clinical supervision and addressed treatment integrity through the review of videotaped individual and group skills training sessions, as recommended (Linehan, 1993b)

6.3.4.2 **Programme commitments**

Adolescents, parents, individual and group skills clinicians and supervision/consultation team members made formal commitments to the DBT-A programme prior to its commencement. These commitments formed the basis of the programme contracts signed by adolescents, parents and clinicians as follows:

**Adolescents agreed to:**

- Weekly individual therapy for the length of the programme (26 weeks)
- Weekly family skills training group (18 weeks)
- Videotaping of all individual and group sessions

**Parents agreed to:**

- Weekly family skills training group (18 weeks)
- Videotaping of all group sessions

**Clinicians agreed to work with clients for 6 months, which included:**
- Weekly individual therapy: 26 weeks (individual therapists)
- Weekly family skills group: 18 weeks (group therapists)
- Clinical consultation/supervision group (2hrs/week)
- Videotaping of all therapy sessions

Individual and group clinicians also agreed to taking no more than two weeks leave within the six-month period of the programme.

6.3.5 Clinician experience and training

All members of the team received one full day of in-house DBT training, conducted by two clinical psychologists who were members of the DBT consultation/supervision team. One of these clinicians had attended a five day intensive training workshop on DBT conducted by Linehan’s training organization, Behavior Tech., while the other clinician was at that time coordinating an adult DBT programme and was also a co-leader of the group skills training component of that programme.

Treatment adherence check: An estimate of individual and group therapist adherence to the basic strategies of DBT was conducted by rating a random sample of five recorded individual therapy sessions and five recorded group skills training sessions against a DBT adherence rating scale. The third author, who is a recognised trainer in DBT, rated these sessions. The mean adherence rating was 4.0 out of a possible 5.0, with a range of between 3.5 and 4.5.

6.4 Results

The effect of the programme was investigated by using group mean scores to calculate the Wilcoxon signed-rank test at t1 (pre-treatment), t2 (post-treatment) and t3 (three month follow-up), on the TSCC and MACS-A. Effect size (r) was also
calculated, based on the standardised difference between two means for dependent
groups. Initial interpretation of effect size (r), set out below, used the general
convention provided by Cohen (1988) as follows: r effects: small > 0.10, medium >
0.3, large > 0.5. However, in interpreting the meaningfulness of effect sizes, it has been
noted that a practically significant result is one that has meaning in the real world and is
a complex and subjective process (Ellis, 2010).

6.4.1 Changes in suicidal thoughts and deliberate self-harm behaviours

Prior to commencement of therapy, all six adolescents were reporting suicidal
thoughts at a minimum of twice weekly to a maximum of several times a day. One
adolescent had also attempted suicide on more than one occasion. During treatment, and
12 months post treatment, no adolescent attempted suicide. At the end of the
programme, one adolescent reported continuing suicidal thoughts once a week, one
other adolescent reported suicidal thoughts once a month, while the remaining four
adolescents reported no further suicidal ideation.

All adolescents reported regular DSH for at least three months prior to entry to
DBT-A treatment. At the end of the programme five of the six adolescents had ceased
to self-harm over the course of treatment, while the remaining adolescent reported a
50% reduction in DSH events.

6.4.2 Comparison between trauma-related symptoms at pre-treatment (t1), post- treatment (t2) and 3-month follow-up (t3).

All participants produced valid TSCC protocols at t1, t2 and t3, as indicated by
non-significant levels of over and under responding. Table 1 presents pre and post-
treatment comparisons on sub-scale scores of the TSCC, revealing large and statistically
significant decreases in mean scores on self-reported Anxiety \((z = -2.070, p < 0.05, r = 0.60)\), Depression \((z = -2.032, p < 0.05, r = 0.59)\), Anger \((z = -1.997, p < 0.05, r = 0.58)\) and Post-Traumatic Stress \((z = -2.023, p < 0.05, r = 0.58)\).

Table 6.1  
*Pre (t1) and Post-treatment (t2) comparisons on the TSCC (n=6).*

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Pre-treatment (t1)</th>
<th>Post-treatment (t2)</th>
<th>Statistics (t1 to t2)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
</tr>
<tr>
<td>TSCC</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anxiety</td>
<td>58</td>
<td>9.01</td>
<td>48.5</td>
</tr>
<tr>
<td>Depression</td>
<td>64</td>
<td>9.21</td>
<td>58.33</td>
</tr>
<tr>
<td>Anger</td>
<td>68</td>
<td>11.63</td>
<td>58.17</td>
</tr>
<tr>
<td>PTS</td>
<td>60.33</td>
<td>10.71</td>
<td>53.83</td>
</tr>
<tr>
<td>Dissociation</td>
<td>63</td>
<td>16.9</td>
<td>61.17</td>
</tr>
</tbody>
</table>

*sig <0.05 (2-tailed)

Table 2 presents pre-treatment (t1) and three-month (t3) follow-up comparisons on sub-scale scores of the TSCC, revealing large and significant decreases in mean scores on self-reported Anxiety \((z = -2.023, p < 0.05, r = 0.64)\), Depression \((z = -2.023, p < 0.05, r = 0.64)\) and Post-Traumatic Stress \((z = -2.023, p < 0.05, r = 0.64)\). There was also a large decrease in mean scores at three-month follow-up on self-reported Anger, however, this decrease was non-significant \((z = -1.826, p < 0.05, r = 0.58)\).
Table 6.2  *Pre (t1) and three-month follow-up (t3) comparisons on the TSCC (n=5)*

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Pre-treatment (t1)</th>
<th>3mth follow-up (t3)</th>
<th>Statistics (t1 to t3)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean (SD)</td>
<td>Mean (SD)</td>
<td>Wilcoxin-Test</td>
</tr>
<tr>
<td>TSCC</td>
<td></td>
<td></td>
<td>Effect size r</td>
</tr>
<tr>
<td>Anxiety</td>
<td>67.2 (5.4)</td>
<td>49 (9.06)</td>
<td>p=0.043* 0.64</td>
</tr>
<tr>
<td>Depression</td>
<td>71 (10.07)</td>
<td>51.4 (11.78)</td>
<td>p=0.043* 0.64</td>
</tr>
<tr>
<td>Anger</td>
<td>60 (8.46)</td>
<td>48 (6.44)</td>
<td>p=0.068 0.58</td>
</tr>
<tr>
<td>PTS</td>
<td>64 (6.52)</td>
<td>49.6 (12.34)</td>
<td>p=0.043* 0.64</td>
</tr>
<tr>
<td>Dissociation</td>
<td>68 (13.01)</td>
<td>54.6 (9.5)</td>
<td>p=0.138 0.47</td>
</tr>
</tbody>
</table>

*sig <0.05 (2-tailed)

6.4.3  **Comparison between emotional regulation at pre-treatment (t1) post-treatment (t2) and 3-month follow-up (t3).**

Table 3 presents pre and post-treatment comparisons on the whole-scale and sub-scale scores of the MACS-A. On the whole-scale measure of Fear of Emotion, there was a large but statistically non-significant decrease in mean scores (z = -1.782, p > 0.05, r = -0.51) from pre-treatment to post-treatment. Comparison of sub-scale mean scores revealed a large and statistically significant decrease in self-reported Fear of Anger between pre-treatment and post-treatment (z = -2.201, p < 0.05, r = -0.64) and a small but non-significant decrease in Fear of Depression (z = -0.954, r = -.28), however, the decrease in Fear of Anxiety was both negligible and non-significant (z = -0.210, p > 0.05, r = -.06).
Table 6.3  *Pre (t1) and Post-treatment (t2) comparisons on the MACS-A (n=6)*

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Pre-treatment (t1)</th>
<th>Post-treatment (t2)</th>
<th>Statistics (t1 to t2)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
</tr>
<tr>
<td>FoAnxiety</td>
<td>4.57</td>
<td>1.27</td>
<td>3.32</td>
</tr>
<tr>
<td>FoAnger</td>
<td>3.86</td>
<td>0.69</td>
<td>3.73</td>
</tr>
<tr>
<td>FoDepression</td>
<td>4.07</td>
<td>1.24</td>
<td>3.33</td>
</tr>
<tr>
<td>FoEmotion</td>
<td>4.0</td>
<td>0.83</td>
<td>3.4</td>
</tr>
</tbody>
</table>

\(^*\text{sig <0.05 (2-tailed)}\)

Table 4 presents pre-treatment (t1) and three month follow-up (t3) comparisons on the whole-scale and sub-scale scores of the MACS-A. Results from the whole-scale measure of Fear of Emotion indicate a moderate decrease in mean scores from pre-treatment to three month post-treatment, however this change was not statistically significant (\(z = -1.214, \ p > 0.05, r = -0.38\)). With regards to the sub-scales, results reveal a large and statistically significant decrease in self-reported Fear of Depression (\(z = -1.214, \ p > 0.05, r = -0.64\)) three months post-treatment. There was also a moderate but non-significant decrease in self-reported Fear of Anger (\(z = -0.1.483, \ p > 0.05, r = -0.47\)) and Fear of Anxiety (\(z = -1.214, \ p > 0.05, z = -0.38\)) three months post-treatment.
Table 6.4  *Pre (t1) and three-month follow-up (t3) comparisons on the MACS-A (n=5)*

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Pre-treatment (t1)</th>
<th>3mth follow-up (t3)</th>
<th>Statistics (t1 to t3)</th>
<th>Effect size r</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>FoAnxiety</td>
<td>3.9</td>
<td>0.76</td>
<td>3</td>
<td>1.11</td>
</tr>
<tr>
<td>FoAnger</td>
<td>4.6</td>
<td>1.41</td>
<td>3.36</td>
<td>0.96</td>
</tr>
<tr>
<td>FoDepression</td>
<td>4.4</td>
<td>1.03</td>
<td>2.88</td>
<td>0.73</td>
</tr>
<tr>
<td>FoEmotion</td>
<td>4.0</td>
<td>0.91</td>
<td>3.1</td>
<td>0.8</td>
</tr>
</tbody>
</table>

*sig <0.05 (2-tailed)

6.5 Discussion

The overarching goal of the current study was to develop and pilot a DBT-A programme based on the original work of Miller and Rathus (Miller et al., 1997), and to assess both the feasibility and effectiveness of the programme within a community based population of adolescent females presenting with self-harm and suicidal thoughts. A further focus was to acknowledge the central tenet of Linehan (1993a) biosocial theory and her subsequent development of DBT, which argues that emotional deregulation underpins the DSH and suicidal behaviours associated with a borderline personality.

In discussing the results of the present study, recognition is given to recent requests from the scientific community for scientifically valid and practical research (Cumming et al., 2007), and further, that statistical significance may articulate little about the practical significance of a result (Ellis, 2010). When interpreting the practical significance of findings, the majority of studies reporting on effect sizes fail to interpret
them in meaningful ways with three important factors being highlighted for their potential impact upon interpretation (Ellis, 2010) p 34:

1. **Context**: small effects may be linked to big consequences; small effects may be cumulative; small effects may impact on perceived probability that large outcomes might occur

2. **Contribution to knowledge**

3. **Cohen’s criteria**

Certainly, when looking at the practical significance of the current findings, it is important to emphasise the difficulties of engaging with, and treating this population of adolescents, and in addition, the high costs of multiple hospital admissions together with the likely probability of continued treatment through to adulthood. Given this, it could be argued that even small effect sizes, whereby one or two adolescents respond well to treatment, can be considered practically significant, that is, small effects can be linked to big consequences with regard to reducing costs to mental health services over the longer term.

