Borderline Personality Disorder Symptoms in University Students

Rebecca Meaney
BPsych, Hons; MPsych, Clinical

A thesis submitted for the degree of Doctor of Philosophy at Monash University in 2016

Abstract

Borderline Personality Disorder (BPD) is associated with significant distress and psychosocial dysfunction, and high-risk behaviours such as self-harm, suicide attempts and aggression toward others (Lieb et al, 2010). Protective factors such as formal qualifications, may preclude ongoing disability for people with BPD, however symptoms and behaviours associated with the disorder may pose a challenge within a tertiary environment. Symptoms such as aggression and suicide attempts may present a risk to both the student with BPD, and the broader university community, nevertheless considerations such as the prevalence, characteristics, treatment and management of BPD in university settings is unexplored in the literature. In this thesis four studies are presented, which were conducted with the aim of enhancing our understanding of the aforementioned considerations, and propose context appropriate forms of assistance for this population.

Study 1 explored existing prevalence estimates of BPD in university students through a systematic review and meta-analysis. Meta-regression was employed to explore the influence of methodology on discrepancies in reported prevalence. Forty-three studies meeting inclusion criteria were identified. Across these studies an international pooled prevalence of 9.7% was calculated; heterogeneity was related to study methodology. Specifically, studies that provided anonymity in responses, offered course credit as an incentive, were focused on the topic of BPD, sampled postgraduates, and utilized the International Personality Disorder Examination to assess BPD (IPDE; Loranger et al., 1994), were associated with higher rates of BPD.
The findings underscore the need for methodological consistency, in addition to suggesting an identifiable population of university students with BPD.

Study 2 was a cross-sectional examination of demographic and cognitive factors that predicted dysregulated behaviours characteristic of BPD (e.g. self-harm) in 2261 Australian university students. The data was derived from self-report measures, and the relationships were explored using mediation and moderation analyses. Symptoms of BPD (distinct from the behaviours), stress, family psychological illness, and alexithymia each predicted behaviours associated with BPD. These symptoms also exerted indirect effects on behaviours through rumination, alexithymia and emotional dysregulation. Finally, the relationship between symptoms and dysregulated behaviours was conditional on level of rumination and alexithymia, such that the relationship between symptoms and behaviours was stronger at higher levels of rumination and alexithymia. Implications for early identification and treatment are proposed.

Study 3 examined the efficacy of a pilot treatment program, aimed at treating university

students with BPD, using short-term, modified group Dialectical Behavior Therapy within a University Counselling service setting. Seventeen university students aged 18 to 28 years, completed eight 2-hour group therapy sessions; levels of depression, anxiety, BPD traits, and coping strategies, were assessed at commencement and completion of the program. Upon program completion, there was a reduction in symptoms of depression and BPD traits, and an increase in adaptive coping skills, including problem solving, and constructive self-talk. There was no reduction in anxiety. The findings indicate promise for short-term treatment of college students with BPD. Implications and limitations are discussed with emphasis on replication with a control group.

Study 4 represented a qualitative examination of the experience of peak episodes of symptom severity, referred to as a psychological crisis, from the perspectives of students who had experienced this event on campus, and staff that had provided assistance during this event. Drawing on a phenomenological approach, in-depth interviews were conducted with six university-based psychologists, six staff in student support roles, and six students. Students indicated they valued staff involvement, and staff embraced the helper role. Nonetheless, factors embedded in broader pedagogical, systemic, and fiscal considerations influenced the capacity of staff to assist students in crisis. Strategies and programs that may assist staff in supporting students in crisis are encouraged, and in turn, guidelines for staff to assist students in crisis were developed and presented in the subsequent chapter and the appendices. Evaluation of the guidelines is emphasised as future research.

The research makes a unique contribution to the literature through systematic evaluation of prevalence of BPD across university student populations for the past 20 years, and factors that contribute to variance in prevalence across studies. In turn, the research proposed cognitive characteristics of the disorder in students through a test of Emotional Cascade Theory, and then evaluated a novel pilot treatment program for students with BPD held in a university counselling service. Finally, the research evaluated the experience of a psychological crisis from the perspective of students and staff, which formed the basis of proposed guidelines. Implications of the research are discussed.

Copyright

Declaration by Author

In accordance with Monash University Doctorate Regulation 17.2 Doctor of Philosophy and Research Master's regulations the following declarations are made:

I hereby declare that this thesis contains no material which has been accepted for the award of any other degree or diploma at any university or equivalent institution and that, to the best of my knowledge and belief, this thesis contains no material previously published or written by another person, except where due reference is made in the text of the thesis.

The core theme of the thesis is Borderline Personality Disorder in university students. This thesis includes one original paper published in a peer-reviewed journal, and manuscripts currently under review in peer-reviewed journals. The ideas, development and writing of all the papers in the thesis were the principal responsibility of myself, the candidate, working within the School of Psychology and Psychiatry and the School of Education, under the supervision of Associate Professor Penelope Hasking, Dr J. Sabura Allen and Associate Professor Andrea Reupert. The inclusion of co-authors reflects the fact that the work came from active collaboration between researchers and acknowledges input into team-based research. In the case of Chapters 2, 4, 5, & 7 my contribution to the work involved the following:

Chapter	Title	Status	Candidate contribution
2	Prevalence of Borderline Personality Disorder in university students: Systematic review, meta-analysis and meta-regression	Published	Conceptualisation (80%) Statistical analysis (90%) Writing (90%)
4	Borderline Personality Disorder in College Students: The complex interplay between alexithymia, emotional dysregulation and rumination	Published	Conceptualisation (80%) Statistical analysis (80%) Writing (80%)
5	Coping and Regulating Emotions: A pilot study of a modified dialectical behaviour therapy group delivered in a college counselling service	Published	Conceptualisation (100%) Statistical analysis (80%) Writing (80%)
7	The experience of a student psychological crisis on campus: Perspectives of students and college staff who have provided assistance	Submitted	Conceptualisation (80%) Statistical analysis (90%) Writing (90%)

I have renumbered sections of submitted or published papers in order to generate a consistent presentation within the thesis. Throughout the thesis, the terms college and university are used interchangeably. College represents US vernacular, while university is Australian, and both refer to comparable institutions in each country. All chapters are presented in UK English to enable consistent presentation, however articles were submitted in the version of English (US or UK) as specified by the journal. As the format of thesis is by publication the content will have some unavoidable repetition across chapters.

Signed:

Dated: 16.06.2016

Publications during candidature

Peer-reviewed journal articles (❖ publications from thesis)

❖**Meaney, R.,** Hasking, P., & Reupert, A. (2016). Prevalence of Borderline Personality Disorder in university students: Systematic review, meta-analysis and meta-regression. *PLoS ONE, 11*(5): e0155439. doi:10.1371/journal.pone.0155439

❖**Meaney, R.,** Hasking, P., & Reupert, A. (in press). Borderline Personality Disorder in college students: The complex interplay between alexithymia, emotional dysregulation and rumination. *PLoS ONE.* pone.0157294

❖**Meaney, R.,** Hasking, P., & Reupert, A. (under review). The experience of a student psychological crisis on campus: Perspectives of students and college staff who have provided assistance. (American Educational Research Journal)

Richmond, S., Hasking, P., & **Meaney, R.** (2015). Psychological distress and non-suicidal self-injury: The moderating and mediating roles of rumination, cognitive reappraisal and expressive suppression. *Archives of Suicide Research, 8*, 1-11. doi:10.1080/13811118.2015.1008160

❖**Meaney-Tavares, R.,** Hasking, P. (2013) Coping and regulating emotions: A Pilot study of a modified dialectical behavior therapy group delivered in a college counseling service. *Journal of American College Health, 61* (5), 303-9. doi:10.1080/07448481.2013. 791827

Meaney-Tavares, R., & Gavidia-Payne, S. (2012). Staff characteristics and attitudes towards the sexuality of people with intellectual disability. *Journal of Intellectual and Developmental Disability*, *37*(3), 269-273. doi:10.3109/13668250.2012.701005

Contributions by others to the thesis

Associate Professor Penelope Hasking has been instrumental throughout the conceptualisation, implementation, structuring, editing and statistical processes. Equally, Dr Janice Sabura Allen has been instrumental in conceptualisation, implementation, structure, and has provided expert advice pertaining to Borderline Personality Disorder. Similarly, Associate Professor Andrea Reupert commenced as a primary supervisor at the qualitative phase at the thesis, and significantly contributed to the qualitative study implementation and structuring, in addition to retrospectively contributing to all aspects of editing and guidance for the thesis.

Dr Vanessa Allom provided assistance with the use of Comprehensive Meta-Analysis software package, while Annette Graham was considerably generous with her time in validating the searches, and data described in Chapter 2.

Acknowledgements

First, I would acknowledge my unsurpassable supervisors, who variously brought both professional and personal assistance throughout the conceptualisation, data collection, writing and editing of the thesis. Associate Professor Penny Hasking was present from the time I decided to undertake this task, and proved instrumental in numerous facets of the progress of this work. Penny provided generously from her considerable experience, and was a constant source of inspiration both through her incomparable work ethic, her encouragement, and her engagement with the research. I am indebted to Penny for her support and guidance, and consider it an honour to have her involved throughout my candidature. There are no words to adequately express my appreciation toward Penny for having continued as my supervisor following her promotion and subsequent role at Curtin University.

Dr Sabura J. Allen provided input that was paramount to both conceptualisation and the clinical aspect of the thesis. Her unfailing positivity and encouragement was a significant source of motivation ongoing. I consider myself very privileged in having been guided by a clinician I consider without equal.

Associate Professor Andrea Reupert generously agreed to join as a supervisor in the latter part of the thesis. Andrea has been both instrumental and inspirational throughout her involvement, and I consider myself extremely lucky to have been the recipient of her vast knowledge, research expertise, and unfailingly positive disposition.

My parents John and Margaret Meaney have shown constant support throughout this, and all my other degrees. Again, there are no adequate words to describe my gratitude toward my wonderful parents who have taught me so much.

My sister Rachael Meaney and my Nana, Isabella Boyd, have always been a driving force in this thesis, and I hope somehow you both know this project was for you.

My two best friends, Fleur Lavarack and Leighton Smith, both for their constant support, and Leigh for providing considerable incentive to finish, namely, that he would stop asking how much longer I would be.

Finally, I would acknowledge my beautiful daughter Charlie who has shown nothing but support and patience during her mother's seemingly endless pursuit of university degrees.

Keywords

Borderline Personality Disorder, university students, treatment, prevalence, guidelines

Australian and New Zealand Standard Research Classification (ANZSRC)

ANZSRC code: 170106 Health, Clinical and Counselling Psychology, 50%

ANZSRC code: 170103 Educational Psychology, 25%

ANZSRC code: 170109 Personality, Abilities and Assessment, 25%

Fields of research (FoR) classification

Division: 17 Psychology

Group: 1701 Psychology

Field: 170106 Health, Clinical and Counselling Psychology

Division: 13 Education

Group: 1301 Education Systems

Field: 130103 Higher Education

List of Tables

List of Figures

List of Abbreviations Used in the Thesis

APA	American Psychiatric Association
AS	Edwards-Nunnally adjusted scores
BAI	Beck Anxiety Inventory
BDI-II	Beck Depression Inventory Second Edition
BPD	Borderline Personality Disorder
CARE	Coping and Regulating Emotions
CCS	College Counselling Service
CI	Confidence Interval
CSA	Coping Scale for Adults
DBT	Dialectical Behaviour Therapy
DSM-IV-TR	Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision
DSM-5	Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition
ICD	International Classification of Diseases
LCI	Lower Confidence Interval
MBT	Mentalisation-Based Treatment
MDD	Major Depressive Disorder
NICE	National Institute of Health and Care Excellence
PLOS ONE	Public Library of Science One
RCI	Reliable Change Index
SFCT	Schema-focused cognitive therapy

SNRI	Serotonin norepinephrine reuptake inhibitors
SSRI	Selective serotonin reuptake inhibitors
UCI	Upper Confidence Interval
UK	United Kingdom
US	United States of America
WHO	World Health Organisation

List of Appendices

Table of Contents

Preface

Borderline Personality Disorder (BPD) is associated with the experience of significant distress and psychosocial dysfunction, and many people with BPD experience a lifetime of disability due to the impact of the disorder. Successful completion of tertiary study may forestall ongoing disability for students with BPD through education and professional training, and the university may play an integral role in facilitating this outcome. Yet, the occurrence, implications and management of BPD in university students are unexplored in the literature. As such, the research represented within this thesis aims to facilitate a greater understanding of the occurrence and characteristics of BPD within university students, and propose context appropriate forms of assistance for this population. This will be achieved through four empirical studies, and supported by reviews of the literature. This preface provides a succinct background to the core issues addressed in the thesis, summarises the research aims, and outlines the chapters within the thesis.

Personality Disorders

Our personality represents the unique way that each of us perceives, interprets and acts within our environment, with these behaviours influenced by learning throughout our individual histories. As such, personality represents the sum of experience. Biological predispositions interact with environmental influences, to form relatively entrenched personality traits (Brambilla et al., 2004; Driesse et al., 2000). For most people, these traits are adaptive and facilitate positive interactions with people in our environments. However, biological vulnerability and/or neurological trauma can interact with problematic environments, reinforcing less adaptive ways of perceiving and behaving in one's world, resulting in less stable personality traits. At greater levels of severity, maladaptive traits may warrant a diagnosis of a personality disorder, representing an enduring and relatively consistent manner of interacting with one's own environment in a way that is considered maladaptive, inflexible, and the cause of significant distress or dysfunction (American Psychiatric Association; [APA], 2000; 2013). While the thoughts and behaviours inherent to personality disorders are considered maladaptive, they are also egosyntonic or compatible with the person's ideal self-image, and thus highly resistant to change (APA, 2000; 2013).

Borderline Personality Disorder

BPD is one of the ten possible diagnoses under the personality disorder classification in the Diagnostic and Statistical Manual of Mental Disorders[1] (DSM; APA, 2000; 2013), and arguably associated with the most significant degree of psychosocial impairment and risk of harm to self.

[1] The data in the thesis was collected prior to the release of DSM-5 in May 2013. The criteria for the disorder remained unchanged.

The disorder is characterised by behaviours including chronic suicidality, self-harm, aggressive outbursts and impulsive acts (APA, 2000; 2013). Many of these behaviours also serve a communicative function, as people with BPD may experience considerable difficulty in expressing their emotional states (Soloff, Lynch, Kelly, Malone & Mann, 2000). The methods that people with BPD sometimes use to communicate emotions, such as self-harm and aggression, are low in social acceptance (Nehls, 1998). This can serve to alienate people with BPD from others, having a detrimental effect on their already fragile sense of self-worth and identity. People with BPD tend to polarise their perceptions of both themselves and others, leading to a disturbed sense of identity (Lieb et al, 2010). The self is represented as either "good" or "bad", and this perception is prone to rapid shifts between the two identities (Linehan, Rizvi, Welch & Page, 2000). This tendency may colour interpretation of events, as people with BPD may be inclined to either over-attribute blame to their own actions, or may fail to take responsibility for their role in poor outcomes, and shift between the two perspectives. Further, this tendency toward polarization is projected onto other people whereby they are idealised or overvalued, or devalued and subject to a distortedly unfavourable assessment (Gunderson, Links & Reich, 1991; Linehan, Cochran, Mar, Levensky & Comtois, 2000).

People with BPD are highly sensitive to cues within their environment yet often lack the capacity to interpret them correctly (Linehan, Rizvi et al., 2000). As such, people with BPD tend to be quite reactive and will shift rapidly between emotional states such as euphoria, dysphoria and anxiety (Linehan, Tutek, Heard & Armstrong, 1994). Sustained episodes of anxiety in people with BPD may result in stress-related paranoid ideation, or dissociative symptoms. This further compromises their ability to accurately assess their environment, and may produce physiological reactions that are difficult to tolerate (Norling & Kim, 2010). People with BPD may have a deficiency in the ability to self-soothe (Linehan, Cochran et al., 2000), and can subsequently adopt a range of maladaptive coping strategies to deal with physical and psychological symptoms including substance use (Lieb et al., 2004), and self-harm (APA, 2000; 2013). While strategies such as these provide short-term amelioration of symptoms, maladaptive coping strategies have aversive implications over the longer term (Brown, Comtois & Linehan, 2002), including poor social interactions (Lenzenwerger, Lane, Loranger & Kessler, 2007) and death by suicide (Gunderson & Links, 1991; Lieb et al., 2004. This combination of highly aversive emotional states, difficulty in self-soothing, and poor coping strategies, means many people with BPD experience peak episodes of symptom severity. These events may include a range of more extreme behaviours commonly related to BPD, which include impulsive or aggressive actions, suicidal ideation, self-harm or suicide attempts (Fonagy & Bateman, 2006). These psychological crises

represent recurrent high-risk events with the potential for outcomes such as psychiatric inpatient care, significant physical injury, and in 10% of people with BPD, completed suicide (Zanarini et al, 2004).

Borderline Personality Disorder in university students

The age for peak symptom severity associated with BPD is between 18 and 25 years (Paris, 2005), which represents the age of many young adults undertaking tertiary education. The number of people BPD affects varies, with prevalence of approximately 20% in clinical settings, and between 1-2% in the general population (APA, 2000); however the number of university students with BPD is less well established. While prevalence of BPD has been examined within university populations estimates vary considerably ranging from 0.5% (Chien, Gau & Gadow, 2011) to 25.5% (Gratz, Breetz & Tull, 2010), suggesting the need for an extension of the literature to clarify prevalence. This in turn may facilitate resource allocation, as a range of literature indicates that the behaviour of students with BPD, or even a number of high-risk traits, poses a challenge to staff and other students within university settings (e.g. Jobes, Jacoby, Cimbolic & Hustead, 1997; Schweitzer, Klayich & McLean, 1995).

While BPD has attracted significant interest from researchers since its first inclusion in the Diagnostic and Statistical Manual of Mental Disorders (DSM-III; APA, 1980), the characteristics and impact of the disorder in university settings is largely unexplored. In the general population, factors such as being female, younger, experiencing psychological distress, and having a family history of psychological illness predict clinically significant scores on measures of BPD traits (Grant, Chou & Goldstein et al., 2008; Lenzenwerger et al., 2007). In turn, Linehan's (1993) Biosocial Theory of BPD, emphasises biological predisposition, and early invalidating environments in the development of BPD, which may both bear associations with a family history of psychological illness. Further, cognitive characteristics, namely rumination, alexithymia, and emotional dysregulation may serve as both antecedents and maintaining factors for symptoms of BPD (Baer & Sauer, 2010; Berthoz, Consoli, Perez-Diaz & Jouvent, 1999), however it has not been established whether these results replicate in university student samples. BPD has historically been associated with lower education levels and intellectual impairment, thus differences may exist in the cognitive characteristics of university students compared to non-students (e.g. Grant et al., 2008).

Emotional Cascade Theory (Selby, Anestis & Joiner, 2008) proposes the relationship between emotional dysregulation and behavioural dysregulation occurs through 'emotional cascades' in which repetitive rumination increases emotional distress, and dysregulated behaviours are used as a means of escaping distress. This theory has previously been applied to BPD (Selby,

Anestis, Bender & Joiner, 2009; Selby & Joiner, 2009; Selby & Joiner, 2013), and while alexithymia, poor emotion regulation and a tendency to ruminate have all independently been related to BPD they do not operate in isolation. Rumination interacts with emotional instability and psychological distress to predict self-injury (Selby et al., 2013; ‘, Hasking & Martin, 2013), and moderates the relationship between BPD symptoms and dysregulated behaviours (Selby & Joiner, 2013). Distinguishing factors that have a robust relationship with BPD may facilitate both early intervention, and the development of targeted programs to assist in the amelioration of symptoms.

Psychological crises are often precipitated by environmentally based stressors, which in the context of university students may include assessment periods, examinations, and problematic interpersonal relationships. People with BPD engage in a high degree of help seeking during psychological crises, and due to their accessibility and cost-free format, university counselling services may attract students with BPD (Gilbert, 1992). However, general reluctance by counsellors to treat these individuals is well documented, due to the chronic suicidality and sometimes difficult interpersonal styles associated with BPD (e.g. Jobes, Jacoby, Cimbolic & Hustead, 1997; Schweitzer, Klayich & McLean, 1995). During a psychological crisis a wide range of university staff may be employed to provide assistance, including security, medical staff, residential staff, and student services. While people in different roles would serve different functions, a coordinated approach to assisting students in psychological crisis is required to maximise benefit, and to minimise further distress for the student. However, universities generally employ a threat management approach for problematic student behaviour on campus (Keller, Hughes & Hertz, 2010). This approach is potentially punitive where the problematic behaviour represents a psychological crisis, and may serve to increase distress to critical levels in a student with BPD. Due to both the high degree of risk to the student experiencing a crisis, and the impact this event may have on the university community, there is a need for effective treatment for students with BPD, and guidelines for staff to assist these students during a crisis.

In sum, university students with BPD may experience symptoms, or engage in behaviours that are associated with risk, both to the student, and potentially others in the university community. An opportunity exists to quantify students with BPD symptoms, and investigate characteristics associated with the disorder. In turn, there may be utility in the investigation of treatment within a university setting, and also that of a psychological crisis from the perspective of students and staff. Such information may guide development of guidelines for staff to assist students during a crisis. The collective aim of the thesis is to suggest a framework of functional investigation relative to university students with BPD, and is enacted through the four studies as

described below.

Aims of Thesis

The aims of the program of research reported in this thesis are to:

Establish pooled prevalence of BPD in university student populations through a systematic review, meta-analysis and meta-regression (Chapter 2).

To clarify the roles examine demographic, and psychological factors associated with BPD in university students, in line with both Biosocial and Emotional Cascade Theory (Chapter 4).

To report on a pilot trial of a modified Dialectical Behaviour Therapy group held at a university counselling service (Chapter 5).

To explore the experience of a psychological crisis from the perspective of students with BPD, and university staff, using interviews and qualitative thematic analysis (Chapter 7); and extrapolate key experiential themes to form the basis of guidelines for staff to assist students experiencing a psychological crisis. The second part of this aim is to develop the guidelines (Chapter 8).

Summary of Thesis Chapters

Chapter 1 (Literature Review: Borderline Personality Disorder in university students) presents a narrative literature review that expands upon the themes introduced in the current preface. Specifically, the review examines a range of literature in the area of BPD with the goal of providing a basis of current understanding relating to the disorder, and considerations unique to the manifest of the disorder in university students. To this end, BPD is described in terms of its development as a disorder, the characteristics of the diagnosis, and the prevalence of the disorder across a range of populations. Current treatments are examined in terms of structure and efficacy in order to suggest effective treatment models within a university context. Similarly, the review examines the role university staff may have in assisting students with BPD who are experiencing a psychological crisis.

Chapter 2 (Prevalence of Borderline Personality Disorder in university students: Systematic review, meta-analysis and meta-regression) presents the research undertaken to fulfil the first aim of the thesis, namely identifying the prevalence of Borderline Personality Disorder within university populations. This task utilises a systematic review and meta-analysis, to suggest international pooled prevalence of the disorder across university student populations, and subsequently a meta-regression to examine methodological factors that influence variance between prevalence estimates.

Chapter 3 (Extended Methodology – Quantitative Study) provides a description of the method employed in the study described in Chapter 4, utilising a cross sectional and quantitative

study design. The chapter outlines the characteristics of the sample, measures employed and rationale for measure selection, the procedure for recruiting participants and questionnaire administration.

Chapter 4 (Borderline Personality Disorder in College Students: The complex interplay between Alexithymia, Emotional Dysregulation and Rumination) addresses the second aim of the study, by examining the relationship between age, gender, psychological distress, and family history of psychological illness, and the effect of BPD characteristics on behaviours. In line with Biosocial and Emotional Cascade Theory, the mediating and moderating roles of alexithymia, emotional regulation and rumination are explored in predicting the relationship between BPD symptoms and dysregulated behaviours, in a university sample.

Chapter 5[2] (Coping and Regulating Emotions: A Pilot study of a modified Dialectical Behavior Therapy group delivered in a college counselling service) fulfils the third aim of the study by presenting a paper describing a preliminary pilot program of modified Dialectical Behaviour Therapy delivered within a University Counselling Service for university students with a diagnosis of Borderline Personality Disorder. The outcome of the program was analysed using a range of pre and post measures of anxiety, depression, symptoms of Borderline Personality Disorder and coping skills.

Chapter 6 (Rationale and Methodology for Qualitative Study) provides an introduction to key considerations relating to students who experience a psychological crisis on campus. Specifically, the characteristics of a psychological crisis, the manifest of this event on campus, and the role of university staff in assisting students during a crisis are discussed. A further function of this chapter is to describe the method utilised in the studies described in Chapters 7 and 8.

Chapters 7 and 8 address the fourth aim of the thesis. Chapter 7 (The experience of a student psychological crisis on campus: Perspectives of students and college staff who have provided assistance) contains an article representing a qualitative examination of the experience of students with BPD and university staff in having, or assisting, a student during a psychological crisis respectively.

Chapter 8 (Guidelines for managing a student psychological crisis on campus) presents a set of guidelines for university staff to assist students who experience a psychological crisis on campus.

Chapter 9 (Discussion) presents a general discussion and summation of the key findings

[2] The study described in Chapter 5 was completed during the earlier part of the researcher's candidature, resultant to an opportunity to develop and analyse the program solely during this time frame. As such, despite representing the third aim of the thesis, this study was completed first.

throughout the thesis, leading to an examination of limitations in the aforementioned findings and studies. Recommendations for future research are discussed.

Chapter 1. Literature Review: Borderline Personality Disorder in university students

1.1 Chapter Overview

The literature review first presents the evolution of Borderline Personality Disorder (BPD) over the past 60 years, highlighting the shift from psychodynamic perspectives to that of biological and environmental determinants. Diagnostic classification of BPD is then examined, and subsequently discussed in terms of sectors of psychopathology that serve to demarcate the disorder. Next, dominant contemporary aetiologies of BPD are discussed, leading to an examination of comorbidities and the prevalence of BPD. The focus of the review then shifts to an examination of BPD in university students, commencing with prevalence, followed by management of BPD related behaviours on campus. In turn, treatments that are both efficacious and suited for delivery in a university context are examined. The chapter concludes with a summation of considerations in assisting university students with severe symptoms of BPD while on campus.

1.2 Borderline Personality Disorder

1.2.1 The development of the Borderline construct

Reliable and valid differentiation of the borderline construct from other psychiatric disorders has proved elusive. The phenomenon was initially reported in psychodynamic literature in the 1930's, however was not distinguished as a syndrome until 1953 (Knight, 1953). Indeed, the use of the term 'borderline' arguably represents a misnomer due to its association with early difficulty in characterising an indistinct set of symptoms (Zhong & Leung, 2007). Observations of the era indicate patients displayed both classic symptoms of neurosis and concurrent indicators of psychosis, in the absence of polarization toward either (Knight, 1953). Subsequently, the presentation was regarded to represent a diagnostic mid-point, or borderline, between neurosis and psychosis (Freeman & Garety, 2003; Sihm, 1994).

From a psychodynamic perspective, psychosis represents an organic disorder characterised by chaos, disorganisation, and defects in reality testing (Jaspers, 1963). Alternatively, neurosis has a psychological basis, in that it represents an anxious response, relative to an inability to cope with one's environment, but leaves cognitive functions such as reality testing intact (Freeman & Garety, 2003; Roth, 1963). As such, the borderline pathology was associated with an underlying psychologic structure that resisted differentiation endemic to psychodynamic approaches, and was thus considered untreatable (Kernberg & Michels, 2009).

The conceptualisation of a 'borderline personality' evolved through the 1960's, and during the 1970's was subsequently conceptualised using a developmental psychopathology perspective, that emphasised pathways to emergence including biological predisposition, and environmental

precursors such as poor interactions with primary caregivers (Gunderson, 2009). This shift allowed greater distinction between aetiology and symptoms, through identifying measurable constructs associated with the disorder, such as retrospectively tapping the quality of interactions with primary caregivers, and establishing whether an observed set of characteristics such as self-harm, replicated across a cohort of people. As a consequence, research in this area led to the description of a delineated clinical syndrome that formed the basis of the first BPD criteria published in the third edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-III; APA, 1980), and The International Classification of Diseases-9 (ICD-9; World Health Organisation [WHO], 1979).

1.2.2 Diagnostic classifications

The ICD (WHO, 1992) is a standard medical diagnostic tool primarily used for epidemiology, health management and clinical purposes (WHO, 1992). The current version, ICD-10 (WHO, 1994), classifies the disorder as Emotionally Unstable Personality Disorder, with the specifier of borderline. The key characteristics of emotionally unstable personality disorder under ICD-10 are: impulsivity, unpredictable mood and behaviour, and conflict in interpersonal relationships. The specifier borderline indicates disturbances in self-image, aims, and internal preferences (including sexual), chronic feelings of emptiness, intense and unstable relationships and self-destructive behaviour including suicide gestures and attempts (WHO, 1990).

The DSM is more commonly used in psychological and psychiatric clinical practice and research, and characterises BPD as pervasive patterns of instability in interpersonal relationships, self-image and affect, in addition to impulsivity (APA, 2000; 2013). Behavioural patterns endemic to BPD commence in early adulthood, and generalise to represent a relatively enduring and maladaptive pattern of thoughts and behaviours that are nonetheless egosyntonic (APA, 2000; 2013). There are nine criteria for BPD in DSM-IV-TR and 5 (APA, 2000; 2013) five of which are required to meet a diagnosis. These criteria are regarded to be heterogeneous in that they contain a combination of personality traits, symptomatic behaviours, and affective symptoms (Sanislow et al., 2002). Given the diagnostic threshold of five out of a possible nine criteria, there are 256 possible combinations of symptoms, and 151 combinations for a diagnosis of BPD. As such there is considerable variance in presentation of those who meet criteria (Leichsenring et al., 2011; Trull, Distel & Carpenter, 2011). While DSM-5 (APA, 2013) retained the categorical system from DSM-IV, it also recommends further research utilising a trait-specific methodology, requiring evidence of significant impairment in self-functioning (identity or self-direction), interpersonal functioning (empathy or intimacy), negative affectivity (anxiousness, emotional liability, separation insecurity, and depressivity), disinhibition (impulsivity and risk-taking) and antagonism

(hostility; APA, 2013).

1.2.3 Sectors of Psychopathology

In order to conceptualise the core components of BPD, several authors have discussed four sectors of psychopathology relative to DSM criteria for BPD. The sectors of psychopathology are represented by the domains: *affective disturbance, disturbed cognition, behavioural criteria,* and *intense unstable relationships* (Choi-Kain et al., 2010; Lieb et al., 2004).

1.2.3.1 Affective disturbance

The first sector: *affective disturbance* is characterised by intense dysphoric affect such as anger, chronic feelings of emptiness and a marked instability of mood (APA 2000; 2013). The nature of the anger experienced in the context of BPD is intense and disproportionate to the event (Lieb et al, 2004), and manifests in behaviours such as physical altercations, verbal abuse and outbursts of temper (Sayers & Whiteside, 2006). Demonstrations of anger are markedly different from other Cluster B diagnoses, such as Antisocial Personality Disorder, as the anger is viewed as a facet of neuroticism, rather than a conscious intent to harm others (Morse et al., 2009). Affective disturbance is also associated with reporting chronic feeling of emptiness, which in turn is characterised by a lack of purpose, hopelessness, and isolation (Klonsky, 2008).

The final characteristic under this sub-domain is affective instability due to a marked reactivity of mood, evidenced by irritability, dysphoria, or anxiety which occurs for a few hours or occasionally a few days (APA, 2000; 2013), and may transpire in relation to environmental events such as interpersonal difficulties or stressful situations (Paris, 2005). Further, there is considerable variance in levels of reactivity and intensity of the mood states, which may change numerous times over the period of a day (Linehan, Tutek, Heard & Armstrong, 1994). Dysphoric mood states are often interspersed with euphoric mood states increasing the risk of diagnostic crossover with, and possible misdiagnosis as, bipolar disorder (Zanarini et al., 1998). Finally, affective instability is thought to have a strong relationship with emotional dysregulation (as described in section 1.2.8.3).

1.2.3.2 Disturbed cognition

The second sector of psychopathology is *disturbed cognition,* which is characterised by three levels of cognitive symptom severity. The first level is referred to as non-psychotic, and represents experiences of dissociation manifesting in depersonalisation or derealisation, or ideas of reference. This level may also include suspiciousness or mistrust that may occur in relation to a fear of abandonment (Norling & Kim, 2010), or overvalued ideas of being bad (Lieb et al., 2004). The second level of severity is quasi-psychotic, and is evidenced by cognitions such as reality-based delusions and hallucinations that are transient in nature (Lieb et al, 2004). (Linehan, Rizvi,

Welch & Page, 2000). The third and most severe level characteristically occurs within the context of a comorbid psychotic illness, and includes both genuine hallucinations and delusions (Soloff, Lynch, Kelly, Malone & Mann, 2000).

1.2.3.3 Behavioural criteria

The third sector of psychopathology characteristic of BPD is *behavioural criteria (forms of impulsivity)* which are delineated in the DSM-IV-TR and 5 (APA, 2000; 2013) as representing both recurrent suicidal behaviour and self-mutilation, or general impulsivity in at least two areas of behaviour that are potentially self-damaging (APA, 2000). Suicidal behaviour in BPD differs from that associated with depression, as suicide attempts are associated with an earlier age of onset and a higher lifetime number of attempts (Zanarini et al., 1998). As the rate of suicide attempts in people with BPD is notably high, ranging from 38% to 73% (Black, Blum, Pfohl & Hale, 2004; Soloff, Lis, Kelly, Cornelius & Ulrich, 1994), there is a common clinical assumption that such attempts represent a communicative gesture, or attention-seeking behaviour rather than the intention to die (Soloff et al., 2000). However, mortality rates associated with BPD are approximately 10%, with risk of this outcome increased by factors such as affective instability, which can result in severe depressive symptoms (Siever, Torgenson, Gunderson, Livesley & Kendler, 2002), and substance abuse, which may increase suicidal ideation, and lower inhibition (Zanarini et al, 2004).

Self-mutilation (APA, 2000), or self-harm (APA, 2013) is delineated as a behavioural criterion, and in the context of BPD is associated with the manifestation of cognitive symptoms such as dissociation, guilt and anger (Gunderson & Links, 2008; Lieb et al., 2004). Behaviours associated with self-harm include cutting, scratching, and head-banging, biting and burning (Fliege et al., 2006), and are distinct from suicide attempts as the function of the behaviour is to release or escape from emotional pain, to punish, generate feelings during periods of dissociation, or communicate emotional distress in a form that is evident to others (Brown, Comtois & Linehan, 2002). The criterion of general impulsivity relates in practice to behaviours such as reckless driving, substance use, spending sprees, disordered eating, and aggressive behaviour (Lieb et al., 2004). This criterion evolved from psychoanalytic literature, which interpreted these “acting out” behaviours as resistance or escape from feelings and conflict (Gunderson & Links, 2008). Subsequent studies have indicated that the common theme underlying these behaviours is that they are all potentially self-damaging, thus on the surface may seem strongly related to self-harm. However, the integral distinction may be that these impulsive behaviours have a differing neurobiological basis (e.g. dopaminergic rewards system; Lawrence, Allen & Chanen, 2010).

1.2.3.4 Intense unstable relationships

The fourth sector of psychopathology is *unstable relationships*, which represents the unique manner in which people with BPD may interact with others. The first DSM (APA, 2000; 2013) criterion under this sector is "frantic efforts to avoid real or imagined abandonment" (APA, 2000; 2013). This is demonstrated by behaviours such as physical "clinging", repeated attempts to make undesired contact with others, and verbal entreaties such as begging not to be left alone. The second criterion of this sector is "patterns of unstable and intense interpersonal relationships which alternate between extremes of idealisation and devaluation" (APA, 2000; 2013), and refers to the distinct interaction style that people with BPD display in romantic relationships, friendships, familial interactions, and therapeutic relationships (Norling & Kim, 2010).

1.2.4 Summary

In combination, the interaction between the four sectors of psychopathology associated with BPD present a powerful diagnostic picture as the disorder impacts cognitive, behavioural, and psychosocial function. Affective disturbance is characterised by chronic lability of mood, which may range from flattened or anhedonic affects at one end of the spectrum, through to agitated or hostile behaviours at the other point. Additionally, there may be disturbed cognitions thought to vary in severity from non-psychotic, to quasi-psychotic and at the highest level of severity, psychotic type disturbed cognition. The behavioural component of BPD encompasses chronic suicidality, self-harm, and risk-related impulsive behaviours such as reckless driving, and sexual promiscuity. Finally, BPD is associated with having intense unstable relationships with others, marked by an intense fear of abandonment yet simultaneously engaging in behaviours that are likely to realise this outcome. Specifically, people with BPD may behave in a clingy manner, or make persistent and unwanted attempts at contact, in addition to alternately idealising or devaluing others. There is no prototypical presentation for a person with BPD, leading to significant criticism toward the heterogeneity of DSM (APA, 2000) criteria, but illustrating the spectrum of presentations in people who meet criteria for BPD.

1.2.5 Prevalence of Borderline Personality Disorder.

The majority of studies estimating prevalence of BPD have been conducted in clinical settings in the USA, the UK and Europe where prevalence is reported to be around 20% (APA, 2000). Alternatively, general populations yield a variable occurrence of between 1 and 6% (Kernberg & Michels, 2009; Samuels, et al., 2002). Such variability in general population figures may be attributable to methodological differences between studies, however this phenomena renders it difficult to establish how many people are affected by BPD, and whether incidence of the disorder has increased over time. For instance, studies conducted over 20 years ago report

prevalence of BPD in the general population at 1.5-2% (Swartz, Blazer, George & Winfield, 1990; Weissman, 1991), then 0.7-1% within the past 10 years (Coid, Yang, Tyrer, Roberts & Ullrich, 2006; Samuels, et al., 2002), and more recently between 4-6% (Grant, et al., 2008; Kernberg & Michels, 2009).

In earlier studies, BPD was regarded to affect women more often (70%) than men (30%) (Swartz, Blazer, George & Winfield, 1990; Torgersen, Kringlen & Cramer, 2001), however it has been argued this is attributable to a preponderance of studies examining clinical populations during this time. Subsequent evaluations of community-based samples suggest rates of BPD do not significantly differ between males and females (e.g. Grant et al., 2008; Kernberg & Michels, 2009; Tadic et al., 2009). Notwithstanding, women with BPD are more likely to end up as psychiatric inpatients (Paris, 2005), which is related to higher levels of help-seeking in females, as opposed to experiencing more severe symptoms than males (Banzhaf et al., 2012). Finally, prevalence of BPD has been reported to decrease over time as the person matures, with up to 85% of people with the disorder remitting over a period of 10 years (Gunderson et al., 2011; Shea et al., 2009). This characteristic combined with the early onset of the disorder (APA, 2000), suggests that BPD would be more prevalent in younger samples.

1.2.6 Developmental Pathways of Borderline Personality Disorder

The following represents a brief overview of predominating theories that propose pathways to the development of BPD. Attachment, and trauma theories do not form part of the research detailed within the thesis, and Bio-social Theoretical model is examined in the research described in Chapter 2.

1.2.6.1 Attachment Theory

People with BPD have a high sensitivity to rejection and abandonment, which may be related to poor early caregiver or parental bonding, or quality of early caregiver relationships (Gunderson et al., 2011). In turn, John Bowlby's (1969) Attachment theory posited that disruptions or fractures in the primary caregiver and child relationship had consequences for the child's self-concept, and later, interactions with others. In brief, ethological theory of attachment (Bowlby, 1973) holds that mothers who are available and responsive to their infant's needs fosters the child's development of a sense of security, and capacity to trust. Alternately, deficits in maternal bonds result in development of pervasive interpersonal difficulties (Bowlby, 1973). Ainsworth, Blehar, Waters & Wall (1978), built upon Bowlby's work and proposed three distinct attachment styles, namely secure, avoidant, and anxious-ambivalent. Children who are securely attached experience and display distress when separated from caregivers, however this is a transient state, as the child believes the caregiver either will return, or may be sought to provide

comfort and safety if required. Children who display avoidant attachment are indifferent to the presence or absence of caregivers, and show a lack of preference between familiar caregivers and strangers, which is thought to result from neglectful or punitive caregiver/child relationships (Levy, 2005). Finally, children who display an anxious-ambivalent attachment style are highly distressed or inconsolable when a caregiver leaves, thought to reflect the belief the caregiver has abandoned them (Ainsworth et al., 1978.) Early attachment style is regarded to prevail through the lifespan, and manifest across the person's romantic and interpersonal relationships (Levy, 2005; Yeomans & Levy, 2002). People with BPD have been demonstrated to report an avoidant attachment style in relationships (e.g. Fossati, Borroni, Feeney, & Maffei, 2012). However when compared to people without BPD and avoidant attachment, those with BPD are more likely to have poor quality early-childhood interactions (e.g. Fossati et al., 2012; Levy, 2005). Prolonged early separation from parents has been reported in 37 to 64% of people with BPD (Zanarini & Frankenburg, 1997), however childhood trauma, and biological predisposition are also considered as significant determinates, as discussed in the following theories.

