

A MULTIDIMENSIONAL DEVELOPMENTAL NEUROPSYCHOLOGICAL
MODEL OF BORDERLINE PERSONALITY DISORDER (BPD):
EXAMINING EVIDENCE FOR IMPAIRMENTS IN 'EXECUTIVE
FUNCTION'

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Thesis submitted in fulfilment of the
requirements for the degree of
Doctor of Philosophy

School of Psychology
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May 2005

Declaration

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

A handwritten signature in black ink, consisting of a series of loops and a long horizontal stroke ending in a small arrowhead.

Chris Theunissen

May 2005

Abstract

Borderline Personality Disorder (BPD) is a serious psychiatric disorder characterised by turbulent interpersonal relationships, impaired self image, impulsivity, and a recurrent pattern of unstable affect which is usually evident by early adulthood. It has a community prevalence rate of two per cent, and approximately nine per cent of people diagnosed with BPD commit suicide. This suggests that BPD has one of the highest lethality rates of all psychiatric disorders. The course of the disorder shows a steady improvement over the course of early adulthood with the majority of cases remitting by middle age. This positive but incomplete long-term recovery is thought to be a naturalistic outcome that is independent of treatment effect.

The reported study sought to test selected components of a multidimensional developmental neuropsychological model of executive functioning in BPD. The model proposed that BPD is characterised by impairments to four neuropsychological executive functions. These include working memory, response inhibition, affective-attentional bias, and problem-solving. The model further proposed that impaired executive functioning in BPD occurs as a result of the failure of 'experience-dependent' maturation of orbitofrontal structures. These structures are closely associated with the development of the 'cognitive executive'.

The study incorporated a cross-sectional design to analyse data from a BPD group, a Depressed Control Group, and a Medical Control Group. The overall findings of the study returned limited support for the original hypotheses. There was no evidence of deficits in working memory, response-inhibition, or

problem-solving. In contrast, the BPD group returned some evidence of deficits in affective-attentional bias.

Therefore, the results suggest that executive functioning remains largely intact in BPD. This also suggests that people with BPD have the working memory resources necessary to facilitate abstract cognition, have the capacity to effectively plan and execute future-oriented acts, and are able to perform appropriate problem-solving functions. These problem-solving returns are also particularly significant because a number of the tasks utilised in the study are known to be associated with so-called ‘frontal-executive’ function. These unremarkable findings challenge the view that people with BPD might experience some form of subtle neurological impairment associated with frontal-lobe compromise.

The Stroop measure of affective-attentional bias provided the only supportive evidence for the proposed model, and these findings can be accounted for by at least two different explanations. The first suggests that BPD might be characterised by a hypervigilant attentional set. The specific cause of hypervigilance in BPD is unknown, but some candidate factors appear to be the often-reported abuse histories of borderlines, insecure attachment histories, and deficits in parental bonding. The second interpretation suggests that the Stroop findings reflect a form of ‘response conflict’ in which BPD participants experience difficulties overriding tasks that rely on the enunciation of automatic neural routines.

As a result of these findings, further research on the role of arousal, priming, hypervigilance, and response-conflict in BPD is required. It is likely that the Stroop findings reflect a basic, ‘hard-wired’ attentional mechanism that

consolidates by early adolescence at the latest. As a result, the Stroop findings have implications for both the prevention and treatment of BPD.

A number of prevention strategies could be developed to address the attentional issues identified in the present study. These include assisting children to more effectively regulate arousal and affect, and assisting parents to communicate affectively with children in order to enhance self-regulation. The treatment implications suggest that interventions directed at affective-attentional processes are required, and further suggest the need for new pharmacotherapies and psychological treatments to modify dysfunctional attentional process. Affective neuroscience will have an increasingly important role to play in the understanding of BPD, and the next quarter century is likely to witness exciting advances in understanding this most problematic of disorders.