Results of the current study provided support for our initial hypothesis that adolescents participating in the DBT-A programme would report a decrease in trauma based symptoms on the TSCC, and reduced acts of self-injury and suicidal thoughts. Adolescents reported large and significant reductions in their symptoms of anxiety, anger, depression and post-traumatic stress immediately following DBT-A treatment. Three months following the end of treatment adolescents continued to report significantly large reductions in anxiety, depression and post-traumatic stress symptoms and a large reduction in anger symptoms. While there was no meaningful reduction in dissociative symptoms immediately following treatment, moderate reductions were
reported three months after treatment completion. These results are consistent with earlier research where significant reductions in anger, depression and dissociative symptoms as measured by the TSCC were found in a group of self-harming and suicidal adolescents following DBT-A treatment at a community outpatient clinic (Woodberry & Popenoe, 2008). Furthermore, the present study found that 90% of participating adolescents ceased to self-harm by the end of the programme, while 65% reported no further suicidal thoughts. These findings are consistent with earlier research that found DBT-A to be associated with a reduction in self-harm (Rathus & Miller, 2002).

Results from the present study also provided support for our second hypothesis that adolescents participating in the DBT-A programme would show an improved capacity to regulate their emotions as measured by the MACS-A. Importantly, on average, adolescents reported a large reduction in their Fear of Emotion following treatment, and this decrease was maintained, albeit more moderately, three months following treatment. When looking at the results of the sub-scale scores of the MACS-A, adolescents reported a large and significant decrease in their Fear of Anger following treatment and although the strength of this effect failed to be maintained three months post-treatment, adolescents did, however, continue to report moderate reductions in their fear of anger. On average adolescents also reported a small reduction in their fear of depression immediately following treatment and, encouragingly, this reduction became both large and significant three months after treatment completion. Although there were no reported meaningful improvements in adolescents’ fear of anxiety on completion of treatment, moderate reductions were reported three months later.

Overall, these results suggest that this group of adolescents reported an improved capacity to manage their strong emotions following participation in the DBT-
A programme, and that these gains were able to be maintained in varying degrees three months later. In particular, they reported that their fear of depression and fear of anxiety continued to decrease over the three-month period following the end of all treatment. This result supports previous findings (A. C. James, Taylor, Winmill, & Alfoadari, 2008) that treatment gains made by self-harming adolescent females following DBT intervention, were not only maintained six months post treatment but continued to show further improvement. Given the importance of the therapy relationship as a container of emotion, particularly in this population (Wagner, 2005), the finding that adolescents participating in the current programme were able to report continuing reductions in their fear of depression and anxiety three months after the cessation of all treatment, is encouraging.

Importantly, specific recommendations made in a review (Quinn, 2009) of the data from past clinical trials were addressed within the current study. First, treatment occurred within a community-based outpatient setting, reducing the confounding effects of environmental factors that are likely to occur within an inpatient setting. Second, the current study used developmentally appropriate measures of outcome, including the development of a measure that specifically assessed emotional regulation in adolescents in the form of perceived fear of emotions, shown by past studies to be linked to problematic mental health outcomes, including borderline personality symptoms.

Confidence in the findings from the present study were also increased by the use of an independent researcher to collect pre, post and follow-up measures, thereby minimising the potential for bias that has occurred in other studies (Fleischhaker et al., 2011). Furthermore, determining adolescents’ capacity to understand the programme material through formal assessment of their reading level and comprehension has not
occurred in previous studies, and adds to the reliability of the current results. The present study also addressed the need to include ratings of treatment adherence (Groves et al., 2012) to increase internal and external validity of findings. The present study determined an acceptable level of DBT treatment adherence from rating a random sample of videotaped individual and group sessions.

From a service provision perspective this study contains some other specific strengths. Of the six adolescents participating in the programme only one remained in therapy following the end of the programme. Notably, one other adolescent who had been treated at the clinic at various points in time since she was six years of age, did not return for any further treatment following the ending of the DBT-A programme, with follow-ups revealing that she had moved into full-time work and training. Given that long waiting lists for admission to CAMHS clinics is a common problem, combined with the high probability of these adolescents moving into adult mental health services, this finding is of great practical significance.

The current study also had some limitations inherent within its design. Specifically, as a pilot study, it lacked a control group, and therefore specific conclusions about the effectiveness of the programme cannot be made. Neither can it be concluded that the DBT-A programme was more effective than treatment-as-usual. However, it can be said that 67% of adolescents completed the programme, which is comparable to the 62% completion rate of other studies (Rathus & Miller, 2002). Given the high rates of treatment dropout usual for this population, this finding provides some support for the potential effectiveness of DBT-A with these adolescents. A further limitation of this study was the potential influence of demand characteristics on self-report measures. Future studies would benefit from the collection of more objective
markers of treatment effectiveness, for instance, collateral information from parents and schools.

6.6 Conclusions

In relation to the initial aims of the present study it is concluded that the use of DBT-A for the treatment of NSSI and suicidality in adolescents presenting within community based mental health settings is both feasible and effective. Despite limited funding for this project, a DBT-A programme was successfully developed and piloted across two, relatively small community outpatient clinics, the same setting in which these high-risk adolescents are most likely to seek initial treatment. Furthermore, results suggest that emotional regulation is an important construct to monitor over time, as are trauma symptoms and more specifically, that looking at the degree to which adolescents fear their own strong emotions, particularly anxiety and depression may be important in relation to monitoring the long-term outcomes of programmes targeting adolescents presenting with NSSI, suicidality and emerging borderline personality features.

6.7 Competing interests

The authors declare that they have no competing interests.
Chapter 7
General Discussion

7.1 Overview of thesis

In-depth discussions of the findings from the five studies presented within this thesis have already been incorporated within pertinent chapters, and therefore, will not be repeated in detail. Instead, it is my intention to capture the essence of this thesis, with a focus on the unique contributions made by the current research from a scientist-practitioner perspective. Recommendations for further development of the MACS-A are made, and the implementation of DBT programmes for adolescents in community clinics discussed based on the current experience.

To summarise, the major goal of this thesis was to implement a DBT programme within two CAMHS clinics in Perth, Western Australia. As such, research efforts initially focused on the ‘best’ (most sensitive) way to measure the outcomes of a DBT intervention. In reviewing DBT, I learnt that the central tenet of Marsha Linehan’s ‘Biosocial’ model was the influence of dysregulated emotions on all aspects of individual functioning. Yet, in general, research had largely focused on measuring other aspects of psychological distress, in line with a more behavioural tradition, such as, parasuicidal incidents and hospital days. Furthermore, at the time I was developing my research in 2005, the core process variable of emotion dysregulation that Linehan’s model was designed to change had been largely overlooked. This led me on a journey to try to find a suitable measure of emotion dysregulation that could be used with adolescents presenting with self-harm, and ultimately changed the course of my thesis. The research described in Part A of this thesis explored the construct of emotion dysregulation itself; its development and measurement, and the construction and
evaluation of a new measure for use with adolescents who self-harm. As such, the MACS-A was developed, and the four studies exploring its psychometric properties with adolescents and young adults presented. A shorter 22-item version of this scale, the MACSA-Revised, was constructed through factor analysis of the original 41 items. Following on from this, Part B of this thesis provided a detailed description of the development, implementation and evaluation of a DBT programme, ‘Life Surfing’, piloted within a CAMHS clinic and incorporating the MACS-A as a measure of treatment outcome.

7.2 Unique contributions, recommendations and reflections

7.2.1 Measurement issues

Overall, this thesis makes a unique contribution to adolescent literature on self-harm by linking the core theoretical construct underpinning the DBT treatment model, emotion dysregulation, to the evaluation of an adolescent DBT programme. Significantly, a self-report measure of adolescent emotion regulation, with a clearly identified theoretical underpinning, the Fear of Emotions hypothesis (Williams et al., 1997), was developed. Most significantly, this measure was shown to be a reliable indicator of adolescent emotion dysregulation that was sensitive to change following a DBT intervention with self-harming adolescents. Unlike other measures that tend to include assessment of coping abilities or strategies, the MACS-A stands alone as a measure of self-perceived capacity to tolerate strongly felt emotions, and is argued to tap into internal processes. As such, the MACS-A was shown to be internally consistent in both clinical and non-clinical groups of adolescents and to be reliable over a two-week period. Furthermore, this new measure proved to be a valid indicator of problematic emotion regulation, clearly discriminating between clinical and non-clinical groups in terms of adolescent’s fear of their emotions generally, and more specifically
with regard to their fear of anger, depression and anxiety. Importantly, the MACS-A measures the perceived ability of adolescents to manage their strong emotions, and counters past criticisms of conceptual inadequacy (e.g. Cole et al., 2004) by being clearly operationalised as “the fear of losing control over one’s emotions or of one’s behavioural reactions to emotions” (Williams et al., 1997, p241). As such, the MACS-A has the potential to generate testable research hypotheses as an adjunct to specific intervention methods targeting emotional functioning.

Analysis of the psychometric properties of the MACS-A within the current research was relatively comprehensive, however, with regard to the measurement field more generally, the results remain preliminary, and further development and rigorous analysis needs to be conducted. With this in mind, the following recommendations for further development of the MACS-A are made:

- Factor analysis revealed the presence of a set of variables which measured control of anxious feelings, and which was relatively distinct from variables that measured fear of depressive feelings, unlike those variables that measured fear of anxious feelings. As discussed previously, given that it is well reported in the child and adolescent literature that difficulties exist in delineating anxiety and depressive symptomatology, further development of the items measuring control of anxious feelings would be worthwhile in future developments of the scale.
- Confirmatory factor analysis needs to be conducted to confirm the dimensionality of the MACS-A underlying constructs.
- Lack of generalisability of the current findings to other populations needs to be addressed, particularly demographic variables linked to adolescent vulnerability, for example, culture and gender.
• Concurrent validity studies by way of assessing the MACS-A alongside other measures related to anxiety, depression, anger, and coping, needed to be conducted.

• Further development and testing of a short version of the MACS-A, based on the 22-items resulting from the current factor analysis (MACS-A Revised) would be worthwhile, particularly when considering the broad applicability of this measure to a variety of psychopathologies related to dysregulated emotions. A short version of this scale would be useful in both research and clinical settings. To this end, there is also a need to collect data on 18 year olds using both the original MACS-A and the MACS-A (Revised), particularly in light of the finding that the MACS-A did not discriminate between clinical and non-clinical adolescents on the sub-scale measuring Fear of Positive Emotions, and which, I argued was related to age-based factors.

• Further understanding of the MACS-A and the Fear of Emotion construct, and its relationship to other measures of emotion regulation would be beneficial. Therefore, surveying adolescents with both the MACS-A and another measure of emotion regulation, such as the DERS, would provide valuable information on where this measure and its theoretical underpinning sit in relation to other theories of emotion regulation. Following on from this, in the study conducted by Perez et al. (2012) examining the factor structure of the DERS and its association with NSSI in a group of adolescent inpatients, the sub-scale named “limited access to emotion regulation strategies” was identified and found to be the only scale significantly associated with NSSI. Therefore it is recommended that the MACS-A be run against this sub-scale of the DERS, in particular, as it may provide valuable insights into the relationship between fear of emotions and difficulties accessing emotion regulation strategies. This knowledge would be
particularly beneficial when evaluating the effectiveness of intervention programs such as DBT that include the learning of adaptive change skills.

- Once the final scale is developed and its psychometric properties established, future research would benefit from developing normative data with established means and standard deviations for both clinical and community samples. The provision of clinical cut-off scores signifying problematic functioning will increase the clinical utility of the instrument and would also be a valuable addition to research.