1.2.6.2 Trauma Theoretical Model

Judith Herman (1992) proposed that BPD-related symptomology represents a form of complex posttraumatic stress, or more specifically that prolonged exposure to abuse in childhood leads to personality change including identity disturbance, and renders the survivor vulnerable to dissociation, substance abuse, impulsivity, self-harm and suicidality (Herman, 1992). Under the auspice of this model genetic factors bear relatively minor emphasis, rather BPD symptoms represent a "survivor syndrome," where prolonged exposure to traumatic events provides the catalyst for developing maladaptive coping strategies and interaction styles (Herman, 1992). As such, Herman (1992) viewed the diagnostic label of BPD as a "sophisticated insult," as personality disorder implies some manner of endogenous flaw, and thus invalidates the experience and subsequent impact of sustained trauma during childhood. Yet, subsequent research suggests a strong link between early-life trauma and neurobiological injury with implications for attachment, affect regulation, and poor coping, as characteristic of BPD.

Childhood trauma is widely regarded as a robust factor associated with the development of BPD in adolescents and adults (e.g. Linehan, Rivzi, Welch & Page, 2000). While physical or sexual abuse during childhood is relatively common in people with BPD, having been reported by 62 to 92% of people with the disorder (Wedig et al, 2012; Zanarini et al., 1998). Exposure to sustained trauma during early childhood has been demonstrated to result in permanent neurobiological injury, with emphasis on right brain development, resulting in impairments to attachment, affect regulation, and stress modulation (Francis & Meaney, 1999; Schore, 2002).

However, not all people who experience trauma during childhood develop BPD, suggesting that predisposition may play a role, as detailed in the following theory.

1.2.6.3 Bio-Social Theoretical Model

Marsha Linehan's (1993a) Bio-Social Theoretical Model conceptualises BPD as a dysfunction of the emotional regulation system, occurring in response to genetic factors interacting with a dysfunctional environment during childhood. Twin studies report concordance rates of BPD between 35-42% in monozygotic twins, and 7% in dizygotic twins, suggesting heredity plays a role in the development of BPD (Distell, Trull, Derom, Theiry, Grimmer et al., 2008). Linehan (1993a) characterises a dysfunctional environment as being both invalidating and unsafe, with the former referring to erratic, inappropriate or unstable caregiver responses to the child's attempts to communicate private emotions, and inconsistency in reward and punishment (Linehan, 1993a). As a consequence, the child fails to learn how to label and regulate arousal, regulate their emotions, and tolerate emotional distress (Linehan, 1993a). Further, there is an established link between developing BPD and having a first-degree relative with impulse control disorders such as Antisocial Personality Disorder and substance abuse (Paris, 2005), which may play a role in creating unsafe environments, yet also may be suggestive of a genetic basis for impulsivity (Distell et al., 2008). While many people with BPD have reported experiencing chronic physical and emotional neglect and abuse during childhood (Lieb et al., 2004: Zanarini et al., 1998), Linehan (1993a) viewed this factor as being both unnecessary and insufficient for later development of BPD. This stance has been supported in the research whereby presence of posttraumatic symptoms represents a distinct syndrome rather than an associated construct of the development of BPD (Lewis & Grenyer, 2009; Nolen-Hoeksema, Wisco & Lyubomirsky, 2008). Linehan's model has been subject to intensive research scrutiny across the past two decades, and has subsequently been posited to represent one of the more robust explanatory models of BPD development (Distell et al., 2008; Gunderson, 2009).

1.2.7 Emotional Cascade Theory and associated constructs

The literature suggests that while there are a range of cognitive characteristics associated with BPD, there are three that have particular salience namely alexithymia, rumination, and emotional dysregulation. There is a lack of consensus relative to both the developmental trajectory of the three characteristics, and further conjecture as to the interplay of each factor and their subsequent influence on the severity and duration of BPD symptoms (Baer & Sauer, 2011). As a result the three characteristics are variably presented in the literature as both antecedents, and independently as a perseverant for BPD symptoms (Lieb et al., 2004: Zanarini et al., 1998). All three constructs are regarded to be synergistic in that they may both co-occur and intensify the

effects of each other as proposed in Emotional Cascade Theory (Selby, Anestis & Joiner, 2008), and as such are often targeted simultaneously in treatment programs such as Dialectical Behaviour Therapy (Linehan, 1993a). The following sections represent a brief overview of Emotion Cascade Theory, and the aforementioned constructs, and the interaction as proposed by Emotional Cascade Theory. These constructs are also considered in detail throughout Chapter 4 of the thesis.

1.2.7.1 Emotional Cascade Theory

The Emotional Cascade Theory (Selby, Anestis & Joiner, 2008) proposes a relationship between emotional dysregulation and behavioural dysregulation that occurs through 'emotional cascades,' whereby repetitive rumination increases emotional distress, and dysregulated behaviours are used as a means of escaping distress. Emotional Cascade Theory has been examined as an explanatory model of emotional lability in BPD (Selby et al., 2009; Selby & Joiner, 2009; Selby & Joiner, 2013), and to behaviours associated with BPD including self-injury, drinking and bulimic symptoms (Selby, Franklin, Carson-Wong & Risvi, 2013; Tanner, Hasking, & Martin, 2014; Tuna & Bozo, 2014). While alexithymia, poor emotion regulation, and a tendency to ruminate have all independently been related to BPD, they do not operate in isolation. Rather, Emotional Cascade Theory proposes rumination interacts with emotional instability to predict self-injury (Selby et al., 2013), moderates the relationship between psychological distress and self-injury (Voon, Hasking & Martin, 2013) and interacts with BPD symptoms to predict dysregulated behaviours (Selby & Joiner, 2013).

Arbuthnott, Lewis, and Bailey (2015) conducted a test of Emotional Cascade Theory across 342 university students, to examine the role of negative rumination in predicting retrospective self-harming behaviours. The authors found rumination predicted greater negative affect, and higher levels of emotional reactivity in those who had previously engaged in self-harm (Arbuthnott et al., 2015). Zaki et al., (2013) had previously reported similar findings, however delineated that alexithymia was associated with an increase in rumination, and resulted in negative affect.

1.2.7.2 Alexithymia

Alexithymia is operationalised as a diminished capacity to identify and verbalise emotions, paucity in imagination, concrete speech, and thought that gives salience to external over internal events (Berthoz, Consoli, Perez-Diaz & Jouvent, 1999; Taylor, Bagby & Parker, 1997). Accurate recognition of internal emotional experiences allow people to adaptively respond to situations, such as recognising attraction to another person, or being hurt by another's comments, thus deficits in this ability may lead to poor social interactions (Nicolo et al., 2010). There is a lack of accord in the literature whether alexithymia is biologically determined, or if the construct develops

in response to the person coping with a life-threatening event, or a combination of both (Berthoz et al., 1999). Alexithymia has been reported as having developed in previously non-alexithymic war veterans engaged in combat, lending support to the claim that it may develop in response to overwhelming stressors (Teten et al., 2008). That between 62 to 92% of people of people with BPD have a history of sexual assault, sexual abuse and traumatic events during childhood (Wedig et al, 2012; Zanarini et al., 1998), might suggest that alexithymic tendencies may also develop following trauma for people with BPD (Van Dijke, Van, Van Son, Bühring, Van, & Ford, 2013).

Alexithymia is thought to also operate as a protective mechanism, by buffering the individual from experiencing painful affect (Taylor et al., 1997). Nonetheless, it is also used as a form of avoidance, and through this process, may serve to heighten symptoms of psychiatric disorders such as substance abuse, depression, anxiety, eating disorders, and personality disorders (Nicolo et al., 2010; Van Dijke et al., 2013). It is unclear whether the role of alexithymia can be reliably distinguished in personality disorders, with one study suggesting this construct is more likely to occur in people with Cluster A and C, but not Cluster B personality disorders (APA, 2000; Nicolo et al., 2010). However, the aforementioned findings are in contrast with research reporting alexithymia is associated with severity of BPD symptoms and behaviours (Domes et al., 2011; Joyce et al., 2013; New et al., 2012). Nonetheless, outcomes reported in each of the studies are limited by small sample size (N<100), suggesting the need for larger scale studies to clarify the relationship between alexithymia and BPD. Alexithymia is also related to emotional dysregulation, aggression and impulsivity (Teten et al., 2008), dysregulated behaviours associated with BPD.

1.2.7.3 Emotional Dysregulation

Emotional dysregulation is a defining feature and core characteristic of BPD (Gunderson & Ridolfi, 2001; Linehan, 1993a), however the development and characteristics of the construct lack consensus in the literature. Linehan (1993a) proposed emotional dysregulation develops resultant to a biosocial interaction, whereby biologically determined vulnerability, combined with a dysfunctional environment during childhood, results in the person failing to learn how to adaptively regulate emotional states (Linehan, 1993a). The construct pervades the regulation of all basic emotions in people with BPD, with a particular emphasis on sadness, anxiety and anger (Skodol et al., 2002). In turn, Gratz and Roemer (2004) posit features which include a lack of awareness, understanding and acceptance of emotions (i.e. alexithymia); inaccessibility to adaptive strategies for modulating emotional responses, unwillingness to experience emotional distress, and failure to engage in goal-directed behaviours during these periods (Gratz & Roemer, 2004).

Alternatively, Gross and John (2004) focus upon two commonly utilised forms of emotion regulation: cognitive reappraisal and expressive suppression. Summarily, cognitive reappraisal represents the individual changing their thought process around an emotion-eliciting event to modify the attendant emotional impact, and expressive suppression involves a reduction in emotion-expressive behaviour during a heightened emotional state. Building upon the work of a number of earlier emotion theorists (e.g. Buck, 1985; Levenson, 1994; Plutchik, 1962), Gross and John (2004) propose emotion regulation is underpinned by an emotion-generative process, whereby emotion-eliciting cues are perceived, evaluated, and modulated in various ways. Cognitive reappraisal occurs early within the emotion-generative process, and is adaptive in that it both requires less cognitive effort, and serves to modify the emotional sequence in a manner that produces adaptive behaviour (Gross & John, 2004).

By contrast, expressive suppression occurs later in the emotion-generative process, and requires effortful cognitive processes to manage or suppress what the person may perceive as an undesirable emotional response (Gross & John, 2004). Expressive suppression is considered maladaptive, as the individual is suppressing an emotional reaction that may otherwise signal to others essential social cues such as feeling hurt, disappointed or angry (Putnam & Silk, 2005). As such, expressive suppression may lead to dissonance between the person's inner experience and outer expression, leading to feelings of inauthenticity, and prevent emotionally close relationships through appearing to others as passive, distracted, strained or avoidant (Gross & John, 2004). People with BPD engage more often in expressive suppression, which has been demonstrated to mediate negative affect and BPD symptoms, and have deficits in cognitive reappraisal (Cheavens & Heiy, 2011; Putnam & Silk, 2005). Specifically, people with BPD have been shown to suppress unwanted emotions and aversive thoughts across a range of studies (e.g. Beblo et al., 2013; Sauer & Baer, 2009). In turn, expressive suppression is consciously employed as an avoidant coping strategy, yet actually increases physiological arousal, and subsequent higher emotional intensity (Salsman & Linehan, 2012). Previously, people with BPD were considered to consciously choose expressive suppression in favour of cognitive reappraisal (Putnam & Silk, 2005), however recent neuroimaging research indicates impairments in the cortical regions responsible for cognitive reappraisal in people with BPD (e.g. Schulze, 2011). Such findings may challenge previously held beliefs that people with BPD electively employ less adaptive cognitive strategies, however replication is needed across larger samples.

1.2.7.4 Rumination

Rumination is defined as a passive and repetitive type of thought (Baer & Sauer, 2010; Nolen-Hoeksma, 2000), whereby people focus on specific events, or emotional states, and are not

able to distract or shift the foci away from these thoughts (Nolen-Hoeksma, 2000). Recent evidence suggests rumination is trans-diagnostic and thus associated with a range of disorders (Baer & Sauer, 2010; McEvoy, Watson, Watkins & Nathan, 2013). Due to its strong relationship with negative affect, rumination is also associated with emotional reactivity and dysregulated behaviour, commonly found in people with BPD (Abela, Payne & Moussaly, 2003; Selby, Anestis, Bender & Joiner, 2009). Several authors have reported a relationship between BPD features and depressive and anger rumination in university students. Specifically, in two separate cross-sectional studies, Sauer-Zavala, Geiger, & Baer (2013), and Zaki et al. (2013), reported the severity of BPD symptoms and behaviours increased in response to rumination in the presence of negative affect, when depression, anxiety and stress were statistically controlled. Yet, stress has been reported to play an integral role in maintaining ruminative thought over time. Michl, McLaughlin, Shepherd and Nolen-Hoeksema (2013), found that experiencing a number of stressful life events was related to an increase in ruminative thought, and more symptoms of depression and anxiety over a 10-year period. Repeated stressful events undermine a person's capacity to engage in active coping or problem solving, and result in greater levels of rumination (Baer & Sauer, 2011; Nolen-Hoeksma, 2000).

1.2.8 Summary

Linehan's (1993a) biosocial theory is the preferred explanatory model for the developmental trajectory of BPD. This theory considers the development of BPD results following an interaction between genetic influences combined with chronic exposure to a dysfunctional home environment during childhood, or as a result of trauma-related neurobiological injury. Notwithstanding, genetic predisposition alone does not appear to result in the development of BPD, as dominant aetiologies commonly emphasise the role of childhood adversity in the form of abuse and neglect. Where biological vulnerability exists, chronic exposure to dysfunctional home environments, it may be that the child fails to learn crucial skills, such as recognising and regulating emotions. Subsequently, people with BPD may lack, or fail to employ adaptive cognitive strategies such as cognitive reappraisal during emotional distress. Alternately, people with BPD may employ maladaptive strategies such as expressive suppression, rumination, or have a tendency toward alexithymia. In turn, tests of Emotion Cascade Theory have demonstrated a number of key predictors that lead to the relationship between BPD symptoms, and engaging in BPD behaviours. Specifically, alexithymia, emotional dysregulation and rumination act both independently and interact to predict BPD symptoms and behaviours.

1.3 Treatment of Borderline Personality Disorder

Poor response to psychotherapy and medication, and significant therapeutic challenges

encountered by clinicians, suggest that BPD is difficult to treat (Lieb et al., 2004; Zanarini et al, 2004). The primitive defences associated with BPD, splitting and projective identification, in addition to repeated crisis presentations and low retention rates to therapy, can overwhelm and demoralise the clinician (Linehan, Cochrane et al., 2000). Conversely, working with this population can also evoke feelings of immense satisfaction, and hopefulness in therapeutic outcomes (Gabbard, 1993). Optimism for those who persevere in treatment is warranted, as over a six-year treatment period, 73.5% of people diagnosed with BPD experienced a lasting remission in symptoms (Zanarini et al, 2003).

A common limitation of a range of treatments for BPD is that they are characteristically long-term. University students experiencing psychological difficulties often seek help, or are referred by the faculty to university-based mental health services, which may include counselling services, and medical or psychology clinics (Hahn, 2009). These services tend to offer either low-cost or free counselling to students, but operate within a time and/or session limited service format (Hahn, 2009). The National Institute of Health and Care Excellence Guidelines (NICE) for treatment and management of BPD state that treatment should be no less than three months in duration (NICE, 2009). However, best-practice needs to be weighed against the feasibility of longer-term treatment in counselling services, in the case of risk-associated disorders such as BPD. Subsequently, the following discussion of treatments is not an exhaustive examination of supported psychosocial treatments for BPD; rather the treatments reviewed represent those that have been modified efficaciously to encompass time frames between three to six months in duration, and may be suitable for university settings. The treatment protocols discussed may contain client engagement strategies, delivered by a range of mental health professionals, as is characteristic of university treatment settings. Psychotropic management of BPD symptoms will also be discussed, as it commonly represents part of a treatment protocol for the disorder that may have implications for academic and social function in students with BPD.

1.3.1 Dialectical Behaviour Therapy (DBT)

DBT was developed by Marsha Linehan (1993a), originally as an outpatient treatment for chronically suicidal patients with BPD, and subsequently adapted for quasi-clinical settings such as community outpatient services, prisons, and counselling services (Norling & Kim, 2010). The original program is based upon principles of behavioural science, dialectical philosophies, and Zen practice and consists of individual psychotherapy and a skills group program comprising four modules: Mindfulness, Interpersonal Effectiveness, Distress Tolerance and Emotional Regulation (Linehan, 1993b). DBT aims to assist the person with BPD to balance acceptance (of distress), with change (increasing adaptive coping skills) and aims to build skills to facilitate survival and,

over time, a worthwhile and adaptive life (Linehan, 1993a). DBT has inbuilt protocols that facilitate clear expectations and multiple modes of support for the patients and the clinicians (Linehan, 1993a). The treatment is characteristically long-term, and comprises of weekly skills building sessions and therapist contact, over the course of one to two years (Linehan, 1993a).

While the group format employed allows a number of people to be treated efficaciously at the same time (Barnicot et al., 2010), early criticism directed toward DBT related to the failure to maintain treatment effects over a period of a year, high drop-out rates, and poor research design in treatment studies, including a lack of control groups and small sample size (Kliem, Kröger & Kosfelder, 2010; McMain et al., 2009; Sanislow & McGlashan, 1998). Subsequent studies have addressed the aforementioned limitations by employing randomized controlled trials, larger samples, and long-term follow-up with positive results. Several studies have now reported long-term (seven to 15 years) reductions in self-harm, suicide attempts, and improved social adjustment, with effect sizes ranging from 0.41 to 0.65 (Davidson et al., 2010; McMain et al., 2012). Attrition in DBT relates to the long-term format of the treatment. Specifically, programs delivered over periods of 12 months or more have dropout rates as high as 50%, however short-term (less than a year) programs have been reported to retain up to 95% of the original participants (Barnicot et al., 2010; Kliem et al., 2010). As a result, DBT has been identified as the optimal available treatment for BPD by professional organisations including the Australian Psychological Society (Murphy & Matthews, 2010), and the National Institute of Health and Care Excellence Guidelines (NICE, 2009).

1.3.2 Mentalisation-Based Treatment (MBT)

MBT draws on attachment theory (described earlier in the chapter), specifically the role of attachment dysfunction in contributing to the development of BPD as a result of early childhood poor attachments or trauma (Bateman & Fonagy, 2008). Mentalisation is the ability to conceptualise the mental states of the self and others, such as the likely needs and intentions that underlie behaviour (Bateman & Fonagy, 2008). MBT is based on the premise that where a constitutional predisposition exists, the occurrence of trauma in childhood leads to a poorer capacity to mentalise due to the decoupling of cognitive and emotional processes about the self and others. Children who experience abuse are not able to establish cognitive capacities that allow for the appreciation of others' subjective mental states, or mentalise (Bateman & Fonagy, 2008). This deficit later generalises to relationships with others, and leads to generating and projecting faulty attributions of intent, then testing these beliefs in a manner that is often destructive or maladaptive (Frith & Frith, 2006). For example, feelings of emptiness could generate the pursuit of compensatory behaviours, such as seeking physical and emotional closeness. However, poor

mentalisation skills might lead the individual to view that such needs could be met through more maladaptive behaviour, such as promiscuity. Any rejection by the other as a consequence could be perceived as abandonment, and although this may be a misrepresentation it still results in reinforcing feelings of worthlessness (Fonagy & Bateman, 2006). As such, the focus of MBT is to assist in recovering or building the ability to mentalise, that is, to create accurate representations of one's own mental states and subsequently those of others (Bateman & Fonagy, 2008).

Therapy is characteristically conducted over 18 months, however it has been modified as short-term 8 to 12 week programs, which are based within mentalisation strategies and also incorporates attachment and relational therapy (Fonagy, Target, Fearon, Bleiberg, & Asen, 2008). While this program has been reported as efficacious for children and adolescents, and family-based interventions (e.g. Fearon et al., 2006), the literature does not report on outcomes for people with BPD. Similarly, research around the efficacy of mentalisation-based therapy does not feature prominently in the literature, outside of the extensive research of Bateman and Fonagy. Nonetheless, the authors have published rigorous evaluation of treatment programs, and have reported promising results for a reduction in several BPD related outcomes, such adecreases in the number of suicide attempts, and severe self-injurious behaviour, and less psychiatric hospitalisations (Bateman & Fonagy, 2009). Yet, both the authors caution that high levels of participant attrition are common due to the length of the treatment, and that mentalisation-based treatment programs are not cost-effective (Bateman & Fonagy). These characteristics suggest mentalisation-based therapy would not be suitable for university counselling service formats.

1.3.3 Schema-focused cognitive therapy

Schema-focused cognitive therapy (SFCT) is delivered over periods as long as three years. The therapy has been described as a hybrid of Cognitive Behavioural Therapy and psychodynamic therapy, and aims to assist in identifying and modifying maladaptive schemas developed in early childhood (Young, 1994). A schema represents a deeply entrenched and pervasive pattern of thinking and behaviour, closely related to one's sense of self and environment (Young, 1994). Maladaptive schemas are thought to form during adverse childhood experiences such as abuse and neglect, poor interpersonal relationships, and prevail through adulthood. Consequently, an individual's maladaptive schemas provide an inadequate template for interpreting and interacting with one's environment (Lawrence et al., 2010), and are resistant to change without therapy (Winston, 2000). SFCT creates a working relationship between the therapist and client by first emphasising the client's emotional and bonding difficulties, then utilises interventions such as limited re-parenting and experiential techniques in order to assist the client to both contain and tolerate the negative outcomes of their abandonment and despair (Nordahl & Nysaeter, 2005;

Young, 1994).

The therapeutic emphasis is on understanding the impact of holding maladaptive schemas and their related modes (i.e., emotional states and related coping responses). Such maladaptive responses are identified as varying schema modes: abandoned child, angry child, punitive parent and detached protector, while change is enacted by developing a healthy adult mode (Young, 1994). The therapy is delivered over a three year period, which may go toward explaining the dearth of SFCT trials in the literature. Giesen-Bloo et al. (2006) conducted one of the few evaluations, and reported positive results for participants who successfully completed the full 3-year program, however this represented only 13.6% of the sample (n=44). The therapy is more commonly delivered individually (Nordahl & Nysaeter, 2005), and thus incompatible with counselling service formats both in terms of length, and cost to the university.

Notwithstanding, the techniques facilitating therapeutic alliance in SFCT are well regarded (Weinberg, Ronningstam, Goldblatt, Schechter & Maltsberger, 2010), and may represent skills that could be transferred to therapeutic interactions within a counselling service context. Specifically, client engagement in SCFT involves empathic confrontation and limited re-parenting, with the former referring to the process of demonstrating empathy while consistently reinforcing the need for change (Nordahl & Nysaeter, 2005; Young, 1994), while limited re-parenting relates partly to boundary setting in the therapeutic relationship (Linehan, 1993a; Nordahl & Nysaeter, 2005). Both techniques emphasise client-therapist attachment, which may be absent in many therapeutic interactions for people with BPD (Weinberg et al., 2010).

1.3.4 Psychotropic treatments

Psychotropic management is a common component of treatment for BPD, and has some utility during phases of acute symptom severity. Nonetheless pharmacologic treatment of BPD is both limited in scope, and facilitates only mild symptom relief rather than remission of symptoms (Paris, 2005). The depressive component of BPD may be treated with either Selective Serotonin Reuptake Inhibitors (SSRI), or Serotonin Norepinephrine Reuptake Inhibitors (SNRI's) where anxiety symptoms also present (McKenzie

& McFarlane, 2007), however there is little evidence of their efficacy (Lieb et al, 2010). Similarly, either due to intolerance of the aforementioned drug classes or comorbidity with insomnia, a tricyclic may be prescribed, with efficacy in depressive symptom reduction found for amitriptyline only (Lieb et al, 2010). Cognitive symptoms associated with BPD such as dissociative, or pseudopsychotic states including auditory hallucinations or paranoid ideation, may be treated over the short-term using low dose atypical neuroleptics (Bogenschutz & Nurnberg, 2004; Soler et al., 2005). Alternatively, first generation antipsychotics, specifically haloperidol

(Soloff et al., 1993), have been shown to be efficacious in reducing aggression, and flupentixol decanoate in reducing suicidal behaviour (Montgomery et al., 1979), however are used primarily in patients where atypical neuroleptics are poorly tolerated due to side effects.

A range of mood stabilisers have been found to be effective in reducing interpersonal problems, anger and depression (Lieb et al., 2010), yet are associated with a high risk of overdose (Links, Steiner, Boiago & Irwin, 1990). To a lesser extent short-term management of a psychological crisis may include benzodiazepines (Zanarini, Frankenberg, Hennen & Silk, 2003). Yet this drug class is prone to abuse, which represents a vulnerability for people with BPD (Trull et al., 2000). One of the main issues with psychotropic management of BPD, apart from being relatively ineffective, is that up to four different medications may be prescribed at one time to ameliorate symptoms (Zanarini, Frankenberg, Khera & Bleichmar, 2001). This may result in four attendant experiences of side effects including low libido (antidepressants), weight gain (all above mentioned medications), and cognitive impairment (neuroleptics), the latter being particularly problematic in an academic context. Thus psychotropics may even have a deleterious effect on the individuals overall wellbeing when weighed against the minimal therapeutic gains (Paris, 2009).

1.3.5 Summary

Psychosocial treatments for BPD tend to be long term, which may result in higher costs for the client, and subsequently greater non-completion rates, or inefficient to deliver in a university service. These characteristics emphasise the need for a program to target BPD-related symptoms effectively over the short-term. DBT is considered as the best available treatment of BPD, both in terms of program outcomes and lasting improvement. Further, DBT has been modified efficaciously for delivery over short-term programs, by a variety of mental health professionals in a range of settings (e.g. Chugani, 2015). This level of flexibility combined with sound therapeutic outcomes suggests the possibility of utilising DBT in university counselling service settings. Notwithstanding, university-based psychological treatment of BPD represents a small component of the scope in which university staff may be required to provide assistance to students with BPD. High-risk behaviours such as suicide attempts and self-harm, or problematic behaviours such as hostile outbursts may occur at various locations across the campus. Further, this may occur both during and external to university contact hours, and thus potentially involve a range of university staff. Given this consideration, the following section examines a situation in which university staff may be called to assist a student with BPD, and proposes possible interactions with this population during periods of high symptom severity.

1.4 Borderline Personality Disorder in university students

1.4.1 Prevalence of Borderline Personality Disorder

Approximately 90% of university students are aged between 18 to 24 years, the developmental stage associated with most severe BPD-related traits (Lenzenwerger et al., 2007; Paris, 2005). Similar to general population findings, several studies suggest that there is no significant difference in the occurrence of BPD between males and females within university samples (Bornovalova et al. 2011; Chien, Gau & Gadow, 2011; Gratz, Breetz & Tull, 2010). Yet, the reported prevalence of BPD in university students varies considerably from 0.5% (Chien et al., 2011) to 25.5% (Gratz et al., 2010). Again, methodological differences in studies, such as employing self-report versus clinical interviews, may account for some difference in rates, however the factors that serve to explain this level of variance are unexplored. Differentiation of factors such as the type of measure employed, sample size, and sample characteristics may assist in establishing the prevalence of BPD within university students, and thus facilitate resource allocation. The next chapter of the thesis examines the role of methodology and sample characteristics in predicting rates of BPD in student populations.

1.4.2 Management of symptoms and behaviours in a university context

1.4.2.1 Crisis presentations in students with BPD

A university student with BPD can pose a challenge to staff and other students alike during periods of high symptom severity, referred to as a psychological crisis (Lieb et al., 2004). These events are characterised by suicidal ideation or attempts, self-harm, and aggressive or hostile behaviour towards others (Zanarini et al, 2004). A crisis may be precipitated by a variety of factors including university specific events such as assessments and exams, or psychosocial difficulties including relationship or financial problems. Typically, people with BPD in crisis pose a significantly greater risk to themselves than to others, however behaviours such as aggression have the potential for collateral injury.

To date, the literature does not report upon the frequency students with BPD present to staff with crisis-related behaviours, nonetheless such behaviours are apparent in student populations. A relatively recent large-scale survey identified that over a year, 6.3% of students experienced suicidal ideation, 1.6% engaged in planning a suicide while 0.6% attempted suicide. In turn, 15.3% engaged in self-harm, and 55.2% of students reported poor mental health affected their academic performance (N=14,175; Lippincott, Williams & Wilkins, 2013). Concurrently, university staff have reported greater numbers of students presenting to them for assistance during a psychological crisis (Everly & Lating, 2013; Monahan, Bonnie, Davis & Flynn, 2011), and this could reasonably include students with BPD.

In clinical settings, effective management of a crisis in a person with BPD requires a prompt and coordinated response involving a range of mental health professionals. This process is

facilitated by a common understanding of the unique characteristics associated with BPD such as intrapsychic splitting, aggression in the context of anxiety, and inability to self-soothe, yet still poses management challenges (Fonagy & Bateman, 2006; Langley & Klopper, 2005). In a university context, staff that respond to students in crisis will have significant disparities in mental health literacy, and may have differing approaches to resolving problematic student behaviours. It may also be that the scope of assistance staff can provide will be limited by their role, further presenting a challenge, as people with BPD may engage in a number of high risk, or difficult behaviours simultaneously (Zanarini et al, 2004). For example, people with BPD may engage in self-harm while intoxicated, and also behave aggressively toward those offering assistance. Given the nature of these behaviours, responding staff could include campus security, medical staff, and mental health clinicians, which may result in a fragmented and disorganised approach and overwhelm or provoke the student.

Coordinated and effective management of a student psychological crisis may be achieved through the use of guidelines that consider the uniqueness of a university setting. Existing guidelines have primarily been developed for use in clinical settings, (e.g. Little, Traver, Rouhan & Haines, 2010), and thus would be inappropriate in a university context for a number of reasons. Foremost, university staff without mental health qualifications would not necessarily identify a symptom cluster as BPD, nor is it appropriate for this group to do so. Further, clinical guidelines incorporate stratagem from range of specialities such as psychiatry, which may not be available on a university campus, and are context sensitive, namely psychiatric inpatient units, or community outpatient treatment programs, and therefore unlikely to be feasible for a university campus environment.

Student perspectives around the experience of a crisis, and what they regard as being helpful assistance also warrants consideration. In the first instance, successful outcomes in therapeutic interactions are in part, contingent on employing a collaborative approach (Weinberg et al., 2010). Thus any university specific guidelines should be developed in consultation with both students who have experienced a psychological crisis, and staff with a range of roles within the university that may be engaged to assist. Further, university staff involved in assisting students can arguably be classed under two broad domains that will guide the nature of their involvement, namely mental health professionals from university counselling services and psychology clinics, and non-mental health professionals including security, student administration, academics and residential college staff. As the categories suggest, professional training in mental health would differentiate staff function during a student psychological crisis, thus the two groups are discussed separately.

1.4.2.2 The role of mental health professional staff during student crises

The chronicity and severity of student presentations at university counselling services have increased over time (Engberg & Gilbert, 2014; Gallagher, Gill, & Syco, 2000; Robbins, May & Corazzini, 1995), with personality disorders representing approximately 7.23% of student presentations (Benton, Robertson, Tseng, Newton, & Benton, 2003). Students with BPD or traits such as self-harm or suicidal ideation may be referred, or self-refer to the counselling service. Both within Australia and internationally, the role of counselling staff during a student psychological crisis is primarily to assess risk and decide the most appropriate course of action. In both single presentations and ongoing therapy, risk assessment is complicated by several factors. First, the tendency for people with BPD to experience repeated suicidal episodes may result in clinicians either overestimating or underestimating risk, with the former potentially resulting in cessation of help-seeking, or premature and unnecessary referral to psychiatric facilities; while underestimation may result in significant injury or death (Jobes, Jacoby, Cimbolic, & Hustead, 1997; Keith, 2014; Schweitzer, Klayich, & McLean, 1995). Further, triaging students with BPD may result in considerable strain across the counselling service, and also reinforce ineffective help-seeking behaviours in this population, namely presenting only while in crisis rather than for ongoing treatment (Pulakos, 1993).

Notwithstanding, the scope of the counselling service and its staff may preclude provision of service to people with BPD beyond that of triage and referral. It has been asserted that counselling services serve the function of assisting students to complete their education, as opposed to treatment and rehabilitation (Avery, Howell & Page, 2014; Engberg & Gilbert, 2014; Gilbert, 1992). Counselling service staff may also face ethical challenges when working with students with BPD, as most universities have academic exclusion policies on mental health grounds, where severe symptoms such as chronic suicidal ideation or self-harm would warrant exclusion (Trepal & Wester, 2007). As such the client's right to confidentiality and institutional policy may be in opposition, and a counselling-based psychologist required to balance the two conflicting interests. Further, working therapeutically with people with BPD is associated with higher levels of clinician burnout (Linehan, Cochran et al., 2000), representing a tangible risk in a counselling service context where services are operating on student to counsellor ratios of 3000:1 or higher (Avery et al., 2014; Lapan, Whitcomb, & Aleman, 2012; Quintrell & Robertson, 1995).

1.4.2.3 The role of non-mental health professionals

Universities tend to approach problematic student behaviours from a threat assessment model (Keller, Hughes & Hertz, 2010), whereby psychiatric disorders are viewed as a factor that elevates threat to the community; and students with problematic behaviours are "contained" and

removed. Treatment may or may not occur as a consequence, as the threat management approach does not consider facilitating treatment for severe psychiatric symptoms as a responsibility of the institution (Mowbray et al., 2006). This approach is most commonly employed by campus security (Keller et al., 2010), and while this strategy may be effective in containing problematic behaviours as they occur, it fails to address the underlying reason that precipitated the event, increasing the likelihood of reoccurrence. Similarly, university based medical staff may triage rather than treat in cases where a student has either engaged in self-harm, or is in a state of high emotional distress. People with BPD are often regarded by medical staff as being difficult and disruptive (Sansone, Farukhi & Wiederman, 2011), which may result in employment of a "band aid" response, both figuratively and literally. Further, given the frequency of self-harm behaviours in people with BPD, repeated presentations to obtain first aid for injury may strain the resources of medical staff, reinforcing negative perceptions relating to students who engage in self-harm (Mowbray et al., 2006).

Other university staff that may be involved in assisting a student with BPD-related symptoms could include academic staff, administrative staff, residential college staff and student service organisations or providers such as student rights. There is limited literature relating to the approach of these professionals in assisting students with BPD-related symptoms, however it could be argued that there may be considerable variation based on role, departmental policy, and individual mental health literacy. In a clinical context, the literature suggests that variations in approaches to assisting people with BPD symptoms have the potential to result in poor outcomes for patients and staff (e.g., Bodner et al., 2015; Carr-Walker, Bowers, Callaghan, Nijman & Paton, 2004), suggesting the merit of a consistent approach to assisting students with high-risk BPD symptoms. However, as the actions university staff undertake in response to students with BPD symptoms have undergone minimal examination, an investigation of these factors may assist in clarifying the nature and efficacy of staff involvement with students who display problematic BPD related behaviours.

1.5. Conclusion

People with BPD may have experienced severe trauma, or chronically dysfunctional home environments during their childhood. As such, those who are accepted into university programs have an opportunity to obtain higher education and professional training, and also exposure to a range of positive social interactions with peers. In short, tertiary education may result in knowledge, skills and friendships, all of which may build hope and form the foundations of a brighter future for a person with BPD. However, this journey will not be without challenges as people with BPD experience periods of notably poor function which may include symptom flare-

ups such as suicidal ideation and attempts, self-harm, aggressive or hostile behaviours, and cognitive disruptions, all of which may impact academic performance and social relationships.

Universities have the capacity to extend their responsibility beyond the provision of learning opportunities, to also facilitate academic completion for those who may be incapacitated by physical disabilities, or psychological conditions. To this end, most universities provide a range of services to assist students during difficult times in their academic careers, however where the condition is associated with high-risk or problematic behaviours, institutional responses may include removal or exclusion from the university. In the case of students with BPD, problematic behaviours are cyclical but nonetheless temporary. Punitive measures such as exclusion will serve to eliminate a significant protective factor in the lives of students with BPD and potentially result in ongoing negative consequences. However, students with symptoms of BPD have the capacity to be disruptive, and their behaviour may impact negatively upon other students and staff. Subsequently, a balance needs to be established in ensuring the wellbeing of both the student with BPD, and that of the broader university population, and university staff may play a key role in determining this outcome.

A range of university staff may be engaged in providing assistance for students with symptoms of BPD; however there could be significant variation or discordance between approaches. People with BPD may find it difficult to communicate their needs during a psychological crisis, and may rely on others to provide their voice during these events. In turn, an informed, empathic and coordinated approach from staff in assisting this population may facilitate successful outcomes, and enable students with BPD access to the range of opportunities a tertiary education presents.

Declaration for Thesis Chapter 2

Declaration by candidate

In the case of Chapter 2, the nature and extent of my contribution to the work was the following:

Nature of contribution	**Extent of contribution (%)**
Study conceptualisation	80
Statistical analysis	90
Writing	90

The following co-authors contributed to the work:

Name	**Nature of contribution**
Penelope Hasking	Conceptualisation, structuring, editing and statistical processes
Andrea Reupert	Editing

The undersigned hereby certify that the above declaration correctly reflects the nature and extent of the candidates and co-authors contributions to this work.

Signatures

Candidate	[redacted]	**Date:** 16-6-2016

Main Supervisor	[redacted]	**Date:** 16-6-2016

Chapter 2. Prevalence of Borderline Personality Disorder in university students: Systematic review, meta-analysis and meta-regression

2.1 Chapter Overview

This chapter presents an article titled "Prevalence of Borderline Personality Disorder in university students: Systematic review, meta-analysis and meta-regression" representing research undertaken to fulfil the first aim of the thesis, namely to identify the prevalence of Borderline Personality Disorder within university students. This task utilises a systematic review and a meta-analysis, to suggest international pooled prevalence of the disorder across university student populations, and subsequently a meta-regression to examine methodological factors that influence variance between prevalence estimates. The paper was accepted for publication by PLoS One on the 30th April and published on 12th May 2016. The article is included in this chapter in a format consistent with that of the thesis, however prepared in the style of the journal requirements. The paper was prepared to be compliant US vernacular, which has been retained in the paper in the thesis. Two figures and two tables were submitted as part of the body of the paper and are included in this chapter, while Appendices 2A to 2J present a detailed descriptive of aspects of the method including database searches, study characteristics, and references of the papers utilised in the study.

2.2 Paper published by PLOS ONE

2.2.1 Title Page

Title: Prevalence of Borderline Personality Disorder in university students: Systematic review, meta-analysis and meta-regression

Authors:

Rebecca Meaney, BPsych (Hons); MPsych (Clinical), Faculty of Education, Monash University, Melbourne, Australia

[a]Penelope Hasking, PhD; Associate Professor, School of Psychology & Speech Pathology, Curtin University, Perth, Australia

Andrea Reupert, PhD; Associate Professor, Faculty of Education, Monash University, Melbourne, Australia

[a] Corresponding author: Associate Professor Penelope Hasking; mailing address: School of Psychology & Speech Pathology, Curtin University, Perth, Australia

Email:Penelope.hasking@curtin.edu

2.2.2 Abstract

Objective: To determine pooled prevalence of clinically significant traits or features of Borderline Personality Disorder among university students, and explore the influence of methodological factors on reported prevalence figures, and temporal trends.

Data Sources: Electronic databases (1994-2014: AMED; Biological Abstracts; Embase; MEDLINE; PsycARTICLES; CINAHL Plus; Current Contents Connect; EBM Reviews; Google Scholar; Ovid Medline; Proquest central; PsychINFO; PubMed; Scopus; Taylor & Francis; Web of Science (1998–2014), and hand searches.

Study Selection: Forty-three college-based studies reporting estimates of clinically significant BPD symptoms were identified (5.7% of original search).

Data Extraction: One author (RM) extracted clinically relevant BPD prevalence estimates, year of publication, demographic variables, and method from each publication or through correspondence with the authors.

Results: The prevalence of BPD in college samples ranged from 0.5% to 32.1%, with lifetime prevalence of 9.7% (95% CI, 7.7-12.0; p <.005). Methodological factors contributing considerable between-study heterogeneity in univariate meta-analyses were participant anonymity, incentive type, research focus and participant type. Study and sample characteristics related to between study heterogeneity were sample size, and self-identifying as Asian or "other" race. The prevalence of BPD varied over time: 7.8% (95% CI 4.2-13.9) between 1994 and 2000; 6.5% (95% CI 4.0-10.5) during 2001 to 2007; and 11.6% (95% CI 8.8-15.1) from 2008 to 2014, yet was not a source of heterogeneity (p =.09).

Conclusions: BPD prevalence estimates are influenced by the methodological or study sample factors measured. There is a need for consistency in measurement across studies to increase reliability in establishing the scope and characteristics of those with BPD engaged in tertiary study.

Key Words: systematic review, meta-analysis, meta-regression, prevalence, Borderline Personality Disorder, college students, university students.