ACKNOWLEDGMENTS

Many people are involved in the production of a Doctoral thesis that it seems senseless for one person - the author - to claim sole responsibility for the finished product. As I reflect on the number of people who freely gave of their time in assisting me in this task, I am reminded that in this sense this thesis is not mine alone. Nonetheless, I must now acknowledge the significant people who assisted me in the completion of this task.

Firstly, due credit goes to my Doctoral supervisor Professor Iain Walker. He has provided calming but encouraging tutelage when needed. Associated with this also has been the adjunctive assistance of Dr. Pia Broderick who acted as co-opted supervisor during Professor Walker's sabbaticals, and has further provided wise counsel regarding the advisability of establishing thesis support committees.

Without the support of my wife Lynn, this project simply could not have been completed. Her preparedness to rise early in the morning to supervise small children has provided me with uncluttered reading and writing time prior to the commencement of my daily clinical and teaching duties. Her tolerance of my moodiness as completion loomed was, on reflection, remarkable. This commitment on her part has been kept with grace, humour, and at times dogged determination. It is a debt that will require many years to repay.

To the first of my two employers - the Fremantle Hospital and Health Service - I owe a great debt. Firstly, I wish to thank the staff of the Mental Health Directorate for their tolerance of my comings and goings over a number of years in the pursuit of research participants. In particular, I wish to thank Dr. Terry Buchan for his support of the first study. The support of the second study by Professor David Castle and Dr. Kenneth Orr in granting me access to team

reviews in order to recruit participants was instrumental in its completion. Secondly, I wish to thank the staff of the Department of Infectious Diseases for their support of this research. The incursion of my research into clinic time surely caused frustration at times, and I am thankful for their tolerance.

I also wish to acknowledge the support of my School – International, Cultural, & Community Studies - at Edith Cowan University. They have provided support by granting me Conference Leave to present the final study of this project at the VIII International Conference on the Personality Disorders in Florence, Italy in October 2003. Second, the grant of Study Leave for the period January – June 2004 was instrumental in completing the major draft of this thesis.

I also wish to acknowledge my youngest daughter Rebekah who has never known the experience of a father without Ph.D commitments. One hopes that this process has not damaged her severely in the sense that she has experienced her father as traumatically unavailable. Maybe now there is more time to play. To my older daughter Rachael – perhaps you now can call me Dr. Dad. Hopefully, I will not be in ‘Ph.D mode’ as you put it, any longer.

I also wish to thank all the participants who so freely participated in this study. They gave their time and effort for no reward, and participated generously in a series of tasks which must have been experienced as tedious to say the least. In doing so, I wish to express my hope that this work might provide some small contribution to the understanding and management of one of the most painful clinical conditions.

I also wish to thank Dr. Jo Badcock and Professor Pat Michie who jointly arranged to provide me with the Stop-Signal paradigm for use in the project. In

addition, a friend and colleague in Ian Lee provided assistance in mastering difficulties associated with the use of the Endnote programme. This assistance was timely as it was provided during the final write-up phase when trying to meet a self-imposed final deadline. Finally, I also wish to acknowledge the assistance of Charlotte Bowyer who blind-scored the memory tasks reported in Study Four.

Finally, I would like to take this opportunity to acknowledge the brief, but important influence of the late Dr. Catriona Lloyd. I did not know Dr. Lloyd very well and only came to speak with her in the last weeks of her life. Late on the evening of Australia Day 2004, I visited a home where Dr. Lloyd was present. Dr. Lloyd was in the end stages of metastatic disease, and only had weeks left to live. During our brief meeting, she learned that I was completing the write-up of my Ph.D, and inquired about my progress. After briefly describing where I thought I was in the write-up process, she advised me that theses ‘do not have to be perfect, just finished’.

The capacity to show concern for another person whilst enduring one’s own suffering is at the heart of the great faiths of the world. It also represents one aspect of the essence of our connection to each other as human beings. That Dr. Lloyd could show this attention to me under the most desperate of personal circumstances is testimony to her resilience, grace, and sense of self. It is this experience of humanness and care from the other that I believe is often lacking in the life experience of the person with BPD. To her, I dedicate this thesis.

It is not perfect, but it is finished.

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