From the outset, a major intent of my research focus was to provide a broader framework from which to conceptualise adolescents presenting with self-harm who are often construed as having an ‘emerging borderline personality’ in communications between mental health staff (see Meekings & O’Brien, 2004). This conceptualisation has been argued within the literature to accentuate the invalidation of adolescents who are already presenting with symptomology related to invalidating environmental contexts and experiences, further proliferating their distress, and increasing the risk of further self-harm. As a clinician working with these adolescents, I have witnessed the negative effects on patient management caused by over-generalisation of symptoms subsumed within a largely negative and adult-focused diagnostic category, which is likely to be inappropriate and arguably, unethical in coming to an understanding of an adolescent’s presenting difficulties. Those arguing for a diagnosis of BPD in adolescents suggest that these young people do, in fact, go on to have high levels of psychiatric morbidity and a poorer quality of life. However, it could be equally argued that many of these adolescents do not go on to develop BPD, and being given an inappropriate label creates unnecessary complications for both the young person and their families (see Koehne, Hamilton, Sands, & Humphreys, 2013).
Diagnostic generalisation often fails to recognise both individual differences and individual strengths, pertinent to treatment planning. A common developmental context for adolescents who self-harm, observed by myself and supported in the literature, is the experience of a significant and complex trauma history. As McClellan and Hamilton (2006) argued, adolescents who attend community based mental health settings often present with a complexity of problems that have grown out of equally complex and chaotic family histories, associated with diagnostic and psychosocial co-morbidity. Thus, it was thought important to acknowledge this within the current thesis, by linking maladaptive self-harm behaviours to measures of childhood trauma and emotion dysregulation. This combination of measures was seen to provide the most developmentally focused and, therefore, sensitive way of examining the success or not of the Life Surfing programme, acknowledging the influence of context on adolescent psychosocial functioning and mental health outcomes.

Results from the current studies contribute to a general recognition and, therefore, growth of knowledge and understanding of the importance of including measures of trauma and emotion dysregulation in assessment and treatment of adolescents who present with self-harm.

7.2.2 Fear of Emotions construct: Reflections on clinical utility

The Fear of Emotions hypothesis underpinning the measurement of Emotion Dysregulation within this thesis was argued by its developers (Williams et al., 1997) to access internal processes linked to the perceived ability to tolerate strongly felt emotions. This theory suggests that people who are fearful of autonomic arousal are likely to fear emotion more generally, than those who fear emotion less, and to be more
troubled by a lack of control over internal events. From this fear arises emotional avoidance and concurrent maladaptive behavioural strategies. In terms of the clinical utility of the Fear of Emotions construct, it is perhaps useful to think of the converse position, which is the acceptance of one’s emotions. This is a powerful non-pejorative paradigm that can be used to assist a client’s movement towards healthier emotional functioning. From a clinical perspective, acceptance of one’s emotional experience is also a more hopeful framework from which clinicians themselves are able to work with distressed adolescents. Certainly, in relation to a DBT framework, the concepts of fear of emotion and acceptance of emotional experience are closely aligned to the teachings of such DBT concepts as distress tolerance, emotion regulation and mindfulness, in concert with validation strategies that run throughout individual and group work.

Using a paradigm of positive developmental psychology (e.g., Marks, 2011) dysregulated emotions can be construed as adaptations to unhealthy environmental contexts and, as such, regulation and adaptation to new and healthier contexts becomes the focus of intervention. A DBT programme for adolescents can provide such a context from within which new learning can take place and healthier emotion regulation strategies may be developed, but only within a healthy and containing therapeutic relationship that provides validation of an individual’s experiences, behaviours, thoughts and emotions. It is from within this environment that these adolescents have an opportunity to bring to life, in a purposeful way, the resilience factors that have helped them survive into adolescence, despite the profound challenges of early life experiences.

While the term emotion regulation is used very broadly within the literature to encompass a number of discrete emotions, this breadth of coverage is largely overlooked in the literature. The research in this thesis has highlighted the importance
of looking at differentiating between various discrete emotions that are, necessarily, bound to context and subjective experience. This perspective has the benefit of acknowledging individual difference with regard to emotional dysregulation, which can impact on, and help refine individualised treatment programmes and interventions. That is to say, different individuals will have different emotional triggers and responses, with different emotions being involved. The Fear of Emotions construct, together with the MACS-A, may be helpful in assisting adolescents come to an improved awareness, understanding and differentiation of their own emotional experience which, when it reaches the point of self-harm can be overwhelmingly chaotic and confusing.

7.2.3 DBT for adolescents

The research presented within this thesis provides evidence that it is possible to replicate the original DBT model for adolescents put forward by Miller et al. (1997), within a community adolescent mental health setting, and this is an important addition to the literature. Moreover, findings reported here indicate that positive outcomes can be achieved, resulting in improved emotion regulation, and reductions in self-harm, suicidal ideation and trauma symptomatology. However, some caveats need to be stated with regard to the sustainability of such programmes for others interested in developing similar programmes. Importantly, the Life Surfing programme piloted in 2006 was set up as a research and treatment programme, and I was able to co-ordinate the programme intensively on a full-time basis due to funding received through my PhD scholarship.

Having the capacity to intensively coordinate a DBT programme bears upon both the sustainability and final outcomes of such programmes. Information collected from clinicians at the end of the programme with regards to what they thought made the programme ‘work’, indicated a general consensus that intensive co-ordination with a
research focus had been pivotal to the programme’s ‘success’, together with the ‘holding’ by the supervision-consultation team. In the follow-up programme in 2007, which I was no longer able to co-ordinate on a full-time basis, many concessions had to be made, particularly in terms of some of the research aspects that, upon reflection, were likely to have been influential in the final results. What stands out for me in thinking about the more ‘non-specific factors’ affecting treatment outcomes are such things as having the capacity to carry out pre-treatment interviews with parents. On reflection, this was a space from which parents’ understanding was valued and heard at a point when their child was first admitted to the service and/or into a new programme and, hence, a positive expectancy set was established from the beginning of treatment.

In terms of programme sustainability, without a dedicated clinician to coordinate and manage the complexities of DBT, compromised programme fidelity is the most likely outcome, and a lack of capacity to sustain the programme follows. This is perhaps reflected in the results of the quality of the supervision-consultation team relationship (see Section 5.3.3 and Appendix S), which was found to decline over the length of the two programmes from May 2006 to October 2007. Of course other factors such as a change in team membership are also likely to have been influential. Future research to further explore the factors implicated in the sustainability of DBT-A programmes would benefit from using a mixed-methods design, incorporating the B-L RI (team version) as part of the assessment process.

According to an enquiry into the mental health and wellbeing of children and young people in Western Australia (Stokes, 2012), there is a critical need for evidence-based intervention programmes to provide quality care, rather than being “constrained to emergency and crisis management” (p149) due largely to a lack of access to services.
According to McGorry, Parker, and Purcell (2006) “Without access to appropriate
treatment, many young people present in repeated crisis to over-stretch hospital
emergency departments, or their parents and carers are left to try and cope alone. In far
too many cases their difficulties eventually become chronic and disabling. A more
substantial focus on the needs of young people and how a service should orient itself
towards this population is critical” (p. 151).

Quality of care can be compromised in a health system already under pressure
due to lack of resources, and in particular, low staff-patient ratios. If short-term therapy
is to be the focus of care, then it makes good sense to make that therapy intensive and
evidence-based, treating not only the presenting adolescent but also the
parent/carer/family system. The Life Surfing programme described here shows promise
as an effective and systemically focused treatment with good outcomes for those
participating. Beyond the parental care system, the Life Surfing programme was an
effective way of providing containment and guidance to clinicians working at the pointy
end of the spectrum.

Further to this, it is important to note that some clinicians participating in the
programme were completing their registration as Clinical Psychologists. These
registrars indicated that the DBT model, inclusive of videotaped sessions and
participation in the supervision-consultation team, contributed greatly to their growth of
knowledge and perhaps more importantly, to their confidence in working with
adolescents who self-harm. Thus, DBT can be seen as an important training model,
which could be argued to lead to a more sustainable and effective CAHMS workforce in
the future.
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Appendix A: Community sample of adolescents - data collection

Parent Information and Consent Form

Adolescent Emotions Survey

Parent Information Sheet

Dear Parent,

We are a group of fourth year psychology students at Murdoch University working under the supervision of Dr. Suzanne Dziurawiec. We are investigating the ability of adolescents to control or regulate their emotions. The ability of people to regulate their emotions, particularly when stressed, is an important part of feeling health. The purpose of this study is to find out how adolescents cope with their emotions, both the positive and the negative ones, and to see how well our survey does this.

A large sample of secondary school students from across the Perth metropolitan region will be involved in this study over the next few weeks. You can help by providing consent for your child to complete the ‘Adolescent Emotions Survey’ which will ask questions about how your daughter/son experiences emotions. The time to complete the survey will be no more than about 10 minutes. Some students will be asked to complete the survey again in about two weeks so that we can see how well the survey works. Contained in the survey are questions which may be seen as personal and private. Your or your child can decide to withdraw your consent at any time without any negative consequences for your child, your family or your child’s school. All information given during the survey is confidential and no names or other information that might identify your child will be used in any publication arising from the research. At the end of the study a summary of the results of the survey will be given to the schools for distribution to the participants.

If you are willing to consent to your child’s participation in this study, could you please complete the details on the following page and return it to your child’s school. If you have any questions about this project or any concerns about how this study has been conducted, please feel free to contact our supervisor, Dr. Suzanne Dziurawiec, on 9360 2388. Alternatively, you can contact Murdoch University’s Human Research Ethics Committee on 9360 6677.

Thank you for your time and consideration.

Yours sincerely,

Bronwyn Bretag    Ben Dunstan    Shawn Ee    Kendal Head    Rochelle Pickles

Marta Talma

Dr. Suzanne Dziurawiec (Supervisor)    Keren Geddes (PhD Candidate)
Adolescent Emotions Survey

Parental Consent

I ______________________________________________ have read the information provided. Any questions I have asked have been answered to my satisfaction. I agree for my daughter/son __________________________ (INSERT NAME) to take part in this activity. I understand that all information provided is treated as confidential and will not be released by the investigator unless required to do so by law.

I agree that research data gathered for this study may be published provided my child’s name or other information which might identify her/him is not used.

Parent/Authorised Representative:

___________________________________________

Date: ____/____/____

Investigator: ________________________________

Date: ____/____/____

Supervisor’s Name: Dr. Suzanne Dziurawiec

Project Title: Adolescent Emotions Survey
Appendix B: Community sample of adolescents - data collection

Administration Instructions: Adolescent Emotions Survey

Method of Survey Distribution

1. As this survey is to be kept completely anonymous, please only provide that information which is requested and relevant to this study - DOB, grade and sex. Please proceed only if you have read and signed the participant information and consent form – please let your teacher know if this is not the case.

2. Once the questionnaires are distributed please remain silent and do not discuss any of your answers with one another. Please select the most appropriate and immediate response, do not spend a great deal of time thinking about your answers. When answering the questions, please respond according to your experiences over the last two weeks.

3. When you have finished please place the survey face down on the desk as the teacher will collect the survey from you and place it in a folder. If you have any questions please speak to the teacher in charge.

4. Participation is voluntary. If you feel you need to, please discuss any concerns with your teacher.

5. Thank you for participating in this exciting research.
Appendix C: Community sample of adolescents - data collection

Participant Information and Consent Form

Adolescent Emotions Survey

Participant Information Sheet

Dear Participant

We are a group of fourth year psychology students at Murdoch University working under the supervision of Dr. Suzanne Dziurawiec. We are investigating the ability of adolescents to control or regulate their emotions. The ability of people to regulate their emotions, particularly when stressed, is an important part of feeling healthy. The purpose of this study is to find out how adolescents cope with their emotions, both the positive and the negative ones, and to see how well our survey does this.

A large sample of secondary school students from across the Perth metropolitan region will be involved in this study over the next few weeks. You can help by consenting to complete the attached survey, which will ask you questions about how you experience emotions. It will take about 10 minutes to complete this survey. Some students will complete the survey again in about two weeks so that we can see how well the survey works. Contained in it are questions which may be seen as personal and private. You can decide to withdraw your consent at any time, without any negative consequences to you, your family or your school. All information given during the survey is confidential and no names or other information that might identify you will be used in any publication arising from the research. At the end of the study a summary of the results of the survey will be given to the schools for distribution to the participants.