2.2.3 Introduction

Borderline Personality Disorder (BPD) is associated with adverse and persistent psychological symptoms that are greater in severity among young people. Specifically, people with the disorder may engage in self-harm, experience recurrent suicidal ideation, and in 10% of cases die by suicide (Siever, Torgenson, Gunderson, Livesley & Kendler, 2002). Additionally, BPD diminishes capacity for successful interpersonal relationships, results in difficulty regulating emotional states, and interrupts cognitive processes essential for learning and memory acquisition (Norling & Kim, 2010). Subsequently, those who are impacted by BPD may experience difficulties in cognitive and psychosocial functioning, both of which underpin a successful university study experience (Taylor, James, Bobadilla & Reeves, 2008). It has been suggested that BPD symptoms can be reliably found in university student populations (Taylor et al., 2008), however the scope of the issue has been difficult to quantify. To date, there has not been an attempt to estimate pooled prevalence of BPD in college populations, or examine the influence of methodology on prevalence rates, and such investigation may be warranted. BPD has been associated with lower education levels (e.g. Grant et al., 2008; Johnson et al., 2003), and particular risk of attrition at university-level study (Grant et al., 2008; Taylor et al., 2008; Tomko, Trull, Wood & Sher, 2014). As such, establishing prevalence of BPD in university students may serve to quantify a population at risk of poor academic outcomes, and potentially justify the allocation of university-based mental health resources in response.

There have been considerable differences in estimates of clinically relevant BPD symptoms in university populations with reported figures between 0.5% (Chien, Gau & Gadow, 2011) and 32.1% (Alemany Martínez, Berini Aytés & Gay Escoda, 2008). While it has been suggested that the prevalence of BPD is increasing over time (Kernberg & Michels, 2009), it is unclear whether this represents a reliable phenomenon or simply reflects significant variations in the methodology employed. Measurement is commonly cited as a cause for heterogeneity across studies, with structured diagnostic interviews typically yielding lower prevalence rates, and self-report measures thought to result in over-reporting of disorders (e.g. Huprich, Bornstein & Schmitt, 2011; Zimmerman & Coryell, 1990). Moreover, there is considerable variance across self-report measures of BPD, related to measurement domains, number of items, response format (scale versus dichotomous), and time period assessed. For example, the Borderline Evaluation of Severity Over Time (BEST; Pfohl et al., 2009) scale allows the administrator to assess symptoms over periods as brief as seven days. As BPD is associated with emotional lability, it may be that assessment of symptoms over shorter time frames result in over or under-reporting of the presence of symptoms. Additionally, estimating prevalence of BPD in university samples is less often the

sole focus of research, de-emphasising the need for methodological rigour in diagnosis. Finally, the omission of key BPD criteria from validated scales may contribute to variability. Measures of BPD commonly tap high-risk behaviours, which raise concern about contagion and promotion of unsafe behaviours among students (e.g. self-harm). Resultantly, institutional review boards may require items are removed (Cheavens, Strunk & Chriki, 2012) when participants are unidentifiable and cannot be appropriately referred.

The characteristics of those surveyed may also represent a source of heterogeneity. For instance, while BPD manifests more commonly in female psychiatric samples, general population studies yield negligible difference in rates between genders (Kernberg & Michels, 2009); however, it is unclear whether this trend replicates in university populations. Similarly, there are mixed findings relative to racial identification. For example, in a USA context, one earlier large-scale study suggests Hispanic people have lower rates of BPD (Shwartz, Blazer, George & Winfield, 1990), but a later large-scale study reported Hispanic people as having higher rates of BPD (Trull, Jahng, Tomko, Wood & Sher, 2010). The aforementioned characteristics suggest that a systematic analysis of the literature pertaining to BPD in university populations may serve to distinguish the contribution of methodology and study characteristics to variance in estimates of BPD prevalence between studies. Additionally, this undertaking may distinguish an overall pooled prevalence of the disorder in university populations, elucidate temporal trends, and identify student characteristics that have stronger associations with experiencing BPD symptoms.

Should the occurrence of clinically significant BPD symptoms be indicated as a prominent, and growing, health concern in university populations, this outcome may provide a foundation for the allocation of resources toward prevention and intervention within a university context. In turn, identifying student characteristics associated with the disorder could afford improved capacity to target resources toward students at higher risk of experiencing symptoms of BPD.

2.2.4 Method

2.2.4.1 Search strategy

Literature was searched independently by two researchers employing the PRISMA Protocol (Liberati et al., 2009) and Cochrane Guidelines (Armstrong et al., 2007). In order to maximise both the statistical soundness of prevalence estimates and capture relevant studies, peer-reviewed publications were searched using fourteen electronic databases: AMED, Biological Abstracts, CINAHL Plus, Current Contents Connect, EBM Reviews, Embase, Google Scholar, Ovid MEDLINE, ProQuest Central, PsychINFO, PubMed, Scopus, Taylor & Francis Online and Web of Science (1998-2014; earliest accessible year was 1998). The search was limited from the year 1994 onward, to coincide with publication of the fourth edition of Diagnostic and Statistical

Manual of Mental Disorders (DSM; 4th ed., DSM-IV; American Psychiatric Association [APA], 1994). While BPD was first included in the Diagnostic and Statistical Manual of Mental Disorders in 1980 (3rd ed., DSM-III, APA, 1980), the wording, and number of criteria for BPD, differed to that of DSM-IV (4th ed., APA, 1994). Measures of BPD predominantly reflect DSM criteria (e.g., Pfohl et al., 2009), which have remained unchanged over three subsequent editions of DSM. Blashfield, Blum and Pfohl (1992) demonstrated even minor changes to criteria result in considerable fluctuations of prevalence rates of personality disorders, thus we considered limiting the search may serve to ensure the construct under study, namely BPD, was reliably measured. The terms used in the searches varied according to the database utilised, and also included derivatives appropriate to variations in vernacular (i.e. college versus university). Predominantly, the search terminology employed was designed to capture the disorder, relevant population, and occurrence, thus included the terms: *Borderline Personality Disorder*, *college students, university students, prevalence, and symptoms or features*.

The larger proportion of studies estimating BPD prevalence utilise self-report measures containing items that reflect either symptoms (subjective indication; Coleman, 2009) or features (attribute; Coleman, 2009) of BPD as opposed to diagnostic criteria. Consequently, authors of the measures commonly caution the indicative rather than diagnostic interpretation of higher scores (e.g. Morey, 1991). Nonetheless, measures of BPD predominantly report diagnostic cut-offs that vary considerably across measures. We retained only studies that either reported the percentage of participants within diagnostic range, or could be calculated as a proportion of the overall sample. Relatedly, we excluded studies where arbitrary or dichotomous cut-off scores had been assigned, such as high BPD/low BPD. Where studies employed two levels of measurement, namely an initial self-report screen across a sample, followed by a structured interview for those that screened positive for BPD, we used the estimate from the self-report given the likelihood of inflated prevalence among those interviewed after already screening positive. As the purpose of the review was to examine university populations, studies that examined other populations were excluded. Five of the studies reported on the same sample in two separate papers, thus we decided to retain the five studies containing greater methodological detail.

The first database search retrieved 880 unique records, which were subsequently screened by title, abstract, and full text. This yielded 39 suitable records. Cited reference searches using author surname, initial, journal name and publication year resulted in no additional usable records. Hand searches of two journals that contained the greater proportion of suitable records (Journal of Personality Disorders and Personality Disorders: Theory, Research and Treatment), retrieved 3 additional records; 4 more records known to the authors but not found in searches were added.

Correspondence with authors resulted in the exclusion of 5 records due to methodological characteristics that falsely inflated prevalence (e.g. BPD cut-off changed to capture as low as 3 traits, and arbitrary or dichotomous cut-offs). Overall, this process (Figure 1) yielded 43 prevalence estimates from 43 records, which were retained in the analyses.

2.2.4.2 Data extraction and coding.

The data was extracted by the first author and included characteristics of the population and study undertaken. These included: the prevalence of university students falling within the stated diagnostic range of BPD symptoms; the measure of BPD employed, publication year, data collection year, country, study level (e.g. undergraduate), mean age, gender, and racial characteristics of the sample. The methodological factors examined to account for variance between studies (moderator variables), included procedural characteristics encompassing participant anonymity, (yes/no), whether an incentive was offered for participation (yes/no), incentive type (course credit/cash/none), and primary research focus (BPD or other); the response rate, time period across which prevalence was assessed (e.g. week, month, lifetime), mode of measurement (e.g., interview or questionnaire), response format (e.g. yes/no, true/false or Likert), number of items in the measure, whether the measure reflected diagnostic traits or symptoms/features, and clinical cut-offs (numerical). Where information was unavailable the corresponding authors were contacted via email; 41.9% replied and subsequently there was 6.7% missing data overall.

2.2.4.3 Statistical analysis.

Analyses were undertaken using Comprehensive Meta-Analysis, version 2.2.057 (CMA; Borenstein, Hedges, Higgins & Rothstein, 2005). The mean weighted event rate was estimated as a proportion (number of BPD cases/sample size). The calculations utilised a random effects model given the variability in BPD prevalence, sample characteristics across studies, and variances within studies. The studies were weighted by the inverse variance methods (Borenstein et al., 2005), and a random-effect model used to pool adjusted BPD prevalence at a 95% CI. The range of effects was assessed through a visual examination of the Forrest plot (Figure 2.) showing the estimates and 95% CIs, and the weight of each point estimate (Borenstein, Hedges, Higgins & Rothstein, 2009). Univariate meta-analyses were used to examine the influence of categorical moderator variables on pooled prevalence of BPD. The I^2 value was calculated for each overall effect using Cochran's (Q –df/Q) x 100% (Higgins & Thompson, 2002; Higgins, Thompson, Deeks & Altman, 2003). Thresholds for the interpretation of the I^2 are reported to be contingent on both the magnitude and direction of effects, $p \leq .05$, when a lower number of studies are examined. Higgins and Green (2011) suggest I^2 values of 0-40% might be considered as

unimportant, 30-60% may represent moderate importance, 50-90% substantial importance, and 75-100% considerable heterogeneity.

Next, univariate meta-regression was conducted to examine the influence of the sample characteristics: mean age, gender, and racial composition, and study characteristics namely year published, clinical cut-offs, sample size, and country study was conducted in. The results were obtained from a mixed effects regression (Method of Moments), which calculates between-study τ^2 (tau square) and compares this figure to the Z distribution (Kelley & Kelley, 2012). Values of τ^2 less than 1, taken in conjunction with a significant *p* value ($p \leq .05$) are represent significant heterogeneity (Higgins & Green, 2011). In addition, publication bias was determined from a funnel plot, and Eggers test of the intercept to quantify any bias captured by the funnel plot, and test for significance across the studies.

2.2.5 Results

2.2.5.1 Study characteristics.

The prevalence of BPD reported in the included studies ranged from 0.5% to 32.1%, with an unadjusted lifetime prevalence of 9.7% (95% CI, 7.7-12.0; p <.005). The total number of participants was 26,343 (range 33-5000), represented predominantly by the USA (86.1%), followed by Canada (4.7%), while Spain, Poland, Taiwan, and Turkey had one study each. Over the 20-year period there was an increase in the number of publications reporting clinically significant BPD estimates in university populations, with 6 between 1994 and 2000, 10 between 2001 and 2007, and 27 between 2008 and 2014. Overall, 66.7% of studies were focused primarily on BPD, followed by 6.7% focused on non-suicidal self-injury (NSSI). The average time from completion of data collection to publication was 4.3 years (data available for n=26 studies). Participant age ranged from 17 to 66 years, with a mean age of 19.4 (*SD*=1.4). Most studies (93%; N=43) sampled both genders, however there were 3 studies sampling females only; females made up 64.7% of the combined sample. Collectively, 93% of the studies sampled undergraduates, 2.3% postgraduates and 4.7% both. White/Caucasian participants comprised 68.1% of the sample (n=37), African American 7.7%, (n=36), Hispanic 3.8% (n=36), Asian 8.7% (n=36), and "other" 11.7% (n=36). Participant responses were anonymous in 68.9% of the studies; 86.6% of studies offered an incentive, most commonly course credit (87.2%).

BPD was measured using 13 tools, 11.6% of these were structured clinical interviews and 88.4% self-report measures, with the former primarily the Structured Clinical Interview for DSM-III-R / DSM-IV Personality Disorders at 7% (SCID-II; First et al., 1997), and the latter the Personality Assessment Inventory, Borderline features at 48.8% (PAI-BOR; Morey, 1991), followed by the McLean Screening Instrument for Borderline Personality Disorder at 11.6%

(MSI-BPD; Zanarini et al., 2003). While the structured clinical interviews used DSM traits as items, 2.6 % of the self-report measures utilised DSM traits (criteria), 33.3% represented symptoms (subjective indication; Coleman, 2009), and 65.5% features (attribute; Coleman, 2009) of BPD. When considering response format of self-report items, 51.2% used a 4-point Likert scale reflecting level of agreement with statements, and of these, 74.4% measured the veracity of statements reflecting characteristics of the person (e.g. true/false), followed by frequency of symptoms (11.6%), then presence of symptoms or personal characteristics (i.e. yes/no; 9.3%), and finally severity of listed symptoms (4.7%). Primarily, prevalence was measured across the lifetime (93.3%), one study over a month, and another 2 weeks (3.35% each). The number of items in the measures ranged from 3 to 140, and 4.7% had one item omitted from the complete scale, namely the item relating to self-harm, which was omitted to comply with ethical committee directives.

2.2.5.2 Pooled prevalence of BPD in college populations and changes over time

The prevalence of BPD ranged from 0.5% to 32.1% across the studies, with an unadjusted lifetime prevalence of 9.7% (95% CI, 7.7-12.0; p <.005), I^2 = 96.2. The analyses were re-run omitting the studies representing extreme values, however this did not significantly influence the overall prevalence rates or between study heterogeneity (i.e. Pavony omitted: 9.2%, 95% CI 7.4-11.4, I^2 =96.0 p<.005; Chien omitted: 10.4%, 95% CI 8.4-12.7, p <.005, I^2 =95.8). The prevalence of BPD varied over time: 7.8% (95% CI 4.2-13.9) between 1994 and 2000; 6.5% (95% CI 4.0-10.5) during 2001 to 2007; and 11.6% (95% CI 8.8-15.1) from 2008 to 2014, however heterogeneity across time was not significant (p =.09, I^2 = 72.6).

2.2.5.3 Methodological factors contributing to between-study heterogeneity

Univariate meta-regression analyses were used to assess the influence of methodological factors on reported prevalence rates (Table 1). Overall the I^2 statistic ranged from 37.5 to 94.6%; anonymity, incentive type, focus of the research, and participant type were indicative of considerable heterogeneity at p<.05. In the initial analysis, the type of measure was not associated with heterogeneity (p=.34). However of the 13 measures, eight were only used once, thus the analysis was re-run omitting these lone items. Subsequently, the type of measure was associated with heterogeneity of substantial importance (Higgins & Green, 2011). In detail, studies that provided anonymity in responses, offered course credit as an incentive, were focused on the topic of BPD, sampled postgraduates, and utilised the International Personality Disorder Examination to assess BPD (IPDE; Loranger et al., 1994), were associated with higher rates of BPD.

2.2.5.4 Study or sample characteristics contributing to between study heterogeneity

In univariate meta-regressions heterogeneity was apparent across all the variables with τ^2 ranging from .407 to .635 (Table 2). Studies with a smaller sample size had a lower number of

participants with BPD, while participants who identified as Asian also reported lower rates of BPD. Alternatively participants identified in the "other" racial category were more likely to warrant a diagnosis of BPD.

2.2.6 Discussion

We aimed to assess methodological characteristics that contribute to heterogeneity across estimates of BPD in university populations reported in the literature, to establish pooled prevalence, ascertain whether rates had changed over time, and identify at risk groups in terms of demographic characteristics. Methodological factors that accounted for considerable heterogeneity between estimates of BPD in university student populations were: anonymity, incentive type, focus of the research, and participant type. The type of measure employed had substantial importance toward influencing between-study heterogeneity. The characteristics of the sample that contributed to significant heterogeneity between studies were sample size, and identifying as Asian or "other" race.

In the context of BPD, anonymity of responses may be particularly influential given criteria include behaviours with low social desirability, and implications for participant safety. Specifically, endorsement of criteria relating to suicidal ideation and attempts is associated with lower response rates (Evans, Hawton, Rodham & Deeks, 2005), as the behaviour is highly stigmatised, and may trigger a duty of care whereby researchers are ethically required to contact and refer participants (Lakeman & FitzGerald, 2009). Similarly, shame is a common feature in those with BPD, which may also act as motivator to under-report problematic behaviours such as aggressive outbursts, or substance use, when the person is identifiable (Oltmanns, Friedman, Fiedler & Turkheimer, 2004).

The type of incentive offered was associated with unique heterogeneous influence on prevalence rates, with course credit associated with studies that reported higher rates of BPD. While offering incentives has been reported to bear no effect on bias in sample demographics (Teisl, Roe & Vayda, 2005), incentives such as course credit may be particularly attractive to university students, even more so than cash. In turn, while there was insufficient response rate data to assess its effect on sample size, course credit was by far the most commonly used incentive suggesting researcher recognition of its efficacy in attracting larger samples sizes. Relatedly, studies with larger samples reported higher rates of BPD, representing a well-documented relationship between the increase in probability of capturing higher rates of any construct measured when more people are sampled (e.g. Maxwell, Kelley & Rausch, 2008). Nonetheless, prevalence of BPD has been shown to be lower in age-matched general population samples (e.g. 3.2%; Arens et al., 2013), which suggests that a pooled prevalence of 9.7% indicates university

populations are particularly at risk of reporting the disorder.

Whether the focus of the research was BPD, or another topic, played a role in variations of prevalence; studies focused on BPD had a significantly higher prevalence (11.4%), than those that did not (6.7%). Participants are attracted to studies that are either interesting or relevant (Swannell, Martin, Page, Hasking & St John, 2014), and a significant proportion of studies that reported this characteristic indicated the participant pool was comprised of psychology students (74%; *n*=19). It is possible that a proportion of this group would have an interest in, or personal experience with personality disorders, rendering participation more attractive. That the studies focused on BPD had an average of 741 participants, compared with 317 for those focused on other topics lends further weight to this proposal. Alternatively, interpretation of the finding on participant type is hampered by there being only one study that comprised postgraduate students and only two studies that assessed both undergraduates and postgraduates. While BPD symptom frequency and severity is subject to a maturation effect whereby these characteristics "burnout" as the person ages (Gunderson et al., 2011), the current study suggests the inverse of this relationship. Yet, due to the low number of participants in these groups (49 postgraduates and 492 combined), this interpretation is speculative. Similarly, the finding that the type of measure employed was a source of heterogeneity should be interpreted with considerable caution. The IPDE (Loranger et al., 1994) was associated with a notably high prevalence rate of 21.6%, which was largely accounted for by the Alemany Martinez, Aytés et al. (2008) study. The aforementioned study examined personality disorder characteristics as one of a multitude of factors that may have a relationship with burnout in dentistry students (Alemany Martinez et al., 2008). The authors had cautioned that diagnosis was not a function of the study, and as such, methodological rigor in establishing those above the clinical cut-offs on the IPDE may not have been emphasised.

USA-based studies predominated in the review, and 75.7% of these studies contained "other" racial categories ranging from 0.6 to 30% of the sample. Participant race was not the focus of the research in any of the studies reviewed; however in the few cases where the "other" category was distinguished, it largely contained Native American participants. This group is strongly under-represented in US university populations, yet tend to report higher rates of BPD (e.g. 5.0%, Tomko et al., 2014). Notwithstanding, the "other" race category represented 11.7% of all participants in the review, and was associated with higher BPD prevalence. That any explanation would be postulated, serves to emphasise the need for greater delineation of racial groups in research, allowing meaningful interpretation of those associated with higher risk of the disorder.

Alternatively, lower rates of BPD being reported in people who identify as Asian within

US populations is well documented (e.g. Selby & Joiner, 2013; Tomko et al., 2014), and the results of the current review lend support to this characteristic. Similarly, that no difference was found between genders in rates of BPD is consistent with a range of literature (e.g. Kernberg & Michels, 2009; Tadic et al., 2009). In university samples, as with age-matched community-based samples, it would appear that both males and females are equally likely to report traits of the disorder. Nonetheless, this may be because university men report more impulsive or substance use behaviours represented in measures of BPD, as opposed to manifesting the disorder. Finally, the results of the current study were unable to elucidate whether the prevalence of BPD in university students has increased over time. A similar lack of distinction is apparent in the literature for community-based samples (e.g. Samuels, 2011), however as the current study is the first of its type, further research may assist in distinguishing temporal trends.

2.2.6.1 Limitations

Several factors suggest that the results should be interpreted with caution. With reference to pooled prevalence, sample size was a predictor of heterogeneity, and samples included in the current study ranged from as low as 33, to as high as 5000 participants. Similarly, there was considerable variance in prevalence estimates ranging from 0.5 to 32.1%. While every attempt was made to be comprehensive, it is possible that variations in statistical analyses, methodological issues, or data manipulation not assessed in the current study, may have accounted for some of the variance.

An additional limitation pertains to how generalizable the results of the review may be. Across the literature, females, undergraduates and Caucasians tend to be over-represented in university samples in research (Petersen, 2001), and this effect may be increased in systematic reviews due to the magnification of skewed populations when analysed cumulatively (Higgins et al., 2003). Relatively recent US university enrolment figures indicate females comprise 53.6% of all US university enrolments, while Caucasians represent 76%, and postgraduates 12.6% (United States Census Bureau, 2012). In the US studies in the review, females represented 70.3%, Caucasians 79.2% and postgraduates 2.3%, indicating that females and Caucasians were over-represented while postgraduates were significantly under-represented in the current sample.

2.2.6.2 Implications and future research

The findings of the study suggest important considerations, and recommendations for future research. First, at a pooled prevalence rate of close to 10% the findings suggest that BPD is apparent in university student populations. Given symptoms of the disorder include high-risk behaviours such as self-harm, suicidal expression and aggression, the study findings have particular relevance for university-based mental health services. Within an Australian context,

recent federal funding cuts to the university sector have resulted in retractions of perceived non-essential services (including counseling services; Caleb, 2014; Pitman, 2013), suggesting mental health staff are required to allocate limited resources with greater efficiency. In turn, university-based treatment programs such as modified Dialectical Behaviour Therapy (Linehan, 1993a), have shown some promise as an efficient treatment modality (Meaney-Tavares & Hasking, 2013).

In relation to future research, anonymity has an important role in methodology employed to assess BPD. While less inclined to remain in treatment, people with BPD are characteristically proactive in help seeking when experiencing suicidal ideation (Banzhaf et al., 2012). As such, the relative risk posed by assuring anonymity may be outweighed by the utility of ascertaining at risk groups and individuals. Nonetheless, any gain in knowledge relative to students with BPD by the aforementioned means, needs to be offset with the risk of missing an opportunity to provide assistance to a participant who is adverse to seeking help. This underpins the importance of ensuring crisis referral options and information are made available to participants during research.

Consistent with a number of findings (e.g. Geiger, Peters & Baer, 2014; Zanarini et al., 2003), self-report measures appear to be a feasible tool for assessing BPD, and not associated with significant heterogeneity when compared with clinical interviews. As self-report measures enable greater numbers of participants to be assessed in a shorter period of time, researchers may obtain some level of confidence in employing this method where concerns of over-estimating the occurrence of the disorder exist. As the cost of validated licensed measures is often prohibitive when used in larger scale studies, self-report measures such as the McLean Screening Instrument for Borderline Personality Disorder (MSI-BPD; Zanarini et al., 2003), and Borderline Symptom List, short form (BSL-23; Bohus et al., 2009) represent freely available empirically validated measured that are well suited to this task.

There is a clear need for research focusing on BPD in university students to be conducted in countries other than the US. A systematic search failed to uncover reported prevalence in the United Kingdom, Australia, and the greater proportion of Europe and Asia. While US-based studies are unquestionably useful, factors that are associated with variance such as race cannot be generalised to countries where university students tend to be more homogenous. For example, while identifying as being Asian is associated with lower rates of BPD in US university populations, it could not be assumed that university students in Asia have lower prevalence of the disorder. Relatedly, a range of demographic characteristics associated with BPD was not measured in the review. Low socioeconomic status, being single or divorced, and identifying as homosexual have all been associated with a diagnosis of BPD (Grant et al., 2008; Johnson et al., 2003). This information was not available for a large proportion of the studies suggesting future research could

include these domains in order to examine for their cumulative power in predicting BPD.

The review elucidated the need for consistency in measurement across studies. While not a source of heterogeneity, the tools used to measure BPD were diverse. Representing nine items only, diagnostic traits are parsimonious by comparison with symptoms and features, which utilise up to 24 items to tap a range of BPD-related constructs. Alternatively, items representing symptoms or features yield diagnostic crossover with other psychological diagnoses. Similarly, measurement period of symptoms over a short duration may be inherently problematic. Most of the studies in the review were cross-sectional, thus the presence and severity of BPD was measured at one point in time. Given the level of lability associated with BPD symptoms, directions given to participants when responding should specify the participant should retrospectively consider a time period of at least a year when responding, in order to assess for pervasive patterns of behaviour characteristic to personality disorders.

In sum, 47% of the heterogeneity observed in BPD estimates within university populations was due to either methodological or sample-related factors. Wherever possible, standardization across studies would significantly assist in improving the reliability of future reviews.

2.2.7 Acknowledgements

We are grateful to Annette Graham who generously spent considerable time cross-validating the database searches, Dr Sabura J. Allen for her invaluable input during conceptualisation of the study, and Dr Vanessa Allom for her guidance with the Comprehensive Meta Analysis statistical program. The corresponding and second authors had access to all data from the study, and all authors contributed to either the conceptualization, design, analysis, interpretation or revision of the paper. Prior to submission, all authors approved the final version of the paper, however the first author assumes responsibility for the integrity of the data.

2.2.8 References

Alemany Martínez, A., Berini Aytés, L., & Gay Escoda, C. (2008). The burnout syndrome and associated personality disturbances. The study in three graduate programs in dentistry at the University of Barcelona. *Medicina Oral Patologia Oral y Cirugia Bucal, 13*(7), 444-450.

American Psychiatric Association. (1980). *Diagnostic and statistical manual of mental disorders* (3rd ed.). Washington, DC: Author.

American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders* (4th ed). Washington DC: Author.

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Arlington, VA: American Psychiatric Publishing.

Arens, E.A., Stopsack, M., Spitzer, C., Appel, K., Dudeck, M., Völzke, H., . . Barnow, S. (2013). Borderline Personality Disorder in four different age groups: A cross-sectional study of community residents in Germany. *Journal of Personality Disorders, 27*(2), 196-207. doi:10.1521/pedi_2013_27_072

Armstrong, R., Waters, E., Jackson, N., Oliver, S., Popay, J., Shepherd, J., . .Thomas, H. (2007). Guidelines for systematic reviews of health promotion and public health interventions (version 2). Retrieved from http://ph.cochrane.org/sites/ph.cochrane.org.

Banzhaf, A., Ritter, K., Merkl, A., Schulte-Herbrüggen, O., Lammers, C.H., & Roepke, S. (2012). Gender differences in a clinical sample of patients with borderline personality disorder. *Journal of Personality Disorders*, *26*(3), 368-380. doi:10.1521/pedi.2012.26.3.368

Blashfield, R., Blum, N., & Pfohl, B. (1992). The effects of changing axis II diagnostic criteria. *Comprehensive Psychiatry, 33*(4), 245-252. doi:10.1016/0010440X(92)90048-U

Bohus, M., Kleindienst, N., Limberger, M.F., Stieglitz, R., Domsalla, M., Chapman, A.L.,. . Wolf, M. (2009). The short version of the borderline symptom list (BSL-23): Development and initial data on psychometric properties. *Psychopathology, 42*(1), 32-39. doi:10.1159/000173701

Borenstein, M., Hedges, L.V., Higgins, J.P., & Rothstein, H.R. (2011). *Introduction to meta-analysis*. West Sussex, UK: John Wiley & Sons.

Caleb, R. (2014, May 7). Uni counselling services challenged by growing demand. *The Guardian.* Retrieved from http://www.theguardian.com

Cheavens, J.S., Strunk, D.R., & Chriki, L. (2012). A comparison of three theoretically important constructs: What accounts for symptoms of borderline personality disorder? *Journal of Clinical Psychology, 68*(4), 477-486. doi:10.1002/jclp.20870

Chien, Y.L., Gau, S.S.F., & Gadow, K.D. (2011). Sex difference in the rates and co-occurring conditions of psychiatric symptoms in incoming college students in Taiwan. *Comprehensive Psychiatry*, *52*(2), 195-207. doi:10.1016/j.comppsych.2010.03.009

Colman, A.M. (2009). *A dictionary of psychology*. New York NY: Oxford University Press. doi:10.1093/acref/9780199534067.001.0001

Coolidge, F.L., & Merwin, M.M. (1992). Reliability and validity of the Coolidge Axis II Inventory: A new inventory for the assessment of personality disorders. *Journal of Personality Assessment*, *59*(2), 223-238. doi:10.1207/s15327752jpa5902_1

Evans, E., Hawton, K., Rodham, K., & Deeks, J. (2005). The prevalence of suicidal phenomena in adolescents: A systematic review of population-based studies. *Suicide and Life - Threatening Behavior, 35*(3), 239-250. doi:10.1521/suli.2005.35.3.239

First, M.B., Gibbon, M., Spitzer, R.L., Williams, J.B.W, & Benjamin, L.S. (1997). *Structured clinical interview for DSM-IV Axis II personality disorders, (SCID-II).* Washington, D.C: American Psychiatric Press, Inc.

Geiger, P.J., Peters, J.R., & Baer, R.A. (2014). Using a measure of cognitive distortion to examine the relationship between thought suppression and borderline personality features: A multi-method investigation. *Personality and Individual Differences*, *59*, 54-59. doi:10.1016/j.paid.2013.11.005

Grant, B.F., Chou, S.P., Goldstein, R.B., Huang, B., Stinson, F.S., Saha, T.D., . . . Ruan, W.J. (2008). Prevalence, correlates, disability, and comorbidity of DSM-IV borderline personality disorder: Results from the wave 2 national epidemiologic survey on alcohol and related conditions. *Journal of Clinical Psychiatry, 69*(4), 533-545. doi:10.4088/JCP.V69n0511

Gunderson, J.G., Stout, R.L., McGlashan, T.H., Shea, M.T., Morey, L.C., Grilo, C.M.,... & Skodol, A.E. (2011). Ten-year course of borderline personality disorder: Psychopathology and function from the Collaborative Longitudinal Personality Disorders Study. *Archives of General Psychiatry*, *68*(8), 827-49. doi:10.1001/archgenpsychiatry.2011.37

Higgins J, & Green, S. (2011). *Cochrane Handbook for Systematic Reviews of Interventions* Version 5.1.0 [updated March 2011]. The Cochrane Collaboration, 2011. Retrieved from www.cochrane-handbook.org

Higgins, J., & Thompson, S. G. (2002). Quantifying heterogeneity in a meta-analysis. *Statistics in Medicine*, *21*(11), 1539-1558. doi:10.1002/sim.1186

Higgins, J.P., Thompson, S.G., Deeks, J.J., & Altman, D.G. (2003). Measuring inconsistency in meta-analysis. *BMJ (Clinical Research Ed.), 327*, 557-560. doi:10.1136/bmj.327.7414.557

Huprich, S.K., Bornstein, R.F., & Schmitt, T.A. (2011). Self-report methodology is insufficient for improving the assessment and classification of Axis II personality disorders. *Journal of Personality Disorders, 25*(5), 557-570. doi:10.1521/pedi.2011.25.5.557

Johnson, D.M., Shea, M.T., Yen, S., Battle, C.L., Zlotnick, C., Sanislow, C.A., . . . Zanarini, M.C. (2003). Gender differences in borderline personality disorder: findings from the collaborative longitudinal personality disorders study. *Comprehensive Psychiatry, 44*(4), 284-292. doi:10.1016/S0010-440X(03)00090-7

Kelley, G.A., & Kelley, K.S. (2012). Statistical models for meta-analysis: A brief tutorial. *World Journal of Methodology. 2*(4), 27-32. doi: 10.4329/wjm.v2.i4.27

Kernberg, O., & Michels, R. (2009). Borderline personality disorder. *American Journal of Psychiatry*, 166(5), 505-508. doi:10.1176/appi.ajp.2009.09020263

Lakeman, R., & Fitzgerald, M. (2009). The ethics of suicide research. *Crisis: The Journal of Crisis Intervention and Suicide Prevention, 30*(1), 13-19. doi:10.1027/02275910.30.1.13

Liberati, A., Altman, D.G., Tetzlaff, J., Mulrow, C., Gøtzsche, P.C., Ioannidis, J.P.A.,. Moher, D. (2009). The PRISMA statement for reporting systematic reviews and meta-analyses of studies that evaluate health care interventions: Explanation and elaboration. *BMJ (Clinical Research Ed.), 339*, b2700. doi:10.1136/bmj.b2700

Linehan, M.M. (1993a). *Cognitive-behavioural treatment of borderline personality disorder.* The Guildford Press: NY.

Loranger, A.W., Sartorius, N., Andreoli, A., & et al. (1994). The international personality disorder examination: The world health organization/alcohol, drug abuse, and mental health administration international pilot study of personality disorders. *Archives of General Psychiatry, 51*(3), 215-224. doi:10.1001/archpsyc.1994.03950030051005

Maxwell, S.E., Kelley, K., & Rausch, J.R. (2008). Sample size planning for statistical power and accuracy in parameter estimation. *Annual Review of Psychology, 59*(1), 537-563. doi:10.1146/annurev.psych.59.103006.093735

Meaney-Tavares, R., & Hasking, P. (2013). Coping and regulating emotions: A pilot study of a modified dialectical behavior therapy group delivered in a college counseling service. *Journal of American College Health, 61*, 303-309. doi:10.1080/07448481.2013.791827

Morey, L.C. (1991). *Personality Assessment Inventory professional manual*. Odessa, FL: Psychological Assessment Resources.

Norling, D.C., & Kim, S. (2010). Borderline personality disorder. In J. C. Thomas & M. Hersen (Eds.), *Handbook of Clinical Psychology Competencies*. New York: Springer.

Oltmanns, T.F., Friedman, J.N.W., Fiedler, E.R., & Turkheimer, E. (2004). Perceptions of people with personality disorders based on thin slices of behavior. *Journal of Research in Personality, 38*(3), 216-229. doi:10.1016/S0092-6566(03)00066-7

Pavony, M.T., & Lenzenweger, M.F. (2013). Somatosensory processing and borderline personality disorder features: a signal detection analysis of proprioception and exteroceptive sensitivity. *Journal of Personality Disorders*, *27*(2), 208-221. doi:10.1521/pedi_2013_27_076

Peterson, R.A. (2001). On the use of college students in social science research: Insights from a second order metaanalysis. *Journal of Consumer Research, 28*(3), 450-461. doi:10.1086/323732

Pfohl, B., Blum, N., St. John, D., McCormick, B., Allen, J., & Black, D.W. (2009). Reliability and validity of the Borderline Evaluation of Severity Over Time (Best): A self-rated scale to

measure severity and change in persons with borderline personality disorder. *Journal of Personality Disorders, 23*(3), 281-293. doi:10.1521/pedi.2009.23.3.281

Pitman, T. (2013, April 19). Funding cuts pose challenges for the university business model. *The Conversation.* Retrieved from http://theconversation.com

Samuels, J. (2011). Personality disorders: Epidemiology and public health issues. *International Review of Psychiatry, 23*(3), 223-233. doi:10.3109/09540261.2011.588200

Selby, E.A., & Joiner Jr., T.E. (2013). Emotional cascades as prospective predictors of dysregulated behaviours in borderline personality disorder. *Personality Disorders: Theory, Research, and Treatment*, *4*(2), 168-192. doi:10.1037/a0029933

Siever, L. J., Torgersen, S., Gunderson, J.G., Livesley, W.J., & Kendler, K.S. (2002). The borderline diagnosis III: identifying endophenotypes for genetic studies. *Biological Psychiatry*, *51*(12), 964-968. doi:10.1016/S0006-3223(02)01326-4

Swannell, S.V., Martin, G.E., Page, A., Hasking, P., & St John, N.J. (2014). Prevalence of nonsuicidal self-injury in nonclinical samples: systematic review, meta-analysis and meta-regression. *Suicide and Life-Threatening Behavior, 44*(3), 273-303. doi:10.1111/sltb.12070

Swartz, M., Blazer, D., George, L., & Winfield, I. (1990). Estimating the prevalence of borderline personality disorder in the community. *Journal of Personality Disorders, 4*(3), 257-272. doi:10.1521/pedi.1990.4.3.257

Tadić, A., Wagner, S., Hoch, J., Başkaya, Ö., von Cube, R., Skaletz, C., ..& Dahmen, N. (2009). Gender differences in axis I and axis II comorbidity in patients with borderline personality disorder. *Psychopathology*, *42*(4), 257-263. doi:10.1159/000224149

Teisl, M.F., Roe, B., & Vayda, M.E. (2006). Incentive effects on response rates, data quality, and survey administration costs. *International Journal of Public Opinion Research, 18*(3), 364-373. doi:10.1093/ijpor/edh106

Taylor, J., James, L. M., Bobadilla, L., & Reeves, M. D. (2008). Screening for disinhibited disorder cases in a college population: Performance of the SMAST, DAST, SCID-II-Q, and PDQ-4. *Psychological Assessment, 20*(4), 351-360. doi:10.1037/a0013452

Tomko, R.L., Trull, T.J., Wood, P.K., & Sher, K.J. (2014). Characteristics of borderline personality disorder in a community sample: comorbidity, treatment utilization, and general functioning. *Journal of Personality Disorders, 28*(5), 734-750. doi:10.1521/pedi_2012_26_093

Trull, T.J. (1995). Borderline personality disorder features in nonclinical young adults: Identification and validation. *Psychological Assessment*, *7*(1), 33-41. doi:10.1037/1040-3590.7.1.33

United States Census Bureau (2012). Education, higher education: Institutions and Enrolment. 281 - College enrolment by sex, age, race, and Hispanic origin. Retrieved from: http://www.census.gov/compendia/statab/cats/education/higher_education_institutions_and_enrollment.html

Zanarini, M.C., Vujanovic, A.A., Parachini, E.A., Boulanger, J.L., Frankenburg, F.R., & Hennen, J. (2003). A screening measure for BPD: The McLean screening instrument for borderline personality disorder (MSI-BPD). *Journal of Personality Disorders, 17*(6), 568-573. doi:10.1521/pedi.17.6.568.25355

Zimmerman, M., & Coryell, W.H. (1990). Diagnosing personality disorders in the community: A comparison of self-report and interview measures. *Archives of General Psychiatry, 47*(6), 527-531. doi:10.1001/archpsyc.1990.01810180027005

2.2.9 Tables

Table 2.1. *Pooled Prevalence Estimates and Proportion of Variance Explained by Methodological Factors (N=43)*

	Overall			Between			
	Effect size			Heterogeneity			
Category [2]	Pooled prev %	95% CI	Z-value[1]	Cochran Q	df (Q)	*p* value	I^2 %
Anonymity	**7.9**	**2.9-20.1**	**-4.5*****	**18.6**	**1**	**.000**	**94.6**
Yes (n=30)	12.8	10.2-16.0	-14.4***				
No (n=13)	4.7	3.1-7.0	-14.1***				
Incentive type	**5.4**	**1.8-14.8**	**-5.0*****	**19.1**	**2**	**.000**	**90.1**
Course credit (n=34)	12.1	9.6-15.3	-14.6***				
None (n=5)	3.9	2.0-7.6	-8.9***				
Cash (n=4)	2.7	1.1-6.5	-7.7***				
Focus of research	**9.0**	**5.3-14.7**	**-8.0*****	**4.6**	**1**	**.032**	**78.6**
BPD (n=29)	11.4	8.7-14.7	-13.6***				
Other (n=14)	6.7	4.4-10.0	-11.8***				
Participant type	**17.6**	**6.2-40.9**	**-2.6****	**8.1**	**2**	**.017**	**75.3**
Postgraduates (PG; n=1)	32.1	8.9-69.5	-0.9*				
UG & PG (n=2)	25.4	10.0-50.7	-1.9				
Undergraduates (UG; n=40)	8.9	7.1-11.1	-18.3***				
Data collection format[3]	7.9	3.9-15.3	-6.4***	3.7	1	.054	73.0

Incentive[4]	8.3	4.6-14.5	-7.5***	3.2	1	.072	68.8
Measure[5]	**9.4**	**5.9-14.6**	**-8.7*** **	**27.5**	**13**	**.011**	**52.7**
IPDE[8] (n=4)	21.6	17.0-27.0	-4.8***				
MSI-BPD[7] (n=5)	13.6	7.4-23.7	-5.3***				
PAI-BOR[6] (n=20)	9.3	6.8-12.7	-12.9***				
Construct measured[9]	8.2	4.9-13.5	-8.5***	5.7	3	.129	47.4
Measure format[10]	10.1	7.4-13.6	-12.7***	2.8	4	.591	42.9
Criteria measured[11]	9.4	6.5-13.3	-11.3***	3.2	2	.198	37.5
Time period [12]	11.5	5.8-21.6	-5.4***	2.3	2	.318	30.0

Note. * Significant at <.05; ** Significant at <.01; *** Significant at <.001; [1] Random effects analysis reported, ranked by I^2; [2] Only categories with significant heterogeneity (bold) have sub-levels reported (in italics); [3] Self-report or clinical interview; [4] Incentive: yes/no; [5] Only reported where measure n ≥4; [6] Personality Assessment Inventory, Borderline Features Scale; [7] McLean Screening Instrument for Borderline Personality Disorder; [8] The International Personality Disorder Examination; [9] Features, symptoms or traits of BPD; [10] 3,4 or 5-point scale, true/false or yes/no; [11] Frequency, presence, severity or veracity (true/false) of BPD items; [12] One month, 14 days, or life.