If you are willing to participate in this study, could you please complete the details on the following page. If you have any questions about this project or about how this study has been conducted, please feel free to contact our supervisor, Dr. Suzanne Dziurawiec, on 9360 2388. Alternatively, you can contact Murdoch University’s Human Research Ethics Committee on 9360 6677.

Thanks for your time and consideration.

Yours sincerely,

Bronwyn Bretag Ben Dunstan Shawn Ee Kendal Head Rochelle Pickles Marta Talma

Dr. Suzanne Dziurawiec (Supervisor) Keren Geddes (PhD Candidate)

Adolescent Emotions Survey

Participant Consent
I ______________________________________ have read the information provided. Any questions I have asked have been answered to my satisfaction. I agree to take part in this activity, however, I know that I may change my mind and stop at any time without any consequences to me, my family or my school. I understand that all information provided is treated as confidential and will not be released by the investigator unless required to do so by law.

I agree that research data gathered for this study may be published provided my name or other information which might identify me is not used.

Participant/Authorised Representative:

___________________________________________

Date:  ____/____/____

Investigator:  ___________________________

Date:  ____/____/____

Supervisor’s Name:  Dr. Suzanne Dziurawiec

***********************************************************************

Thank you for consenting to participate.
Appendix D: Clinical sample of adolescents data collection

Clinician Checklist

Instructions for CAMHS Clinicians
South-Metro CAMHS DBT Team Research Programme: Stage 1

Reliability of the Affective Control Scale

- Assessment Procedures
  - The ACS survey is likely to have a significant impact on the reliability of the results. For this reason I have included some questions at the end of the survey which relate to the taking of medication (prescribed and non-prescribed).
  - Survey conducted on current clients only.
  - Both parent/guardian and participant need to read the accompanying information/consent forms and sign before going on to complete the survey. However, if client aged 16 years or over we are able to obtain mature consent and do not need parent signature.
  - Reinforce that participation is voluntary, however, the information gained will provide valuable information to you (the clinician) with regard to how the client is coping and in helping you better understand and work with the client. Feedback of results can be offered to client/parent where appropriate. It may be helpful to maintain a focus on the positive aspects of participating and to ‘sell’ the idea by indicating that this is a new and ‘special’ initiative taken by this service.
  - Survey to be handed to client at the beginning of session.
  - Client to fill in the survey in as private a way as possible – preferably without the presence of any parent/guardian.
  - Provide the client with assistance if sought in terms of any difficulties understanding specific questions or in how to fill out the form. This may be particularly necessary when it comes to the last section on medication.
  - It may be possible to use any issues resulting from filling out the questionnaire as a part of the focus of the session, however, the client would need to initiate such a discussion. If the client does not raise any issues, then the survey is to be placed inside an envelope by the client and put to one side before continuing on with the session as usual. It would be extremely useful if you were able to briefly note anything out of the ordinary that arises as a result of participation in the survey, if your time permits. These comments could be included in your usual client file notes, which I can follow up at a later time.

Clinician’s Checklist:
  1. Current clients 12 to 17 years of age
  2. To be filled out at beginning of session.
  4. Provide rationale for ACS survey and what client will get out of it.
  5. 10-15 minutes of session time needed
  6. Answer any questions that arise and note in file notes.

- Feedback and support
  - I will provide one-on-one support to all clinicians with regard to the administration of the survey and any difficulties they may encounter.
  - I will provide all clinicians with a brief report specific for each client in relation to group data.
  - The ACS will provide information on level of fear in relation to feelings of anxiety, depression, anger and positive emotion.
Many thanks for your assistance.
Keren Geddes (DBT co-ordinator)
Appendix E: Clinical sample of adolescents - data collection

Parent Information and Consent Form

Adolescent Emotions Survey

Parent Information Sheet

TO BE USED IN CONJUNCTION WITH THE CONSENT FORM

We invite your son/daughter to participate in a clinical research study looking at assisting adolescents to better manage their emotions. This study has been approved by the South Metropolitan Area Health Service Human Research Ethics Committee and Murdoch University Ethics Committee and forms part of the work for a Doctor of Philosophy Degree in Clinical Psychology at Murdoch University.

If you decide to consent to your son/daughter taking part in this research study, it is important that you understand the purpose of the study and the procedures your son/daughter will be asked to undergo. Please read the following pages, which will provide you with information about treatments involved, and also the potential benefits, discomforts and precautions of the study.

Nature and Purpose of the Study
We have asked your son/daughter to take part in this study as he/she is currently attending the Child and Adolescent Mental Health Service for treatment. This is the first part of a larger study that is trying to finding out more about adolescent emotions and better ways of helping adolescents cope with extremes in emotions (e.g. anger, depression, anxiety).

The aim of the study is to test a newly developed measure of emotions in adolescents.

What the Study Will Involve
If you give consent for your son/daughter to participate in this study, he/she will be required to do the following:
Complete the ‘Adolescent Emotions Survey’ which will ask questions about how your son/daughter experiences emotions.
Answer some additional questions that may be considered personal and private related to prescribed and non-prescribed medication.
It is anticipated that the time to complete this survey will be no more than 15 minutes. Extra time has been allowed for your son/daughter to fill out the survey during his/her scheduled appointment time and any concerns that may arise for your son/daughter can be discussed immediately with his/her clinician.

Benefits
The potential benefit of your son/daughter participating in this study is to provide additional information to his/her clinician that will assist in treatment planning.
However, it is possible that there may be no direct benefit to your son/daughter from participation in this study. While there is no guarantee that your son/daughter will benefit, the knowledge gained from his/her participation may help others in the future.

Voluntary Participation and Withdrawal from the Study
Participation in this study will not in any way interfere with the treatment of your son/daughter.

Your son/daughter’s participation in this study is entirely voluntary. If you choose for your son/daughter not to participate in this study, he/she will continue to be treated according to routine clinical guidelines, without prejudice to present or future management at this service.

You or your son/daughter can decide to withdraw consent at any time. Withdrawal of consent will not affect your son/daughter’s treatment at this service. All information given during this study is confidential and no names or other information that might identify your son/daughter will be used in any publication arising from the research. A summary of the results of the study will be given to your son/daughter’s case manager for feedback to you and/or your son/daughter at their case manager’s discretion.

If you are willing to consent to your son/daughter’s participation in this study, could you please complete the details on the following page. If you have any questions about this project please feel free to contact either myself, Keren Geddes on 9336 3099 or my supervisors, Dr Sarah Davey on 9528 0555; Dr Suzanne Dziurawiec on 9360 2388; Chris Lee on 9360 6828

My supervisors and I are happy to discuss with you any concerns you may have on how this study has been conducted. Alternatively you can contact Murdoch University’s Human Research Ethics Committee on 9360 6677 or the Chairman of the South Metropolitan Area Health Service Human Research Ethics Committee on 9431 2929.
Adolescent Emotions Survey

Parental Consent Form

Parent’s Name……………………………………… Date of Birth………………

1. I agree entirely voluntarily for my son/daughter to take part in the ‘Adolescent Emotions Survey’.

2. I have read the information provided and been given a full explanation of the purpose of this study, of the procedures involved and of what is expected of my son/daughter. The researcher has explained the possible problems that may arise as a result of my son/daughter’s participation in this study.

3. I understand I am entirely free to withdraw my son/daughter from the study at any time and that this withdrawal will not in any way affect my son/daughter’s future standard or conventional treatment or medical management.

4. I understand that information in my son/daughter’s medical records is essential to evaluate the results of this study. I agree to the release of this information to the research staff on the understanding that it will be treated confidentially.

5. I understand my son/daughter will not be referred to by name in any report concerning this study. In turn, I cannot restrict in any way the use of the results, which arise from this study.

6. Names and addresses will be stored separately from the data and accessible only to the investigators. All data provided by the undersigned will be anonymously analysed by computer using code numbers.

7. I have been given and read a copy of this Consent Form & Information Sheet, and declare hereby to have taken note of the above-mentioned conditions.

Parent/Authorised Representative: _____________________ Date: ____/____/______

Signature Principal Investigator _____________________ Date: ____/____/______
Ms Keren Geddes

Supervisors’ Signature: ___________________________ Date: ____/____/______
Dr Sarah Davey

Supervisors’ Signature: ___________________________ Date: ____/____/______
Dr Suzanne Dziurawiec

Supervisors’ Signature: ___________________________ Date: ____/____/______
Mr Christopher Lee
Appendix F: Clinical sample of adolescents - data collection

Participant Information and Consent Form

Adolescent Emotions Survey

Participant Information Sheet

TO BE USED IN CONJUNCTION WITH THE CONSENT FORM

We invite you to participate in a clinical research study looking at assisting adolescents to better manage their emotions. This study has been approved by the South Metropolitan Area Health Service Human Research Ethics Committee and Murdoch University Ethics Committee and forms part of the work for a Doctor of Philosophy Degree in Clinical Psychology at Murdoch University.

If you decide to consent to take part in this research study, it is important that you understand the purpose of the study and the procedures you will be asked to undergo. Please read the following pages, which will provide you with information about treatments involved, and also the potential benefits, discomforts and precautions of the study.

Nature and Purpose of the Study
We have asked you to take part in this study as you are currently attending the Child and Adolescent Mental Health Service for treatment. This is the first part of a larger study that is trying to find out more about adolescent emotions and better ways of helping adolescents cope with extremes in emotions (e.g. anger, depression, anxiety).

The aim of the study is to test a newly developed measure of emotions in adolescents.

What the Study Will Involve
If you consent to participate in this study, you will be required to do the following:
- Complete the ‘Adolescent Emotions Survey’, which will ask questions about how you experience emotions.
- Answer some additional questions that may be considered personal and private related to prescribed and non-prescribed medication. You do not have to answer these questions if you would prefer not to.
- It is anticipated that the time to complete this survey will be no more than 15 minutes. Extra time has been allowed for you to fill out the survey during your scheduled appointment time and any concerns that you have can be discussed immediately with your clinician.

Benefits
The potential benefit of participating in this study is to provide extra information to your clinician that will help her in planning your treatment.

However, it is possible that there may be no direct benefit to you from taking part in this study. While there is no guarantee that you will benefit, the knowledge gained from your participation may help others in the future.
Voluntary Participation and Withdrawal from the Study
Taking part in this study will not in any way interfere with the treatment you receive.

Your participation in this study is entirely voluntary. If you choose not to participate, you will continue to be treated according to routine clinical guidelines, without prejudice to present or future management at this service.

You can decide to withdraw consent at any time. Withdrawal of consent will not affect your treatment at this service. All information given during this study is confidential and no names or other information that might identify you will be used in any publication arising from the research. A summary of the results of the study will be given to your case manager for feedback to you at your case manager’s discretion.

If you are willing to consent to take part in this study, could you please complete the details on the following page. If you have any questions about this project please feel free to contact either myself, Keren Geddes on 9336 3099 or my supervisors, Dr Sarah Davey on 9528 0555; Dr Suzanne Dziurawiec on 9360 2388; Chris Lee on 9360 6828

My supervisors and I are happy to discuss with you any concerns you may have on how this study has been conducted. Alternatively you can contact Murdoch University’s Human Research Ethics Committee on 9360 6677 or the Chairman of the South Metropolitan Area Health Service Human Research Ethics Committee on 9431 2929.
Adolescent Emotions Survey

Participant Consent Form

Participant’s Name………………………………………Date of Birth………………

I agree entirely voluntarily to take part in the ‘Adolescent Emotions Programme’.

I have read the information provided and been given a full explanation of the purpose of this study, of the procedures involved and of what is expected of me. The researcher has explained the possible problems that may arise as a result of my participation in this study.

I understand I am entirely free to withdraw from the study at any time and that this withdrawal will not in any way affect my future standard or conventional treatment or medical management.