Table 2.2. *Results of univariate meta-regression*[1]

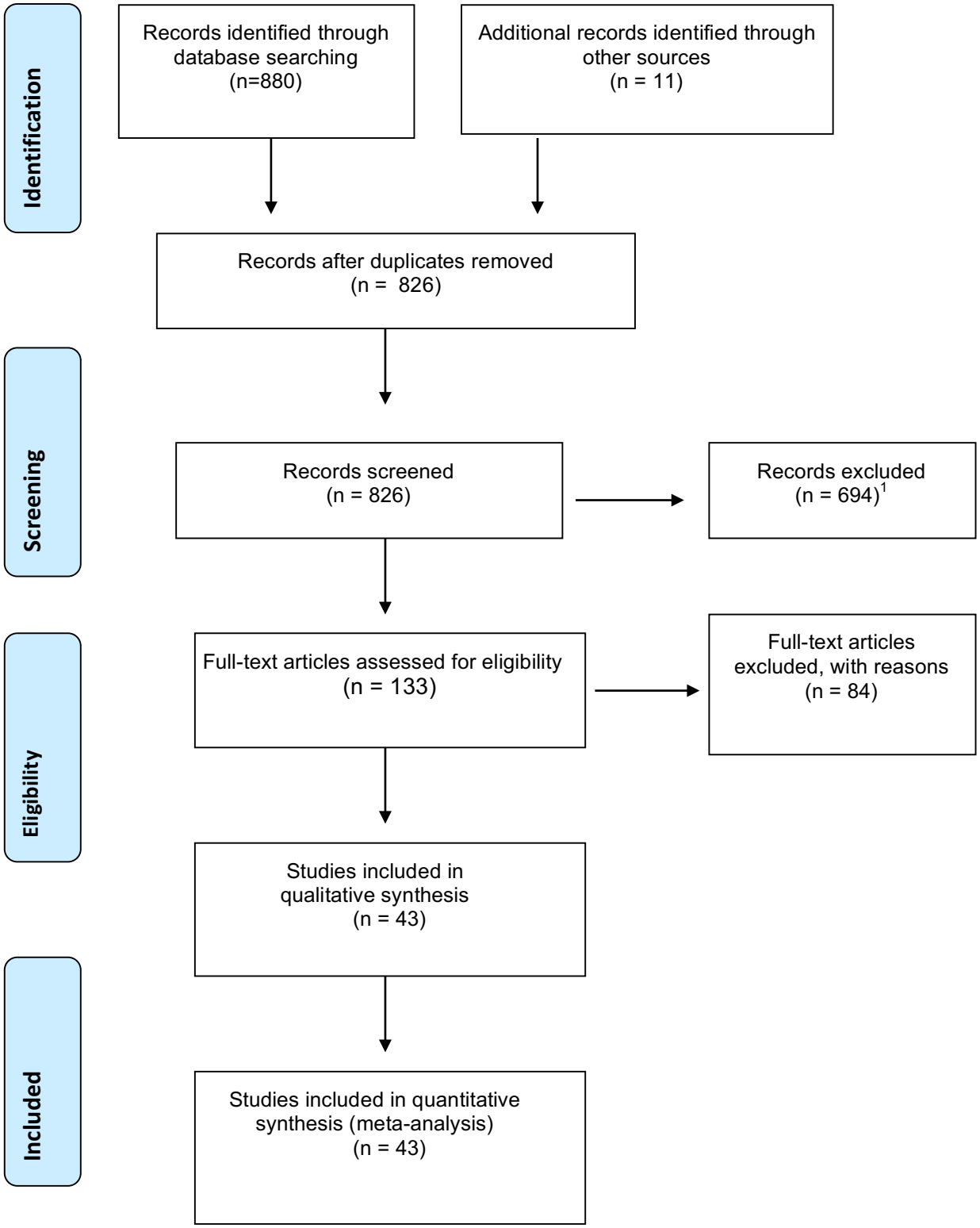
Variable	Category 1 (*k, N*)	Category 2 (*k, N*)	Point estimate	Standard error	95% CI	Z-value	*p*	τ^2
Dichotomous								
Country	USA=0 (37, 22681)	Other =1 (6, 3662)	-.132	.115	-.358; .094	-1.147	.252	.624
Continuous	*Range (k, N)*[3]							
Year of publication	1994-2014 (43, 26343)		.034	.024	-.013; .080	1.420	.156	.626
Clinical cut-offs	4-70 (43, 26343)		-.001	.007	-.014; .014	-.001	.999	.634
Sample size[3]	**33-5000 (43, 26343)**		**-.001**	**.001**	**-.001; -.000**	**-3.835**	**<.001**	**.407**
M Age, years	18-30 (40, 25670)		-.019	.023	-.064; .026	-.821	.412	.610
Female %	37-100 (43, 17044)		.015	.010	-.004; .034	1.570	.117	.630
Male %	0-63 (43, 9299)		-.015	.010	-.034; .004	-1.571	.116	.630
White/Caucasian%	0-94 (37,17940)		-.002	.004	-.010; .006	-.530	.600	.631
Black/African %	0-37.1 (36, 2028)		-.005	.014	-.033; .023	-.352	.724	.632
Hispanic/Latin %	0-14 (36, 1001)		.025	.032	-.038; .088	.768	.443	.635
Asian %[3]	**0-100 (36, 2292)**		**-.018**	**.007**	**-.032; .005**	**-2.61**	**.009**	**.601**
Other %[3]	**0-100 (36, 3082)**		**.018**	**.007**	**.003; .032**	**2.42**	**.016**	**.564**

Note. [1]Results from Mixed effects regression (Method of Moments); [2] Significant (p<.05) results shown in bold;

[3]*k* = number of studies; *N* = total sample size

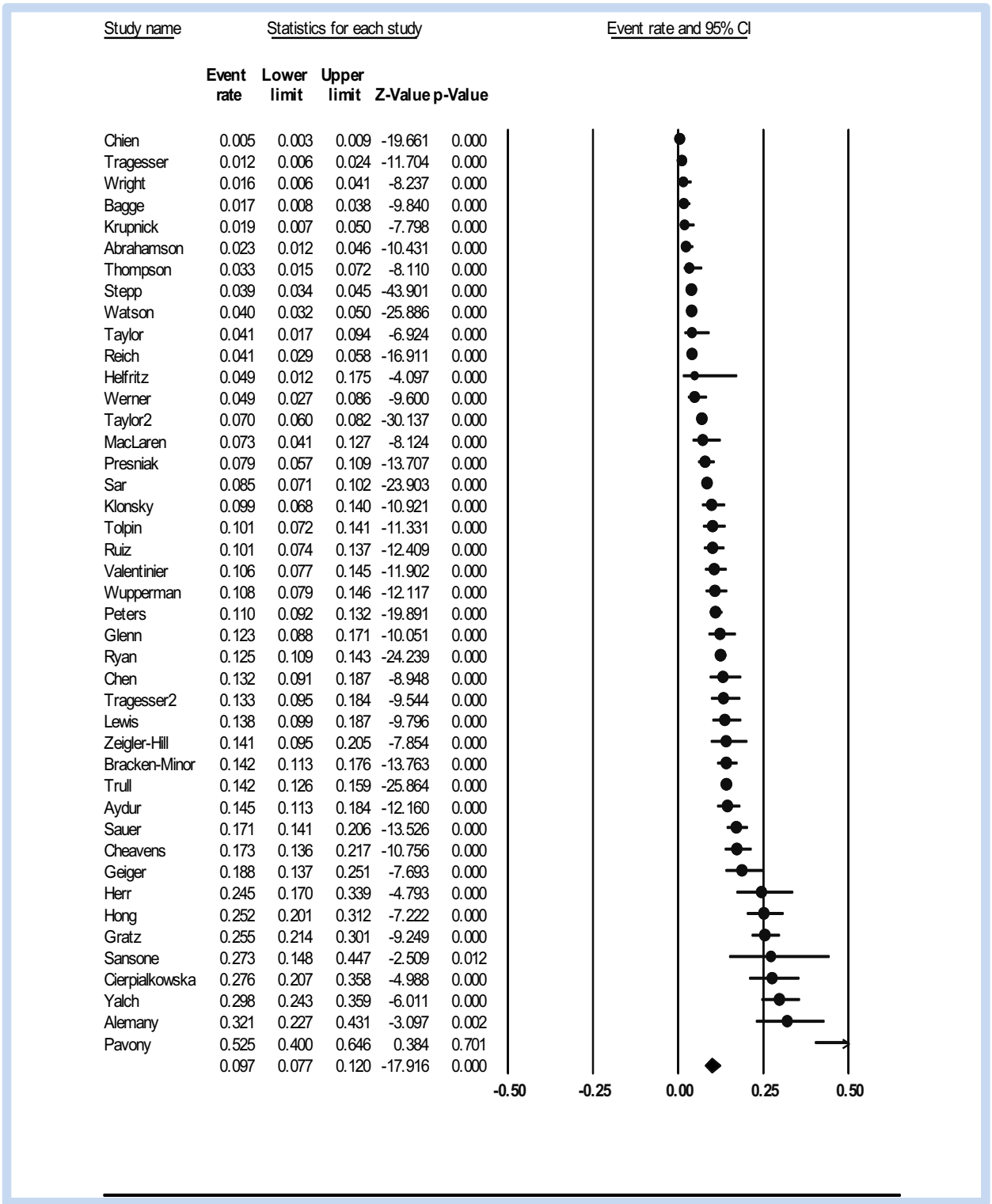
2.2.10 Figures

Figure 2.1. *PRISMA Flow Diagram*



Note: 1 = Excluded due to incorrect population, or no calculable prevalence rate.

Figure 2.2. *Studies included in the analysis sorted by prevalence.*



Chapter 3: Methodology for Quantitative Study

3.1 Chapter Overview

The following chapter serves to describe the methodology employed in the study presented in Chapter 4, which examines the role of alexithymia, emotional regulation, and rumination in the relationship between Borderline Personality Disorder (BPD) symptoms and behaviours in university students. This chapter provides detail about the methodology of the complete study comprising of all participant characteristics, measures employed, and the procedure that was utilised to obtain the sample described in Chapter 4. Finally, differences between students who scored above the cut-off for BPD, versus those who scored below the cut-off (see section 3.3.3.3 for measure) are reported within each section, where this is not reported in Chapter 4.

3.2 Introduction

The characteristics of BPD in university students have not been explored in the literature, thus the prevalence, features, and impact of the disorder are problematic to conceptualise in this population. Clinical and general population studies suggest the disorder is disabling both in terms of experiencing high levels of distress and arousal, and the impact on psychosocial function (Zanarini et al., 1998). Similarly, university students with BPD may experience periods of high symptom severity, referred to as a psychological crisis (Lieb et al., 2004). These events are characterised by suicidal ideation or attempts, self-harm, and aggressive or hostile behaviour towards others (Zanarini et al, 2003), and may be precipitated in a university context by stressors such as assessment and exam periods. A student experiencing a psychological crisis can pose a challenge to staff and other students alike, thus a greater understanding of the factors associated with BPD in university populations may assist in both early identification, and subsequent effective management and treatment.

In the general population, higher symptom severity of BPD is associated with being younger, female, higher levels of psychological distress, and a family history of psychological illness (Grant et al., 2008; Johnson et al., 2003). Further, BPD is associated with cognitive dysfunction namely, difficulties in regulating emotions (Putnam & Silk, 2005), alexithymia (Loas, Speranza, Pham-Scottez, Perez-Diaz & Corcos, 2012), and rumination (Baer & Sauer, 2010). Given that evidence-based therapies have been shown as effective in treating these features in clinical and general population samples (e.g. Frith & Frith, 2006; Norling & Kim, 2010), there is utility in examining whether these difficulties are similarly relevant to university students. Should this be the case, university-based psychological services may have the ability to capitalise on existing evidence-based practice, in order to assist students with BPD who present

for assistance.

3.2.1 Objectives

In line with both Emotional Cascade Theory and Linehan's (1993) Biosocial Theory of BPD described in Chapter 1, we aimed to:

First, clarify the roles of rumination, alexithymia, and emotional dysregulation in predicting dysregulated behaviours associated with BPD symptoms in college students, through examining direct effects of family history of psychological illness, psychological distress, rumination, alexithymia and emotional dysregulation, on dysregulated behaviours, and indirect effects of symptoms on behaviours, working through the cognitive constructs.

3.3 Methods

3.3.1 Sampling power analyses

An a priori sample size calculation was conducted using an online effect size calculator for Hierarchical Multiple Regression (Soper, 2012). While the analyses involved testing for direct and indirect effects, hierarchical multiple regression a priori calculations are widely used for this purpose (Fritz & MacKinnon, 2009). In order to maximise the potential for significant effects, parameters entered were for a large effect size (0.5), statistical power of 0.8, with 13 predictors, at a probability level of 0.01 (Soper, 2012). The calculation yielded a minimum recommended sample of 68. Further, a priori analyses relating to representativeness were conducted using the Raosoft (2004) online calculator to calculate the sample size needed based on an available population of 1,221,008 university students in Australia (Australian Bureau of Statistics, 2013). Using this figure, a calculation based on a 99% confidence interval, 5% margin of error, and response distribution of 50% indicated at least 664 cases were required (Raosoft, 2004). Based on the sample size that was obtained (N= 2261), the margin of error was 2.7

3.3.2 Participants

A sample of 2261 university students were recruited from 28 Australian universities, across six Australian states and territories, with 93.8% of responses obtained from three universities. The sample included 1642 women, 616 men, and three gender neutral participants, who were between 17 and 77 years old (M = 24.82, SD = 8.05). Participants were born in 74 countries representing 16 geographical regions as classified by the United Nations (see Figure 3.1); 475 (21%) identified as being International students, and 17 students (8%) stated they were of Aboriginal or Torres Strait Islander heritage. Additional demographic characteristics of the sample can be viewed in Table 3.1. Of the sample 1905 were studying full-time, while 356 were part-time (see Table 3.2). With regard to substance use, 1757 (77.7%) of participants indicated they did not use tobacco, while 388 (17.2%) abstained from alcohol use completely (Table 3.3).

With reference to drugs, 35% of participants indicated they had tried cannabis, 13.7% ecstasy, 2.8% heroin, 9.4% speed, 7.6% LSD, 7.7% cocaine, 3.5% inhalants, and 2.2% had used other drugs (Table 3.4). Finally, 765 (33.8%) of the sample indicated a family history of psychological illness, and 547 (24.2%) indicated they each had a history of psychological illness, while 10.6% had attempted suicide. The additional psychological characteristics of the sample may be viewed in Table 3.4.

Table 3.1 *Demographic characteristics of the sample*

	All[1]		**BPD**[2]	
Variable	*n*	**%**	*n*	**%**
Birthplace				
Australia	1490	65.9	131	71.2
UK	153	6.8	6	3.3
China	137	6.1	10	5.4
Malaysia	68	3.0	6	3.3
Singapore	39	1.7	-	-
Taiwan	31	1.4	2	1.1
New Zealand	31	1.4	2	1.1
South Africa	28	1.2	3	1.6
India	27	1.2	4	2.2
Canada	19	0.8	-	-
US	11	0.5	1	0.5
Other	258	10.0	19	10.3
Birthplace regions[3]				
Australia & New Zealand	1520	67.2	133	72.3
Eastern Asia	199	8.8	15	8.2
Western Europe	171	7.6	9	4.9
South Eastern Asia	157	6.9	10	5.4
South Central Asia	48	2.1	6	3.3
Southern Africa	37	1.6	4	2.2
North America	31	1.4	1	0.5
Western Asia	24	1.1	3	1.6
Northern Europe	16	0.7	-	-
South America	13	0.6	-	-
Melanesia	13	0.6	2	1.1

Eastern Europe	11	0.5	1	0.5
Southern Europe	9	0.4	-	-
Central America	6	0.3	-	-
Eastern Africa	5	.2	-	-
Western Africa	1	-	-	-
Socioeconomic Index[4]				
1 (Most disadvantaged)	109	6.5	29	15.8
2	106	6.3	10	5.4
3	156	9.3	18	9.8
4	130	7.8	14	7.6
5	138	8.3	11	6.0
6	188	11.3	20	10.9
7	199	11.9	20	10.9
8	189	11.3	12	6.5
9	191	11.4	12	6.5
10 (Most advantaged)	265	15.9	37	20.6
Employment status				
Paid employment, part-time	1009	44.6	84	45.7
Not employed paid work	866	38.3	68	37.0
Volunteering	196	8.7	18	9.8
Paid, full-time	190	8.4	14	7.5
Residing with[5]				
Family	1085	48.0	99	53.8
Flatmate/s	334	14.8	33	17.9
Partner	309	13.7	20	10.9
Friends	253	11.2	12	6.5
Other	166	7.3	14	7.6
On campus	114	5.0	6	3.3
Type of residence				
Rental Accommodation	959	42.4	76	41.3
Family home	936	41.4	83	45.1
Own home	195	8.6	10	5.4
On campus	125	5.5	7	3.8
Other	46	2.0	8	4.3

Sexual orientation				
Heterosexual	2018	89.3	142	77.2
Bisexual	113	5.0	26	14.1
Gay	51	2.3	4	2.2
Lesbian	30	1.3	5	2.7
Asexual	28	1.2	6	3.3
Omnisexual	12	0.5	1	0.5
Polyamorous	9	0.4	-	-
Relationship status				
Partnered	1088	48.1	72	39.1
Single	1081	47.8	103	56.0
Unsure	92	4.1	9	4.9

[1]N = 2261 for entire sample unless otherwise stated; [2] *n* = 184 for BPD group (mean BSL-23 score of ≥2) unless otherwise stated; [3]Geographic regions as classified by the United nations (see Figure 3.1); [4]Ranking of areas in Australia according to relative socio-economic advantage and disadvantage (*n* = 1671); [5] Most Australian university students live at the family home.

Table 3.2 *Educational characteristics of the sample*

	All[1]		**BPD[2]**	
Variable	***n***	**%**	***n***	**%**
Highest level of education				
High School	1228	54.3	107	58.2
Undergraduate	536	23.7	38	20.7
Honours	88	3.9	9	4.9
Graduate diploma/certificate	155	6.9	9	4.9
Postgraduate	145	6.4	9	4.9
Other	109	4.8	12	6.5
Current Enrolment				
Undergraduate	1692	74.8	150	81.5
Honours	76	3.4	2	1.1
Graduate diploma/certificate	55	2.4	4	2.2
Postgraduate	438	19.4	28	15.2
Average grade obtained				
Less than 50%	13	0.6	3	1.6

50-59%	210	9.3	17	9.2
60-69%	632	28.0	58	31.5
70-79%	827	36.6	71	38.6
80-89%	490	21.7	29	15.8
90-100%	89	3.9	6	3.3
Misconduct on campus[3]				
No	2235	98.8	182	98.9
Yes	26	1.2	2	1.1
Academic misconduct[4]				
No	2180	96.5	172	93.5
Yes	78	3.5	12	6.5

Note: [1] N = 2261 for entire sample; [2] *n* = 184 for BPD group (mean BSL-23 score of ≥2those with a mean BSL-23 score of 2 and higher); [3] Engaging in on-campus problematic behaviour requiring police or security; [4] For example, cheating on exams and plagiarism.

Table 3.3 *Characteristics of alcohol use in the sample*

	All[1]		**BPD**[2]	
Variable	***n***	**%**	***n***	**%**
Regularity of alcohol use				
Never	388	18.4	39	21.2
Monthly or less	689	32.7	53	28.8
2-4 times a month	617	29.2	49	26.6
2-3 times per week	292	13.8	16	8.7
4 or more times per week	124	5.9	27	14.7
Number of drinks in one sitting				
None	320	16.1	24	13.0
1 or 2	930	41.6	70	38.0
3 or 4	465	20.8	38	20.7
5 or 6	291	13.0	24	13.0
7 to 9	156	7.0	20	10.9
10 or more	74	1.5	8	4.3
Frequency of 6 or more drinks in one sitting				
Never	870	41.5	65	35.3
Less than monthly	736	35.1	64	34.5
Monthly	304	14.5	24	13.0

Weekly	172	8.2	21	11.4
Daily or almost daily	15	8.9	10	5.8

Note: [1]N = 2261 for entire sample, and [2] *n* = 184 for BPD group (mean BSL-23 score of ≥2).

Table 3.4 *Characteristics of substance use in the sample*

		Age first tried		**Times used[1]**		**Over 30 days[2]**
Drug	***n***	***M***	**SD**	***M***	**SD[3]**	**%**
Cannabis	792	17.31	3.09	204.36	1215.67	5.6
Ecstasy	309	19.10	3.46	44.33	261.08	1.1
Heroin	64	20.08	5.77	146.45	563.05	0.2
Speed	213	19.23	2.66	52.44	257.71	0.9
LSD	171	19.54	3.74	35.10	257.34	0.7
Cocaine	173	21.10	4.02	29.77	138.40	0.7
Inhalants	80	16.10	3.44	15.28	63.02	0.3
Other	49	18.99	4.60	31.25	46.57	0.8

Note: [1] Times used over lifetime; [2] Percentage of participants who used the drug over the previous 30 days; [3] In cases where more than 20% of the sample identified as substance abusers, the data from outliers was retained.

Table 3.5 *Psychological characteristics of the sample*[1]

Construct	All %	BPD[2] %
Student self-reported Disorders[3]	(*n* = 547)	(*n* = 183)
Bipolar and Related	1.1	3.3
Depressive	17.8	43.2
Anxiety (including OCD & Trauma)	13.0	32.2
Feeding and Eating	3.8	18.2
Neurodevelopmental	0.7	0.1
Substance Related and Addictive	-	-
Schizophrenia Spectrum and Other Psychotic	0.6	2.1
Personality Disorders (BPD)	0.6	2.1
Unknown	1.5	8.7
Not stated	28.4	12.6
Suicide attempt	(*N* = 2261)	(*n* = 184)
Yes	10.6	34.8

No	89.4	65.2
Number of suicide attempts	(*n* = 240)	(*n* = 64)
One	40.0	21.9
Two	15.4	20.3
Three	15.0	25.0
Four	5.0	7.8
Five	2.1	7.8
Six to ten	1.7	3.1
Greater than 10	6.7	9.4
Not stated	14.1	4.7
Number of family members with a psychological disorder (*n* = 702)		(*n* = 184)
None	67.0	48.9
One	7.2	10.3
Two	2.3	2.2
Three	0.8	2.7
Four	0.3	1.1
Five	0.2	0.5
Not stated	22.1	33.7
Number of disorder cases in family members[4]	(*n*=308)	(*n*=184)
Bipolar and Related	18.8	9.8
Depressive	73.7	48.4
Anxiety (including OCD & Trauma)	31.8	22.8
Feeding and Eating	4.5	3.8
Neurodevelopmental	3.9	2.2
Substance Related and Addictive	40.6	24.5
Schizophrenia Spectrum and other psychotic	14.3	16.3
Neurocognitive	1.3	1.1
Personality Disorders (Cluster B)	4.2	3.8
Unknown	7.1	6.0
Not stated	7.8	2.2

Note: [1] Represents proportion of entire sample: N= 2261, subgroup *n*'s as specified; [2] BPD group represented by those with a mean BSL-23 score of ≥2; [3] Total percentage is greater than 100 as participants endorsed multiple selections; [4] Figure represents number of times a condition was endorsed.

Figure 3.1 *United Nations classification of the world in regions*[1]

[1] Figure obtained from http://unstats.un.org/unsd/methods/m49/m49regin.html

3.3.2.1 Australian university student characteristics

In the year of data collection (2013), 1,313,776 students were enrolled at university in Australia, thus the sample described in this chapter represented 0.2% of this figure (Australian Bureau of Statistics, [ABS], 2013). Across the country, 55.6% of Australian enrolments were female (sample 73.1%), 75% domestic students (sample 79%), 70.4% were studying full-time (sample 84.3%), 70.4 % were undergraduates (sample 74.8%), 1% were of Aboriginal or Torres Strait Islander Heritage (sample 8%), and 11.9% of students were from low socioeconomic backgrounds (sample 13.0%). Socioeconomic status (SES) was classed according to the system used by the Australian Bureau of Statistics (ABS, 2013), whereby low SES is based on the students' postcode of home residence while growing up. SES values were derived from the 2011 Socio-Economic Indexes for Areas (SEIFA; ABS, 2013), Education and Occupation Index for postal areas, where postal areas in the bottom 25% are classified as Low SES (ABS, 2013). The indices are based on information from the five-yearly Census, and were allocated only to participants who indicated they had lived in Australia whilst growing up. Section 3.3.6.2 (Weighting) discusses the statistical treatment of over-representation of females in the sample.

3.3.3 Measures

Constructs of interest were assessed through responses to an online questionnaire. The complete questionnaire consisted of 263 items, 11 of which contained an open text box to allow participants to provide further information around demographic characteristics (e.g. “if other, please specify”). Of the 263 items, the validated scales as described below represented 159 items. The remaining questions pertained to demographic information about the participants, and are described in the following section. The questionnaire measured constructs that were not used in the final analyses contained in the thesis. The complete questionnaire may be viewed in Appendix 3A.

3.3.3.1 Demographics

Participants were asked to provide their age, gender, country of birth, cultural identification, Aboriginal or Torres Strait Islander heritage, sexual identity, relationship status, living arrangements, type of residence and suburb/town, postcode or country the participant spent the most time in during childhood. Next, participants were asked to name their current level of study (e.g. undergraduate), the current year of study, study load (e.g. part-time), university name and campus, highest level of education, average grade or mark (e.g. 50-59, Pass), engaging in on-campus problematic behaviour requiring police or security, and academic misconduct (e.g. plagiarism). Finally, participants described alcohol use

(measured using the scale described in section *3.3.4.6.1*), drug use, family history of psychological illness, participant history of psychological illness, suicide attempt (yes/no), number of attempts, last attempt, (e.g. "how long ago was your last attempt"), and method used.

3.3.3.2 Psychological Distress

The Depression, Anxiety and Stress Scale 21 (DASS-21; Lovibond, & Lovibond, 1993), was originally developed as a 42-item self-report measure of state related symptoms of depression, anxiety and stress, and consists of fourteen items within each of the three subscales. Items from each of the subscales relate to the presence of specific symptoms, for example "I felt down-hearted and blue" taps depression, "I felt I was close to panic", anxiety and "I found it hard to wind down", taps stress. The 42-item version of the DASS was revised as a 21-item short form, which consists of seven items on each of the three domains. This version was utilised in the current study both in order to reduce the overall length of the questionnaire, and due to the improvement in latent structure by comparison with the 42-item version (Henry & Crawford, 2005). Both versions of the DASS have been reported to differentiate between depression, anxiety and stress, in accordance with the tripartite model of anxiety and depression (Clark & Watson, 1991). Specifically, levels of negative affectivity common to both anxiety and depression are distinguished through measuring variations in anxiety-related physiological hyperarousal, and depression-related low positive affectivity (Brown et al., 1997; Clark & Watson, 1991).

The DASS is based on a dimensional model of psychological disorders, and items ask participants to rate the degree to which they have experienced a specific characteristic of the three subscales, on a 4-point Likert scale ranging from 0 (Did not apply to me at all) to 4 (Applied to me very much or most of the time). Scores on the DASS-21 are multiplied by two in order to obtain a total score on each subscale, and this score may be assigned with severity labels ranging from normal to extremely severe. The DASS has undergone numerous psychometric evaluations across clinical populations (e.g. Brown, et al., 1997; Page, Hooke & Morrison, 2007), community samples (e.g. Crawford & Henry, 2003), and a wide range of ethnic groups (e.g. Norton, 2007; Sarda et al., 2008), and is commonly utilised in university student research (e.g. Bayram & Bilgel, 2008, Stallman, 2012). Further, Henry and Crawford (2005) suggested that the DASS-21 provides a total score of psychological distress, yet contains a level of variation across the three subscales, which is indicative of discriminative validity. Henry and Crawford (2003) reported the DASS-21 to have high internal consistency overall (.93, 95% CI = .93 - .94), and across each of the subscales, Depression (.88, 95% CI =

.87 - .89); Anxiety (.90, 95% CI = .89 - .91) and Stress (.93, 95% CI = .93 - .94; Henry & Crawford, 2005), and this was also the case in the current sample (α = .94).

3.3.3.3 Borderline Personality Disorder

The Borderline Symptom List (BSL-23; Bohus et al., 2007), is a self-report measure assessing characteristics of BPD, and is based on DSM-IV criteria and the Diagnostic Interview for BPD – revised version (Zanarini, Gunderson, Frankenburg & Chauncey, 1989). The measure consists of items from the long version (BSL-95; Bohus et al., 2007) that were robust in discriminating BPD from Axis I disorders (mean effect size *(d)*: 1.13 and .96, Bohus et al., 2009). The BSL comprises 23 items that ask participants to rate how much they have experienced each characteristic of BPD delineated on a 5-point Likert scale ranging from 0 (not at all) to 4 (very much). Sample items from the subscale include self-perception ("felt cut off from myself"), affect regulation ("overwhelmed by my feelings"), hostility ("irritated, angry"), self-destruction ("longing for death"), dysphoria ("unsatisfied"), loneliness, ("isolated from others"), and intrusions ("tortured by images"). The BSL-23 measures symptoms of BPD on one dimension, with higher scores denoting higher levels of severity.

Scores are calculated by dividing the total score by the number of valid items, thus the final score ranges in severity from 0 to 4. The authors have not specified clinical cut-offs, nonetheless subsequent analyses suggest people who meet diagnostic criteria for BPD obtain mean scores ≥2 (e.g. Glenn, Weinberg & Klonsky, 2009; Jacob, Ower & Buchholtz, 2012). The BSL-23 has been psychometrically evaluated in a range of populations including psychiatric inpatients, outpatients, and community samples (Bohus, et al., 2007; Glenn et al., 2009). The BSL-23 represents a parsimonious version of the BSL-95, yet retains the psychometric soundness of the longer version (Glenn et al., 2009). Specifically, the measure has good test-retest reliability over a 1-week period ($r = .82$, $p < .0001$; Bohus et al., 2009), and high internal consistency (Cronbach's alpha = .93 - .97; Bohus et al., 2009). Further, the BSL-23 has been reported to have low correlations with gender, age and level of education. In the current sample, Cronbach's alpha was .96.

The BSL-Supplement: Items for Assessing Behaviour **(**Bohus et al., 2007), is a 10-item self-report scale of the BSL-23 that assesses the frequency of specific behaviours associated with a diagnosis of BPD. Namely, the supplement examines self-harming behaviours, suicidal intent and attempts, binge and purge behaviours, impulsivity, substance use, hostile outbursts, and promiscuity. The items are rated on a five-point Likert frequency scale, with 0 (not at all) to 4 (daily or more often). Consistent with the BSL-23, scores represent the total divided by the number of items. Further, the psychometric properties and

cut-off scores of the supplement are represented within the analysis of the BSL-23 as described above (Bohus et al., 2007). Internal consistency of the behaviour checklist in the current sample was moderate (α = .61).

3.3.3.4 Alexithymia

The Toronto Alexithymia Scale (TAS-20; Bagby, Parker & Taylor, 1994) is a self-report instrument widely used in research and clinical practice for the assessment of alexithymia. The TAS contains 20 items that screen for the presence of alexithymia relative to three core factors: *difficulty identifying feelings*, *difficulty describing feelings*, and *externally-oriented thinking*. The first factor, difficulty identifying feelings, consists of seven items which assess for variations in ability to identify feelings, and distinguish them from somatic sensations associated with arousal (e.g. "I am often confused about what emotion I am feeling"). The second factor, difficulty describing feelings contains five items examining the ability to describe feelings to other people (e.g. "It is difficult for me to find the right words for my feelings"). The remaining factor, externally-oriented thinking contains eight items, and refers to a concrete non-introspective cognitive style, or more simply a tendency to focus on external events over inner experiences (Lapointe, 2008).

Five items are negatively keyed, for example an item from externally oriented thinking is represented as: "Being in touch with my emotions is essential to me". The format of the scale is a 5-point Likert with responses ranging from 1 (strongly disagree) to 5 (strongly agree), which yields a total alexithymia score from 0 to 80, and factor scores totalling the number of positively keyed and reverse scored items. The TAS uses cut-offs whereby ≤ 51 indicates non-alexithymia, scores of 52 to 60 show possible alexithymia, and scores of ≥ 61 are indicative of alexithymia. While the TAS-20 has attracted criticism such as the questionable ability of a self-report scale to access deficits in self-awareness (Mayer, Caruso & Salovey, 2000), the authors state the measure has been successful in differentiating alexithymic individuals from non-alexithymic, across a range of studies (Parker et al., 2003). The authors have reported homogeneity between the full scale and factors, with mean inter-item correlations between .20 and .40 (Parker et al., 2003). Similarly, internal reliabilities of the scale have been reported to meet the recommended standard, with coefficient alphas >.70, test-retest reliability (.77, $p < .01$), and demonstrate good internal consistency (α = .81; Bagby et al., 1994), for the total scale, and for the first and second factors (α = .77 - .83), second (α), and third factors (α =.62 -.71). This was similar in the current sample for the overall scale (α = .77), and the first, (α = .81) second (α = .78) and third factor (α = .72).

3.3.3.5. Emotion regulation

The Emotion Regulation Questionnaire (ERQ; Gross & John, 2003) is a 10-item self-report scale that measures two strategies of emotional regulation, namely cognitive reappraisal and expressive suppression. These constructs are thought to represent strategies people use in everyday life, and may be manipulated through research to illustrate individual differences in emotional regulation (Gross & John, 2003). Cognitive reappraisal refers to an antecedent event involving the interpretation of a potentially emotion-eliciting event in a way that changes the impact of the emotion. The six items on this factor include "I control my emotions by changing the way I think about the situation I'm in," and "When I want to feel more positive emotion, I change the way I'm thinking about the situation." Expressive suppression is a successive event involving a process of inhibiting ongoing emotional response, and modifies the person's behaviour in response to an event. The four items from this factor include "I control my emotions by not expressing them," and "When I am feeling negative emotions, I make sure not to express them." Using appraisal is associated with wellbeing, while suppression is related to poorer outcomes, such as increase in symptom severity (Gross & John, 2003).

Responses are made on a 7-point Likert scale with options ranging from 1 (strongly disagree) to 7 (strongly agree), thus higher scores indicate greater use of a strategy. The authors found age and gender related differences across the factors in university populations (aged 18 to 24 years), and when compared to age matched general population samples. Specifically, male students scored higher on suppression (M = 3.64, SD =1.1; general population range M = 2.53 - 4.75, SD = 0.5 - 1.5), compared to female students (M = 3.14, SD =1.4; general population M = 1.96 - 4.32, SD = 0.9 - 2.5). The authors assert the scale as psychometrically sound with Cronbach's alphas ranging from .77 to .82 for the reappraisal factor, as was the case for the current sample (α = .81); and .68 to .76 for the suppression factor (α = .77 in current sample). Test-retest reliability across three months was .69 for both scales (Gross & John, 2003).

3.3.3.6 Rumination

The Ruminative Thought Style Questionnaire (RTS; Brinker & Dozois, 2009) is a 20-item, unidimensional, self-report scale that assesses for the presence of a ruminative thought style independent of the presence of depression. Rumination has frequently been defined as self-focused thoughts on depressed mood, such as thoughts that perseverate on antecedents and consequences of the low mood state (Brinkler & Dozois, 2009). The presence of ruminative thought increases both the duration and severity of depressive episodes, however

the construct is also similarly associated with generalised anxiety, posttraumatic stress, binge drinking, eating disorders and self-harm (Nolen-Hoeksema, Wisco & Lyubomirsky, 2008). As such, authors such as Treynor, Gonzales and Nolen-Hoeksma (2003) emphasise the need to assess rumination independent of the context of depression, representing a feature of the RTS, when compared to other scales. The RTS comprises of a series of statements on a 7-point Likert scale, whereby participants endorse item applicability ranging from 0 (Not at all), to 7 (Very well). Samples items from the scale include "I have never been able to distract myself from unwanted thoughts; I can't stop thinking about some things," and "I find that some thoughts come to mind over and over throughout the day." The authors report the scale as having good internal consistency (.92), high 2-week test-retest reliability ($r = .80$; $p < .01$), and a Cronbach's alpha of .95 (Brinkler & Dozois, 2009; $\alpha = .92$ in the current study).

3.3.4 Procedure

3.3.4.1 Pilot testing

Three volunteers completed the online questionnaire prior to launch, the first an Australian born, female postgraduate student aged in her 20's with English as a first language. The second was an overseas born undergraduate level educated female aged in her 30's with Japanese as her first language, English second. The third was an Australian born female, who had completed a high school level education, aged in her 20's with English as a first language. All three volunteers were asked to complete the questionnaire in one sitting, and to note the total time the questionnaire took to complete. The first volunteer stated the questionnaire took 22.4 minutes, the second 44.3 minutes, and the third 29.5 minutes. Resultant to these trials, participants were advised the questionnaire would take between 30-40 minutes to complete in the explanatory statement (see Appendix 3A). Average completion time was 23.5 minutes across completed responses.

3.3.4.2 Recruitment

Participants were recruited in three phases across a six-month time period. The first phase of recruitment involved posting fliers advertising the research (see Appendix 3B), and contained removable tabs with a link to the questionnaire as well as naming a Facebook Community page which also contained the link (see Appendix 3C). The fliers were placed across four of the six Monash University Campuses, on common area noticeboards, and in locations where the posters could be viewed privately such as interior sides of toilet doors. This phase of recruiting was completed over a six-week period and yielded over 400 participants. The next phase of recruitment involved messaging Australian university webmasters through their contact form on the university Facebook page (see Appendix 3C). If

permission was obtained, a post describing the research was placed on the messages section of the webpage. This phase of recruiting was conducted over a 4-week period and yielded 148 participants. The final phase of recruiting involved writing a letter to the Vice Chancellors of 24 Australian universities (see Appendix 3D). The letter informed the Vice Chancellors of the study and requested assistance in promoting the survey. Of the 24 universities contacted, two universities replied and the researcher was put in contact with the institution webmasters, who subsequently placed a post on the student notice board on their university website. Over 1800 participants were obtained from the two universities through this recruitment method. In all cases the advertisement explained the purpose of the research, scope, time involved and incentive, in addition to a link to the online questionnaire, which commenced with the explanatory statement. Consent to participate was implied by electronic submission of responses.

3.3.4.3 Ethical considerations

Relative to the protection of confidentiality, the survey did not ask for identifying information such as the participants name or contact details. However, several of the questions in the survey related to suicidal behaviours, such as intent, attempts, date of last attempt, number of attempts and means employed in the attempt. In order to minimise the potential for distress during completion of the survey, participants were informed of the inclusion of questions that had the potential to cause distress in the advertising, namely items asking about suicide, and self-harm. Further, the questionnaire was prefaced by the explanatory statement also delineating the inclusion of these items, and provided a list of referral options contingent on the level of distress the participant may experience. For example, participants were provided a range of contact numbers for specialist organisations available 24-hours, seven days per week for people experiencing suicidal ideation. The explanatory statement also outlined possible risks of participation, participants' right to withdraw from the study (and limits to given anonymity of responses), and data storage. Participants were informed in the study advertising that they were eligible to go into a draw for a new Apple iPad. Those who wished to enter the draw were informed at the end of the questionnaire to send an email to the researcher's student email address with their name and address. This information was entered into a two level password protected database, and the winner drawn from a list of these names. Subsequently, all emails and the database were deleted following the draw. As this process occurred independent of measure completion, it was not possible to match participants who entered the draw to their responses. The Human Ethics Certificate of Approval letter for the study can be viewed in Appendix 3E.

3.3.5 Analytic Strategy

3.3.5.1 Missing Data

Cases with more than three entire scales (e.g. DASS, BSL-23) missing were deleted from the database in the first instance. Subsequently, a monotone pattern of missing data (4.2%) was identified whereby latter scales in the questionnaire had not been completed (Molenberghs, Michiels, Kenward & Diggle, 1998). In the first instance, SPSS Version 19 was employed to conduct multiple imputations for the existing cases at the item level, and correlations and regressions were used to compare the results from the imputed data, with that of the unmodified data (Rubin, 1987). However, the imputed data resulted in a greater number of significant relationships beyond what were theoretically plausible, thus the unmodified data was employed in the analyses.