I understand that information in my medical records is essential to evaluate the results of this study. I agree to the release of this information to the research staff on the understanding that it will be treated confidentially.

I understand I will not be referred to by name in any report concerning this study. In turn, I cannot restrict in any way the use of the results, which arise from this study.

Names and addresses will be stored separately from the data and accessible only to the investigators. All data provided by the undersigned will be anonymously analysed by computer using code numbers.

I have been given and read a copy of this Consent Form & Information Sheet, and declare hereby to have taken note of the above-mentioned conditions.

Signature of Participant: _____________________ Date:  ____/____/______

Signature Principal Investigator ____________________ Date: ____/____/______
Ms Keren Geddes

Supervisors’ Signature: _________________________ Date: ____/____/______
Dr Sarah Davey

Supervisors’ Signature: _________________________ Date: ____/____/______
Dr Suzanne Dziurawiec

Supervisors’ Signature: _________________________ Date: ____/____/______
Mr Christopher Lee
Appendix G: Undergraduate data collection

Participant Information Sheet

You are invited to participate in a research study that investigates how 18-year-olds experience strong emotions. This study is part of a Bachelor of Psychology 4th year project supervised by Dr. Suzanne Dziurawiec at Murdoch University.

Nature and Purpose of the Study
The primary aim of this research is to identify how 18-year-olds experience strong emotions. Being able to understand and control our emotions and emotional behaviours allows us to not only better understand ourselves but also the world around us. Individuals who have problems understanding and managing their emotions can often fear the experience of emotion. As a result, we would like to investigate how 18-year-olds experience strong emotions. This will be achieved through surveying the responses of a large group of 18-year-olds to various emotion questions. More generally, we are also interested in developing a better measure of responses to strong emotions, so we may ask similar questions in slightly different ways, with the goal of developing a better survey in the future.

What the Study will involve
If you decide to participate in this study:

- You will be asked to complete an anonymous online questionnaire
- The submitted questionnaire material will be totally anonymous and confidential. You will not be identifiable except for your age, gender and nationality
- The questionnaire will take approximately 30 minutes to complete

The submitted questionnaire material will be stored in the supervisor's office and will be disposed of after 5 years. The required 5 year period has been put in place to comply with University Policy. Although it is unlikely, there is a possibility that you may experience some level of stress or anxiety while completing the survey as a result of some of the questions. If this is the case, you are free to withdraw at anytime during the session. If these feelings persist after the completion of the survey, you may wish to seek support by contacting Lifeline on 131114 or Murdoch South Street Campus Health and Counseling Services on (08)93602293.

Voluntary Participation and Withdrawal from the Study
Your participation in this study is completely voluntary. You may withdraw at anytime without penalty or discrimination. All information is strictly confidential and no names or other identifying details will be used in any publication that may arise from the research. If you withdraw, all information you have already provided will be destroyed. If you consent to take part in this research study, it is important that you understand the purpose of the study and the procedures you will be asked to undertake. If you are uncertain about anything, please make sure to ask any questions that you may have so that all your questions have been answered satisfactorily before you agree to participate. If you do have any questions regarding the study, please feel free to contact Dr Suzanne Dziurawiec on (08) 93602388.
**Benefits of the Study**

It is possible that there may be no direct benefit to you by participating in this study. However, the knowledge gained from your contribution may help others in the future through the attainment of a better understanding of the emotion regulation processes experienced by 18 year olds.

As a small token of our appreciation, you have the opportunity to enter a draw to win a $50 (AUD) iTunes store gift certificate. If you choose to participate in the draw, we will require a current email address from you, which will be stored separately from your survey responses. This email address will only be used to notify the winner of the draw.

An overview of the study and its findings for the entire group of 18-year-olds will be published on the Murdoch University Psychology webpage at the end of December 2012. The findings may also be published at a future date. Participants can gain access to the webpage by clicking on the following link: [http://www.psychology.murdoch.edu.au/researchresults/research_results.html](http://www.psychology.murdoch.edu.au/researchresults/research_results.html)

If you are willing to participate in this study, please click ‘yes’ on the Consent Form below.

Thank you for your time and assistance with this research project.

Sincerely,

Amy Cleator

---

This study has been approved by the Murdoch University Human Research Ethics Committee (Project number: 2012/097). If you have any reservations or complaints about the ethical conduct of this research and would like to talk with an independent person, please contact Murdoch University’s Research Ethics Office (Ph. 08 9360 6677 or email ethics@murdoch.edu.au). Any issues you may raise will be heard in confidence and fully investigated and you will be informed of the outcome.
Appendix H: Undergraduate data collection

Participant consent

Participant Consent Form

I have read the information letter about the nature and scope of this survey. Any questions I have regarding the research process have all been answered to my satisfaction. I agree to take part in this research. I am aware that this survey is anonymous and no personal details are being collected or used. I know that if I change my mind, withdraw my consent, I can stop participating at any time. I acknowledge that once my survey has been submitted it may not be possible to withdraw my information. I understand that all information provided is treated as confidential by the researchers and will not be released to a third party unless required to do so by law. I understand that the findings of this study may be published and that no information, which can specifically identify me will be published.

- Yes
- No
Appendix I: Undergraduate data collection

Subject Recruitment documents

i) Psychology Subject Pool website

Subject Pool Advertisement

Project title: The Emotions of 18-year-olds

Being able to understand and control our emotions and emotional behaviours allows us to not only better understand ourselves but also the world around us. Individuals who have problems understanding and managing their emotions can often fear the experience of emotion. Recent studies have revealed the importance of being able to regulate emotions, as fear of emotion has been linked to mental health issues. As a result, we would like to investigate how 18-year-olds experience their strong emotions. If you are 18 years old, your participation in a web-based survey (maximum 30 minutes) could help. If you would like to participate, please sign up on the subject pool website and follow the link to: http://scored.murdoch.edu.au/survey/TakeSurvey.aspx?SurveyID=m210777.

You may choose to receive either 1 hour of subject pool credit or enter into the draw to win a $50(AUD) iTunes store gift certificate.

An overview of the study and its findings for the entire group of 18-year-olds will be published on the Murdoch University Psychology webpage at the end of December 2012. The general findings may also be submitted for publication at a future date. Participants can gain access to the webpage by clicking on the following link: http://www.psychology.murdoch.edu.au/researchresults/research_results.html

This study has been approved by the Murdoch University Human Research Ethics Committee (Project number: 2012/097).

If you have any questions regarding this study, please contact: adolescent.emotion.survey@gmail.com

Alternatively you can contact our supervisor Dr Suzanne Dziurawiec: S.Dziurawiec@murdoch.edu.au or (08) 93602388.

Credit Hours Available: 1.00
Selection Process Hours: 0.00
Advertise: Yes
ii) Posters placed on the university campus

Advertising Poster

18 years old?
We need you!

Please only 18 year olds! Being able to understand and control our emotions and emotional behaviours allows us to not only better understand ourselves but also the world around us. Individuals who have problems understanding and managing their emotions can often fear the experience of emotion. Recent studies have revealed the importance of being able to regulate emotions, as fear of emotion has been linked to mental health issues. We are students currently completing our Bachelor of Psychology 4th Year Project at Murdoch University and we are investigating how 18-year-olds experience their strong emotions. If you are 18 years old, your participation in a web-based survey (maximum 30 minutes) could help. The study has been ethically approved by the Murdoch University Ethics Committee; Human Ethics Permit Number: 2012/097. If you would like to participate, please sign up on the subject pool website and follow the link to:


OR

You can also access this link online through our Facebook page by searching:

“Adolescent Emotion Survey”

You may choose to receive either 1 hour of subject pool credit or enter into the draw to win a $50(AUD) iTunes store gift certificate.

If you have any questions regarding this study, please contact:
adolescent.emotion.survey@gmail.com

Alternatively you can contact our supervisor Dr Suzanne Dziurawiec:
S.Dziurawiec@murdoch.edu.au or (08) 93602388.

Credit Hours Available: 1.00
Selection Process Hours: 0.00
iii) **Facebook Advertisement**

Project title: *The Emotions of 18-year-olds*

Being able to understand and control our emotions and emotional behaviours allows us to not only better understand ourselves but also the world around us. Individuals who have problems understanding and managing their emotions can often fear the experience of emotion. Recent studies have revealed the importance of being able to regulate emotions, as fear of emotion has been linked to mental health issues. As a result, we would like to investigate how 18-year-olds experience their strong emotions. If you are 18 years old, your participation in a web-based survey (maximum 30 minutes) could help. If you would like to participate, please follow the link: [http://scored.murdoch.edu.au/survey/TakeSurvey.aspx?SurveyID=m210777](http://scored.murdoch.edu.au/survey/TakeSurvey.aspx?SurveyID=m210777)

If you participate, you may choose to enter into the draw for a $50 (AUD) iTunes store gift certificate.

An overview of the study and its findings for the entire group of 18-year-olds will also be published on the Murdoch University Psychology webpage at the end of December 2012. The general findings may also be published at a future date. Participants can gain access to the webpage by clicking on the following link: [http://www.psychology.murdoch.edu.au/researchresults/research_results.html](http://www.psychology.murdoch.edu.au/researchresults/research_results.html)

This study has been approved by the Murdoch University Human Research Ethics Committee (Project number: 2012/097).

If you have any questions regarding this study, please contact the researchers at the following email address: adolescent.emotion.survey@gmail.com

Alternatively you can contact our supervisor Dr Suzanne Dziurawiec: S.Dziurawiec@murdoch.edu.au or (08)9360 2388.
iv) Mental Health Foundation Facebook Advertisement

Adolescent Emotions Survey

PLEASE 18-YEAR OLDS ONLY!

This study aims to look at the link between emotions and mental health issues in adolescents. It is an important topic because this information can help our understanding of how teenagers control their emotions, to help find psychological treatments in emotion dysregulation (where a person cannot control their emotions)

If you would like to participate in this simple survey, please follow this link: http://scored.murdoch.edu.au/survey/TakeSurvey.aspx?SurveyID=m210777

You can also choose to enter into the draw for a $50 iTunes gift voucher!

But please ONLY 18 YEAR OLDS!
Appendix J: Undergraduate data collection

Measures package

i) Modified Affective Control Scale for Adolescents (MACS-A)

ADOLESCENT EMOTIONS SURVEY

Date of Birth ___/___/___  Grade ___  Male or Female (circle)

Below is a list of statements adolescents sometimes make when talking about their emotions. Please rate how much you agree with each of the statements by drawing a circle around the most appropriate number below each statement.