3.3.5.2 Weighting

Females were over-represented within the current sample. The literature offers arguments for and against weighting, and ultimately advises that the decision to weight data should be based upon representativeness, theoretical basis, and whether the item is correlated with the construct under study (Cohen, Cohen, West, & Aiken, 2013). In the case of the study described in Chapter 4, BPD symptoms and gender were not correlated, and further, assumptions for the analyses undertaken (mediation and moderation, e.g. OLS estimation assumptions; Fairchild & MacKinnon, 2009), were not violated. As such, un-weighted data was used in the analyses in the paper described in the next chapter.

Declaration for Thesis Chapter 4

Declaration by candidate

In the case of Chapter 4, the nature and extent of my contribution to the work was the following:

Nature of contribution	**Extent of contribution (%)**
Study conceptualisation	80
Statistical analysis	80
Writing	80

The following co-authors contributed to the work:

Name	**Nature of contribution**
Penelope Hasking	Conceptualisation, structuring, editing and statistical processes
Andrea Reupert	Editing and structuring

The undersigned hereby certify that the above declaration correctly reflects the nature and extent of the candidate and co-authors contributions to this work.

Signatures

Candidate	[redacted]	**Date:** 16-6-2016

Main Supervisor	[redacted]	**Date:** 16-6-2016

4.1 Chapter Overview

This chapter presents an article titled "Borderline personality disorder in college students: The complex interplay between alexithymia, emotional dysregulation and rumination." The article represents research undertaken to fulfil the second aim of the thesis, namely, to examine demographic and psychological factors associated with Borderline Personality Disorder in university students, and perform a test of Emotional Cascade Theory. This task employed mediation and moderation techniques, to examine the role of alexithymia, emotional regulation, and rumination, in the relationship between BPD symptoms and behaviours in a university population. The paper was accepted for publication by PLoS ONE on 30th April 2016, and contains three tables and one figure, which are presented within the chapter.

4.2 Paper accepted for publication by PLOS ONE

4.2.1 Title Page

Title: Borderline personality disorder in college students: The complex interplay between alexithymia, emotional dysregulation and rumination.

Authors:

[1]Rebecca Meaney, Faculty of Education, Monash University, Melbourne, Australia

[2]Penelope Hasking, School of Psychology & Speech Pathology, Curtin University, Perth, Australia; Department of Psychiatry, Monash University, Melbourne, Australia

[1,a]Andrea Reupert, Faculty of Education, Monash University, Melbourne, Australia

[1,a] Corresponding author: Associate Professor Andrea Reupert; mailing address: Faculty of Education, Monash University, Melbourne, Australia 3800;

[redacted]

4.2.2 Abstract

Both Emotional Cascade Theory and Linehan's Biosocial Theory suggest dysregulated behaviours associated with Borderline Personality Disorder (BPD) emerge, in part, because of cycles of rumination, poor emotional recognition and poor emotion regulation. In this study we examined relationships between rumination, alexithymia, and emotion regulation in predicting dysregulated behaviours associated with BPD (e.g. self-harm, substance use, aggression), and explored both indirect and moderating effects among these variables. The sample comprised 2261 college students who completed self-report measures of the aforementioned constructs. BPD symptoms, stress, family psychological illness, and alexithymia exerted direct effects on behaviours. Symptoms had an indirect effect on behaviours through rumination, alexithymia and emotional dysregulation. In addition, the relationship between symptoms and dysregulated behaviours was conditional on level of rumination an alexithymia. Implications for early identification and treatment of BPD and related behaviours in college settings are discussed.

Keywords: borderline personality disorder, rumination, emotion regulation, alexithymia

4.2.3 Introduction

Borderline Personality Disorder (BPD) impacts upon a wide range of cognitive and behavioural domains, resulting in symptoms such as intense dysphoric affect, chronic instability of mood, problematic interpersonal relationships, disturbed cognition and recurrent self-harm (Lieb, Zanarini, Schmahl, Linehan & Bohus, 2004). Rates of attempted suicide range between 38% to 73% in people with BPD, and 10% die by suicide, giving the disorder one of the highest mortality rates of all psychological conditions (Black, Blum, Pfohl & Hale, 2004; Soloff, Lis, Kelly, Cornelius & Ulrich, 1994; Zanarini et al., 1998). Of note, symptom severity peaks between the ages of 20 and 29 years, making this age group a particularly relevant target for intervention (Grant et al., 2008; Johnson et al., 2003; Lenzenweger, Lane, Loranger & Kessler, 2007; Paris, 2005).

College students, report greater psychological distress, and psychiatric symptoms including symptoms of BPD, than non-students (e.g. Deasy, Coughlan, Pironom, Jourdan, & McNamara, 2015; Stallman, 2008; Taylor, James, Bobadilla & Reeves, 2008; Zivin, Eisenberg, Gollust & Golberstein, 2009). Although rates vary widely, up to 17.1% of college students have reported clinically significant symptoms of BPD (Sauer & Baer, 2010). Consequently, despite having limited resources, college counselling services are increasingly being called upon to provide treatment for students with BPD (Meaney-Tavares & Hasking, 2013; Pistorello, Fruzzetti, MacLane, Gallop & Iverson, 2012). Early and effective intervention demands a thorough understanding of how underlying risk factors work together to increase both symptom severity and behavioural markers of the disorder (Belsky et al., 2012; Sauer & Baer, 2010).

Emotional Cascade Theory posits that aversive emotional states or symptoms induce rumination, which in turn increases the intensity of emotional distress, until dysregulated behaviours are employed as a mechanism of down-regulating, or reducing, distress (Selby, Anestis & Joiner, 2008). This theory has previously been applied to explain dysregulated behaviours associated with BPD including self-injury, alcohol use and bulimic behaviours (Selby, Franklin, Carson-Wong & Risvi, 2013; Tanner, Hasking & Martin, 2014; Tuna & Bozo, 2014). Consistent with Emotional Cascade Theory, rumination interacts with affective instability to predict self-injury (Selby et al., 2013), moderates the relationship between psychological distress and self-injury (Voon, Hasking & Martin, 2013), interacts with BPD symptoms to predict dysregulated behaviours (Selby & Joiner, 2013), and is related to BPD symptom severity (Salsman & Linehan, 2012; Steenkam et al., 2015).

Linehan's (1993) Biosocial Theory of BPD emphasizes the importance of emotion

recognition and regulation in the development and maintenance of BPD. She adopts a broad view of emotion regulation, incorporating biological, cognitive and affective components that work together to effectively regulate emotional states. Further, Linehan (1993) argues that emotion regulation develops within the family context, with poor emotion regulation resulting, in part, from early invalidating environments. Commensurate with this, a family history of psychological illness exacerbates risk for BPD, both through contribution to the BPD endophenotype, and the effect on family functioning (Belsky et al., 2012). Of note, caregivers with mental illness may be both less responsive to the emotional needs of their child, and less able to model adaptive emotional behaviours (Distell et al., 2008). This may result in subsequent development of poor emotion recognition (alexithymia; e.g. Nicolò et al, 2011) and impaired emotion management (emotional dysregulation; e.g. Putnam & Silk, 2005).

Alexithymia is characterized by diminished capacity to both identify and describe emotions, and consequently appropriately manage problematic emotional states (Berthoz, Consoli, Perez-Diaz & Jouvent, 1999; Van Dijke, Van, Van Son, Bühring, Van & Ford, 2013). As such, alexithymia is an underlying mechanism of emotional dysregulation (e.g. Ridings & Lutz-Zois, 2014; Salsman & Linehan, 2012). Similarly, poor emotion regulation is noted among people with BPD (Salsman & Linehan, 2012; Steenkamp et al., 2015). Specifically, compared to those without the disorder, people with BPD employ significantly more expressive suppression (a response-focused strategy involving inhibiting the expression of distressing emotions; Gross & John, 2003), and less cognitive reappraisal (an antecedent-focused strategy, whereby a potentially distressing event is interpreted in a manner that changes the impact of the emotions; Schulze et al., 2011; Steenkamp et al., 2015).

Much of the previous research concerning college students with BPD concentrates on exploring symptom severity (e.g., Gratz, Breetz & Trull, 2010). However, while symptom severity is clearly an important indicator of the impact of the disorder, within a college environment minimizing the behaviours commonly engaged by people with BPD (e.g. substance abuse, self-injury, and physical attacks on others) also has implications for the safety of the broader college community. In line with both Emotional Cascade Theory and Linehan's (1993) Biosocial Theory of BPD, the presence of BPD symptoms induces regulatory cognitive strategies, thus employment of ineffective cognitive strategies (e.g. rumination, alexithymia and emotional dysregulation), may subsequently result in the use dysregulated behaviours as coping mechanisms (Linehan, 1993; Selby, et al., 2008). As such, the relationship between symptoms of BPD and dysregulated behaviour may be an indirect

one, working though the adoption of ineffective cognitive strategies. Similarly, the relationship between symptoms and behaviours may be exacerbated by elevated levels of rumination, alexithymia and emotional dysregulation.

In line with both Emotional Cascade Theory and Linehan's (1993) Biosocial Theory of BPD, we aimed to clarify the roles of rumination, alexithymia, and emotional dysregulation in predicting dysregulated behaviours associated with BPD symptoms in college students. Specifically, we aimed to examine direct effects of family history of psychological illness, psychological distress, rumination, alexithymia and emotional dysregulation, on dysregulated behaviours, and indirect effects of symptoms on behaviours, working through the cognitive constructs. Also in line with the aforementioned theories, we expected greater levels of rumination, alexithymia and poor emotion regulation would strengthen the relationship between BPD symptoms and behaviours.

4.2.4 Method

4.2.4.1 Participants

A sample of 2261 college students was recruited from 28 Australian universities, across six Australian states and territories. The sample included 1642 women, 616 men, and three gender neutral (identify as neither male nor female) participants, who were between 17 and 77 years old (M = 24.82, SD = 8.05). The majority of participants were born in Australia (65.9%); 8% stated they were of Aboriginal or Torres Strait Islander heritage. Overall, 74.8% were undergraduate students, and 84% had a full-time study load. Of the sample, 33.8% indicated a family history of psychological illness, with the most prevalent diagnosis being unipolar depression (57%). A total of 24.2% indicated a personal history of psychological illness, predominantly unipolar depression (61.2%). In the current sample, women and people of Aboriginal or Torres Strait Islander decent were over-represented relative to the national distribution of college students (Australian Government Department of Industry, 2012).

4.2.4.2 Measures

The Borderline Symptom List (BSL-23; Bohus et al., 2007) is a self-report measure assessing symptoms of BPD, based on DSM-IV (APA, 1994) criteria and the Diagnostic Interview for BPD – revised version (Zanarini, Gunderson, Frankenburg & Chauncey, 1989). The measure is unidimensional, and consists of 23 items that ask participants to rate how much they have experienced each symptom of BPD over the previous four weeks, on a 5-point Likert scale ranging from 0 (*not at all*) to 4 (*very much*). Several researchers indicate a mean score of two or more on the BSL-23 is indicative of a level of symptom severity indicative of diagnosis of BPD, and a mean between 1.5 to < 2.0 representing sub-clinical

symptoms of BPD (e.g. Dyer et al., 2013; Glenn, Weinberg & Klonsky, 2008; Jacob, Ower & Buchholz, 2012). The BSL-23 is reported by the authors as having good test-retest reliability over a 1-week period, (r = .82; p < .0001; Bohus et al., 2009), and high internal consistency (Cronbach's alpha = .93 - .97; Bohus et al., 2009). In the current sample Cronbach's alpha was .96.

The BSL-Supplement: Items for Assessing Behavior **(**Bohus et al., 2007) is a 10-item self-report scale that assesses the frequency of specific behaviours over a four week period. Specifically, the supplement examines self-harming behaviours, suicidal intent and attempts, binge and purge behaviours, impulsivity, substance use, hostile outbursts, and sexual promiscuity, behaviours which do not overlap with symptoms assessed with the BSL-23. The items are rated on a five-point frequency scale, with 0 (*not at all*) to 4 (*daily or more often*), and analysed as mean scores. As expected, internal consistency of the behaviour checklist in the current sample was moderate (α = .61) indicating potential differences in the types of behaviours engaged in.

The Ruminative Thought Style Questionnaire (RTS; Brinker & Dozois, 2009) is a 20-item self-report scale that assesses for the presence of a ruminative thought style independent of the presence of depression. The RTS comprises a series of statements and the participant is asked to rate, on a 7-point Likert scale, how well the item describes them (0 = *not at all*; 7 = *very well*). The RTS consists of a single dimension and the authors have reported high 2-week test-retest reliability (r = .80, p < .01; Brinker & Dozois, 2009), and a Cronbach's alpha of .95 (α = .92 in the current study).

The Toronto Alexithymia Scale (TAS-20; Bagby, Parker & Taylor, 1994) is a self-report instrument containing 20 items assessing three core facets of alexithymia. The first factor, difficulty identifying feelings, consists of seven items that assess variations in ability to identify feelings, and distinguish them from somatic sensations associated with arousal. The second factor, difficulty describing feelings, contains five items examining the ability to describe feelings to other people. The remaining factor, externally-oriented thinking, contains eight items, and refers to a concrete, non-introspective cognitive style, or more simply a tendency to focus on external events over inner experiences (Lapointe, 2008). The format of the scale is a 5-point Likert with responses ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). The authors report good test-retest reliability (.77, p < .01), and internal consistency (α = .81; Bagby et al., 1994), for the total scale, and for the first and second factors (α =.77 - .83), second (α), and third factors (α =.62 -.71). This was similar in the current sample for the overall scale (α = .77), and the first, (α = .81) second (α = .78) and third factor (α = .72).

The Emotion Regulation Questionnaire (ERQ; Gross & John, 2003) is a 10-item self-report scale that measures two strategies of emotional regulation: cognitive reappraisal and expressive suppression. The scale has six items on the appraisal factor, and four on the suppression factor, and is measured on a 7-point Likert scale with responses ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). The scale is psychometrically sound, with Cronbach's alpha ranging from .77 to .82 for the reappraisal factor, as was the case for the current sample (α = .81), and .68 to .76 for the suppression factor (α = .77 in current sample); test-retest reliability across three months was .69 for both scales (Gross & John, 2003).

The Depression, Anxiety and Stress Scale (DASS; Lovibond & Lovibond, 1995) is a 21-item self-report measure of symptoms of depression, anxiety and stress, which were statistically controlled in the current study. The items ask participants to rate the degree to which they have experienced a specific characteristic of the three emotional states over the past week on a 4-point Likert scale ranging from 0 (*did not apply to me at all*) to 4 (*applied to me very much or most of the time*). Henry and Crawford (2005) reported the DASS-21 to have high reliability overall (.93, 95% CI=.93 - .94), and across each of the subscales, Depression (.88, 95% CI= .87 - .89); Anxiety (.90, 95% CI= .89 - .91) and Stress (.93, 95% CI= .93 - .94; Henry, & Crawford, 2005). The current sample demonstrated similar reliability overall (α = .94), and for the Depression (α = .88), Anxiety (α = .90), and Stress (α = .87), subscales.

4.2.4.3 Procedure

Ethical approval to conduct this project was obtained from the host university Human Research Ethics Committee. Participants were recruited through fliers advertising the research, as well as a Facebook Community page that contained the link to the online questionnaire. Australian college webmasters were also asked to place messages on their college webpages directing interested students to the questionnaire. In all cases the advertisement explained the purpose of the research, scope, time involved and incentive, in addition to a link to the online questionnaire. All participants were informed of the voluntary nature of participation and confidentiality of data. Interested participants provided their email addresses to enter a draw to win an iPad valued at AU$500. Contact details were stored separately from questionnaire responses and deleted immediately after the prize draw. Consent to participate was implied by completing the questionnaire.

4.2.4.4 Data analysis

We sought to explore the relationship between BPD symptoms and behaviours, and whether rumination, alexithymia, and/or emotion regulation mediated or moderated this

effect. Assumptions related to the following analyses were met. Overall there was a sufficient ratio of cases to predictors (Tabachnick & Fidell, 2012), and no multivariate outliers were identified (x^2 = 37.70 for *df* = 15, α = .001). Hayes' (2013) PROCESS Macro for SPSS was used to assess the magnitude and significance of the direct and indirect effects of the predictor variables on the criteria, with 5000 bootstrapped re-samples, and significance determined on 95% bias corrected confidence interval (CI). Continuous predictors were mean-centred prior to analysis; direct and indirect effects were assessed prior to examining moderated effects at ± 1SD from the mean (Aiken & West, 1991; Hayes, 2013).

We entered BPD behaviours as the outcome, with BSL-23 scores (BPD symptoms) as the predictor, and rumination, alexithymia, and emotional regulation as potential mediators and moderators of this relationship. Participant gender, age, psychological distress (depression, anxiety and stress), and family history of psychological illness were entered as covariates. As data was collected from multiple sites, geographic location was included as a potential covariate in the analyses; however this had no effect on the data and thus was excluded from the reported analyses. Where applicable, results that lost interpretative validity when rounded to two decimal places (e.g. .003) are reported at three decimal places.

4.2.5 Results

4.2.5.1 Descriptive data and relationships between variables

Of the sample, 8.1% met the diagnostic cut-off for BPD (mean BSL-23 score > 2.0); 22.5% reported clinically relevant sub-diagnostic symptoms (mean BSL-23 = 1.5 - < 2). No gender differences were observed in symptom severity $t(2165) = 1.94$, $p = .052$, but females ($M = 2.7$, SD = 3.1) reporting engaging in more BPD behaviours than males ($M = 2.2$, SD = 3.0); $t(2013) = 2.86$, $p = .020$. Specifically, our results indicated at a univariate level, that female students with BPD are more likely to report having behaved in an aggressive manner (46%), and engage in self-harm (38%) compared to males with the disorder (aggression 25%, self-harm 25%), and other students without BPD (aggression for females 12.2%, males 9.1%; self-harm for females 4.7% and males 4.9%). Females below the BPD cut-off primarily reported binge eating (43.9%), and getting drunk (43.6%). Males from both groups most frequently reported getting drunk (above cut-off: 52.2%; below cut-off: 46.9%), followed by binge eating (above cut-off: 41.3%; below cut-off: 33.4%). A Chi-square analyses indicated female students with BPD were more likely to engage in BPD behaviours compared to females without BPD χ^2 (1929, N=1929) = 347.56, $p < .001$; and engage in aggressive behaviour χ^2 (12, N=1929) = 48.98, $p < .001$; in addition to expressing suicidal intent to others, χ^2 (6, N=1929) = 49.88, $p < .001$. Students with BPD were slightly more likely to get

drunk, than students without BPD χ^2 (4, *N*=2261) = 10.34, $p < .05$. The frequencies of behaviours, and chi square analyses of differences across all aforementioned groups are shown in Table 4.1, while sample descriptive statistics and correlations between variables are presented in Table 4.2.

4.2.5.2 Predicting BPD behaviours

Mediation analysis: BPD symptoms, having a family history of psychological illness, reporting higher levels of stress, and having difficulty identifying feelings all exerted direct effects on dysregulated behaviours (Table 4.3). BPD symptoms had an indirect effect on behaviours through engaging in rumination, *B* = .23, *SE* = .03, 95% CI: .18 - .29, κ^2 = .02, difficulty identifying feelings, *B* = .16, *SE* = .01, 95% CI: .14 - .19, κ^2 = .01), difficulty describing feelings, *B* = .04, *SE* = .01, 95% CI: .03 - .06, κ^2 = .01, and expressive suppression, *B* = .07, *SE* = .01, 95% CI: .04 - .09, κ^2 = .01. A calculation of the proportion of maximum possible indirect effect (κ^2 index) indicated all results were associated with a small effect size (small = .01, medium = .09, large = .25; Preacher & Kelley, 2011).

Moderation analysis: Significant conditional effects of symptoms on behaviours were found for rumination, *B* = .000, *SE* = .000, 95% CI: .000 - .001, and difficulty identifying feelings, *B* = .000, *SE* = .000, 95% CI: .000 - .001. As seen in Figure 4.1, there was no relationship between symptoms and behaviours at low, *B* = -.001, *SE* = .002, 95% CI: -.004 - .002, or moderate levels of rumination, *B* = .003, *SE* = .002, 95% CI: -.002-.006, but a positive relationship was observed at high levels of rumination, *B* = .007, *SE* = .003, 95% CI: .000 - .013. No relationship between symptoms and behaviours was observed a low levels of difficulty identifying feelings, *B* = .001, *SE* = .003, 95% CI: -.006 - .006, however positive relationships were found at both moderate, *B* = .008, *SE* = .002, 95% CI: .004 - .013, and high levels, *B* = .015, *SE* = .004, 95% CI: .007 - .024.

4.2.6 Discussion

Emotional Cascade Theory posits that interactions between emotional and behavioural dysregulation occurs through 'emotional cascades' whereby rumination increases emotional distress, and dysregulated behaviours are employed as a means of down-regulation. Similarly, Linehan (1993) argues the importance of emotion recognition and regulation in the development of BPD and associated behaviours. In this study we examined relationships between rumination, alexithymia, and emotion regulation in predicting BPD behaviours, and explored both indirect and moderating effects among these variables. Consistent with the above theories, dysregulated behaviours associated with BPD were related to engaging in rumination, having difficulty identifying feelings and difficulty describing feelings, and

engaging in expressive suppression. Specifically, difficulty describing feelings and suppression mediated the relationship between symptoms and behaviours, while rumination and difficulty identifying feelings both mediated and moderated the relationship. While confirming the salience of these variables in emotionally dysregulated behaviours, our findings also highlight the complexity in these relationships, and underscore the need for a more nuanced understanding of these behaviours in a college context.

The observed BPD rate of 8.1% is higher than previously reported in age matched samples recruited from the general population (e.g. 4-6%; Grant et al., 2008; Kernberg & Michels, 2009). Given nearly a quarter of our sample endorsed having a history of psychological illness, sample bias is a possibility, however the finding may also lend support to the assertion that college students experience higher levels of psychological distress, and symptoms of BPD, than their non-studying counterparts (Deasy et al., 2015; Stallman, 2008; Zivin et al., 2009). Our rate of BPD aligns with numerous other studies of college students, both in terms of diagnostically relevant BPD (e.g. 9.9%; Klonsky, 2008; 7.9%; Presniak, Olson & MacGregor, 2010; 8.5%; Sar, Alioğlu, Akyuz & Karabulut, 2014), and subclinical symptoms (e.g. 25.5%; Gratz et al., 2010; 18.6%; Standish, Benfield, Bernstein & Tragesser, 2014). In turn, we found that nearly half of female students with BPD engaged in aggressive behaviour, and over a third in self-harm, while over half of the male students with BPD reported getting drunk. While we did not ask participants the location of these behaviours (i.e. college or elsewhere), should even a small number of these events occur on campus, other students and staff may be at risk of aversive outcomes due to exposure to student aggression or intoxication. Together, our results suggest behaviours typical of BPD are highly prevalent among college students, and should they occur on campus, have the potential to impart significant burden on college staff, and potentially other students.

The observed relationships between BPD symptoms, behaviours, and the constructs we examined are generally consistent with previous work (Lieb et al., 2004; Linehan, 1993a; Selby et al., 2009; Selby & Joiner, 2009; Selby & Joiner, 2013; Schulze et al., 2011; Tuna & Bozo, 2014; Zanarini et al., 2003). The salience of rumination and alexithymia align with Selby and Linehan's theories (Linehan, 1993; Selby et al., 2009; Selby & Joiner, 2009; Selby & Joiner, 2013), yet our findings suggest severity of both BPD symptoms and cognitive factors also play an important role. Specifically, symptom severity appears related to the severity of rumination, alexithymia and emotional suppression, which in turn is related to frequency of dysregulated behaviour. Further, lower levels of alexithymia and rumination appear to have little effect on dysregulated behaviours, but the relationship between

symptoms and behaviours is rapidly exacerbated as both alexithymia and rumination increase. While these results were associated with a small effect size, Preacher and Kelley (2011) purport that this is often the case in meditational models. As such, Preacher and Kelley (2011) recommend interpretation of any effects in terms of substantive importance rather than arbitrary statistical benchmarks.

We consider our findings may have utility in conceptualizing the cognitive mechanisms that predict dysregulated behaviours, and possibly, another key characteristic of the disorder. Poor distress tolerance is an endophenotype of BPD (Linehan, 1993), and our findings may contribute to understanding the factors that maintain this feature of BPD. Under the auspice of Biosocial (Linehan, 1993) and Emotional Cascades Theory (Selby, et al., 2008), rumination, alexithymia, and emotional suppression are considered as cognitive dysregulation, employed in response to the presence of BPD symptoms. Our results suggest that higher levels of rumination, and difficulty identifying feelings, ultimately amplify the prominence of symptoms. The finding for rumination supports the premise of Emotional Cascade Theory, whereby ruminating upon negative affect increases symptom severity (Selby, Anestis & Joiner, 2008). Similarly, that difficulty in recognising or labelling emotional states increases distress, and thus symptom severity is also consistent with previous findings (Berthoz, et al. 1999; Van Dijke, et al., 2013). Relatedly, emotional suppression requires considerable cognitive effort, yet is ineffective in managing distress (Ridings & Lutz-Zois, 2014; Salsman & Linehan, 2012). As such, the presence of BPD symptoms may result in employment of ineffective down-regulating strategies, which in turn, may result in the person with BPD perceiving poor self-efficacy in managing, thus tolerating, emotional distress.

4.2.6.1 Implications

Further research is required to clarify the exact role of rumination, alexithymia and emotion regulation in initiating and maintaining dysregulated behaviours. Nonetheless, the present findings underscore the predictive power of rumination, alexithymia and emotional dysregulation in exacerbating the relationship between BPD symptoms and behaviours. This finding suggests college-based treatment programs for students with BPD could utilize components of existing therapies. For example, skills specific to Dialectical Behavior Therapy, such as distress tolerance, distraction techniques, and improving emotional awareness (Linehan, 1993), have already shown promising results within a college mental health setting (Meaney-Tavares & Hasking, 2013).

College services may benefit from confirmation that dysregulated behaviours

associated with BPD represent an identifiable challenge in student populations. While the behaviours we examined are not unique to BPD, we found that students with BPD have a greater likelihood of engagement. This finding suggests the utility of both college-based prevention initiatives to assist students manage these behaviours, and guidelines for college staff to manage related behavioural incidents effectively.

4.2.6.2 Limitations

There were several limitations to this study. Despite having good psychometric properties the measure of BPD encompassed a number of symptoms, some common to other psychological disorders such as depression and anxiety. Subsequently, while we controlled for depression, anxiety and stress, we cannot assert that the relationships we observed are unique to BPD. Similarly, rumination was measured as a general construct, however content-specific rumination (e.g., depressive rumination) may bear a differential influence in both symptoms and behaviours associated with BPD. Other measures of emotion regulation such as the Difficulties in Emotion Regulation Scale (DERS; Gratz & Roemer, 2004), tap a wider range of constructs such as emotional awareness, acceptance of emotions, presence of goal directed behaviour, and access to effective regulatory strategies and could fruitfully be used in future.

Both the cross-sectional design and bias associated with self-report measures suggest caution is required when interpreting the clinical validity of BPD symptoms and behaviours. Longitudinal research is also needed to delineate the temporal associations between the constructs. Such work would provide key insights into salient targets for early intervention to reduce symptom severity and reduce BPD-related behaviours on campus. Of importance, the study does not distinguish the protective factors that serve to differentiate students with BPD that are functioning academically and socially despite the presence of symptoms. Further investigation of protective factors bears particular importance, as it may be the case that these factors can be incorporated into treatment programs.

4.2.6.3 Conclusion

Findings of the current study are important given they suggest that symptoms of BPD are apparent in college students, and associated with higher levels of psychological distress and high-risk behaviours. This suggests the need for colleges to allocate resources for prevention, early intervention, and subsequent treatment. As college counselling services may increasingly be required to provide clinical interventions for students with BPD, we hope that our findings contribute to the confidence of such services in their ability to service this student population.

4.2.7 References

Aiken, L.S., & West, S.G. (1991). *Multiple regression: Testing and interpreting interactions*. New York: Sage.

Allen, A., & Links, P. (2012). Aggression in borderline personality disorder: Evidence for increased risk and clinical predictors. *Current Psychiatry Reports, 14*(1), 62-69. doi:10.1007/s11920-011-0244-9

Australian Government: Department of Industry (2012). *Selected higher education statistics*. Retrieved from http://www.innovation.gov.au/

Bagby, R.M., Parker, J.D., & Taylor, G.J. (1994). The twenty-item Toronto Alexithymia Scale I. Item selection and cross-validation of the factor structure. *Journal of Psychosomatic Research, 38,* 23-32. doi:10.1016/0022-999(94)90005-1

Baer, R.A., & Sauer, S.E. (2011). Relationships between depressive rumination, anger rumination, and borderline personality features. *Personality Disorders: Theory, Research, and Treatment*, *2*, 142-155. doi:10.1037/a0019478

Belsky, D.W., Caspi, A., Arseneault, L., Bleidorn, W., Fonagy, P., Goodman, M., …& Moffitt, T.E. (2012). Etiological features of borderline personality related characteristics in a birth cohort of 12-year-old children. *Development and Psychopathology*, *24*, 251-63. doi:10.1017/S0954579411000812

Berthoz, S., Consoli, S., Perez-Diaz, F., & Jouvent, R. (1999). Alexithymia and anxiety: compounded relationships? A psychometric study. *European Psychiatry: The Journal of the Association of European Psychiatrists, 14*, 372-378. doi:10.1016/S0924-9338(99)00233-3

Black, D.W., Blum, N., Pfohl, B., & Hale, N. (2004). Suicidal behavior in borderline personality disorder: Prevalence, risk factors, prediction, and prevention. *Journal of Personality Disorders, 18,* 226–39. doi:10.1521/pedi.18.3.226.35445

Bohus, M., Kleindienst, N., Limberger, M.F., Stieglitz, R., Domsalla, M., Chapman, A.L., . . Wolf, M. (2009). The short version of the borderline symptom list (BSL-23): Development and initial data on psychometric properties. *Psychopathology, 42*, 32-39. doi:10.1159/000173701

Bohus, M., Limberger, M.F., Frank, U., Chapman, A.L., Kühler, T., & Stieglitz, R.D. (2007). Psychometric properties of the borderline symptom list (BSL). *Psychopathology*, *40*, 126-132. doi:10.1159/000098493

Brinker, J.K., & Dozois, D.J.A. (2009). Ruminative thought style and depressed mood. *Journal of Clinical Psychology, 65*, 1-19. doi:10.1002/jclp.20542

Deasy, C., Coughlan, B., Pironom, J., Jourdan, D., & Mcnamara, P.M. (2015). Psychological distress and lifestyle of students: Implications for health promotion. *Health Promotion International, 30*(1), 77-87. doi:10.1093/heapro/dau086

Distel, M. A., Trull, T.J., Derom, C.A., Thiery, E.W., Grimmer, M.A., Martin, N.G., ... & Boomsma, D.I. (2008). Heritability of borderline personality disorder features is similar across three countries. *Psychological Medicine*, *38*, 1219-1229. doi:10.1017/S0033291707002024

Dyer, A., Borgmann, E., Feldmann Jr., R.E., Kleindienst, N., Priebe, K., Bohus, M., & Vocks, S. (2013). Body image disturbance in patients with borderline personality disorder: Impact of eating disorders and perceived childhood sexual abuse. *Body Image*, *10,* 220-225. doi:10.1016/j.bodyim.2012.12.007

Glenn, C.R., Weinberg, A., & Klonsky, E.D. (2009). Relationship of the borderline symptom list to DSM-IV borderline personality disorder criteria assessed by semi-structured interview. *Psychopathology*, *42*, 394-398. doi:10.1159/000241195

Grant, B.F., Chou, S.P., Goldstein, R.B., Huang, B., Stinson, F.S., Saha, T.D., . . . Ruan, W.J. (2008). Prevalence, correlates, disability, and comorbidity of DSM-IV borderline personality disorder: Results from the wave 2 national epidemiologic survey on alcohol and related conditions. *Journal of Clinical Psychiatry, 69*, 533-545.

Gratz, K.L., Breetz, A., & Trull, M.T. (2010). The moderating role of borderline personality in the relationships between deliberate self-harm and emotion-related factors. *Personality and Mental Health*, *4*, 96-107. doi:10.1002/pmh.102

Gratz, K.L., & Roemer, L. (2004). Multidimensional assessment of emotion regulation and dysregulation: Development, factor structure, and initial validation of the difficulties in emotion regulation scale. *Journal of Psychopathology and Behavioral Assessment*, *26*, 41-54. doi:10.1023/B:JOBA.0000007455.08539.94

Gross, J.J., & John, O.P. (2003). Individual differences in two emotion regulation processes: Implications for affect, relationships, and well-being. *Journal of Personality and Social Psychology*, *85*, 348-362. doi:10.1037/0022-3514.85.2.348

Hayes, A.F. (2013). *An introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. New York, NY: Guilford Press.

Jacob, G.A., Ower, N., & Buchholz, A. (2012). The role of experiential avoidance, psychopathology, and borderline personality features in experiencing positive emotions: A path analysis. *Journal of Behavior Therapy and Experimental Psychiatry*, *44,* 61-68. doi:10.1016/j.jbtep.2012.07.006

Johnson, D.M., Shea, M.T., Yen, S., Battle, C.L., Zlotnick, C., Sanislow, C.A., . . . Zanarini, M.C. (2003). Gender differences in borderline personality disorder: Findings from the collaborative longitudinal personality disorders study. *Comprehensive Psychiatry, 44*, 284-292. doi:10.1016/S0010-440X(03)00090-7

Kernberg, O., & Michels, R. (2009). Borderline personality disorder. *American Journal of Psychiatry*, *166*, 505-508. doi:10.1176/appi.ajp.2009.09020263

Klonsky, E.D. (2008). What is emptiness? Clarifying the 7th criterion for borderline personality disorder. *Journal of Personality Disorders*, *22*(4), 418-426. doi: 10.1521/pedi.2008.22.4.418

Lapointe, M.M. (Ed.). (2008). *Adolescent smoking and health research*. Nova Publishers. p.26

Lenzenweger, M.F., Lane, M.C., Loranger, A.W., & Kessler, R.C. (2007). DSM-IV personality disorders in the national comorbidity survey replication. *Biological Psychiatry, 62*, 553-564. doi:10.1016/j.biopsych.2006.09.019

Lieb, K., Zanarini, M.C., Schmahl, C., Linehan, M.M., & Bohus, M. (2004). Borderline personality disorder. *Lancet, 364,* 453-461. doi:10.1016/S0140-6736(04)16770-6

Linehan, M.M. (1993a). *Cognitive-behavioural treatment of borderline personality disorder.* The Guildford Press: NY.

Meaney-Tavares, R., & Hasking, P. (2013). Coping and regulating emotions: A pilot study of a modified dialectical behavior therapy group delivered in a college counseling service. *Journal of American College Health, 61*, 303-309. doi:10.1080/07448481.2013.791827

Nicolò, G., Semerari, A., Lysaker, P.H., Dimaggio, G., Conti, L., D'Angerio, S., Carcione, A. (2011). Alexithymia in personality disorders: Correlations with symptoms and interpersonal functioning. *Psychiatry Research, 190*, 37-42. doi:10.1016/j.psychres.2010.07.046

Paris, J. (2005). Borderline personality disorder. *Canadian Medical Association Journal*, *172*, 1579-1583. doi:10.1503/cmaj.045281

Pistorello, J., Fruzzetti, A.E., MacLane, C., Gallop, R., & Iverson, K.M. (2012). Dialectical behavior therapy (DBT) applied to college students: A randomized clinical trial. *Journal of Consulting and Clinical Psychology, 80*(6), 982-994. doi: 10.1037/a0029096

Preacher, K.J., & Kelley, K. (2011). Effect size measures for mediation models: Quantitative strategies for communicating indirect effects. *Psychological Methods, 16*, 93–115.

doi:10.1037/a0022658.

Presniak, M.D., Olson, T.R., & MacGregor, M.W. (2010). The role of defense mechanisms in borderline and antisocial personalities. *Journal of Personality Assessment*, *92*(2), 137-145. doi: 10.1080/00223890903510373

Putnam, K.M., & Silk, K.R. (2005). Emotion dysregulation and the development of borderline personality disorder. *Development and Psychopathology, 17,* 899-925. doi:10.1017/S0954579405050431

Ridings, L.E., & Lutz-Zois, C.J. (2014). Emotional dysregulation and Borderline Personality Disorder: Explaining the link between secondary psychopathy and alexithymia. *Personality and Individual Differences, 57*, 14-19. doi:10.1016/j.paid.2013.09.008

Salsman, N., & Linehan, M. (2012). An investigation of the relationships among negative affect, difficulties in emotion regulation, and features of borderline personality disorder. *Journal of Psychopathology and Behavioral Assessment, 34*(2), 260-267. doi: 10.1007/s10862-012-9275-8

Sar, V., Alioğlu, F., Akyuz, G., & Karabulut, S. (2014). Dissociative amnesia in dissociative disorders and borderline personality disorder: Self-Rating assessment in a college population. *Journal of Trauma & Dissociation, 15*(4), 477-493. doi:10.1080/15299732.2014.902415

Sauer, S.E., & Baer, R.A. (2010). Validation of measures of biosocial precursors to borderline personality disorder: Childhood emotional vulnerability and environmental invalidation. *Assessment*, *17*(4), 454-466. doi:10.1177/1073191110373226

Schulze, L., Domes, G., Kruger, A., Berger, C., Fleischer, M., Prehn, K., Schmahl, C., Grossmann, A., Hauenstein, K., Herpertz, S.C. (2011). Neuronal correlates of cognitive reappraisal in borderline patients with affective instability. *Biological Psychiatry, 69,* 564-573. doi:10.1016/j.biopsych.2010.10.025

Selby, E.A., Anestis, M.D., Bender, T.W., & Joiner Jr., T.E. (2009). An exploration of the emotional cascade model in borderline personality disorder. *Journal of Abnormal Psychology*, *118*, 375-84. doi:10.1037/a0015711

Selby, E.A., Anestis, M.D., & Joiner, T.E., Jr. (2008). Understanding the relationship between emotional and behavioural dysregulation: Emotional cascades. *Behaviour Research and Therapy, 46,* 593–611. doi:10.1016/j.brat.2008.02.002

Selby, E.A., Franklin, J., Carson-Wong, A., & Rizvi, S. (2013). Emotional cascades and self-injury: Investigating instability of rumination and negative emotion. *Journal of Clinical Psychology, 69,* 1213-1227. doi:10.1002/jclp.21966

Selby, E.A., & Joiner, T.E., Jr. (2009). Cascades of emotion: The emergence of borderline personality disorder from emotional and behavioural dysregulation. *Review of General Psychology, 13,* 219–229. doi:10.1037/a0015687

Selby, E.A., & Joiner, T.E., Jr. (2013). Emotional cascades as prospective predictors of dysregulated behaviors in borderline personality disorder. *Personality Disorders: Theory, Research, and Treatment, 4,* 168–174. doi:10.1037/a0029933

Soloff, P.H., Lis, J.A., Kelly, T., Cornelius, J., & Ulrich, R. (1994). Risk factors for suicidal behavior in borderline personality disorder. *American Journal of Psychiatry, 151*, 1316–1323.

Stallman, H.M. (2008). Prevalence of psychological distress in university students-Implications for service delivery. *Australian Family Physician*, *37*, 673-7.

Standish, A., Benfield, J., Bernstein, M., & Tragesser, S. (2014). Characteristics of borderline personality disorder and disgust sensitivity. *The Psychological Record, 64*(4), 869-877. doi:10.1007/s40732-014-0039-6

Steenkamp, M.M., Suvak, M.K., Dickstein, B.D., Shea, M.T., & Litz, B.T. (2015). Emotional functioning in obsessive-compulsive personality disorder: Comparison to borderline personality disorder and healthy controls. *Journal of Personality Disorders*, 1-15. doi:10.1521/pedi_2014_28_174

Tabachnick, B.G., & Fidell, L.S. (2012). *Using Multivariate Statistics: International Edition*. New Jersey: Pearson.

Tanner, A., Hasking, P., & Martin, G. (2014). Effects of rumination and optimism on the relationship between psychological distress and non-suicidal self-injury. *Prevention Science,15*(6), 860-8. doi:10.1007/s11121-013-0444-0

Taylor, J., James, L. M., Bobadilla, L., & Reeves, M.D. (2008). Screening for disinhibited disorder cases in a college population: Performance of the SMAST, DAST, SCID-II-Q, and PDQ-4. *Psychological Assessment, 20*(4), 351-360. doi:10.1037/a0013452

Tuna, E., & Bozo, Ö. (2014). Exploring the link between emotional and behavioural dysregulation: A test of the Emotional Cascade Model. *The Journal of General Psychology, 141,* 1-17. doi:10.1080/00221309.2013.834289

Van Dijke, A., Van, D.H., Van Son, M., Bühring, M., Van, D.H., & Ford, J.D. (2013). Cognitive and affective dimensions of difficulties in emotional functioning in somatoform disorders and borderline personality disorder. *Psychopathology, 46*, 153-62. doi:10.1159/000338832

Voon, D., Hasking, P., & Martin, G. (2014). The roles of emotion regulation and ruminative

thoughts in non-suicidal self-injury. *British Journal of Clinical Psychology, 53*(1), 95-113. doi:10.1111/bjc.12030

Zanarini, M.C., Frankenburg, F.R., Dubo, E.D., Sickel, A.E., Trikha, A., Levin, A., & Reynolds, V. (1998). Axis I comorbidity of borderline personality disorder. *American Journal of Psychiatry, 155*, 1733-1739.