<table>
<thead>
<tr>
<th></th>
<th>1 very strongly disagree</th>
<th>2 strongly disagree</th>
<th>3 disagree</th>
<th>4 neutral</th>
<th>5 agree</th>
<th>6 strongly agree</th>
<th>7 very strongly agree</th>
</tr>
</thead>
</table>
1. I am concerned that I will say things I’ll regret when I get angry. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
2. I can go over the top when I am really happy. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
3. Depression could really drag me down, so it is important to fight off sad feelings. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
4. If I get depressed, I am quite sure that I won’t feel that way for long. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
5. I get so upset when I am nervous that I cannot think clearly. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
6. Being really happy sounds great, but I am concerned that I could lose control over my actions if I get too excited. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
7. It scares me when I feel “shaky” (trembling). | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
8. I am afraid I will hurt someone if I get really angry. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
9. I feel comfortable that I can control how anxious I am feeling. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
10. If people are to find out how angry I sometimes feel, the consequences might be pretty bad. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
11. When I feel good, I let myself go and enjoy it to the max. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
12. I am afraid I could go into a depression that would wipe me out. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
13. When I feel happy, I go overboard, so I don’t like getting overly excited. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
14. When I get nervous, I think I am going to go crazy. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
15. I feel OK expressing angry feelings. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
16. I am able to stop myself from becoming overly anxious. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
17. No matter how happy I become, I don’t get too carried away. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
18. I am afraid I might try to hurt myself if I get too depressed. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
19. It scares me when I am nervous. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

PLEASE TURN OVER
<table>
<thead>
<tr>
<th>1 very strongly DISAGREE</th>
<th>2 strongly disagree</th>
<th>3 disagree</th>
<th>4 neutral</th>
<th>5 agree</th>
<th>6 strongly agree</th>
<th>7 very strongly AGREE</th>
</tr>
</thead>
<tbody>
<tr>
<td>20. Being nervous isn't much fun, but I can handle it.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21. I love feeling excited - it is a great feeling.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22. I worry about losing control over myself when I am really happy.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23. There is nothing I can do to stop feeling nervous once it has started.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24. When I start feeling &quot;down&quot;, I think I might let the sadness go too far.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25. Once I get nervous, I think that my feelings might get out of hand.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>26. Being depressed is not so bad because I know it will soon go away.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>27. I would be embarrassed to death if I lost my temper in front of other people.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>28. When I get really unhappy, I worry that I will stay that way.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>29. When I get angry, I don't really worry about losing my temper.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30. Whether I am happy or not, I am able to control myself.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>31. When I get really excited about something, I worry my enthusiasm will get out of hand.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>32. When I get nervous, I feel as if I am going to scream.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>33. I get nervous about being angry because I am afraid I will go too far, and I'll regret it later.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>34. I am afraid that I will talk nonsense or talk funny when I am nervous.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>35. Getting really excited about something is a problem for me because sometimes being happy stops me from thinking clearly.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>36. Depression is scary to me -- I am afraid that I could get depressed and never recover.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>37. I don’t really mind feeling nervous; I know it will go away.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>38. I am afraid that letting myself feel really angry about something could make me lose my mind.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>39. When I am nervous, I am afraid that I will act stupid.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>40. I am afraid that I'll do something stupid if I get carried away with happiness.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>41. I don’t think I make good decisions when I get really happy.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Thank you for participating in this survey.
ii) Depression, Anxiety and Stress Scale (DASS-21)

<table>
<thead>
<tr>
<th>Number</th>
<th>Statement</th>
<th>Rating Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I found it hard to wind down</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>2</td>
<td>I was aware of dryness of my mouth</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>3</td>
<td>I couldn't seem to experience any positive feeling at all</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>4</td>
<td>I experienced breathing difficulty (eg, excessively rapid breathing,</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td></td>
<td>breathlessness in the absence of physical exertion)</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>I found it difficult to work up the initiative to do things</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>6</td>
<td>I tended to over-react to situations</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>7</td>
<td>I experienced trembling (eg, in the hands)</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>8</td>
<td>I felt that I was using a lot of nervous energy</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>9</td>
<td>I was worried about situations in which I might panic and make a fool of</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td></td>
<td>myself</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>I felt that I had nothing to look forward to</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>11</td>
<td>I found myself getting agitated</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>12</td>
<td>I found it difficult to relax</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>13</td>
<td>I felt down-hearted and blue</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>14</td>
<td>I was intolerant of anything that kept me from getting on with what I</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td></td>
<td>was doing</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>I felt I was close to panic</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>16</td>
<td>I was unable to become enthusiastic about anything</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>17</td>
<td>I felt I wasn't worth much as a person</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>18</td>
<td>I felt that I was rather touchy</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>19</td>
<td>I was aware of the action of my heart in the absence of physical exertion</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td></td>
<td>(eg, sense of heart rate increase, heart missing a beat)</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>I felt scared without any good reason</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>21</td>
<td>I felt that life was meaningless</td>
<td>0 1 2 3</td>
</tr>
</tbody>
</table>
### iii) 7-item Anger Scale

Please rate how much you agree with each of the statements by choosing the most appropriate number below each statement, with 1 being *extremely unlike me* and 5 being *extremely like me.*

<table>
<thead>
<tr>
<th></th>
<th>Extremely UNLIKE me</th>
<th>Somewhat unlike me</th>
<th>Neither like or unlike me</th>
<th>Somewhat like me</th>
<th>Extremely LIKE me</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I flare up quickly, but get over it quickly.</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>When frustrated, I let my irritation show.</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>I sometimes feel like a bomb ready to explode.</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>I am an even-tempered person.</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Some of my friends think I’m a hot head.</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Sometimes I fly off the handle for no good reason</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>I have trouble controlling my temper</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
iv) MACS-A (16 items)

Below is a list of statements that adolescents sometimes make when talking about their emotions. Think about how you have been feeling over the past week and rate how much you agree with each of the statements by drawing a circle around the most appropriate number below each statement.

<table>
<thead>
<tr>
<th></th>
<th>1 very strongly disagree</th>
<th>2 strongly disagree</th>
<th>3 disagree</th>
<th>4 neutral</th>
<th>5 agree</th>
<th>6 strongly agree</th>
<th>7 very strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I feel comfortable that I can control how anxious I am feeling.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>2</td>
<td>I feel scared when I can't control my temper.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>3</td>
<td>I am afraid that I could go into a depression that would wipe me out.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>4</td>
<td>I am able to stop myself from becoming overly anxious.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>5</td>
<td>I am afraid that I might try to hurt myself if I become too depressed.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>6</td>
<td>It would be awful if people found out how angry I sometimes feel.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>7</td>
<td>It scares me when I am nervous.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>8</td>
<td>Being nervous isn't much fun, but I can handle it.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>9</td>
<td>There is nothing I can do to stop feeling nervous once it has started.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>10</td>
<td>When I start feeling 'down', I might let the sadness go too far.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>11</td>
<td>Letting myself feel really angry about something scares me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>12</td>
<td>I am afraid that I will talk nonsense or talk funny when I am nervous.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>13</td>
<td>Depression is scary to me; I am afraid that I could get depressed and never recover.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>14</td>
<td>I don't really mind feeling nervous; I know it will go away.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>15</td>
<td>I sometimes feel like a bomb ready to explode.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>16</td>
<td>When I am nervous, I am afraid I will act stupid.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>

Thank you for participating in this survey.
Appendix K
Information and Consent: Life Surfing Programme

Adolescent Emotions Programme

Parent Information Sheet

TO BE USED IN CONJUNCTION WITH THE CONSENT FORM

We invite your son/daughter to participate in a clinical research study looking at assisting adolescents to better manage their emotions. This study has been approved by the South Metropolitan Area Health Service Human Research Ethics Committee and Murdoch University Ethics Committee and forms part of the work for a Doctor of Philosophy Degree in Clinical Psychology at Murdoch University.

If you decide to consent to your son/daughter taking part in this research study, it is important that you understand the purpose of the study and the procedures your son/daughter will be asked to undergo. Please read the following pages, which will provide you with information about treatments involved, and also the potential benefits, discomforts and precautions of the study.

Nature and Purpose of the Study
We have asked your son/daughter to take part in this study as he/she has been referred to the Child and Adolescent Mental Health Service for problems related to regulating their emotions. We believe that if your son/daughter could learn strategies to help him/her cope better with extremes in emotion he/she will have improved mental and physical health.

The aim of this study is to evaluate two different approaches to help adolescents with regulating their emotions. The two approaches are standard individual counselling, or individual counselling plus group skills training. The group skills training shows adolescents how to take control of their emotions, helping them to remain calm.

What the Study Will Involve
If you give consent for your son/daughter to participate in this study, he/she will receive one of the following treatments:
A 16-week programme including twice weekly individual counselling sessions and once weekly group skills training. A further three months of group skills training will also be offered. All individual and group skills training sessions will be videotaped. These videotapes will be stored securely in a locked cupboard on the premises of the South Metropolitan Child and Adolescent Mental Health Service.
Individual counselling for four months with the opportunity to continue for another three if needed.

One half of the study’s participants will be randomly assigned to each group.
Your son/daughter will be monitored very closely during the study. He/she will have assessments made of his/her well-being and emotion regulation at the beginning and end of the study by filling out some questionnaires.

**Follow Up**
Progress of your son/daughter will be checked at three, six and 12 months after the programme.

**Benefits**
It is possible that there may be no direct benefit to your son/daughter from participation in this study.

However, results from past studies do show some potential benefits from participation in this programme as follows:
- Improved psychological well being, such as getting on better with family and friends
- Less risk of developing drug and/or alcohol problems, reduced anxiety and depression
- Improved physical health
- Less medication
- Improved functioning in relation to school and/or work expectations
While there is no guarantee that your son/daughter will benefit, the knowledge gained from his/her participation may help others in the future.

**Voluntary Participation and Withdrawal from the Study**
Participation in this study will not in any way interfere with the treatment of your son/daughter.

Your son/daughter’s participation in this study is entirely voluntary. If you choose for your son/daughter not to participate in this study, he/she will be treated according to routine clinical guidelines, without prejudice to present or future management at this service.

You or your son/daughter can decide to withdraw consent at any time. Withdrawal of consent will not affect your son/daughter’s treatment at this service. All information given during this study is confidential and no names or other information that might identify your son/daughter will be used in any publication arising from the research. A summary of the results of the study will be given to your son/daughter’s case manager for feedback to you and/or your son/daughter at her discretion.

If you are willing to consent to your son/daughter’s participation in this study, could you please complete the details on the following page. If you have any questions about this project please feel free to contact either myself, Keren Geddes on 9336 3099 or my supervisors, Dr Sarah Davey on 9528 0555; Dr Suzanne Dziurawiec on 9360 2388; Chris Lee on 9360 6828

My supervisors and I are happy to discuss with you any concerns you may have on how this study has been conducted. Alternatively you can contact Murdoch University's Human Research Ethics Committee on 9360 6677 or the Chairman of the South Metropolitan Area Health Service Human Research Ethics Committee on 9431 2929.
Adolescent Emotions Programme

Parental Consent Form

Parent’s Name……………………………………… Date of Birth……………………

I agree entirely voluntarily for my son/daughter to take part in the ‘Adolescent Emotions Programme’.

I have read the information provided and been given a full explanation of the purpose of this study, of the procedures involved and of what is expected of my son/daughter. The researcher has explained the possible problems that may arise as a result of my son/daughter’s participation in this study.

I understand I am entirely free to withdraw my son/daughter from the study at any time and that this withdrawal will not in any way affect my son/daughter’s future standard or conventional treatment or medical management.

I understand that information in my son/daughter’s medical records is essential to evaluate the results of this study. I agree to the release of this information to the research staff on the understanding that it will be treated confidentially.

I understand my son/daughter will not be referred to by name in any report concerning this study. In turn, I cannot restrict in any way the use of the results, which arise from this study.

Names and addresses will be stored separately from the data and accessible only to the investigators. All data provided by the undersigned will be anonymously analysed by computer using code numbers.

I have been given and read a copy of this Consent Form & Information Sheet, and declare hereby to have taken note of the above-mentioned conditions.

Parent/Authorised Representative: _____________________ Date: ____/____/______

Signature Principal Investigator _____________________ Date: ____/____/______
Ms Keren Geddes

Supervisors’ Signature: _____________________________ Date: ____/____/______
Dr Sarah Davey

Supervisors’ Signature: _____________________________ Date: ____/____/______
Dr Suzanne Dziurawiec

Supervisors’ Signature: _____________________________ Date: ____/____/______
Mr Christopher Lee
Adolescent Emotions Programme

Participant Information Sheet

TO BE USED IN CONJUNCTION WITH THE CONSENT FORM

We invite you to participate in a clinical research study looking at assisting adolescents to better manage their emotions. This study has been approved by the South Metropolitan Area Health Service Human Research Ethics Committee and Murdoch University Ethics Committee and forms part of the work for a Doctor of Philosophy Degree in Clinical Psychology at Murdoch University.

If you consent to take part in this research study, it is important that you understand the purpose of the study and the procedures you will be asked to undergo. Please read the following pages, which will provide you with information about treatments involved, and also the potential benefits, discomforts and precautions of the study.

Nature and Purpose of the Study
We are asking you to take part in this study as you have been referred to the Child and Adolescent Mental Health Service for problems related to your emotions. We believe that if you could learn strategies to help you cope better with your emotions, you will have better mental and physical health.

The aim of this study is to assess two different approaches to help adolescents with problems associated with their emotions. The two approaches are standard individual counselling, or individual counselling plus group skills training. The group skills training shows adolescents how to take control of their emotions, helping them to remain calm.

What the Study Will Involve
If you decide to participate in this study, you will receive one of the following treatments:
A 16-week programme including twice weekly individual counselling sessions and once weekly group skills training. A further three months of group skills training will also be offered. All individual and group skills training sessions will be videotaped. These videotapes will be stored securely in a locked cupboard on the premises of the South Metropolitan Child and Adolescent Mental Health Service.
Individual counselling for four months with the opportunity to continue for another three if needed.

One half of the study’s participants will be randomly assigned to each group.

You will be monitored very closely during the study. Assessments will be made of your well-being and emotion regulation at the beginning and end of the study by having you fill out some questionnaires.

Follow Up
Once you have completed the programme, your progress will be checked three, six and 12 months later.

Benefits
It is possible that there may be no direct benefit to you from participation in this study.
However, results from past studies do show some potential benefits from participation in this programme as follows:
Improved psychological well being, such as getting on better with family and friends, less risk of developing drug and/or alcohol problems, reduced anxiety and depression
Improved physical health
Less medication
Improved functioning in relation to school and/or work expectations
While there is no guarantee that you will benefit, the knowledge gained from your participation may help others in the future.

Voluntary Participation and Withdrawal from the Study
Participation in this study will not in any way interfere with the treatment you receive.

Your participation in this study is entirely voluntary. If you choose not to participate in this study, you will be treated according to routine clinical guidelines, without prejudice to present or future management at this service.

You may withdraw from this study at any time with no affect on your treatment at this service. All information given during this study is confidential and no names or other information that might identify you will be used in any publication arising from the research. A summary of the results of the study will be given to your case manager for feedback to you at your case manager’s discretion.

If you are willing to consent to participation in this study, could you please complete the details on the following page. If you have any questions about this project please feel free to contact either myself, Keren Geddes on 9336 3099 or my supervisors, Dr Sarah Davey on 9528 0555; Dr Suzanne Dziurawiec on 9360 2388; Chris Lee on 9360 6828

My supervisors and I are happy to discuss with you any concerns you may have on how this study has been conducted. Alternatively you can contact Murdoch University's Human Research Ethics Committee on 9360 6677 or the Chairman of the South Metropolitan Area Health Service Human Research Ethics Committee on 9431 2929.
Adolescent Emotions Programme

Participant Consent Form

Participant’s Name………………………………………Date of Birth………………

I agree entirely voluntarily to take part in the ‘Adolescent Emotions Programme’.

I have read the information provided and been given a full explanation of the purpose of this study, of the procedures involved and of what is expected of me. The researcher has explained the possible problems that may arise as a result of my participation in this study.

I understand I am entirely free to withdraw from the study at any time and that this withdrawal will not in any way affect my future standard or conventional treatment or medical management.

I understand that information in my medical records is essential to evaluate the results of this study. I agree to the release of this information to the research staff on the understanding that it will be treated confidentially.

I understand I will not be referred to by name in any report concerning this study. In turn, I cannot restrict in any way the use of the results, which arise from this study.

Names and addresses will be stored separately from the data and accessible only to the investigators. All data provided by the undersigned will be anonymously analysed by computer using code numbers.

I have been given and read a copy of this Consent Form & Information Sheet, and declare hereby to have taken note of the above-mentioned conditions.

Signature of Participant: __________________________ Date: ____/____/______

Signature Principal Investigator ____________________ Date: ____/____/______
Ms Keren Geddes

Supervisors’ Signature: __________________________ Date: ____/____/______
Dr Sarah Davey

Supervisors’ Signature: __________________________ Date: ____/____/______
Dr Suzanne Dziurawiec

Supervisors’ Signature: __________________________ Date: ____/____/______
Mr Christopher Lee
Adolescent Emotions Programme: Group Skills Training

Participant (Parent) Information Sheet

TO BE USED IN CONJUNCTION WITH THE CONSENT FORM

We invite you to participate in a clinical research study looking at assisting adolescents to better manage their emotions. This study has been approved by the South Metropolitan Area Health Service Ethics Committee and Murdoch University Ethics Committee, and forms part of the work for a Doctor of Philosophy Degree in Clinical Psychology at Murdoch University.

If you consent to take part in this research study, it is important that you understand the purpose of the study and the procedures you will be asked to undergo. Please read the following pages, which will provide you with information about treatments involved, and also the potential benefits, discomforts and precautions of the study.

Nature and Purpose of the Study

We are asking you to take part in this study as your son/daughter has been selected into our new “Adolescent Emotions Programme”, so that he/she can learn strategies that will assist him/her to cope better with extremes in emotion, for example, anger, depression, anxiety.

What the Study Will Involve

If you decide to participate in this study, you will take part with your son/daughter in the following:

A 16-week group skills training programme, conducted once a week for approximately two hours. These sessions will be videotaped. All videotapes will be stored securely in a locked cupboard on the premises of the South Metropolitan Child and Adolescent Mental Health Service.

Benefits

The potential benefits of participating in this study are an improved understanding of what your son/daughter is learning in this programme, which is likely to have a positive influence on your relationship with him/her. However, it is possible that there may be no direct benefit to you from participation in this study. While there is no guarantee that you will benefit, the knowledge gained from your participation may help others in the future.

Voluntary Participation and Withdrawal from the Study

Participation in this study will not in any way interfere with the treatment your son/daughter will receive.

Your participation in this study is entirely voluntary. If you choose not to participate in this study, you will be treated according to routine clinical guidelines, without prejudice to present or future management at this service.

You may withdraw from this study at any time with no affect on your son/daughters treatment at this service. All information given during this study is confidential and no names or other information that might identify you or your son/daughter will be used in
any publication arising from the research. A summary of the results of the study will be
given to your son/daughters’ case manager for feedback to you and/or your
son/daughter at her discretion.

If you are willing to consent to participation in this study, could you please complete the
details on the following page. If you have any questions about this project please feel
free to contact either myself, Keren Geddes on 9336 3099 or my supervisors, Dr Sarah
Davey on 9528 0555; Dr Suzanne Dziurawiec on 9360 2388; Chris Lee on 9360 6828

My supervisors and I are happy to discuss with you any concerns you may have on how
this study has been conducted. Alternatively you can contact Murdoch University's
Human Research Ethics Committee on 9360 6677 or the Chairman of the South
Metropolitan Area Health Service Human Research Ethics Committee on 9431 2929.
Adolescent Emotions Programme: Group Skills Training

Participant (Parent) Consent Form

Participant’s Name.................................................. Date of Birth............... 

I agree entirely voluntarily to take part in the ‘Adolescent Emotions Programme’.

I have read the information provided and been given a full explanation of the purpose of this study, of the procedures involved and of what is expected of me. The researcher has explained the possible problems that may arise as a result of my participation in this study.

I understand I am entirely free to withdraw from the study at any time and that this withdrawal will not in any way affect my future standard or conventional treatment or medical management.

I understand that information in my medical records is essential to evaluate the results of this study. I agree to the release of this information to the research staff on the understanding that it will be treated confidentially.

I understand I will not be referred to by name in any report concerning this study. In turn, I cannot restrict in any way the use of the results, which arise from this study.

Names and addresses will be stored separately from the data and accessible only to the investigators. All data provided by the undersigned will be anonymously analysed by computer using code numbers.

I have been given and read a copy of this Consent Form & Information Sheet, and declare hereby to have taken note of the above-mentioned conditions.

Signature of Participant: __________________________ Date: ____/____/______

Signature Principal Investigator ____________________ Date: ____/____/______
Ms Keren Geddes

Supervisors’ Signature: __________________________ Date: ____/____/______
Dr Sarah Davey

Supervisors’ Signature: __________________________ Date: ____/____/______
Dr Suzanne Dziurawiec

Supervisors’ Signature: __________________________ Date: ____/____/______
Mr Christopher Lee
Life Surfing

Treatment Contract

Client Agreements

1. I commit to participate in the ‘Life Surfing’ programme at (location address) for 26 weeks.

2. (a) I commit to attend all scheduled therapy sessions (individual and group). Individual therapy sessions may be rescheduled if both my therapist and I can do so conveniently.
   (b) I understand that if I miss 5 consecutive groups and/or individual sessions
       I will be stood down from the programme.

3. I commit to work towards learning to solve problems in ways that do not include self-harm, attempts to die or suicide.

4. I commit to identifying and working towards stopping things that get in the way of me attending and participating in my therapy sessions (individual and group).

5. I commit to working towards the goal of a “life worth living” and learning ways to improve my life.

6. I agree to keep a ‘Life Surfing Diary’ every week on which I record harmful and helpful behaviours and the situations that lead up to them.
7. I agree to stick to the programme rules, which apply both to individual and group therapy.

8. I will commit to sticking to my “Surfing Plan” to the best of my ability.

9. I agree to members of my family being involved in learning the same skills I am learning and in supporting me to use these skills.

10. I agree to complete the evaluation requirements of this programme.

Signed: (client) ………………………………………………………………… Date: …………………….

Family Agreements

1. I/we commit to participate in the ‘Life Surfing’ programme at (location address) for 26 weeks.

2. I/we commit to supporting ………………………… in attending all scheduled therapy sessions (individual and group).

3. I/we will be involved in helping ……………………. develop and stick to her “Surfing Plan”.

4. I/we commit to identifying and working to solve problems that stop me/us participating in the programme or interfere with supporting …………………. to participate in the programme.

5. I/we commit to working towards the goal of “a life worth living” and learning how to improve my/our life (eg. learning new skills).

6. I/we agree to practise the skills we learn to the best of my/our ability and to try and coach ………………… in practising these skills too.

7. I/we agree to complete the evaluation requirements of this programme.

Signed: (parent/caregiver) ………………………………………………… Date: …………………….

Signed: (parent/caregiver)………………………………………………… Date: …………………….
Therapists Agreements

1. We commit to make every reasonable effort to conduct therapy as competently as possible.

2. We commit to adhering to the standard of ethical guidelines and professional codes that apply to us.

3. We commit to attend every scheduled session, to cancel sessions we are responsible for in advance when needed, and to reschedule whenever possible. Changes to group sessions will always be communicated in advance.

4. We agree that at all times we will respect the integrity and rights of our clients.

5. We commit to maintain the confidentiality of all therapy information according to agency policy.

6. We commit to attending the weekly therapy supervision/consultation group.

7. We agree to complete the evaluation requirements of this programme.

Signed: (Primary Therapist).............................................Date: ..................

Signed: (Group Therapist).............................................Date: ..................

Signed: (Group Therapist).............................................Date: ..................

Signed: (Group Therapist).............................................Date: ..................
Appendix M

Pre-Intervention/Post-Intervention Parent Interviews

'Life Surfing': A DBT Research and Treatment Programme

PARENT INTERVIEW (pre intervention)

An important part of this research and treatment programme is gaining information so that we are more aware of what works for your child, what doesn’t, and why. This information will help us improve our programme. We are seeking your assistance in providing information/opinion about your child and your relationship with your child. All information provided is strictly confidential.

I want to begin by asking a few questions about your expectations of the Life Surfing programme.