Zanarini, M.C., Frankenburg, F.R., Hennen, J., & Silk, K.R. (2003). The longitudinal course of borderline psychopathology: 6-year prospective follow-up of the phenomenology of borderline personality disorder. *American Journal of Psychiatry*, *160*, 274-283. doi:10.1176/appi.ajp.160.2.274.

Zanarini, M.C., Gunderson, J.G., Frankenburg, F.R., & Chauncey, D.L. (1989). The revised diagnostic interview for borderlines: Discriminating BPD from other Axis II disorders. *Journal of Personality Disorders, 3*, 10-18. doi:10.1521/pedi.1989.3.1.10

Zivin, K., Eisenberg, D., Gollust, S.E., & Golberstein, E. (2009). Persistence of mental health problems and needs in a college student population. *Journal of Affective Disorders*, *117*, 180-185. doi:10.1016/ j.jad.2009

4.2.8 Tables

Table 4.1. *BPD behaviours engaged in by group and gender and group differences*

	Above BPD cut-off (BPD +)[1]		Below BPD cut-off (BPD -)[2]		Chi-square between groups					
Behavior over the past week[3]	Females	Males	Females	Males	BPD+/BPD- All		BPD+/BPD- Females[4]		BPD+/BPD- Males[5]	
	%		%		*df*	X^2	*df*	X^2	*df*	X^2
All behaviours					15	17.40	240	347.56***	90	71.10
Aggression	**46.0**[6]	25.0	12.2	9.1	4	6.85	12	48.98***	4	1.67
Engaged self-harm	38.0	27.3	4.7	4.9	4	2.76	8	14.69	3	.38
Got drunk	36.4	52.2	43.6	**46.9**	4	10.34*	12	13.07	12	5.85
Problematic sexual encounters	32.4	18.5	16.2	7.1	4	2.07	8	13.21	3	.55
Binge eating episodes	31.7	**41.3**	**43.9**	33.4	4	2.05	16	11.81	16	9.87
High-risk behaviour	31.2	29.3	13.2	15.1	4	2.15	8	13.23	3	.66
Medication misuse/overdose	27.0	25.0	7.6	7.1	4	3.66	12	12.34	8	4.70
Purging after eating	26.1	6.8	7.7	1.9	4	4.84	16	18.42	6	.32
Expressed suicidal intent	20.7	27.3	3.0	3.0	4	2.62	6	49.88***	3	.35
Used drugs	13.4	22.7	7.3	10.4	4	6.72	12	4.16	6	11.58
Attempted suicide	8.1	9.1	0.5	0.6	3	1.22	2	.09	2	.10

Note: *** Significant at < .001 level (2-tailed); ** Significant at .01 level (2-tailed); * Significant at .05 level (2-tailed); [1] BPD Pos. = Participants (n=197) above BPD cut-off, with mean score of ≥ 2 on the Borderline Symptom List -23 (BSL-23); [2] Participants (n=2064) below BPD cut-off, with mean score < 2 on BSL-23; [3] Behavior engaged in at least once over the previous four weeks; [4] BPD+ *n*=150, BPD- *n*=1429; [5] BPD+ *n*=46, BPD- *n*=542; [6] Most frequent behaviours shown in bold font.

Table 4.2 *Correlations and descriptive statistics for key variables*

Variable	Mean	*SD*	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.
1. Age	24.82	8.05	.02	.08***	-.07**	-.07**	.01	-.08***	-.09***	-.16***	.10***	-.13***	-.10***	-.14***	.010
2. Gender	-	-	-	-.11***	.03	-.02	-.09***	-.03	-.07***	-.05*	-.05*	.17***	-.01	.09***	-.01
3. Family history	-	-		-	.15***	.08***	.18***	.18***	.19***	.14***	-.05*	-.02	.11***	.07**	-.01
4. Depression	12.40	10.44			-	.67***	.69***	.82***	.41***	.47***	-.31***	.28***	.49***	.33***	.02
5. Anxiety	9.76	8.57				-	.73***	.71***	.38***	.46***	-.23***	.21***	.50***	.31***	.09***
6. Stress	14.02	9.51					-	.70***	.43***	.51***	-.26***	.13***	.47***	.26***	.06*
7. BPD symptoms	19.35	16.59						-	.53***	.54***	-.30***	.29***	.58***	.37***	.05*
8. BPD behaviour	2.57	3.11							-	.34***	-.19***	.10***	.38***	.22***	.04
9. Rumination	67.73	12.81								-	.29***	.55***	.55***	.44***	.14***
10. Cog. Reappr.[1]	28.38	6.10									-	-.05*	-.25***	-.15***	.18***
11. Expr.Supp.[2]	15.38	4.88										-	.40***	.57***	.10***
12. DIF[3]	17.31	5.97											-	.64***	.15***
13. DDF[4]	14.30	2.90												-	.20***
14. EOT[5]	25.40	2.97													-

*** Significant at < .001 level (2-tailed); ** Significant at .01 level (2-tailed); * Significant at .05 level (2-tailed); [1] Cognitive reappraisal (emotional regulation); [2] Expressive Suppression (emotional regulation); [3] Difficulty identifying feelings (alexithymia); [4] Difficulty describing feelings (alexithymia); [5] Externally oriented thinking (alexithymia).

Table 4.3 *Predictors of BPD behaviours*

Variable	**B**	**SEB**	**95%CI Lower**	**95%CI Upper**	**R^2**	**F**
					.33***	47.53
BPD Symptoms	.08***	.008	.06	.09		
Age	-.02*	.08	-.04	-.01		
Gender	-.01	.14	-.37	-.01		
Family history	.50**	.13	.26	.75		
Depression	-.06*	.02	-.11	-.02		
Anxiety	-.04	.03	-.08	.01		
Stress	.08**	.02	.03	.12		
Difficulty identifying feelings	.05**	.02	.02	.08		
Difficulty describing feelings	.02	.03	-.04	.08		
Externally oriented thinking	.003	.02	-.04	.04		
Cognitive reappraisal	-.002	.01	-.02	.02		
Expressive suppression	-.05**	.02	-.08	-.02		
Rumination	.01	.01	-.000	.02		

*p < .05 **p <.01 ***p < .001

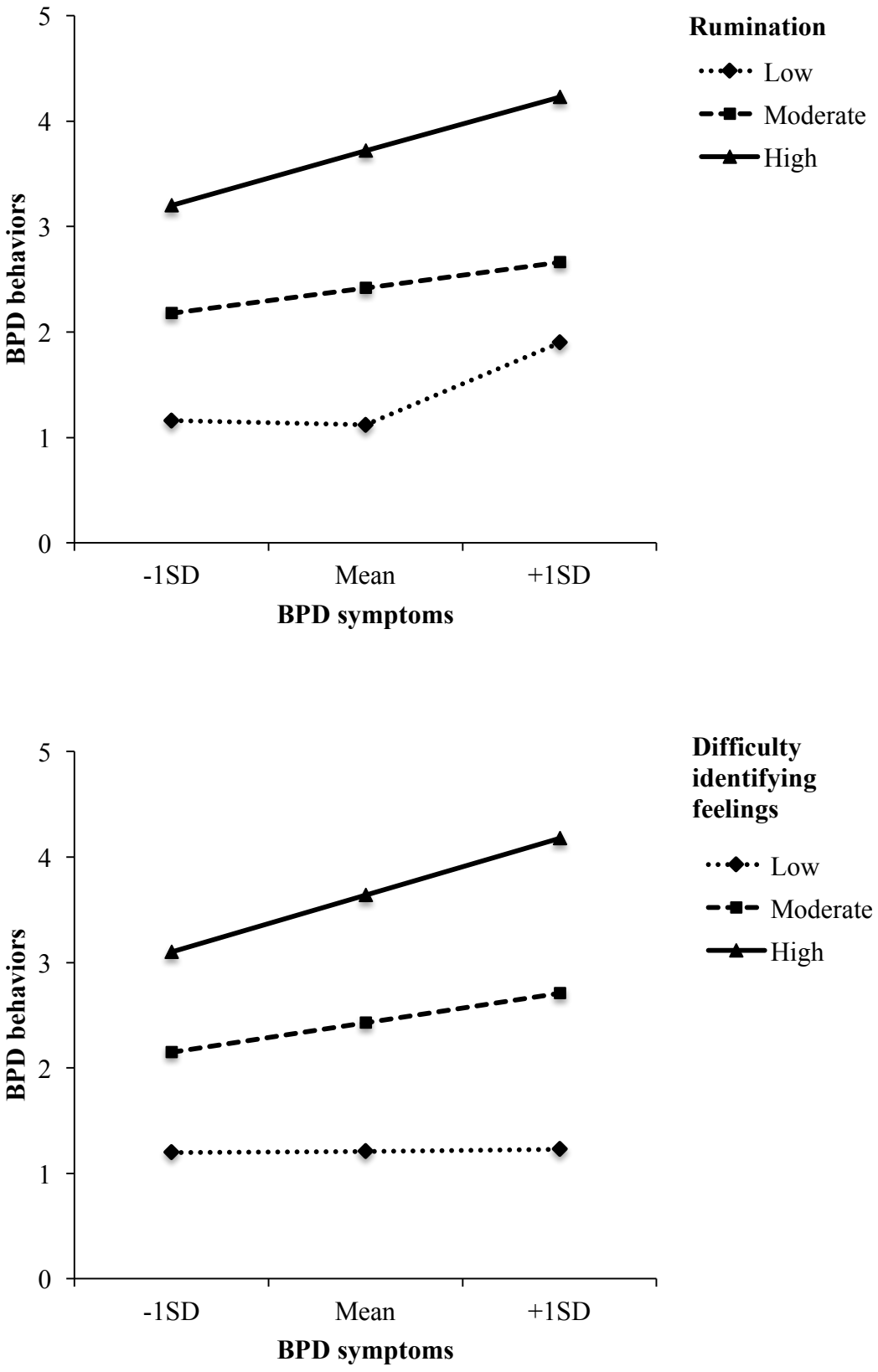


Figure 4.1. The increasing magnitude of effect BPD symptoms have on behaviours solely at moderate and high levels of rumination, and difficulty identifying feelings.

Declaration for Thesis Chapter 5

Declaration by candidate

In the case of Chapter 5, the nature and extent of my contribution to the work was the following:

Nature of contribution	**Extent of contribution (%)**
Study conceptualisation	100
Statistical analysis	80
Writing	80

The following co-authors contributed to the work:

Name	**Nature of contribution**
Penelope Hasking	Conceptualisation, structuring, editing and statistical processes

The undersigned hereby certify that the above declaration correctly reflects the nature and extent of the candidate and co-authors contributions to this work.

Signatures

Candidate	[redacted]	**Date:** 18-1-2016

Main Supervisor	[redacted]	**Date:** 18-1-2016

5.1 Chapter Overview

This chapter presents an analysis of the efficacy of a short-term modified Dialectical Behaviour Therapy program, named Coping and Regulating Emotions (CARE). The main aims of the study were to assess whether participation in the program resulted in a decrease in self-reported anxiety, depression and BPD criteria-related behaviours, and an increase in adaptive coping skills. This study was published in the Journal of American College Health, on 14 June 2013, and is included in this chapter in a format consistent with that of the thesis. A copy of the published article may be viewed in Appendix 5A. Three tables were submitted as part of the body of the paper and are included in this chapter. This chapter utilises USA vernacular, for example, “college” is used throughout in place of university.

5.2 Paper published in the Journal of American College Health

5.2.1 Title Page and Publication Details.

Title: Coping and Regulating Emotions: A Pilot study of a modified Dialectical Behavior Therapy group delivered in a college counselling service.

Authors:

[a]Rebecca Meaney-Tavares, BPsych (Hons); MPsych (Clinical), School of Psychology and Psychiatry, Monash University, Melbourne, Australia

Penny Hasking, BAHons; PhD; Senior Lecturer, School of Psychology and Psychiatry, Monash University, Melbourne, Australia

[a] Corresponding author: Rebecca Meaney-Tavares; mailing address: School of Psychology and Psychiatry, Monash University, Melbourne, Australia 3800;

[redacted]

Publication: *Journal of American College Health, 61* (5), 303-9

Received: 8 Nov 2012

Accepted: 29 Mar 2013

Accepted author version posted online: 10 Apr 2013

Published online: 14 Jun 2013

5.2.2 Abstract

Objective: To analyse the efficacy of a pilot program, aimed at treating college students with Borderline Personality Disorder (BPD) using short-term, modified group Dialectical Behavior Therapy at an Australian College Counselling Service (CCS).

Participants: Seventeen enrolled college students aged between 18 to 28, (76.5% female), with a diagnosis of BPD completed the program between November 2009 and November 2010.

Methods: Participants attended eight 2-hour group therapy sessions, held at the CCS during semester. Participants were assessed for levels of depression, anxiety, BPD traits, and coping strategies, at commencement and completion of the program.

Results: There was a reduction in symptoms of depression and BPD traits, and an increase in adaptive coping skills, including problem solving, and constructive self-talk. There was no reduction in anxiety.

Conclusions: The findings indicate promise for short-term treatment of college students with BPD. Implications and limitations are discussed with emphasis on replication with a control group.

Keywords: Borderline Personality Disorder, Dialectical Behavior Therapy, college students, mental health, counselling.

5.2.3 Introduction

Borderline Personality Disorder (BPD) has long been considered as both a serious and intractable psychiatric disorder (Gunderson, et al., 2011), affecting between 2.0-5.9% of the general population (American Psychiatric Association; APA, 2000; Zanarini, et al., 2011). While frequently viewed as chronic and difficult to treat, people with BPD do improve with both time and therapy, and as many as 85% experience a complete remission of symptoms (Gunderson, et al., 2011). Still, treatment of BPD is characteristically long-term, averaging between 1-3 years before clinically significant improvements occur (Frith & Frith, 2006; Linehan, 1993a; Young, 1994). As a result, people with this disorder often find the cost of treatment beyond their means, which has particular relevance for college students given the relationship between current study and limited income (Lippincott, 2007). BPD is regarded as readily identifiable in college student populations in both Australia and the US (Pizzarello & Taylor, 2011), whereby the prevalence of severe BPD related symptoms in US college populations has been reported as 25.5% (Gratz, Breetz & Tull, 2010). Accurate data estimating BPD in Australian college populations is not available; however there is no compelling reason that would suggest prevalence is lower by comparison with US figures.

Where vulnerabilities toward BPD exist, the performance-based nature of college study can act as precipitant for periods of high symptom severity which may result in a presentation to the College Counselling Service (CCS) (Hahn, 2009; Tryon, DeVito, Halligan, Jane & Shea, 1988). The delivery model of Australian and US CCS's are closely aligned in that they provide relatively accessible, short-term, individual psychological counselling free of charge to enrolled students. This format, coupled with the tendency of people with BPD to engage in frequent help seeking during periods of severe distress (Gilbert, 1992; Gunderson, et al., 2011; Linehan, Cochran et al., 2000; Tryon, et al., 1988), can result in recurrent presentations at CCS's consequently straining resources, and reinforcing ineffective help-seeking behaviours in this population (Tryon, et al., 1988; Zanarini, et al., 2011). Relatedly, counselors often express reluctance toward providing individual therapy to people with BPD, due to problematic interpersonal styles, and the tendency to present while highly distressed or suicidal (Lippincott, 2007; Tryon, et al., 1988). As such, students with BPD are commonly regarded as unsuitable clients for treatment within a CCS context (Lippincott, 2007), and difficult to refer externally for similar reasons (Linehan, et al., 2000; Wedig, Silverman, Frankenburg, Bradford Reich, Fitzmaurice & Zanarini, 2012), suggesting a need for an alternate college-based treatment model.

Treatments for BPD generally represent a combination of therapy and skills building,

and have been offered over short-term eight-week programs with promising results, including increased adaptive coping skills and decreased symptom severity for comorbid disorders such as depression and anxiety (Fonagy & Bateman, 2006; Huss & Baer, 2007; Linehan, 1993a). Group therapy also appears efficacious for BPD and involves less staff, suggesting a more effective and financially viable option for cost-free services such as a CCS (Drum, Decker & Hess, 2011; Paris, 2009). Further, treatment adherence is characteristically poor in people with BPD for reasons including cost and accessibility (Brassington & Krawitz, 2006; Norling & Kim, 2010), thus a CCS based treatment program could address these factors. As such, analysis of the aforementioned characteristics culminated in the notion of offering a short-term, CCS-based, group format treatment protocol for students with BPD.

People with BPD are characteristically deficient in skills such as tolerating distress, recognizing and regulating problematic emotional states, and interacting with others in an effective way, all of which represent skills inherent to Dialectical Behavior Therapy (DBT; Linehan, 1993a). The therapy consists of four modules: Mindfulness, Interpersonal Effectiveness, Distress Tolerance and Emotional Regulation (Linehan, 1993a), and has been adapted for quasi-clinical settings such as community outpatient services, prisons, and counselling services (Norling & Kim, 2010). DBT aims to assist by balancing an emphasis on acceptance (of distress), with change (increasing adaptive coping skills; Linehan, 1993a), and is usually held over a one year period (Huss & Baer, 2007; Linehan, 1993a). However, a reduction in BPD related behaviours such as self-harm, has been achieved through modified short-term, skills building treatment groups (Fonagy & Bateman, 2006; Huss & Baer, 2007; Linehan, 1993a), suggesting comparable results could be achieved with DBT (Brassington & Krawitz, 2006; Katz, 2004).

In order to investigate these possibilities, and provide service compatible treatment for students with BPD, the CCS undertook a preliminary pilot of a modified (DBT) group named “Coping and Regulating Emotions” (CARE). The CARE program consisted of the four DBT modules, however the content was modified to be appropriate in both language and complexity in order to engage college level students. For example, CARE was developed to include conceptual frameworks, such as the neurobiological underpinnings of emotion and behaviour, and language and examples relevant to college students.

Given the promising results of short-term, group treatments for BPD, it was predicted that participation in the CARE program could result in a decrease in self-reported anxiety, depression and BPD criteria-related behaviours and an increase in adaptive coping skills.

5.2.4 Method

5.2.4.1 Participants

All enrolled students at the Australian college with a recent formal diagnosis of BPD were eligible to participate, including those having a comorbid diagnosis on either Axis I or II (APA, 2000). Twenty-three participants who had been assessed by a clinical psychologist or psychiatrist within the previous six months commenced the program; six dropped out within the first three weeks and were referred for individual therapy within the CCS, leaving seventeen participants. All were between 18 and 28 years of age (M = 22.47, SD = 3.84) at the first session, 76.5% were female, 70% were Australian citizens, and 30% were international students, representative of the broader student population at the college. Further, 35% lived at home with parents, 29% resided with a partner, and the remaining 36% lived in shared accommodation off campus. Of the sample, 57% were enrolled in an undergraduate degree and 43% were in postgraduate programs, 70% were referred by their CCS-based counselling psychologist, and 30% their college-based physician. Of the total participant base, 70% were prescribed antidepressant medication, 15% an antidepressant and an antipsychotic, and 30% were either not prescribed psychotropics, or used anxiolytics as required. Fourteen participants had a comorbid diagnosis of Major Depressive Disorder (MDD), two with Bipolar Disorder, and one MDD and Substance Dependence. Three participants had a hospitalization for a suicide attempt within the past three months, and twelve self-reported engaging in weekly or fortnightly self-harm for the three month period preceding the program.

5.2.4.2 Measures

Participants completed the following measures at the start of the first session, and again at the end of the last session.

5.2.4.2.1 Depression

Beck Depression Inventory Second Edition (BDI-II; Beck, Steer & Brown, 1996). The BDI-II is a 21-item self-report screen measuring the severity of symptoms of unipolar depression over the previous week. Each item is measured on a 4-point Likert scale ranging from 0 to 3. 0-9 = “Minimal” symptoms of depression, 10-18 = “Mild”, 19-29 = “Moderate” and 30-63 = “Severe” (Koyila, Numminen, Waltimo & Kaste, 1998). This scale was reported by the authors as having a high level of internal consistency a = 0.92, and two-week test-retest reliability of 0.93 (Mouanoutoua, Brown, Cappelletty & Levine, 1991).

5.2.4.2.2 Anxiety

Beck Anxiety Inventory (BAI; Beck & Steer, 1993). The BAI is a 21-item self-report

screen that measures the severity of symptoms of anxiety experienced over the previous week. Each item is measured on a 4-point Likert scale with responses ranging from 0 and 3. For the purpose of analysis, clinical cut-offs were as follows: 0-7 = "Minimal" levels of anxiety, 8-15 = "Mild", 16-25 = "Moderate" and 26-63 = "Severe." The authors reported the scale as having good psychometric properties with internal consistency (Cronbach's alpha) ranging from .92 to .94, and test-retest (one week interval) reliability of .75.

5.2.4.2.3 Coping

Coping Scale for Adults (CSA; Frydenberg & Lewis, 1997). The CSA is a self-report inventory containing 74 items that assess 18 coping strategies, and one scale, which delineates an absence of coping strategies. The format is a 5-point Likert scale, with responses ranging from 1 (doesn't apply or don't do it) to 5 (used a great deal). The coping strategies assessed are: seek social support, focus on solving the problem, work hard, worry, improve relationships, wishful thinking, tension reduction, social action, ignore the problem, self-blame, keep to self, seek spiritual support, focus on the positive, seek professional help, seek relaxing diversions, physical recreation, protect self, humour, and not cope. The CSA was reported by the authors as being reliable with alpha's ranging from 0.69 to 0.92.

5.2.4.2.4 BPD symptoms

Participants in two of the three treatment groups (n=10) completed a checklist of BPD symptoms. Given the aim of reducing BPD-related behaviours or criteria, the first researcher developed a scale that consisted of the nine DSM-IV-TR (APA, 2000), criteria listed, each with a "yes/no" option to indicate if the criteria had been experienced. If the response was yes, participants were asked to indicate the frequency of the criteria. The options ranged from 0= not present, or yes: 1= "less than once per year" to 5= "daily", thus the maximum score obtainable was 45, which represented the presence of all nine criteria, occurring on a daily basis. For the purpose of analysis, cut-offs were as follows: 0-9 = "Minimal" symptoms of BPD, 10-19 = "Mild", 20-29 = "Moderate" and 30-45 = "Severe." Cut-offs were derived by determining the points where the presence and/or frequency of the behaviours shifted; and comparing to the DSM (APA, 2000) criteria for diagnosis. "Minimal," ranges from symptoms occurring once a year, to fewer than 6 symptoms occurring less than monthly (i.e. sub-clinical); "Mild" corresponds to at least five symptoms appearing between 1-2 times per month; "Moderate" indicates weekly symptoms, while "Severe" indicates at least six criteria occurring daily. The first author also consulted the clinical files of the participants in order to cross-validate these cut-offs, and determined that the categorization based on this measure was consistent with the clinical presentation of the

participant.

5.2.4.2 Procedure

5.2.4.2.1 CARE Program Development

The CARE program was based upon DBT, with the content and structure largely unchanged across all four modules: Mindfulness, Interpersonal Effectiveness, Emotional Regulation and Distress Tolerance, which were retained and delivered in this order. The structure of the program was condensed and reworded to represent content that was suitable for college students in complexity, and language representative of national vernacular (e.g. the word "dime" was replaced with "ten cents"). In the Emotional Regulation module, emotions were explained in relation to their neurochemical characteristics, including the role of serotonin in mood, norepinephrine underpinning anxiety, and dopamine's role in cognitions. Particular emphasis was given to these neurochemicals due to their relationship with BPD related symptoms (Ni, Chan, Chan, McMain &Kennedy, 2009).

5.2.4.2.2 CARE Program Delivery

In total, three separate groups were delivered (each with between 4-8 participants), over eight weeks by the same two co-facilitators throughout the program. One facilitator was female aged late 30's, the other a male aged early 30's, and both identified as being White Australians. Further, both were registered psychologists with supervisory arrangements in place, in addition to being formally trained in DBT and employed as counselors at the CCS. Following Human Research Ethics Committee approval, participants were recruited through either counselors at the CCS, or physicians at the College Health Service. The first author outlined the program and the recruitment process to both groups of professionals. Each group subsequently informed past or current clients with a diagnosis of BPD. Interested students contacted the first author to organize an intake interview. Twenty-seven potential participants were approached by their physician or counsellor, and twenty-three agreed to participate (85.2%).

Intake interviews were held over the course of two weeks prior to the program. The intake interview was semi-structured in format and screened for the presence of DSM-IV-TR Axis I Disorders (APA, 2000) and BPD, psychosocial and clinical history, previous and current treatments including psychotropic medication, and assessed current risk of harm, both with regard to non-suicidal self-injury and suicidal ideation, intent or plan. All potential participants were provided with a detailed description of the purpose and scope of the CARE program, informed of the research component and the right to withdraw participation. Written informed consent was then obtained from all participants. Data was collected during

the group at the beginning of the first session, and again at completion of the final session, thus across all three groups, the data collection period spanned November 2009 to November 2010.

Participants who met inclusion criteria of at least five DSM-IV-TR (APA, 2000) criteria for BPD, attended eight weekly sessions, each two hours in duration, held at the CCS at midday during semester. Each participant was required to be engaged in weekly counselling with either a psychologist, physician with mental health training, or psychiatrist of his or her choice. Participants were also given a range of afterhours contacts developed after consultation with the participant, representing their individual requirements and preferences. There were no financial incentives for participation

5.2.5 Results

Pre and post intervention analyses were performed using SPSS exploratory analysis, and paired samples t-tests. Only data from those who completed the entire 8-week program were analysed (n = 17). Per-protocol analysis was utilized as opposed to intention to treat, as the participants who dropped out had lower severity scores across the clinical domains by comparison with participants who continued. Given the exploratory nature of the study, and the potential for Type II error using an adjusted alpha, significance was set at 0.05 (Bender & Lange, 2001). However given the increased risk of Type I error, results should be interpreted with caution.

5.2.5.1 Clinical Measures

Descriptive statistics for all measures can be seen in Table 5.1. There was a significant reduction in BDI-II scores from session one, to the final session. McNemar's test was used to assess for the presence of clinical (severe range: 30-63) depression prior to and following the intervention; 64.7% (n = 11) of participants fell within the severe range of scores at session one, by comparison with 27.3% (n = 3) in the final session, χ^2 (N = 17), p = .008.

No reduction in BAI scores was evident from pre to post testing, yet there was a non significant reduction in the number of participants who reported clinical range anxiety scores (26-63 = Severe), with 41.2% (n = 7) reporting in this range at session one, and 17.6% (n = 3) at the final session. A significant reduction in BPD symptoms was observed from session one to the final session. Again, the reduction in the number of participants categorized within the clinical range of BPD symptoms (30-45 = "Severe") was non-significant (see Table 5.2). An Edwards-Nunnally Corrected Reliable Change Index (Speer, 1991) was calculated for each participant on the BDI-II, BAI, and BPD symptom measure using reliability coefficients

of 0.93 (Beck, et al., 1996; Mouanoutoua, 1991), 0.75 (Beck & Steer, 1993), and 0.88 (Sharp, Ha, Michonski, Venta & Carbone, 2012) respectively. On the BDI-II, 59% of participants achieved a reliable change (RCI < -1.96, $p < .05$), 12% achieved the same result on the BAI, and 40% achieved reliable change in BPD symptoms (see Table 5.3). The mean change in severity of participants' scores can be viewed in Table 5.2. In addition, there were no hospitalizations during the program, and 94% of participants did not engage in self-harm during the treatment period.

With regard to coping, statistically significant increases in adaptive coping skills were found for focusing on solving the problem, seeking professional help, protecting one's self (constructive self-talk), and a decrease in self-blame (see Table 5.1).

5.2.6 Discussion

The findings of the current study show some promise with regard to short-term, college based programs for students with BPD, particularly with regard to reduction in symptoms of depression. BPD and Mood Disorders have a high comorbidity, and characteristically improve over long-term (1 year plus) interventions where both conditions are present (Stone, 2006). However, in the current study, over an eight-week period, the mean scores indicated a decrease from the lower end of a severe range of depressive symptoms (29-63) to the upper end of a mild range of symptoms (14-19; Beck, et al., 1996). These preliminary findings may generate interest when compared with that of a one-year DBT program (baseline BDI-II, $M = 37.15$, $SD = 12.46$; treatment completion BDI-II, $M = 22.48$, $SD = 16.20$) where unlike the current study, participants with comorbid disorders that deleteriously impact treatment (Bipolar I, and substance abuse) were excluded from the study (McMain, Guimond, Streiner, Cardish & Links, 2012).

The non-significant reduction in anxiety symptoms may be related in part to the timing of post-treatment data collection as the program finished in the week immediately prior to the examination period. The participants highlighted this issue, with several stating that they felt significantly less anxious than usual in the period preceding assessment submission and examinations. Further, there was no increase in anxiety scores from intake, thus it could be argued that the program may have assisted in maintaining levels of anxiety and preventing a predictable increase in anxiety typically associated with exams.

The coping skills that had increased post intervention were focusing on solving the problem, seeking professional help, protecting one's self and a reduction in self-blame. Arguably, these coping skills were more relevant in the context of BPD than many of the coping skills that did not undergo significant change. For example, self-blame, deficiencies

in problem solving and self-care, and negative self-talk are all associated with the onset and maintenance of both depression and BPD (Gunderson, et al., 2011), whereas a skill such as "seeking spiritual support," was less relevant given that none of the participants identified as being religious.

With regard to feasibility, the program was relatively time-efficient to adapt in both language and content from the original skills-building program (Young, 1994). The modification was completed over 12 hours in total by the first author, including presentations and weekly hand-outs for participants. As such, the program could be revised as language and content appropriate for CCS's internationally with minimal time expended.

One of the issues in the interpretation of these results is the difficulty in discerning which component of the CARE program contributed to these encouraging preliminary outcomes. Participants spent two hours per week in the program, and underwent a one-hour individual session with their primary mental health contact (counselling psychologist or physician). An additional six, 20-minute sessions were set aside after the program for participants to meet with one of the group facilitators, to discuss any problems or concerns that had occurred within the context of the group. These sessions were utilized by 82.3% of the total participants. As such, each participant attended a minimum of three hours of therapeutic contact per week, for an eight-week period. Further, both facilitators had several years experience forming therapeutic alliances with a range of students through their role as counselors, which may have augmented facilitator-group rapport. Consequently, therapeutic alliance may have played a significant role in facilitating these outcomes (Stone, 2006; McMain, et al., 2012).

Similarly, during the final session, a large proportion of the participants reported that this was the first time they were aware that other college students experienced similar difficulties with emotional dysregulation, self-harm and suicidal ideation. This suggests college students experiencing BPD symptoms may benefit from the normalizing effect of having contact with other students experiencing similar difficulties. Conversely, the participants who discontinued the program reported that they did so, as they believed they were not as "unwell" by comparison with other group members, primarily those that had visible signs of having self-harmed (i.e. scarring, or bandages).

5.2.6.1 Limitations

The CARE group was trialled as an alternative treatment delivery model for both existing and wait listed clients of the CCS who exhibited symptoms of BPD, including self-harm and suicidal ideation. These factors underpinned the need for expedited design,

training and implementation, which was achieved over a six-week period. Subsequently, the program represented a preliminary investigation of short-term group DBT rather than a well-controlled experimental design. As a result, several aspects of the methodology limit the scientific merit of the study. For instance, one of the limitations of the study was that although being designed to represent DSM-IV-TR (APA, 2000) criteria, the measure employed to assess for the presence of BPD symptoms was not externally validated. As such, the measure was not necessarily indicative of the broader range of phenomenology associated with BPD. Further, it is unlikely the results would generalize outside of a college setting. The greater proportion of the sample in the current study were high functioning college students, living at home with their families or partners, and with specific and relatively achievable goals to work toward.

The Australian Bureau of Statistics indicates 29% of Australian students live at home, 27% with a partner, and the remainder outside of the family or marital home (Australian Bureau of Statistics, 2010), thus the sample was representative within an Australian college context. However, US figures report 53% of college students reside on campus, 33% off campus, and 12.4% at the family home (Buhi, Marhefka & Hoban, 2010). Living at home acts as a protective factor and may have played a role in CARE program outcomes. In countries where students leave home to study, such as the US, additional supports may need to be built into the program.

Given the preliminary nature of the study, other limitations pertain to the absence of a control group, and long-term follow up assessments. Additionally, the sample size in each group were very small, numbering four, eight and five respectively, thus problematic to generalize even within the broader college population of students with BPD. As the CARE program was a preliminary pilot study, replication is warranted to address these limitations. A randomized controlled trial may serve to extract the effects of participating in CARE versus the extraneous factors inherent in the program protocol, such as concurrent individual counselling, in addition to minimizing the possibility of regression to the mean.

5.2.6.2 Conclusion

Despite these limitations, the results are promising with regard to providing efficacious, short-term, and cost effective treatment of students with BPD within a college counselling service. It may be that college students with BPD will respond well to a college based treatment, particularly one with a learning based emphasis that is tailored to skills acquisition. As such, modified DBT groups such as CARE could assist in meeting the therapeutic needs of students with BPD, within college settings while minimising the distress

caused to this population through difficulties in obtaining an appropriate external referral.

5.2.7 Acknowledgements

The authors wish to thank Dr Marc Janover and Sally Trembath for their invaluable contribution to the CARE program, and the Monash University Counselling Service psychologists for their significant support role during the CARE program.

5.2.8 References

American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders* (text revision). Washington, DC: Author.

Australian Bureau of Statistics. *Summary of the 2010 higher education student statistics.* Retrieved from http://www.deewr.gov.au/HigherEducation/ Publications/HEStatistics/Publications/Pages/Students.aspx.

Beck AT, Steer, R.A. (1993). *Beck Anxiety Inventory manual*. San Antonio, TX: Harcourt Brace and Company.

Beck, A.T., Steer, R.A., & Brown, G.K. (1996). *Manual for the Beck Depression Inventory-II.* San Antonio, TX: Psychological Corporation.

Bender, R., & Lange, S. (2001). Adjusting for multiple testing-when and how? *Journal of Clinical Epidemiology, 54*, 343–349.doi:10.1016/S0895-4356(00)00314-0

Brassington, J., & Krawitz, R. (2006). Australasian dialectical behaviour therapy pilot outcome study: Effectiveness, utility and feasibility. *Australasian Psychiatry, 3,*313-319. doi:10.1111/j.1440-1665.2006.02285.x

Buhi, E.R., Marhefka, S.L., & Hoban, M.T. (2010). The state of the union: Sexual health disparities in a national sample of US college students. *Journal of American College Health, 58,* 337-346. doi:10.1080/07448480903501780

Drum, D., Becker, M., & Hess, E. (2011). Expanding the application of group interventions: Emergence of groups in health care settings. *Journal of Specialists in Group Work, 36,* 247-263. doi:10.1080/01933922.2011.613902

Fonagy, P.A. & Bateman, A. (2006). Mechanisms of change in mentalisation-based treatment of BPD. *Journal of Clinical Psychology*, 4, 411-430. doi:10.1002/jclp.20241

Frith, C.D., and Frith, U. (2006). The neural basis of mentalizing. *Neuron, 50*, 531–534. doi:10.1016/j.neuron.2006.05.001

Frydenberg, E., & Lewis, R. (1997). *Coping scale for adults: Administrator's manual, research edition.* Melbourne, Victoria: Australian Council for Educational Research.

Gilbert, P. (1992). *Depression: The evolution of powerlessness*. Hove: Lawrence Erlbaum

Associates.

Gratz, K.L., Breetz, A., & Tull, M.T. (2010). The moderating role of borderline personality in the relationships between deliberate self‐harm and emotion‐related factors. *Personality Mental Health*, *4*, 96-107. doi:10.1002/pmh.102

Grilo, C.M., Sanislow, C.A., Skodol, A.E., Gunderson, J.G., Stout, R.L., Bender, D.S., Yen, S., Shea, M.T., Morey, L. C., Zanarini, M.C., & McGlashan, T.H. (2007). Longitudinal diagnostic efficiency of DSM-IV criteria for borderline personality disorder: A 2-year prospective study. *Canadian Journal of Psychiatry, 52*, 357-362. doi:10.1111/j.1600-0447.2004.00311.x

Gunderson, J.G., Stout, R.L., McGlashan, T.H, Shea, M.T., Morey, L.C., Grilo, C.M., Zanarini, M.C., Yen, S., Markowitz, J.C., Sanislow, C., Ansell, E., Pinto, A., & Skodol, A.E. (2011). Ten-year course of borderline personality disorder psychopathology and function from the collaborative longitudinal personality disorders study. *Archives of General Psychiatry*, *68*, 827-837. doi:10.1001/ archgenpsychiatry.2011.37

Hahn, W.K. (2009). Ingenuity and uneasiness about group psychotherapy in university counseling centres. *International Journal of Group Psychotherapy, 59*, 543-552. doi:10.1521/ijgp.2009.59.4.543

Huss, D.B. & Baer, R.A. (2007). Acceptance and change: Integration of mindfulness based cognitive therapy into ongoing dialectical behavior therapy in a case of borderline personality disorder with depression. *Clinical Case Studies, 6*, 17-33. doi:10.1177/1534650106290374

Katz, L.Y. (2004). Feasibility of Dialectical behavior therapy for suicidal adolescent inpatients. *Journal of American Academic Child Psychology, 43,* 276-282. doi:10.1097/00004583-200403000-00008

Kotila, M., Numminen, H., Waltimo, O. & Kaste, M. (1998). Depression after stroke: Results of the FINNSTROKE Study. *Stroke, 29,* 368-372. doi:10.1161/01.STR.29.2.368

Lieb, K., Zanarini, M.C., Schmahl, C., Linehan, M.M., & Bohus, M. (2004). Borderline personality disorder. *Lancet, 364,* 453-461. doi:10.1177/ 2040622310368455

Linehan, M.M. (1993a). *Cognitive-behavioural treatment of borderline personality disorder.* The Guildford Press: NY.

Linehan, M.M., Cochran, B.N., Mar, C.M., Levensky, E.R., & Comtois, K.A. (2000). Therapeutic burnout among borderline personality disordered clients and their therapists: Development and evaluation of two adaptations of the Maslach Burnout

Inventory. *Cognitive and Behavioral Practice, 7,* 329–337. doi:10.1016/S10777229(00)80091-7

Lippincott, J. (2007). When psychopathology challenges education: Counseling students with severe psychiatric disorders. In J. Lippincott & R. Lippincott (Eds.). *Special populations in college counseling: A handbook for mental health professionals* (pp. 287-308). Alexandria, VA: American Counseling Association.

McMain, S.F., Guimond, T., Streiner, D.L., Cardish, R.J. & Links, P.S. (2012). Dialectical behaviour therapy compared with general psychiatric management for borderline personality disorder: Clinical outcomes and functioning over a 2-year follow-up. *American Journal of Psychiatry, 169*, 650-661. doi:10.1176/appi.ajp.2012.11091416

Mouanoutoua, V.L., Brown, L.G., Cappelletty, G.G., & Levine, R.V. (1991). A Hmong adaptation of the Beck depression inventory. *Journal of Personality Assessment, 57,* 309-322. doi:10.1207/s15327752jpa5702_9

Ni, X., Chan, D., Chan, K., McMain, S., Kennedy, J.L. (2009). Serotonin genes and gene-gene interactions in borderline personality disorder in a matched case-control study. *Progressive Neuropsychopharmacological Biological Psychiatry, 33,* 128–133. doi:10.1016/j.pnpbp.2008.10.022

Norling, D.C., & Kim, S. (2010). Borderline personality disorder. In J. C. Thomas & M. Hersen (Eds.), *Handbook of clinical psychology competencies*. New York: Springer.

Paris, J. (2009). The treatment of borderline personality disorder: Implications of research on diagnosis, etiology and outcome. *Annual Review of Clinical Psychology, 5*, 75-88. doi:10.1146/annurev.clinpsy.032408.153457

Pizzarello, S. & Taylor, J. (2011). Peer substance use associated with the co-occurrence of borderline personality disorder features and drug use problems in college students. *Journal of American College Health, 59,* 408-414. doi:10.1080/07448481.2010.513407

Sharp, C., Ha, C., Michonski, J., Venta, A., & Carbone, C. (2012). Borderline personality disorder in adolescents: Evidence in support of the childhood interview for DSM-IV borderline personality disorder in a sample of adolescent inpatients. *Comprehensive Psychiatry, 53*, 765-74. doi:10.1016/j.comppsych.2011.12.003

Speer, D.C. (1991). Clinically significant change: Jacobson and Truax revisited. *Journal of Consulting Clinical Psy*chology, 60, 402–408.doi:10.1037/0022-006X.60.3

Stone, M.H. (2006). Management of borderline personality disorder: A review of psychotherapeutic approaches. *World Psychiatry*, 1, 15–20. Retrieved from

http://www.impact-kenniscentrum.nl/

Tryon, G.S., Devito, A.J., Halligan, F.R., Kane, A.S. and Shea, J.J. (1988), Borderline personality disorder and development: Counseling university students. *Journal of Counseling & Development, 67*, 178–181. doi:10.1002/j.1556-6676.1988.tb02087.x

Wedig, M.M., Silverman, M.H., Frankenburg,' F.R., Bradford Reich, D., Fitzmaurice, G., &. Zanarini, M.C. (2012). Predictors of suicide attempts in patients with borderline personality disorder over 16 years of prospective follow-up. *Psychological Medicine, 42,* 2395-2404. doi:10.1017/ S0033291712000517

Young, J. (1994). *cognitive therapy for personality disorders: A schema-focused approach* (2nd.ed). Sarasota, FL: Professional Resource Press.

Zanarini, M.C., Horwood, J., Wolke, D., Waylen, A., Fitzmaurice, G., & Grant, B.F. (2011). Prevalence of DSM-IV borderline personality disorder in two community samples: 6,330 English 11-year-olds and 34,653 American adults. *Journal of Personality Disorders, 25*, *5*, 607-19. doi:10.1521%2Fpedi.2011.25.5.607

5.2.8 Tables

Table 5.1 *Mean and standard deviation scores, pre and post treatment across all domains, BPD traits (n=10), all other scales n =17.*

Scale	Pre		Post		t	p	95% CI	η^2
	M	SD	*M*	sd				
Clinical measures								
BDI-II	**31.94**	**12.18**	**19.06**	**11.13**	**4.47**	**.01**	**6.77-18.96**	**.56**
BAI	22.35	11.78	19.06	9.64	1.13	.21	-11.95-8.62	.07
BPD	**26.70**	**9.33**	**18.50**	**11.35**	**3.90**	**.01**	**3.45-12.95**	**.63**
Coping								
Social support	63.24	12.61	66.76	13.57	-.89	.39	-11.95-4.89	.04
Solving problems	**58.59**	**16.19**	**70.24**	**13.25**	**-2.88**	**.01**	**-20.22-3.08**	**.48**
Work hard	65.88	16.43	72.53	17.10	-1.55	.14	-15.77-2.47	.13
Worry	72.65	17.10	62.94	16.21	2.01	.06	19.97-16.21	.25
Improve relationships	53.82	17.19	56.18	12.81	-.69	.50	-9.57-4.87	.03
Wishful thinking	57.35	18.97	54.18	16.79	.77	.45	-5.62-12.09	.04
Tension reduction	62.65	19.13	54.41	13.90	1.75	.10	-1.76-18.23	.16
Social action	32.65	8.86	38.82	13.05	-2.07	.06	-12.51-.16	.26
Ignore problem	61.18	16.70	58.47	18.34	.63	.54	-6.38-11.80	.02
Self-blame	**74.41**	**24.99**	**60.59**	**21.42**	**2.27**	**.04**	**.92-26.73**	**.36**
Keep to self	56.76	19.52	52.65	20.55	.66	.52	-9.15-17.39	.03
Spiritual support	36.18	24.72	33.00	20.70	.71	.49	-6.26-12.61	.03
Focus on positive	46.47	14.00	52.05	15.21	-1.49	.16	-13.56-2.38	.12
Professional help	**62.59**	**14.53**	**68.82**	**18.42**	**-2.17**	**.05**	**-12.34--.13**	**.34**
Relaxing diversions	58.24	12.98	66.47	15.18	-1.81	.09	-17.89-1.42	.17
Physical recreation	41.59	20.48	47.76	17.54	-1.72	.11	-13.80-1.45	.16
Protect self	**47.06**	**10.90**	**55.88**	**13.14**	**-3.27**	**.01**	**-14.54-3.11**	**.54**
Humour	49.41	22.80	55.59	18.10	-1.11	.28	-17.97-5.62	.08
Not cope	75.41	17.80	59.18	16.58	1.59	.13	-2.10-14.57	.14

Table 5.2 *Change in percentage of participants' severity scores across the clinical domains pre and post intervention.*

	Pre %	Post %	Change %
BDI (*n*=17)			
Minimal	5.9	23.5	17.6
Mild	5.9	17.6	11.7
Moderate	23.5	41.3	17.8
Severe	64.7	17.6	-47.1
BAI (*n*=17)			
Minimal	5.9	11.8	5.9
Mild	23.5	23.5	-
Moderate	41.1	35.3	5.8
Severe	29.4	29.4	-
BPD (*n*=10)			
Minimal	5.9	11.8	5.9
Mild	-	17.6	17.6
Moderate	29.4	23.5	-5.9
Severe	64.7	5.9	-58.8

Table 5.3 *Reliable change index by participant using Edwards-Nunnally adjusted scores (AS) for regression to the mean.*

	BDI-II[1, a] (*M*)				**BAI[2, b] (*M*)**				**BPD[3, c] (*M*)**			
Part.[4]	T1[5]	T2[6]	AS[7]	RCI[8]	T1	T2	AS	RCI	T1	T2	AS	RCI
1	30	30	30.14	0	29	26	27.34	-0.36	-	-	-	-
2	**38**	**23**	**37.58**	**-3.29**	**-3.29**	22	10	22.09	-	-	-	-
3	20	14	20.84	-1.32	-1.32	13	14	15.34	-	-	-	-
4	**27**	**7**	**27.35**	**-4.39**	12	3	14.59	-1.08	-	-	-	-
5	**32**	**23**	**32.00**	**-1.98**	21	18	21.34	-0.36	-	-	-	-
6	10	13	11.54	0.66	17	16	18.34	-0.12	-	-	-	-
7	28	23	28.28	-1.10	26	24	25.09	-0.24	-	-	-	-
8	35	38	34.79	0.66	25	31	24.34	0.72	22	22	22.56	0
9	45	37	44.09	-1.76	21	8	21.34	-1.56	30	32	29.60	0.44
10	**40**	**13**	**39.44**	**-5.93**	13	5	15.34	-.960	22	15	22.56	-1.53
11	**38**	**27**	**35.58**	**-2.41**	17	31	18.34	1.68	31	25	30.48	-1.31
12	**45**	**24**	**44.09**	**-4.61**	12	8	14.59	-4.80	41	35	39.28	-1.31
13	**24**	**0**	**24.56**	**-5.27**	**25**	**5**	**24.34**	**-2.40**	**21**	**3**	**21.68**	**-3.94**
14	4	6	5.96	0.44	5	17	9.34	1.44	9	4	11.12	-1.09
15	**39**	**3**	**38.51**	**-7.90**	27	25	25.84	-1.20	**24**	**10**	**24.32**	**-3.06**
16	**46**	**21**	**45.02**	**-5.49**	40	36	35.59	-.48	**28**	**12**	**27.84**	**-3.50**
17	**43**	**22**	**42.23**	**-4.61**	**55**	**26**	**46.84**	**-3.48**	**39**	**27**	**37.52**	**-2.63**

Note: Significant results in bold; [1] BDI-II = Beck Depression Inventory Second Edition; [2] BAI = Beck Anxiety Inventory; [3] BPD = borderline personality disorder; [4] Participant number; [5]Time 1; [6] Time 2; [7]AS = adjusted score; [8] RCI = reliable change index;

[a] SEM = 3.22, Standard Difference = 4.557, Reliability coefficient = 0.93;

[b] SEM = 5.89, Standard Difference = 8.33, Reliability coefficient = 0.75

[c] SEM=3.23, Standard Difference = 4.57, Reliability coefficient = 0.88

Chapter 6: Rationale and Methodology for Qualitative Study

6.1 Introduction

The preceding chapters of the thesis have focused on exploration of the characteristics, impact, prevalence and treatment of Borderline Personality Disorder, within university populations. In brief, Chapter 1 represented an introduction to characteristics and considerations pertaining to BPD, and university students with this disorder, while Chapter 2 presented a systematic review and meta-analysis to establish pooled prevalence of BPD in university students. Chapter 4 saw the focus of the thesis shift to cognitive correlates of BPD within an Australian sample, and Chapter 5 examined the efficacy of a University Counselling Service based treatment program for students with BPD. Having suggested there is an identifiable cohort of university students with symptoms of BPD, and cause for some optimism in providing treatment within a university context, the focus of the thesis now shifts to examining the lived experience, and management of students who experience a psychological crisis while on campus. These events are characterised by engaging in problematic and high-risk behaviours that are common to BPD, suggesting an increased probability of students who have a crisis on campus could have BPD, relative to other disorders. Nonetheless, high-risk behaviours such as self-harm, and suicide attempts may occur relative to a range of disorders such as depression, and indeed, in the absence of a psychological diagnosis entirely. In practical terms, a university staff member may not necessarily be cognisant of the diagnostic characteristics of BPD, or any other disorder, and this may be the case for students who experience symptoms as well. As such, the focus of the thesis now shifts away from BPD, to the management of a psychological crisis.

Thus far, the thesis has necessarily employed a quantitative mode of analysis given earlier aims of the thesis were to quantify the occurrence of BPD in university students, and test for specific characteristics, however there are limitations to the type of information quantitative analysis can yield. Specifically, obtaining a detailed descriptive account of the experience of a crisis from various perspectives would be better served by examination through qualitative methods. As improved management of a crisis is a further proposed outcome of the work in this thesis, the experience of staff that have been involved in assisting students during these events is also warranted. Experiential investigation of a crisis may provide key insights to appropriate management of this event from the perspective of university staff and students, a notable gap in the literature. Thus the aim of the following chapter is to provide a rationale for the qualitative documentation of student and staff experience of a crisis, and describe the qualitative method employed in Chapter 7.

6.1.1 Psychological crises on university campus

A psychological crisis is a cognitive, physiological and behavioural event whereby environmental stressors, or perceived presence thereof, overwhelm an individual's capacity to cope (Flannery & Everly, 2000). These events may occur in the context of a critical incident such as violent crimes, natural disasters and accidents, life stressors such as relationship break-ups or exams, or as a cyclic event within the context of psychological illness (Roberts, 2005). While for some a crisis manifests as withdrawal and behavioural inhibition, for others the event results in engaging in behaviours that pose a risk to themselves, or other people. Establishing or assessing for the purpose of diagnosis is not the emphasis in responding to a crisis. Rather, assistance in these circumstances involves immediate intervention for high-risk behaviours, and stabilising the person with the aim of circumventing either them harming themselves or other people (Flannery & Everly, 2000). Within a university context, the management of a student crisis is complex, and may be associated with poor outcomes for both the person in crisis and those who are involved in providing assistance. The reasons for this fall broadly under four domains, namely factors relative to: students in crisis, university-based mental health professionals, support university staff, and the institution.

6.1.1.1 Students in Crisis

While people may seek assistance during a crisis, this is not necessarily enacted in an effective manner. For example, people with BPD are relatively proactive in seeking help, yet may behave in a difficult or aggressive manner toward those they have sought help from (Linehan, Cochran et al., 2000). People in crisis may find it difficult to communicate their needs, and experience ambivalence, fear, distrust, and frustration in response to others' attempts to provide assistance (Gunderson et al., 2000; Holm & Severinsson, 2011; Lieb et al., 2004). In literature regarding inpatient settings, the importance of establishing trust with a person in crisis, through clear and open communication of available courses of action, is emphasised (Fallon, 2003; Holm & Severinsson, 2011; Lieb et al., 2004). However, there is a significant gap in the literature relating to the event of a student crisis on a university campus, thus it is difficult to extrapolate management characteristics that may be unique to this setting. Further, a crisis may also involve engaging in self-harm, expressing suicidal ideation, or making an attempt at suicide (Lieb et al., 2004). While behaviours such as self-harm and suicide attempts may require immediate medical assistance, severity of these acts occurs on a continuum and may warrant a supportive form of assistance instead. Given the function of these acts may be to release or escape from emotional pain, to punish, generate

feelings during periods of dissociation, or communicate emotional distress (Brown, Comtois, & Linehan, 2002; Hasking, Momeni, Swannell & Chia, 2008), it may be the case that emotional support from a staff member would serve to deescalate a crisis, and divert the need for hospitalisation or inpatient treatment.

6.1.1.2 University-based Mental Health Professionals

Mental health professionals have expressed reluctance toward both assisting people who experience crises, and engaging them in an ongoing therapeutic relationship (Linehan, Cochran et al., 2000). This sentiment is particularly evident outside of clinical settings (Morse et al., 2009), and may be the case in a university counselling service where the service format may preclude treatment provision for students who engage in high risk or problematic behaviours (Meaney-Tavares & Hasking, 2013). Psychologists in University counselling services typically provide treatment within a short-term, limited session, service format for a considerable number of students (Belch & Marshak, 2006). As such, a student in crisis may deplete a psychologist's already limited time and personal resources, given these events are often difficult and time-consuming to resolve (Gilbert, 1992). In cases where the crisis occurs in the context of BPD, external agencies may be reluctant to accept an ongoing role in treatment and management (Fallon, 2003), thus students who have been hospitalised following a crisis may be discharged to the care of the counselling service (Mahadevan, Hawton & Casey, 2010; Meaney-Tavares & Hasking, 2013). This outcome is problematic both in terms of ethical practice, and feasibility given people with BPD usually require longer-term therapy, experience recurrent crises, and may need after hours contact. Nonetheless, it is likely that counselling service psychologists have strategies to manage these challenges. As this has been unexplored in the literature, there may be considerable utility in examining psychologists' experience of a crisis, and establishing the nature of the strategies they employ.

6.1.1.3 Support Staff

Other university staff such as security, academics and staff in residential services may be mobilised to assist a student in crisis. The university involved in the current study has a unique centralised management point for problematic student and staff behaviours while on campus. The Safer Communities Unit provides information, advice and support for staff and students in the instance of experiencing threatening behaviour, unwanted attention, or concerns about the physical and psychological wellbeing of other campus members or themselves (Monash University, 2014). Given this function, the Safer Communities Unit is ideally placed to provide information in response to the aforementioned gap in the literature.

This unit works in tandem with university Security, who are similarly engaged during behavioural incidents on campus. Given the function of security is to contain problematic behaviours on campus, , potential exists for poor interactions with students in crisis. Similarly, other university services such as residential and student services are likely to be involved in behavioural incidents contingent on the student's personal circumstances (i.e. living on campus residences), suggesting the need for input from these services.

6.1.1.4 The Institution

The broad function of the university is to provide educational services and qualifications, while amenities such as a university counselling service operate complementary to this overarching function. Yet a growing body of literature suggests that severe psychiatric symptoms are apparent in university students, suggesting that crisis management will require prioritisation. For example, one US study found that over a 13-year period, and a range of universities, the number of personality disordered presentations at counselling services increased from 2.61% to 7.23%, suicidal presentations increased from 4.80% to 8.98%, and depression increased from 21.10% to 40.67% (Benton, et al., 2003). Similarly, Connell, Barkham and Mellor-Clark (2007) found levels of psychopathology among clients of UK-based university counselling services were only marginally lower than that of an age-matched primary care sample, with 54.4% of the participants reporting suicide risk, compared to 62.5% in the primary care sample. In an Australian sample, students attending a university health service reported significantly higher levels of psychological distress by comparison with their same aged peers. Specifically, 53% of the participants reported a significant level of psychological distress, with 26.4%, reporting symptoms indicative of a mild psychological disorder, 15.8% a moderate disorder, and 10.8% a serious psychological disorder (Stallman, 2008). As reported in Chapter 4 of the thesis, 8.1% of the Australian university student population reported symptoms indicative of a BPD diagnosis, and a further 22.5% reported sub-clinical symptoms.

Despite these trends, it is unclear whether it is appropriate or feasible for the university to accept a role in the management of students with severe psychological illness. In the first instance, universities have been operating under increasing financial constraints since 1996, due to an increase in running costs concurrent with funding cuts, resulting in reduction of staff numbers in perceived non-essential services such as university counselling (Sharda, n.d.). The Australian and New Zealand Student Services Association (ANZSSA; Quintrell & Robertson, 1996) recommend a maximum ratio of 1:3000 counsellors to students, yet current figures suggest university counselling service counsellors operate at a

ratio of 1:5250 (Monash University, 2013). Nonetheless, universities have a responsibility to ensure the wellbeing and inclusion of students with a psychological illness (Australian Council for Private Education and Training, 2012). However, given the reduced number of psychologists the responsibility of assisting a student in crisis will need to be taken up by a range of other university employees. While universities may have crisis response protocols, they have not been represented in the literature, thus rendering it difficult to suggest the preparedness of staff for this role.

6.1.2 Conclusion and Implications for Research

The incidence of student psychological illness, including BPD, is a pertinent issue for universities (Stallman, 2008), and may be associated with an increased number of students experiencing a crisis on campus (Connell, Barkham and Mellor-Clark, 2007). Psychological crises require a careful, consistent and empathic approach to resolve successfully, and staff will need to be prepared both in terms of appropriate practice, and in managing any reluctance or anxiety they may have in relation to these events (Gilbert, 1992). In combination, this suggests the need to investigate the experience of a crisis in a university context from the perspective of those who have first-hand knowledge of this event in order to explore what is perceived to be an effective or ineffective response. As quantitative methods disallow for elaboration or in-depth exploration, qualitative methods are ideal to both examine the essence of the experience of a crisis from the perspective of students and staff, and yield a dynamic and descriptive account of this event. Five qualitative frameworks predominate the literature, namely, Narrative, Phenomenology, Grounded Theory, Ethnography and Case Studies. What follows is a brief discussion of the five approaches in order to justify the selection of the framework utilised in Chapters 7 of the thesis.

6.2 Qualitative Frameworks

Narrative Research is a relatively unstructured mode of enquiry that involves participants recounting a story of their lives or lived experience (Polkinghorne, 1995). As such, the information gathered may be represented as either a biographical study, or a life history with the former referring to life experiences at any given point, and the latter a chronologically sequenced recount of experiences and/or events (Czarniawska, 2004). Narrative Research is regarded as an appropriate approach, should the researcher aim to capture a detailed sequence of events across the lifespan of a small number of individuals (Creswell, 2006). The process involves multiple data collection events, including interviews, observations of the individual in situ, and gathering additional information sources such as letters and photographs, discussion with family members, and other correspondence or

publications relating to the individual under study (Clandinin & Connelly, 2000). The ensuing information is "restoryed" to suggest both a chronology, and causal link between sequences of events (Ollerenshaw & Creswell, 2000). This process involves a high level of collaboration between the researcher and participant, and ultimately yields a narrative involving both the participant's lived experience, and the researcher's interpretation of the overarching storyline (Ollerenshaw & Creswell, 2000). Given the characteristics of this framework, Narrative Research is associated with limitations such as the amount of time required to gather information, and bias on the part of the researcher in the interpretation of the story that unfolds (Creswell, 2006; Pinnegar & Hamilton, 2011).

Phenomenology, or the Phenomenological Approach serves to describe the meaning, or lived experience of several individuals relative to a particular concept or phenomena (Creswell, 2006). In this way the approach emphasises the search for commonalities of experience, then seeks to extract the "essence" of the experience that represents a composite of explanatory factors, and the manifest of the experience itself (Moustakas, 1994). Phenomenology is commonly employed in enquiries within the discipline of health sciences, and is characterised by two approaches, namely hermeneutical (van Manen, 1990), or psychological phenomenology (Moustakas, 1994). The methodology of the former yields a description of the concept from the light of the researcher's interpretation, while the psychological approach culminates in subject driven information. The researcher sets aside his/her own views or experiences, views the information as novel, and subsequently reduces the information obtained to a set of significant statements, which are then complied as themes (Creswell, 2006). In turn, themes underpin the formulation and construction of a textural description of the collated experience, and the context in which this occurred is called imaginative variation or structural description. The composite of this information is termed as the essence or invariant structure, which represents the ultimate outcome of the process. The number of participants required ranges from five to 25 individuals, contingent on saturation, or when the information begins to replicate across a cohort (Moustakas, 1994; Polkinghorne, 1989). Limitations of the Phenomenological approach include potential difficulties for researchers in setting aside their own experience, and obtaining a homogenous sample that have experienced the phenomena under study (van Manen, 1990).

Grounded Theory moves beyond the descriptive scope of Phenomenology and aims to generate or uncover a theory, action or interaction from the data. As with Phenomenology, the participants are required to have commonalities in their experiences, which collectively generate a theory. The two approaches that are widely associated with this framework of

enquiry are the systematic procedures (Strauss, 1987; Corbin & Strauss, 1990), and constructivist approach (Charmaz, 2014). The former involves the systematic development of a theory derived from field visits, interviewing a large number of participants (20 to 30; Creswell, 2006). Alternatively, the constructivist approach emphasises the ideology of the individual and draws significantly upon the personal values of the researcher. The approach involves a dynamic data collection process, whereby the researcher collects the data, analyses the data, and then returns to the collection process with this cycle enacted numerous times until saturation of the core themes occurs (Creswell, 2006). The final product is referred to as a substantive-level theory, which may be tested quantitatively at a later state in order to empirically verify and suggest its ability to be generalised (Creswell & Piano Clark, 2007). However this approach necessitates extensive time commitment from the researcher, and difficulty in objectively establishing when saturation has occurred due to the potential for the researcher to become immersed in the data (Creswell, 2006).

Ethnographic Research aims to examine shared patterns of behaviour within a group of people who are co-located, or share a culture (Creswell, 2006; Reeves, Kuper, & Hodges, 2008). As such, the process of this framework characteristically involves living with the community under study and observing them on a day-to-day basis (Atkinson, Coffey, & Delamont, 2003). This framework requires that researchers immerse themselves in the culture under study, including routines, and languages, and typically involves the study of groups of people larger than those recruited for grounded theory and phenomenology approaches (Creswell, 2006). The Ethnographic method underpins much research under the discipline of cultural anthropology (Creswell, 2006), and is less commonly used in clinical psychology (Peters & Skirton, 2013). In the context of the current study, the literary rather than scientific tone of the subsequent write-up, which is a characteristic of this approach, is not appropriate to achieving the study aims (Creswell, 2006).

The final qualitative framework to be discussed is Case Studies, which are commonly used in psychological enquiry (Creswell, 2006). The process involves an investigative analysis of one case or participant, within a bounded setting or specific context, or multiple cases over time (Creswell, 2006). The method of data collection is similar to Narrative Research, as it involves the collection of multiple sources of information. This approach is utilised when there are identifiable cases representing the context under study, and these cases have clearly delineated boundaries (Yin, 1992). Analysis may be either holistic, involving the case in its entirety, or embedded, which involves a specific feature of the case (Stake, 1983; Yin, 1992). Through this process a detailed description emerges, which is then

examined for themes within the case, then finally interpreted and reported upon. Challenges associated with this approach include both selection of and ultimately justifying the case/s chosen for study, while advantages include the method's suitability for providing an in-depth understanding of a case, or comparison across cases (Creswell, 2006; Yin, 1992).

6.2.1 Summative Rationale for Method

Of the above methods, Phenomenology appears to be the most appropriate approach to yield a descriptive account of the lived experience of a crisis, and subsequently compose an account of this event in terms of common characteristics and explanations. Further, this approach will facilitate the identification of themes that arise relative to effective strategies to assist a student in crisis, which will form the framework for guidelines that are described in chapter 8. Table 6.1 further expands upon the rationale underpinning the choice of framework by comparing the relative merits and limitations of each approach with reference to the research question.

Table 6.1 *Summary of main qualitative approaches, including advantages and disadvantages in the context of this study*

Qualitative method	**Focus**	**Advantages (for current study)**	**Disadvantages (for current study)**
Phenomenology	Gain insight relative to how individuals experience or "live" a particular phenomena and, subsequently distil the essence of that experience	• Emphasizes the collated *experience* of either having, or assisting someone during a psychological crisis, thus aligns with focus of the study • Considered best approach to develop practice or policy thus aligned with study goal	• Requires participants to be able to verbalise the experience, which may be challenging for the student group given there may be alexithymic tendencies • Professional staff may have considerable variance in experience given the diversity of this category, and relatedly their roles
Narrative Research	Expressing "lived" in chronologically ordered stories of people's life experience, and its meaning	• Yields descriptive information at different time points through either disorder, or professional role • Allows collection of information for multiple incidents of a crisis, and the events preceding this outcome	• Given the lack of structure the experience may yield a higher proportion of information that is unrelated to the study • An in-depth detailed and time-consuming data collection and analysis period is required thus not feasible

Grounded Theory	Generates a theory based to explain a process based on the experience of a large number of people	• There is a gap in the literature relating to theories that explain student/staff interactions during a crisis • Would allow generation of a model for further research	• Requires a large number of participants (20-60 per group) which is not feasible • Does not represent the research aim of the study
Ethnographic Research	Examination of shared process, action or interaction of a culture-sharing group to develop a theory	• Would enable a solid and comprehensive understanding of specific approaches to crises • Would allow generation of a comprehensive model	• The methodology requires considerable time and immersion in the group under study • Inappropriate for the research questions

Case Studies	Analysis of one case or participant, within a bounded setting or specific context	• Would allow for a detailed examination and hence understanding of the broad range of factors that contribute to a particular behavioural approach or attitude	• Inherent issues with generalizability within the context of generating a guideline • Inappropriate for the research questions

6.2.2 Aims

The study described in Chapter 7 had two aims:

The first aim was to explore the lived experience of either having a crisis, or of helping a student during a psychological crisis.

Second, to extract the essence of this experience, in order to provide a framework for the development of guidelines for university staff to assist a student during a psychological crisis (described in Chapter 8).

6.3 Procedure

6.3.1 Participants

At least five participants are required per group to adequately employ phenomenological methods (Creswell, 2006; Morse, 1994). The sample obtained consisted of six psychologists employed at the university counselling service, six university support staff consisting of two staff at the Safer Communities Unit, two Student Rights officers and two academic staff with student advisory roles (see Table 6.2 for further detail). The aforementioned support staffs were chosen, as they would be mobilised to assist students during a psychological crisis as part of their role. Further, six students who had experienced a crisis while on campus also participated (see Table 6.3 for further detail).

Table 6.2 *Detailed university staff participant details*

Name[1]	Gender	Role[2]	Time role[3]	Time uni.[4]	No. of crises[5]	Qualifications	Training[6]
Isabella	Female	Counselling Psychologist	7	8	>200	Postgraduate	MHFA
John	Male	Counselling Psychologist	7	7	>10	Postgraduate	MHFA & CMT
Margaret	Female	Counselling Psychologist	15	15	>300	Postgraduate	MHFA & CMT
Shirley	Female	Counselling Psychologist	2	2	>10	Postgraduate	No
Rachael	Female	Clinical Psychologist	3	4	>70	Postgraduate	CMT
Mia	Female	Clinical Psychologist	7	9	>100	Postgraduate	CMT
Janice	Female	Safer Communities	5	18	>200	Postgraduate	MHFA & CMT
Charlotte	Female	Safer Communities	4	4	5	None	MHFA
Tony	Female	Student Rights	<1	11	>10	Postgraduate	MHFA
Matt	Male	Student Rights	6.5	11	>200	Postgraduate	MHFA & CMT
Paul	Male	Student Advisor/Academic	5	15	>100	Postgraduate	No
Leigh	Male	Student Advisor/Academic	1	4	>10	Postgraduate	No

Note. [1]All names are fictitious to preserve the anonymity of participants; [2] Position/role in university; [3] Years in in current role; [4] Length of time worked in a university setting; [5] Approximate number of times they have assisted a student in crisis; [6] Training in mental health first aid (MHFA) or psychological crisis management (CMT)

Table 6.3 *Summary student participant details*

Name	Gender	Age	Level of study	Year of study	Self-reported Diagnosis	Number of crises	Treatment undertaken[1]
Fleur	Female	18	Undergraduate	1	Depression/Anxiety/BPD	2	CS; HS; Med
Jess	Female	19	Undergraduate	2	Depression/Anxiety/BPD	7	PST; Med
Taylor	Female	24	Undergraduate	2	Depression	2	GPOC
Charlie	Female	18	Undergraduate	1	Depression/Anxiety	1	GPOC; Med
Missy	Female	19	Undergraduate	2	Depression/BPD	2	GPOC
Phoebe	Female	21	Undergraduate	3	Depression/Anxiety	3	HS; Med

Note. All names are fictitious to protect anonymity; [1] CS = university counselling service, HS = university health service general practitioner, PST = Psychiatrist, Med = psychotropic medication, GPOC = general practitioner outside college.

6.3.2 Recruitment

The recruitment process varied according to the characteristics of the group targeted for participation. In order to recruit the psychologists, the manager of the university counselling service was sent an email containing a letter (see Appendix 6A) that outlined the study and participation requirements. The Explanatory Statement for the psychologists (See Appendix 6B) was also appended to the email. The manager was asked to disseminate details of the study, including the Explanatory Statement to the psychologists, who if willing to participate, were asked to contact the researcher directly to organise an interview time. To recruit support staff, the Managers of Safer Communities, Security, Monash Residential Services, and the Health Service were contacted via an email or letter (see Appendix 6C), containing the Explanatory Statement for support Staff (see Appendix 6D) and similarly asked to inform staff of the study. Staff who indicated an interest in participating were asked to contact the researcher directly to organise an interview. Academics in student support roles were emailed directly by the researcher, and asked to make contact to organise an interview if they wished to do so. This method was undertaken at the request of the managers of the academic support staff.

University students who had experienced a psychological crisis while on campus were recruited through two procedures. The first entailed identification of eligible participants by psychologists at the University Counselling Service. Having initially approached the counselling service Manager for permission, the researcher organised to present an information session at the morning briefing at the counselling service. During this session, the researcher explained the recruitment process, and psychologists were given a letter representing a hard copy of this information for later reference (see Appendix 6E). The process entailed psychologists identifying and contacting via email, previous or current clients who had experienced a psychological crisis while on campus and including the Explanatory Statement for Student participants in the email (Appendix 6F). It was further explained that it was not necessary for potential participants to have a formal diagnosis of BPD, as multiaxial diagnosis is not a function of the counselling service. If students were interested in participating, they were again asked to contact the researcher directly to organise an interview. Second, recruitment fliers were placed around the university asking the students to contact the researcher directly if interested in participating (Appendix 6L), and were screened over the telephone to assess for suitability prior to attending an interview (Appendix 6M). Those who qualified were emailed the Explanatory Statement. Each participant was informed they could enter a draw to win either one $100, or one of two $50 vouchers from

Coles-Myer[3] or iTunes.

6.3.3 Ethical Considerations

All participants were informed of the voluntary nature of participation, the nature of data collection, and storage, and the right to withdraw from the study. With reference to the psychologists, the researcher had worked in the counselling service from 2008 to 2011, thus recruiting was enacted through the manager of the counselling service to minimise the chance of perceived coercion. The researcher did not have any previous professional relationship with members of the support staff with the exception of staff from Safer Communities, nonetheless all recruitment approaches were enacted through managers of each service or division. Similarly, psychologists at the counselling service were instructed that previous clients of the researcher should not be approached for participation due to the possibility of coercion and the inherent dual relationship.

Students who had either experienced a crisis within the past three months, or who were currently experiencing a crisis were excluded from the study due to the potential for distress in relating this event. Rather than asking any interested students to contact the researchers, psychologists at the counselling service were asked to pass information about the study onto clients they thought would be suitable. This approach was used to minimise the chance of particularly unwell students, or students who may become distressed by discussing their crisis experience, participating in the research. Given the psychologists had prior knowledge of their clients; it was considered that they would be best placed to ascertain students' current mental status, and whether participation may cause distress. The Explanatory Statement that counselling service psychologists disseminated to potential student participants emphasised that non-participation would not affect either current or future treatment. Following contact from students, the researcher also used e-mail and phone contact to ensure individuals met criteria for study entry. Further, the counselling service was offered as one option for the interview venue given the students' familiarity with this environment, and access to support if required. However, should the participant not wish to attend the counselling service, they were also offered the option of attending an interview in an office located within the university. As the researcher is a qualified clinical psychologist specialising in clients with high-risk presentations, capacity existed to both act in the case of distress, and facilitate a suitable referral. The Monash University Human Research Ethics Committee provided ethical approval for the study, and the Human Ethics Certificate of

[3]Coles-Myer is the former name of Coles Group Limited, representing two of the largest Australian retail shops. Coles is the food and grocery outlet, while Myer is a department store.

Approval can be viewed in Appendix 6N.

6.3.3 Interviews

6.3.3.1 Interview Guide

The interview guides were devised to reflect the overarching aims of the study, namely to explore the lived experience of a crisis, and participant perceptions as to what might be helpful to provide assistance during this event. The interview guide for psychologists employed at the university counselling service related in part to what they found challenging while assisting a student in crisis, which strategies or actions they employed, what they would recommend staff without psychological training do to assist a student in crisis, and if they had any specific recommendations as to how student crises could be better managed in terms of university resources. Further, the content of the interview aimed to investigate present understanding, and/or usage of existing guidelines or protocols for managing students in crisis, shown in Table 6.4.

Table 6.4 *Psychologist Interview Guide*

1. What if anything, do you find challenging, in responding to a psychological crisis?
2. Which approach/es or protocols if any, have you utilised in managing these challenges?
3. (If applicable), which of these approach/es or protocols have you found to be the most effective?
4. Please describe any individual characteristics, or skills that are associated with better outcomes for resolving a crisis presentation of clients
5. Can you describe any existing guidelines for responding to a psychological crisis? (if required
7. What types of strategies would be useful in facilitating staff wellbeing after having assisted a student in crisis?
8. Are there any university-based resources that should be made available for students experiencing a crisis?
9. Please describe any strategies or actions you would recommend a non-mental health professional utilise in providing support to a student in crisis whilst on campus?
10. What, in your opinion might be helpful for students with risk presentations?
11. (If applicable) Which skills could be included in a brief (8-10 session)

prompt availability and usefulness) 6. Please describe anything else you believe should be included in future guidelines for students (e.g. how to manage a crisis, suicidal ideation, etc.).	therapeutic program for students experiencing a crisis (e.g. distress tolerance)? 12. Is there anything else you would like to add?

The interview guide was similar for support staff (detailed in Table 6.5), however no prior knowledge of a psychological crisis was assumed, thus they were asked to describe what they had observed that lead them to believe a student was in crisis. The interview guide for students who had experienced a crisis was designed to retrospectively tap aspects of this event, such as thoughts, behaviours, and help seeking. Specifically, the student perspective on the event including what may have preceded the crisis, what a crisis feels like, which thoughts and/or behaviours were difficult to manage, which aspects of any assistance provided were helpful or unhelpful, and whether treatment had been undertaken (see Table 6.6). In all instances, the questions were open-ended in order to elicit as much detail as possible, and to encourage the participant to perceive "ownership" or feel invested in the research process, and to enhance the researcher's understanding of this information both during the interview and subsequent data analysis, in accordance with the Phenomenological approach (Creswell, 2006; Wimpenny & Gass, 2000).

Table 6.5 *Support Staff Interview Guide*

1. Please describe what you observed that led you to believe a student was experiencing a psychological crisis? 2. Thinking back about your experience/s in assisting students experiencing crisis, how would you evaluate the overall experience in terms of your own	8. What are the strengths or limitations of this process or protocol? 9. What do you think the role of the university should be, if any, in assisting students who experience high levels of distress, self-harm, and suicidal ideation? 10. What types of resources or skills

feelings? (capability, own distress, etc.) 3. Which, if any, particular events or aspects of this experience led you to evaluate it this way? 4. Were there any deficits in your knowledge or skills that would have been useful to have? 5. Could you explain any process or protocol your division (or service) may have in place to assist students who have self-harmed? 6. What are the strengths or limitations of this process or protocol? 7. Could you explain any processes or protocols your division (or service) may have in place to assist students experiencing psychological distress and/or suicidal ideation?	do you think would help someone without training in mental health assist a student experiencing high levels of psychological distress? 11. How useful would a protocol designed to assist students experiencing a crisis be for you? 12. Should a student be experiencing a crisis, are there any resources the university could make available in assisting to resolve the situation? 13. Is there anything else you would like to add?

Table 6.6 *Students with Experience of a Psychological Crisis Interview Guide*

1. Tell me about a situation in which you experienced severe distress whilst at university? 2. If we call this situation ”x*”, what actually happened during x? (if needed, prompt thoughts or behaviours, and the impact). 3. What types of things happened that led to you experiencing x?	5. Did you seek help at all, during this time? Why or why not? 6. If you did seek help, from whom and why? How was that? 7. What happens when help seeking doesn’t go well? 8. Is there anything else you would have liked someone to do to assist you?

4. When you experienced x, which thoughts or urges, did you find the most difficult to manage?
9. Have you had any psychological treatment? (why or why not, and what did you think of it).
10. Is there anything else you would like to say about experiencing x while at uni?

6.3.3.2 Interview Process

For the psychologists, the interviews were held in their offices on campus. Prior to commencing the interview, the participant was asked to complete a brief demographic questionnaire (See Appendix 6G), and Consent Form (See Appendix 6H). The information in the explanatory statement was reiterated, and audio recording commenced if the participant agreed, which occurred in all cases. The psychologists were prompted to give a response to the guiding questions (see Appendix 6I), and encouraged to elaborate on their responses. The Phenomenological approach emphasises the importance of the interviewer and interviewee co-creating an understanding of the phenomena under study, thus requiring a reflexive and joint authored approach (Wimpenny & Gass, 2000). This process was replicated across the support staff group, who were similarly asked to complete the same demographic questionnaire, and consent form specific to their group (see Appendix 6J). The interviews were held at their office, or an office situated within their building. All other aspects of the interview process replicate that of the psychologist group. Each interview for both of these groups was between 50 to 60 minutes in duration. For students who had experienced a psychological crisis the interviews were held at the university counselling service, or at an office on campus. Again, the content of the explanatory statement was reiterated and participants provided signed consent (see Appendix 6K). Prior to the interview, which was approximately 60 minutes in duration, the students were asked to complete a brief demographic questionnaire (see Appendix 6L).

6.3.3.4 Member Checks

In order to verify the data, member checks (Morse, Barrett, Mayan, Olson, & Spiers, 2002) were undertaken, with all participants being emailed transcripts of their interview for approval, prior to inclusion into the study. The participants were instructed that they had two weeks to read the transcript and delete any data they did not want included, or could chose to

withdraw from the study completely. Of the 18 participants, none chose to delete data or withdraw completely.

6.3.5 Analysis

The individual interviews were audiotaped, subsequently transcribed verbatim and following member checks, analysed in order to extract common themes within each transcript then across participants in each of the three groups. Thematic Content Analysis, which represents a method of identifying, analysing and reporting themes of the phenomena under study was employed as a suitable analysis method under the Phenomenological approach (Braun & Clarke, 2006). The first phase of thematic analysis represented transcribing and familiarizing with the content of the data, and as such the audio recordings of the interviews were transcribed verbatim, and read several times. The second phase involved generating open codes, and the third searching for themes, which in combination required labelling the data as summated information and identifying patterns. The fifth phase of analysis involved collection of these summations and further reduction of this information to represent categories, which were grouped and labelled as themes (Braun & Clarke, 2006; Burnard, Gill, Stewart, Treasure, & Chadwick, 2008). The sixth and final phase includes final analysis, and subsequent relating of the themes back to existing literature, and generating the final report.

Declaration for Thesis Chapter 7

Declaration by candidate

In the case of Chapter 7, the nature and extent of my contribution to the work was the following:

Nature of contribution	**Extent of contribution (%)**
Study conceptualisation	80
Statistical analysis	90
Writing	90

The following co-authors contributed to the work:

Name	**Nature of contribution**
Penelope Hasking	Conceptualisation, structuring, editing and statistical processes
Andrea Reupert	Conceptualisation, structuring, editing and statistical processes

The undersigned hereby certify that the above declaration correctly reflects the nature and extent of the candidate and co-authors contributions to this work.

Signatures

Candidate	[redacted]	**Date:** 18-1-2016

Main Supervisor	[redacted]	**Date:** 18-1-2016

7.1 Chapter Overview

This chapter presents an article titled "The experience of a student psychological crisis on campus: Perspectives of students and college staff who have provided assistance." The article represents research undertaken to fulfil the fourth aim of the thesis, namely, to examine the experience of a student psychological crisis on campus from the perspectives of students, and staff who have assisted in this event. This task employed qualitative techniques, and was submitted to the Journal of Higher Education on 13th April 2015. The paper is included in this chapter in a format consistent with that of the thesis rather than submission, with the exception of US vernacular. Two tables were submitted with the article, and are presented within the chapter.