1. What do you see are the reasons for your daughter being part the ‘Life Surfing’ programme?

____________________________________________________________________________________
____________________________________________________________________________________
____________________________________________________________________________________
____________________________________________________________________________________
____________________________________________________________________________________

2. What do you see are the reasons for you being part the programme?

____________________________________________________________________________________
____________________________________________________________________________________
____________________________________________________________________________________
____________________________________________________________________________________
____________________________________________________________________________________


3. What do you expect will happen for (name of adolescent) as a result of attending the programme?
____________________________________________________________________________________
____________________________________________________________________________________
____________________________________________________________________________________
____________________________________________________________________________________
____________________________________________________________________________________

4. What do you expect will happen for you as a result of attending the programme?
____________________________________________________________________________________
____________________________________________________________________________________
____________________________________________________________________________________
____________________________________________________________________________________
____________________________________________________________________________________

Now I have a couple of questions about how you see (name of adolescent).
5. Could you give me 5 statements/words that best describe (name of adolescent)? I know this may take a bit of time, so go ahead and think for a minute, and then I’ll write down each word or phrase you give me.
____________________________________________________________________________________
____________________________________________________________________________________
____________________________________________________________________________________
____________________________________________________________________________________
____________________________________________________________________________________

6. Rate the degree to which you AGREE or DISAGREE with the following statements, where:
   1 = very strongly DISAGREE,
   2 = strongly DISAGREE,
   3 = DISAGREE,
   4 = AGREE,
   5 = strongly AGREE,
   6 = very strongly AGREE
a) My daughter does the best that she can do ____________
Specific example:
____________________________________________________________________________________
____________________________________________________________________________________

b) I am able to be helpful to my daughter ____________
Specific example:
____________________________________________________________________________________
____________________________________________________________________________________

c) I understand my daughter ____________
Specific example:
____________________________________________________________________________________
____________________________________________________________________________________

d) My daughter is skillful at solving her problems ____________
Specific example:
____________________________________________________________________________________
____________________________________________________________________________________

Now I have a couple of questions about your relationship with (name of adolescent).

8. I’d like to ask you to choose 5 words or phrases that describe your relationship with (name of adolescent). I know this may take a bit of time, so go ahead and think for a minute, and then I’ll write down each word or phrase you give me.

• 1. You used the word ________________ to describe your relationship with (name of adolescent). Please give me a specific example or incident that comes to mind that shows what you mean by ________________.

• 3. You used the word ________________ to describe your relationship with (name of adolescent). Please give me a specific example or incident that comes to mind that shows what you mean by ________________.

• 5. You used the word ________________ to describe your relationship with (name of adolescent). Please give me a specific example or incident that comes to mind that shows what you mean by ________________.

8. What gives you the most joy in being (name of adolescent)’s parent?
9. What gives you the most pain or difficulty in being (name of adolescent)’s parent?

____________________________________________________________________________________
____________________________________________________________________________________
____________________________________________________________________________________

10. What is your greatest fear as (name of adolescent)’s parent?

____________________________________________________________________________________
____________________________________________________________________________________
____________________________________________________________________________________
'Life Surfing': A DBT Research and Treatment Programme

PARENT INTERVIEW (post intervention)

An important part of this research and treatment programme is gaining information so that we are more aware of what works for your child, what doesn’t, and why. This information will help us improve our programme. We are seeking your assistance in providing information/opinion about your child and your relationship with your child. All information provided is strictly confidential.

I want to begin by asking you to look back at your expectations of the Life Surfing programme. Think back to when I first spoke to you about this programme:

1. What did you see were the reasons for your daughter being part the ‘Life Surfing’ programme at that time?

____________________________________________________________________________________
____________________________________________________________________________________
____________________________________________________________________________________
____________________________________________________________________________________
____________________________________________________________________________________

2. What did you see were the reasons for you being part the programme at that time?

____________________________________________________________________________________
____________________________________________________________________________________
____________________________________________________________________________________
____________________________________________________________________________________
____________________________________________________________________________________

The programme has now finished. I want you to reflect back over the last 6months, since you and (your daughter) first started the programme:
3. What happened for (name of adolescent) as a result of attending the programme? There may be one big thing that has resulted or a series of little things along the way, or both.

____________________________________________________________________________________
____________________________________________________________________________________
____________________________________________________________________________________
____________________________________________________________________________________
____________________________________________________________________________________
____________________________________________________________________________________

4. What happened for you as a result of attending the programme? Again, this may be one big thing or a series of smaller things, or both.

____________________________________________________________________________________
____________________________________________________________________________________
____________________________________________________________________________________
____________________________________________________________________________________
____________________________________________________________________________________

5. Compared with when your daughter first started the programme 6 months ago:
   a) How easily (quickly) does she get upset now?
   b) When she does get upset do things get out of hand as much as they used to?
   c) When she gets upset, how easy is it for her to calm down again?

   a)____________________________________________________________________________

   b)____________________________________________________________________________

   c)____________________________________________________________________________
Now I have a couple of questions about how you see (name of adolescent).

6. Could you give me 5 statements/words that best describe (name of adolescent)? I know this may take a bit of time, so go ahead and think for a minute, and then I’ll write down each word or phrase you give me.

____________________________________________________________________________________
____________________________________________________________________________________
____________________________________________________________________________________
____________________________________________________________________________________

7. Rate the degree to which you AGREE or DISAGREE with the following statements, where:
1 = very strongly DISAGREE,
2 = strongly DISAGREE,
3 = DISAGREE,
4 = AGREE,
5 = strongly AGREE,
6 = very strongly AGREE

   a. My daughter does the best that she can do _____________
Specific example:
____________________________________________________________________________________
____________________________________________________________________________________

   b. I am able to be helpful to my daughter _____________
Specific example:
____________________________________________________________________________________
____________________________________________________________________________________

   c. I understand my daughter _____________
Specific example:
____________________________________________________________________________________
____________________________________________________________________________________

   d. My daughter is skilful at solving her problems _____________
Specific example:
____________________________________________________________________________________
____________________________________________________________________________________

Now I have a couple of questions about your relationship with (name of adolescent).
9. I’d like to ask you to choose 5 words or phrases that describe your relationship with (name of adolescent). I know this may take a bit of time, so go ahead and think for a minute, and then I’ll write down each word or phrase you give me.

____________________________________________________________________________________
____________________________________________________________________________________
__________________________________________________________________________________

• 1. You used the word _____________________ to describe your relationship with (name of adolescent). Please give me a specific example or incident that comes to mind that shows what you mean by _______________________.


3. You used the word _____________________ to describe your relationship with (name of adolescent). Please give me a specific example or incident that comes to mind that shows what you mean by ________________________.

5. You used the word _____________________ to describe your relationship with (name of adolescent). Please give me a specific example or incident that comes to mind that shows what you mean by ________________________.

3. What gives you the most joy in being (name of adolescent)’s parent?
____________________________________________________________________________________
____________________________________________________________________________________
____________________________________________________________________________________
____________________________________________________________________________________

4. What gives you the most pain or difficulty in being (name of adolescent)’s parent?
____________________________________________________________________________________
____________________________________________________________________________________
____________________________________________________________________________________
____________________________________________________________________________________

5. What is your greatest fear as (name of adolescent)’s parent?
____________________________________________________________________________________
____________________________________________________________________________________
____________________________________________________________________________________
____________________________________________________________________________________
Appendix N
Focus Group Questions: Parents/Adolescent

DBT Focus Group Questions

Parents

1. What were you hoping for when you became part of the Life Surfing programme?

2. Comparing life now with how it was before you started the programme, what do you notice?

3. Are there any ways that your experience of emotions has changed since starting the programme?

4. Can you talk about one specific thing about the programme that was the most helpful?

5. Can you talk about one specific thing about the programme that you would like to see changed?

6. What was it like being with your children in the group?

Adolescents

1. What were you hoping for when you became part of the Life Surfing programme?

2. Comparing life now with how it was before you started the programme, what do you notice?

3. Are there any ways that your experience of emotions has changed since starting the programme?

4. Can you talk about one specific thing about the programme that was the most helpful?

5. Can you talk about one specific thing about the programme that you would like to see changed?

6. What was it like being with your parents in the group?
Appendix O

Parent/Adolescent Programme Completion Certificates
Appendix P

Diary Cards

Adolescent: Page 1 and 2

Parent: Page 2 only
LIFE SURFING DIARY OF __________________________

Monday       Date __/____/____ Filled out in Session Y/N

Directions: Fill out both sides of this sheet. Use the 'OTHER' row (at the bottom) to track behaviour that is important to you. Please make sure you fill in the back of this sheet. Thank you!

* Rate suicidal ideation between 0 and 10 where 0 = none and 10 = the most suicidal you have ever been.
** Rate the strength of your feelings between 0 and 10. For example, angry: 0 = no anger and 10 = the most angry you have ever felt.
*** Rate urges to self harm between 0 and 10 where 0 = none and 10 = strongest urge you have ever had.

<table>
<thead>
<tr>
<th>Behaviour</th>
<th>What was the situation?</th>
<th>Suicidal Ideation (0-10)*</th>
<th>Feelings (0-10)**</th>
<th>Self Harm</th>
<th>Skill number used?</th>
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</thead>
<tbody>
<tr>
<td>Drugs</td>
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<td>Alcohol</td>
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<td>Not going to school</td>
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<td>Conflict with teacher</td>
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<td>Fighting with peers</td>
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<td>Fighting with parents/Family members</td>
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<tr>
<td>Restricting food/Binging/Purging/Risky Sexual Behaviour</td>
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<tr>
<td>Other</td>
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<tr>
<td>Used Skills</td>
<td>Used Skills (0-5) - Describe</td>
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<tr>
<td>1. Wise mind</td>
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<td>2. Observe: Just notice (urge surfing)</td>
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<td>3. Describe: put words on</td>
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<td>4. Participate: enter into the experience</td>
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<td>5. Non-judgemental stance</td>
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<td>6. One-mindfully: in-the-moment</td>
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<td>7. Effectiveness: focus on what works</td>
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<td>8. Objective effectiveness: DEAR MAN</td>
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<td>9. Relationship effectiveness: GIVE</td>
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<td>10. Self-respect effectiveness: FAST</td>
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<td>11. Reduce vulnerability: I SEEM MAD</td>
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<td>12. Build MASTERY</td>
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<td>13. Build positive experiences</td>
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<td>14. Opposite-to-emotion action</td>
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<td>15. Distract</td>
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<td>16. Self-soothe</td>
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<td>17. Improve the moment</td>
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<td>18. Pros and cons</td>
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<td>19. Radical acceptance</td>
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</table>

**Used Skills**

0 = not thought about or used
1 = thought about, not used, didn’t want to
2 = thought about, not used, wanted to
3 = Tried but couldn’t use them
4 = Tried, could use them but they didn’t help
5 = Tried, could use them, helped
Appendix Q

Biosocial Theory (Road map to therapy)
Appendix R

Life Surfing Promotional Flyer
Appendix S

DBT team relationship: Summary of results

DBT team relationship as measured by the Barrett-Lennard Relationship Inventory (Barrett-Lennard, 1983; 1993)

The BLRI is a 64-item questionnaire that measures 4 dimensions of relationships (see below), primarily between therapist and client. In this instance a team version of the RI was used to measure the relationship felt by each DBT team member in relation to the DBT team as a whole. Given that the consultation team is a significant component of the DBT approach, the quality of the relationship between team members is considered a critical factor in treatment outcome.

BLRI dimensions (see Barrett, Lennard, 2003, p 4-5):

- *Level of regard* – Positive and negative feelings weigh in to constitute this sub-scale. Include positive feelings of respect, caring, appreciation and others weighed against negative feelings of dislike, disapproval, expressed indifference, impatience, contempt and others.

- *Empathic understanding* – involves the desire to closely engage with and know the other’s experience and to reach out to receive their feeling communication and meaning.

- *Unconditionality* – in its positive sense implies that A’s personal attitude or feeling toward B holds steady regardless of what B shows of her inner self and experience. Conversely, conditionality (indicated by a -ve mean score) implies A’s regard does vary according to the light that B shows herself in.

- *Congruence* – perceived genuineness, transparency, and honesty within the team.

In its most general sense the BLRI “hones in” on trust, and thus indicates the level of safety felt by team members.