7.2 Paper submitted to Journal of Higher Education

7.2.1 Title Page

Title: The experience of a student psychological crisis on campus: Perspectives of students and college staff who have provided assistance

Authors:

[a] Rebecca Meaney, BPsych (Hons); MPsych (Clinical), Faculty of Education, Monash University, Melbourne, Australia

Penelope Hasking, PhD; Associate Professor, School of Psychology & Speech Pathology, Curtin University, Perth, Australia

Andrea Reupert, PhD; Associate Professor, Faculty of Education, Monash University, Melbourne, Australia

[a] Corresponding author: Rebecca Meaney; mailing address: Faculty of Education, Monash University, Melbourne, Australia 3800; [redacted]

7.2.2 Abstract

Many college students are diagnosed with various psychiatric disorders, and cope effectively with their symptoms throughout study. However, episodes of peak symptom severity, termed psychological crises may occur for students on campus. A range of college student support staff can be mobilized to assist, yet we know little about staff's understanding of, and preparedness for, managing such crises. Staff may also have views of effective action during crises that differ from students who seek their assistance. This study aimed to explore these considerations. Drawing on a phenomenological approach, and in-depth interviews with six college-based psychologists, six staff in student support roles, and six students who experienced a crisis on campus, we found students valued staff involvement, and staff embraced the helper role. Nonetheless, factors embedded in broader pedagogical, systemic, and fiscal considerations influenced the capacity of staff to assist students in crisis. We discuss implications for future research, and suggest strategies and programs that may assist staff in supporting students in crisis.

Key Words: college students, psychological crisis, mental health, college staff

7.2.3 Introduction

A number of sources suggest that the prevalence and severity of psychiatric illness in students has increased over time (e.g. Penven & Janosik, 2012; Watkins, Hunt & Eisenberg, 2011). Similarly, college staff have reported greater numbers of students presenting to them for assistance during periods of peak psychiatric symptom severity, known as a psychological crisis (Everly & Lating, 2013; Monahan, Bonnie, Davis & Flynn, 2011). This term is used to describe an acute symptom episode that may be preceded by an aversive event or stressors, which overwhelm an individual's capacity to cope (Everly & Lating, 2013). A crisis may manifest as high-risk behaviours such as self-harm, suicidal expression and attempts, and aggression or violence toward others (Brennaman, 2012; Koekkoek et al., 2011). Alternatively, a crisis may be evidenced by an absence of adaptive behaviours, for example, social and emotional withdrawal, and avoidance (Cleary, Walter & Jackson, 2011).

Help seeking during a crisis may not be undertaken in a manner that is conducive to successful outcomes, for example, people in severe distress may be aggressive or hostile, overly demanding, or proactive in presenting for assistance but passive in following through with referrals and treatment (Brennaman, 2012; Koekkoek et al., 2011). Over time, outcomes such as these may lead to staff feeling distressed and frustrated, and may contribute to staff burnout (Watts & Robertson, 2011). Interactions between students in crisis, and stressed or reticent staff have the potential for very poor outcomes, such as cessation in help seeking, harm to either party, or the loss of an opportunity to circumvent a suicide (Brennaman, 2012; Monahan et al., 2011). As such, an exploration of the experience of having a crisis on campus, or assisting a student during this event, warrants thorough exploration, as this may serve to provide valuable insight into factors that support, or hinder, effective action during this event.

7.2.3.4 Management of Student Crises

Within an Australian context, recent federal funding cuts to the college sector have resulted in retractions of perceived non-essential services (including counselling services; Caleb, 2014; Pitman, 2013). Thus, the task of assisting a student during a psychological crisis may fall to a broad range of college staff, including medical professionals, security personnel and academic staff (Cleary et al., 2011). However, the literature offers minimal insight as to how well staff are prepared or supported in undertaking this task. Some evidence suggests college staff feel ill equipped to manage disruptive behaviours such as student rudeness (e.g. Cleary et al. 2011; Monahan et al., 2011), and much less prepared in cases where students disclose symptoms of serious psychiatric illness (McAuliffe, Boddy, McLennan & Stewart,

2012). Importantly, while much of the focus in previous literature is on the welfare of the student in crisis, little attention has been paid to the impact on the college staff called to assist them. As previously stated, people in crisis may direct difficult or hostile behaviours toward those who offer assistance, potentially resulting in staff feeling distress themselves (Brennaman, 2012; Koekkoek et al., 2011).

College staff may not recognize when a student is in crisis, or may understand this event in terms of a narrow range of behaviours such as suicidal expression only (e.g. McAuliffe et al., 2012; Monahan et al., 2011). Students who are in crisis may approach staff with considerable variations in symptom severity and type, both across students, and individually across crisis episodes (McAuliffe et al., 2012). Where recognition of a crisis may be idiosyncratic, so too may be expectations around the appropriate response to this event (Storrie, Ahern & Tuckett, 2010). A large proportion of students in crisis preferentially seek help from peers, and are reluctant to approach staff due to fear of stigmatization, or expulsion from college (e.g. Cleary et al., 2011; Eisenberg, Hunt & Speer, 2012). Further, some studies have found that students who had sought help during a crisis from college staff in student support roles, such as student advisors and course coordinators, reported dissatisfaction with these interactions (Drum et al., 2009; Quinn, Wilson, Macintyre & Tinklin, 2009). Similarly, some reports suggest that only half of students who sought help from the counselling staff during a crisis reported these interactions as helpful (e.g. Drum et al., 2009).

While barriers to help-seeking during a crisis are well-established in the literature (e.g. Cleary et al., 2011; Walter & Jackson, 2011; Drum et al., 2009), scant attention has been directed toward evaluating the forms of assistance students consider helpful during a crisis. Problematically, students have reported that one of the main barriers to help seeking during a crisis is fear of hospitalization (Drum et al., 2009), which in turn, is considered as the appropriate course of action by counselling services when faced with a student reporting crisis-related behaviours such as suicidal ideation, and severe psychological distress (Monahan et al., 2011). This suggests the potential for a disconnect between student expectations during help seeking, and staff response. Such outcomes lead to students evaluating help seeking as dissatisfactory, and reduction, or cessation of, help seeking in subsequent crisis events (Drum et al., 2009). Help seeking during crises is of critical importance (Cleary et al., 2011; Walter & Jackson, 2011), underpinning the need to better understand the expectations of both staff and students, which in turn may ameliorate the efficacy of these interactions.

The current study attempts to investigate the aforementioned considerations in the

context of an Australian college. The aims of the current study are:

First, to explore students' lived experience of having a psychological crisis on campus, and then the experience of a staff member assisting a student during a psychological crisis.

Second, to explore student and staff's understanding of a crisis, actions that assist or hinder resolving this event, and suggestions as to how staff capacity to provide assistance during a crisis can be improved.

Such information allows for the discussion of both common and disparate perspectives, which may be useful to inform a structured approach for staff when providing assistance to a student in crisis. Further, this exploration may serve to direct attention toward the impact of a student crisis on staff, which may generate a greater understanding of support staff may require in order to effectively undertake the helper role. The function of college education transcends program delivery and assessment, to encompass a broader social and learning experience (Eisenberg et al., 2012). Crises impact student's capability to learn, thus effective management of these events goes toward assisting students who may be at risk of dropping out of college due to mental health conditions.

7.2.4 Method

7.2.4.1 Context of Study

The college has five campuses across Melbourne, and in 2013, one of the largest Australian enrolments at 63,002 students, 33% of whom are international students. Each campus has a college counselling service that offers up to six individual treatment sessions to enrolled students, free of charge, and operates between 9am and 5pm. There is one counsellor on the campuses with small student numbers, and six across the largest campus, resulting in a counselling staff to student ratio of 1:4852. The counselling services lack capacity to provide treatment for students with severe or high-risk psychological conditions such as those that involve chronic suicidal behaviour or self-harm. Accordingly, staff attempt to refer students with high-risk presentations to external specialist services, including Psychiatric Triage, a government funded public mental health service that acts as a gateway to external assessment and referral.

The college also has staff that undertake advisory or support roles to the student community. The Safer Communities Unit is a college-specific on-site behavioural management service that provides information, advice and support for staff and students in instances where there are concerns for the physical and psychological wellbeing of campus members. Another resource provided by the college is student advisors, a role filled by

academic staff members, who both respond to study-related enquiries, and field reports of concern around student welfare. Finally, the college has a Student Rights service that provides advocacy for students on a range of matters related to academic progress and completion. All the aforementioned college-based services aim to work collaboratively, and may elect to involve each other in the management of a student experiencing difficulties, such as a psychological crisis. Characteristically, students in crisis either self-present, or are referred to the services by college staff or fellow students.

7.2.4.2 Study Population

7.2.4.2.1 Students

Of the six participants in the student group, all were female, undergraduate students, and aged between 18 and 24 years (M = 19.83, SD=2.32). Five of the students reported they had been given at least one diagnosis in the past two years either by a psychiatrist, psychologist, or medical doctor. The diagnoses given were predominantly reported as mood disorders (83.3%), followed by an anxiety disorder (50%), and BPD (50%). Five students had undergone treatment, and one had regular, ongoing contact with a psychologist at the college counselling service. The students stated they had experienced between one and seven psychological crises while on campus since commencing study (M= 2.8, SD =2.14), and five of the six had sought assistance on campus. The sources of help students sought during a crisis, behaviours they had engaged in during crisis event/s, and past or present treatment, are demonstrated in Table 1 for each participant, identified by a pseudonym.

7.2.4.2.2 College-based psychologists

The study included six psychologists who were employed at the college counselling service. Of this group, five were female, all with postgraduate level qualifications, and five had undergone additional training in mental health literacy or psychological crisis management. The age of the participants was not obtained. The psychologists had between two and 15 years experience working in the college sector (M=6.83, SD=4.57), and between two and 15 years of experience in their current role (M=7.50, SD=4.51). The minimum number of crises a staff member had assisted in was reported as being ten, and the highest estimated at over 300. Brief characteristics of each psychologist by pseudonym can be viewed in Table 2, and psychologists are tagged as (P) in the results section.

7.2.4.2.3 Student support staff

Six additional college staff, employed in roles where they had provided assistance to a student in crisis, also participated in the study. Of these, two staff were from the Safer Communities Unit, two were Student Rights representatives, and two were academic staff

that also held student advisory roles. Three staff members were female, and 83.3% had postgraduate qualifications. The age of the participants was not sought. Overall, support staff reported having between four and 18 years experience in the college sector (*M*=8.83, *SD*=4.86), and between 0.9 to 15 years (*M*=5.40, *SD*=5.20) of experience in their respective roles. Across the cohort, the minimum number of crises an individual staff member had attended to was five, and the highest over 200 student psychological crises. Four of the support staff had undertaken training in Mental Health First Aid, psychological crisis management or both, while two reported having received no training. These staff are tagged as (S) within the results.

7.2.4.3 Recruitment

Following approval from the college ethics committee, the recruitment process varied according to the group targeted for participation. Across the three groups, potential participants were given an explanatory statement describing the nature and purpose of the study, their right to withdraw from the study, confidentiality and data storage. Each participant was informed they could enter a draw to win a $50 gift voucher. Those who agreed to participate attended a 40-60 minute semi-structured interview with the first author, held at a quiet and private location on campus (e.g. an office). The aspects of recruitment unique to each group are described below.

7.2.4.3.1 Students

College students who had experienced a psychological crisis while on campus were recruited through posters placed around the college, and interested students were invited to contact the researcher to arrange interviews. Potential participants underwent a screening interview over the telephone to ensure they had indeed experienced a psychological crisis on campus. If so, participants underwent further screening to ensure they were well enough to participate, and that recounting a crisis episode was not likely to result in distress (e.g. currently symptom free, and no crisis episode within past three months). Where appropriate, students were asked to describe the behaviours they had engaged in, or thoughts they had experienced during the crisis event, and when this event occurred. Immediately prior to the interview, the students were asked to complete a brief measure requesting demographic, diagnostic, and treatment information reported in the participants section.

7.2.4.3.2 College-based psychologists

Psychologists were recruited through the manager of the counselling service, who was asked to disseminate details of the study. Interested staff were invited to contact the researcher directly via email. Those who elected to attend an interview first completed a brief

demographic questionnaire, including experience, qualifications, and if they had undertaken training in mental health literacy, or psychological crisis management such as the program offered at the college, namely Mental Health First Aid (Kitchener & Jorm, 2002).

7.2.4.3.3 Student support staff

The managers of Safer Communities, security, residential services, and the health service were contacted via email and asked to inform staff of the study. Staff who agreed to participate completed the same questionnaire as the psychologists pre-interview.

7.2.4.4 Interviews

The interview schedule varied for each group, but was developed to reflect the overarching aims of the study, namely to explore the lived experience of a crisis, characteristics of a crisis, factors that assist or hinder resolving this event, and suggestions as to how capacity to provide assistance during a crisis could be improved. Staff were also asked if their service or division had any pre-existing guidelines or protocols to assist students in the instance of students reporting suicidal behaviours, or self-harm, given these crisis-related behaviours are particularly high risk, and require a structured response (Monahan, et al., 2011). All interviews were audiotaped, and later transcribed either by a professional transcription service, or the first author. Following completion of each transcript, the content was validated against the audiotape by the first author. Member checking was performed by emailing transcripts to participants (Morse, Barrett, Mayan, Olson, & Spiers, 2002), who were given one week to review and either accept or modify the content of the transcript, or withdraw their input from the study. All participants responded and approved their transcripts for use in the analysis. Aspects of the interviews unique to each group are described below.

7.2.4.4.1 Students

The student interview guide was designed to retrospectively tap aspects of their experience of psychological crisis on campus, such as thoughts, behaviours, and help seeking. Specifically, the student perspective on the event included questions such as: what may have preceded the crisis, what a crisis felt like, which thoughts and/or behaviours were difficult to manage, if they had sought assistance, which aspects of any assistance provided were helpful or unhelpful, and to elaborate on any treatment that had been undertaken. Sample questions included: “Tell me about a situation in which you experienced severe distress whilst at university?” and “If you did seek help, from whom and why? How was that?”

7.2.4.4.2 College-based psychologists

The psychologists were asked open-ended questions that tapped constructs such as challenges, effective strategies, existing or recommended resources to assist staff such as guidelines to assist students who had self-harmed or expressed suicidal ideation, and individual staff characteristics associated with better outcomes when assisting during a psychological crisis. Psychologists were also asked what specific skills or actions non-welfare staff could undertake to assist a student during this event. Example questions include: "What if anything, do you find challenging, in responding to a students' psychological crisis?" and "What types of strategies would be useful in facilitating staff wellbeing after having assisted a student in crisis?"

7.2.4.4.3 Student support staff

The interview guide was similar for support staff however no prior psychological training was assumed. Thus the interview sought to explore their understanding of a crisis, their response to attending to a crisis, actions they had undertaken to resolve this event, and their evaluation of the efficacy of such actions. Further, staff were asked to describe any existing resources available to them to assist in a crisis, and comment on the efficacy of such resources if applicable. Support staff were asked if their division or service had protocols or guidelines to assist students who were reporting suicidal ideation, behaving aggressively, intoxicated or had self-harmed. Sample questions for this group included: "Please describe what you observed that led you to believe a student was experiencing a psychological crisis?" and "Could you explain any processes or protocols your division (or service) may have in place to assist students experiencing psychological distress and/or suicidal ideation?"

7.2.4.5 Research Design

A phenomenological approach was employed in the research design, collection and interpretation of the data. This approach aims to describe the meaning, or lived experience of several individuals in relation to a particular concept or phenomena (Creswell, 2006). The approach emphasizes the search for commonalities of experience, and then seeks to extract the essence of the experience, which represents a composite of explanatory factors (Moustakas, 1994). Phenomenology is characterized by two approaches, namely hermeneutical (van Manen, 1990) or psychological phenomenology (Moustakas, 1994), which was utilized in the current study. The methodology of the former has its basis in philosophy, and focuses upon yielding meaning from the written text, while the psychological approach culminates in subject driven information.

The number of participants required to adequately understand a concept using a phenomenological approach ranges from five to 25 individuals, contingent on saturation, that is, when the information begins to replicate across a cohort (Moustakas, 1994; Polkinghorne, 1989). At six participants per group, the current sample sits within the lower end of the acceptable range, however given the exploration was around a specific event, namely a psychological crisis, and the relative homogeneity of the groups, six participants was sufficient with no novel information being elicited.

7.2.4.6 Analysis

Data analysis drew on 295 pages of interview data, which were checked against recordings for accuracy. The method of analysis was informed by thematic content analysis, which is aligned with a phenomenological approach (Braun & Clarke, 2006). The first step of this approach is familiarization with the data, leading to line-by-line coding of the interview transcripts in order to generate a number of preliminary open codes. Codes were further refined into higher-level categories. While considering the aims of the study, categories that could plausibly answer the research questions were allocated as themes, which were assembled with illustrative interview quotations (Braun & Clarke, 2006; Burnard, Gill, Stewart, Treasure, & Chadwick, 2008). Emergent themes that occurred outside of the scope of the aims were also noted, and subsequently considered for inclusion based upon their ability to enrich the explanation of the experience of a crisis. In accordance with the aim of exploring both common and disparate perspectives on the experience of a crisis, themes were subjected to intra-interview and across-interview analysis, with each group examined separately, then subsequently across all three groups combined (Burnard et al. 2008).

7.2.5 Results

Three core themes emerged through analysis of the student interviews, namely: 1) Crises occur when students are overwhelmed; 2) Staff need to listen rather than just act; and 3) Students value the assistance of staff during a psychological crisis. Data from both college psychologists and support staff revealed six core themes that were relatively homogenous across the two groups and are thus presented together. These focused on: 1) Role contingent understanding of crises; 2) Duty of care; 3) Student crises deleteriously impact staff wellbeing; 4) An absence of protocols and guidelines; 5) Difficulty accessing external psychiatric resources; and 6) The need for prevention, early intervention and college-based resources.

7.2.5.1 Student Results

Crises occur when students are overwhelmed

Students described a crisis as involving suicidal thoughts or behaviours, considering or engaging in self-harm, being unable to cope, and feeling hopeless, agitated, and highly distressed. Fleur stated:

It was like I was going to explode. It just felt so bad that I just couldn't bear [the distress], or get any relief from it. When it gets that bad you get really dark thoughts….ending your life….just anything to make it stop.

Taylor offered a slight variation on the experience of a crisis on campus:

> Scared, then out of control, then scared again. I thought I was going to be ok when I went there [class], I wasn't. It all came crashing down and I was crying uncontrollably. I had to leave, and whether it was that [distress] or that everyone saw, it went downhill from there.

Students unanimously indicated that a crisis occurred following a combination of stressors such as academic requirements, financial difficulty, and interpersonal relationship difficulties or break-ups. Phoebe related:

> My computer kept shutting down. I'm trying to do assignments; I was frustrated, thinking about how I have no money to get a new computer, tired, fighting with my boyfriend, my mother…over something small. Rolled together it became massive.

In the same vein, Charlie spoke of a number of stressors occurring simultaneously:

> It was a combination of things, just everything was going wrong. I tried to manage [distress] but there's always something that tips you over, and in this case is was getting a crap mark [on an assignment].

Students indicated the most difficult thoughts or urges to manage, and some indicated the urge to engage in self-harm, others thoughts of suicide, while Jess, proposed the question did not adequately tap the crisis experience.

> Urges? As in one or two? You've never had a crisis have you? You need to escape from yourself, and outrun a brain you are trapped in. Is that an urge?

Alternatively, Fleur found suicidal thoughts difficult to control:

It would be thinking you want to end yourself…as in suicide. It's all there is when nothing else has worked, and suicide is a way of fixing it. [Suicidal thought] comes out of nowhere…but it sticks.

Staff need to listen rather than just act

All but one student, Missy, had sought help on campus. Students indicated they approached staff predominantly to have someone to listen to them, as opposed to requiring any particular action, such as calling an ambulance or their parents, undertaken on their

behalf. The students expressed that staff were often too busy to listen, as exemplified by Taylor:

> I know [staff] are busy, but I just want to be validated…just for them to say "yes, it's stressful but you're going to be ok". Instead I get told that it isn't their role, or I get handballed to someone else…

Jess indicated that mental health professionals called an ambulance as the default action during crises:

> Having [BPD] for what seems like forever, the one thing I know is when to take myself to hospital. I can do that. I don't need [staff] to do it for me.

All students indicated they approached staff in the hope they would be reassured that aversive feelings, stress, or distress would be transient, and to have their feelings or thoughts normalized or proportionated. As Taylor expressed:

> All I really want [staff] to do is listen, and just let me know that other students have felt like this too, and that they have gotten through it.

Students indicated that they became irritated, combative, or more distressed when they perceived staff as not interested or listening, as expressed by Fleur:

> The irony is, and I've spoken to others [people with BPD] about this, you look for help and the person [helper] makes it worse. Before seeking help I was suicidal, but after staff get involved I'm suicidal AND angry.

Further, the students emphasized that they avoided having a crisis while on campus, as these episodes were highly embarrassing. Charlie said:

> It's [crisis] hard enough to cope with, then knowing you have to go back to class and see these people [students and staff]. You know that they're thinking "there's the crazy chick who tried to kill herself over an assignment".

Taylor spoke of the need for privacy:

> You're vulnerable, you're raw, you just want to be by yourself. Being in crisis is just the last way you want anyone to see you.

Students value the assistance of staff during a psychological crisis

Students indicated that they appreciated concern or involvement from college staff during crisis episodes. In particular, the two students who had been engaged with the counselling service spoke highly of the level of care, compassion, and treatment they had received through their involvement with college psychologists. Phoebe exemplified this through the following:

> Knowing she [the counsellor] was there, and that I could go to see her, it made all the

difference. Knowing someone cared that much was often enough [to prevent a suicide attempt].

Fleur spoke of an academic staff member as a role model:

> ..she would just check in every so often. Make sure I was ok, that I was still getting help. That was really all it took for me to want to stay on track. Her opinion of me, it meant a lot.

7.2.5.2 Staff Results

Role contingent understanding of crises

Psychological staff described a crisis as involving behaviours such as suicidal ideation and attempts, and self-harm. For example, the term "imminent risk of suicide" was identified by all six of the psychologists, and five named Borderline Personality Disorder (BPD) as a possible factor to consider when providing assistance. Student support staff also described suicidal ideation and self-harm, however further emphasized avoidance and withdrawal. As Leigh (S) stated:

> It might be a student who was avoidant, was having difficulty perhaps making eye contact and just exhibiting normal behaviour. If for example, [during or after] feedback and assessment, if they were exhibiting perhaps unreasonable or irrational responses to comments provided.

Similarly, Toni (S) recounted the following:

> One student had been avoiding the fact that he'd been excluded [from study at the college]. So when he came in after that happened, he shut down, and was obviously in shock. So it was mainly withdrawn, shaking, loss of speech. He couldn't move.

Alternatively, Matt (S) indicated that a crisis could be a subjective experience:

> It's hard to define what a crisis is for any given student. We've got students who think that their lives are falling apart, and for some, their lives are falling apart.

Duty of care

Staff perceived that they, and more broadly the college, had a responsibility to ensure the wellbeing of students they identified as being unwell. For example, Paul (S) commented:

> We have a responsibility to look after the people who are here. We have a duty of care. If we know there's a problem, it's not okay to ignore it and assume that just because they're adults that they're capable of dealing with it.

Similarly, Leigh (S) indicated:

> There's no magical transition from high school to college where you arrive here and become adjusted. They bring whatever they struggled with right along with them. We

> [the college] have a responsibility to make sure these kids are ok.

In turn, Mia (P) exemplified duty of care as representing support:

> It's [the college's] role to support students [with mental illness] to overcome and succeed. You want well people, so you want supported people. I think we have a duty of care as an organisation, and I like to think that is one of the reasons why we're here [working at the college].

Other staff members described duty of care in terms of the requirement to maintain contact with students identified as having psychological illness, with Toni (S) relating:

> For a lot of [students with a severe psychological illness], the stress is built up because they're alone. I really want to know that they're getting help and that they've actually made contact and that those people [referred to] are making sure that [they're ok]. I try to check in with students when there hasn't been any conclusion yet.

Student crises deleteriously impact staff wellbeing

Consistently, staff indicated that they found the experience of assisting a student in crisis anxiety provoking, distressing, and sometimes struggled with feelings of powerlessness or ineptitude. Most perceived that the number and severity of students that presented to them in crisis had increased, and discussed the enormity of the responsibility around assisting a student in crisis. In some cases, the decisions staff members made when assisting a student in crisis weighed heavily upon them, as illustrated by Margaret (P):

> What I find difficult [about a crisis] is the anxiety that it provokes…that this person is at risk and that what I do clearly will have, or may have, some bearing on whether they hurt themselves, or potentially even whether they live or die.

Similarly, John (P) reported:

> [A crisis] is anxiety provoking. You've got to manage your own anxiety, take a deep breath, and just deal with what's at hand, and drop everything else. Focus on that client until you see it through, and just keep it basic for their safety. It's still anxiety provoking and it needs to be, but you've got to manage it. Otherwise you'll just fall to bits and then you won't cover all your bases.

Paul (S) described the impact of helping students on his home life:

> It's really emotionally taxing and exhausting and tends to spill over into other aspects of your life. You don't walk out the office door and leave it. It goes with you. And I think that can have some, not dangerous, but problematic consequences, in terms of managing your own life, kids, and family.

Alternatively Janice (S) spoke of concerns of personal safety:

> I recently had a student who yelled obscenities at me. It's still challenging although you've dealt with it many times before. He was eyeing the furniture, and I was quite sure it would be thrown at me. It does impact on you.

Subsequently, staff were asked to identify factors that they found helpful when assisting a student in crisis, leading to the identification of a sub-theme, accentuating the importance of collegiate support.

Collegiate support is essential

All staff strongly emphasized the need for support from colleagues during crisis events, and debriefing with colleagues afterward. While psychologists indicated they had ready access to the support of colleagues, student support staff reported often feeling isolated, as they were either the sole person in this role, or part of a small specialist service. Overall, staff groups emphasized the need for debriefing either formally (professional supervision), or informally in the form of a discussion with a colleague, as illustrated by Matt (S):

> We do a lot of debriefing. We cope with some really hard cases by doing them together, and this kind of shares the burden. It enables two staff members to actually be able to support each other.

Similarly, the psychologists described the level of comfort and confidence gained from having a team to consult or debrief with, with Rachael (P) commenting:

> We have debriefing, as much as needed, either individually with the manager, as a team, or bringing other people in as well to have debriefing if needed. And then, there's ongoing supervision around the crisis if you need it too.

An absence of protocols and guidelines

All staff noted they were unaware of any college or service specific guidelines or protocols that were available to guide them in assisting a student during a psychological crisis, and there was a need for such a document. Rachael (P) indicated:

> It would be good to have something that is standardized around, okay, this person is presenting with this, they are disclosing this much risk, and this is what you do at this point. You would involve this service. So then at least it feels like some of the responsibility is taken away from your individual clinical judgment, because that can be really hard to juggle – how much you should be carrying and how much you should be passing on.

Similarly, Mia (P) spoke of the need for uniformity in response, record keeping, and follow-up with the student:

> There should be formal procedures around risk management and questions to ask and

documentation and things like that. Informally we often have some sort of follow up, but it's not a policy or procedure to do so.

Due to counselling service understaffing, all student support staff indicated they needed structured guidance around triaging and management. Paul (S) reported:

> If somebody is coming in a crisis situation, there are probably some generalizable kinds of ideas that you could provide people with that don't require them to spend four years studying to understand psychology. Just some pragmatic things that you can do rather than going into a huge academic explanation as to why.

Both psychological and student support staff emphasized that any guidelines needed to be formulated through input with staff in direct contact with students, rather than generated at a directorate, or senior management level. Leigh (S) stated:

> In order for [guidelines] to work well it needs to be based around the idea that they are for staff who are closest to those being affected. In other words, it's the staff who are best placed to make a decision about how they ought to respond. Staff really do care about their students, and any sort of protocol that was in place needs to bear that in mind.

Difficulty accessing external psychiatric resources

Both psychologists and Safer Communities staff expressed frustration at the poor availability of external services, and lengthy waiting times for assistance. Yet, several psychologists questioned the efficacy of involving psychiatric triage under the auspice of best practice, with Shirley (P) expressing:

> When there's a crisis, as a profession, we tend to think about psychiatric triage as being a really important part of making sure that we're doing our job. I found that to be extremely frustrating, limiting, not addressing the issue at all, and often feeling like it's more for my benefit, so I've got a documentation to say I've done the right thing, than to actually connect the person with true help.

John (P), when discussing his procedure to manage a student crisis reflected:

> …and then I would call psych triage. And then explain the situation, get them to do an assessment. And not being cynical, but in most instances, they will say, "call the ambulance or police". And so we just wait.

In sum, participants indicated that a student in crisis absorbed considerable staff time and manpower. This was a characteristic that staff indicated stretched their already limited resources, and placed them under considerable pressure due to staff cuts across the sector. This led to a sub-theme reflective of this outcome.

Continual funding cuts

All staff interviewed expressed frustration at funding cuts to student services, as reflected by Margaret (P):

> Resources have been continually cut at the university, and it's not just in our own mental health area, it's throughout...we have a reduced capacity to deal with a lot of things, a lot of situations with students in distress… the further that resources are cut the more pressure is put on everyone else that remains.

Charlotte (S) similarly espoused:

> Due to staffing cuts, everyone is so busy that if there is a student in distress somewhere and we [staff] can't deal with it, then you've got [a student] sitting in an office on campus waiting for the ambulance to come, and their frustration levels are going to be high as well, and then you have possible fallout from that.

Nonetheless, many staff offered praise for some initiatives the college in the study had undertaken, as expressed by John (P):

> From a mental health point of view, there is a lot of support here at [the college]. I don't think that's being biased. [The college] up to this point, have done it pretty well.

Student-centred learning

One of the most commonly cited prevention strategies was to consider the way in which students were provided with information about academic requirements and alternatives to the current assessment process. Staff utilized the term 'student cantered learning' to describe this stance, and indicated this involved allowing students to set the pace of their own learning to reflect the time and capacity available for each individual, with transparency around academic requirements. Paul (S) expressed this in terms of examining the assessment process:

> If you take the view that these crises might in part be due to the external stresses that are put on them through things like assessment, I think it goes to broader questions about how much, what type, and how [assessments] are being given.

Training in mental health literacy

All staff interviewed emphatically spoke of the need for college-wide training of staff in mental health literacy. Those who had undertaken the training spoke favourably of an increase in capacity to identify and appropriately refer a student who was at risk of psychological deterioration, or experiencing psychological illness. Similarly, the psychologists interviewed suggested that training in mental health literacy would enhance the capacity of broader college staff to attend to student crises. Shirley (P) stressed the

importance of training to provide strategies for staff to engage sensitively with students in crisis:

> I think empathy would be important to talk to staff about. Not being judgmental or just telling people to stop it [expressing suicidal ideation], to take it seriously. It's a no-brainer when someone's on the edge of a building. But if they've left a [suicide] note somewhere and a security guard has found it, then the person, sensitivity is needed.

College-based 'safe' or 'quiet' rooms

Both psychological and support staff saw utility in the college dedicating private areas within the college for students when experiencing a psychological crisis. Psychologists in particular emphasized the utility of creating a space where a student could go and deescalate safely and in privacy, as described by Margaret (P):

> A quiet room would be really useful. Maybe the complete opposite. A room where someone can go scream and thump pillows and things if they need to.

Alternatively, other psychologists described the need for a quiet room to wait for an ambulance both safely and privately, as exemplified by Mia (P):

> A lot of times, actually, most times, our cases are not priority for the ambulance service. I've had clients waiting for an ambulance for two hours or more, so we need to have a room for this purpose.

College-based treatment

Staff had mixed views to the feasibility of college-based treatments for students who experienced crises on campus. Predominantly, reservations toward treatment related to under-staffing of college based mental health services. Nonetheless psychologists emphasized the utility of teaching skills to students to cope with a crisis, as expressed by Margaret (P):

> Emotional regulation, and distress tolerance is incredibly important, helping someone to learn, "I feel crap, but that doesn't have to take over my life. I can still function". Feeling is part of life; it isn't the whole of life. And you still have the ability to make decisions that are appropriate even while you are feeing crap.

7.2.6 Discussion

We aimed to explore the lived experience of a psychological crisis on campus, from the perspectives of students who had experienced this event, and staff who had provided assistance. Further, we sought to explore actions that hindered or assisted during this event, and identify suggestions as to how to improve staff capacity to provide assistance during a student oriented crisis. We found that students placed considerable value on staff input during

a crisis, yet their expectations of staff actions during this event bore little resemblance to those of the staff interviewed. We also found staff were committed to ensuring that students in psychological crisis were provided with exceptional levels of care, and that staff extended this sentiment toward the entire student community. However, we also found that some staff may have preconceptions around students with crisis presentations. Further, the presentation of a student in crisis was associated with staff expressing a number of concerns relative to a range of college-based, and external resources and factors. Importantly, we found that the wellbeing of staff that assists students in crisis was negatively impacted, both by the event, and broader systemic considerations.

7.2.6.1 Structured Guidance is Needed for Staff

Broadly, the results suggest college staff attend to psychologically unwell students in the absence of structured guidelines and protocols. While there would be variations between the circumstances and characteristics of crisis presentations, there are nonetheless core procedures such as screening for risk, and ascertaining existing supports, which should be enacted to manage these events effectively, a recommendation that has been identified elsewhere (Schmitz et al., 2012). Staff described often deliberating on their assessment and management of a student post-crisis, with particular emphasis on whether they had adequately accounted for any threat the student may pose to themselves, or others. Psychological crises were shown to be anxiety and distress provoking events for staff, and Eisenberg et al., (2012) suggests that under these conditions there is a possibility that staff may miss the opportunity to ask for crucial information, such as ascertaining whether the student has experienced a crisis in the past, and if applicable, what actions had been undertaken that were helpful.

The students interviewed indicated they had experienced more than one crisis across their illness, were cognizant of appropriate supports, or stated they had adequate supports in place. Under these circumstances, it may well be that the involvement of external organizations is unnecessary (Monahan et al., 2011). Similarly, for support staff, structured guidance may allow them to ascertain support-related information, potentially negating the need for counselling service involvement. Where supports are already in place, or the student is distressed but safe, support staff can shift the focus of their interaction to listening and providing reassurance, the very reason students indicated they sought out staff during crisis events.

7.2.6.2 The Need for Improved Communication During Crises

The results suggest that staff felt it was their role to ensure students were professionally assessed during a crisis, however the students indicated they had no expectation of staff to undertake or facilitate this task. Rather, students indicated they approached staff with the view of seeking advice, or having their thoughts, fears, or concerns validated. Together, it is clear that there is disparity in the expectations of staff and students regarding the appropriate action to take in a crisis situation. One way this can be resolved is for staff to empathically communicate the reasons to students, for actions such as referral (as per McAuliffe et al., 2012). In turn, students need to be provided with guidance at commencement of study, and throughout their college years, regarding the appropriate college contacts for academic issues, versus mental health concerns (Cleary et al., 2011; Walter & Jackson, 2011).

7.2.6.3 External Mental Health Services and College Staffing Cuts

Support staff indicated counselling staff had limited availability to accept emergency referrals, while counselling staff expressed frustration that they were unable to meet the level of demand due to understaffing within the service. These statements need to be interpreted within the broader context of the Australian tertiary sector, which has been subject to a 30% cut in government funding over the past 30 years (Pitman, 2013), with a further 20% proposed in the latest federal budget (Hurst, 2014). As a result, a range of student services across all Australian colleges have undergone significant staffing cuts, and perceived non-essential services, such as counselling, are likely to undergo additional retraction (Caleb, 2014). This is a trend with worrying implications, as psychologists interviewed reported they were already under-resourced, and had little capacity for essential post-crisis actions, such as ensuring the student had engaged with an appropriate service for ongoing treatment. Psychologists attempted to refer students externally, which is a process commonly undertaken across Australian college counselling services (Stallman, 2012). However, college students may not have the financial means to afford a private clinician, and the Australian public mental health system is already overburdened (Stallman, 2012). This means there is the potential for seriously unwell students, in the words of one of the participants, Matt, to “slip through the cracks”.

At the same time the findings of this study are certainly not unique to Australia. Similar concerns have been raised for college students in the United States (e.g. Watkins, Hunt & Eisenberg, 2011), and the United Kingdom (Macaskill, 2012). Some (e.g. Hunt & Eisenberg, 2010; Stallman, 2012) have urged colleges to examine existing solutions, such as

college-based telephone triage crisis (e.g. Rockland-Miller & Eells, 2006), and online treatment modalities (e.g. Richards, Timulak, & Hevey, 2012). Nonetheless, such solutions still require college funding to implement and operate, and may fail to redress current staff concerns of being under-resourced, over-burdened, and unable to provide the level of service warranted (Eisenberg et al., 2012; Storrie et al., 2010).

7.2.6.4 Implications

The findings of the current study suggest that the needs of college staff, as well as those of students with psychological illness, should be prioritized by college management. Arguably, colleges that are willing to adopt a holistic approach to the educational experience would ultimately benefit from the reputation of producing happy and healthy graduates, as well as reducing attrition due to mental illness (Eisenberg et al., 2012). In turn, this goal requires that staff are prepared and supported as early as the induction phase of their employment (Cleary et al., 2011; Walter & Jackson, 2011).

Induction of new college staff should include training in recognition and management of psychological distress. Programs designed to this end, namely Mental Health First Aid (Kitchener & Jorm, 2002) were widely available to staff in the college in this study, however participation in the program was voluntary. Given the reported increase of psychological illness in college students (Penven & Janosik, 2012; Watkins et al., 2011), and concurrent retraction of psychologically trained staff (McAuliffe et al., 2012; Stallman, 2012), the responsibility of attending to students in crisis will invariably fall to a broader range of college staff, suggesting preparedness is imperative rather than discretionary. While some staff may be uncomfortable assisting a student in crisis, they should be able to recognize symptoms, enabling them to refer the student accordingly (Walter & Jackson, 2011).

Findings also suggest that staff should receive support from colleagues both during and following a crisis. All staff indicated they often lacked confidence in their decisions around high-implication actions such as risk management, and whether to refer internally, externally, or not at all. Despite students having indicated they simply wanted staff to listen, a person expressing suicidal ideation may not be well placed to assess their own ability to circumvent the drive to attempt suicide later (Drum et al., 2009). As such, staff should have access to colleagues with mental health training to provide a secondary consult, and collaboratively decide whether an ambulance is required (Eisenberg et al., 2012; Storrie et al., 2010), and this role could be extended to providing post-incident support for colleagues such as the opportunity to talk about the incident, or in a more structured manner such as debriefing. Several staff spoke of a tendency to "take the incident home" with them, and

indicated this had implications for the quality of their interactions with their families. Undertaking actions such as providing staff with an opportunity to discuss the impact of student crises upon their own wellbeing, or to identify that they may require assistance for themselves ongoing, may forestall poor outcomes in staff wellbeing. Post-incident support for staff plays an important role in both addressing post-crisis distress, and reducing vicarious distress experienced by those who have assisted in crisis situations (Eisenberg et al., 2012).

Staff and students highlighted the need for several locations within the college, set aside for the express purpose of being available for students during a crisis. This space could offer students in crisis a secure and private location to enter when highly distressed, and further act as a waiting area should external services such as an ambulance be mobilized. A wide range of literature speaks to student concerns that help seeking during crises on campus may result in academic staff having stigmatized views toward their stability, capability, and fitness for practice in professional fields such as medicine, and nursing (e.g. Horsfall, et al., 2012; Storrie et al., 2010).

As such, a location set aside for this purpose, staffed as required by college psychologists, may address this barrier to help seeking. Five of the six students interviewed had more than one crisis on campus, reflecting similar reports in larger scale studies (e.g. Bryan & Bryan, 2014; Drum et al., 2009), emphasizing some form of college-based treatment is warranted for students with recurrent crisis episodes. Specialist external services could be contracted to the college to offer structured programs to facilitate skills building such as distress tolerance and emotional regulation (Linehan, 1993a). This may represent both a cost efficient and effective treatment option, as structured, short term, skills building programs held within college settings, have shown promising results in minimizing student psychological crises in the past (e.g. Hersh, 2013).

Staff emphasized that colleges may need to examine the format, and delivery model of higher education as a possible preventative strategy. Going forward, colleges could consider how greater flexibility might be incorporated into the assessment model of campus-based academic programs, without sacrificing the quality of the programs, or creating additional burden for academic staff. In turn, innovations in course delivery and assessment may serve to enhance inclusion for those with barriers to study including psychological illness (McAuliffe et al., 2012).

As a final consideration, most psychological staff named BPD when considering management of crises, yet these events, and related symptoms such as self-harm, and suicidal behaviours, often occur for people in the absence of this diagnosis (Reavley & Jorm, 2010).

While certainly not the case in the current study, BPD is associated with considerable stigma, and negative attitudes from the mental health profession (Gunderson, 2009). Those with the disorder have variously been considered difficult, manipulative, and attention seeking (Gunderson, 2009); and such notions may negatively impact engagement, empathy and compassion, all of which represent integral components of assisting a person in severe distress (Eisenberg, et al., 2012).

7.2.6.5 Limitations

The staff interviewed represented a small and highly specialized group within the broader college workforce, as all were employed in roles where attending a student in crisis was part of their duties. Given this characteristic, the views of the staff interviewed may be inherently biased toward embracing the helper role, and this sentiment may not generalize to the wider body of college staff. The managers of key college services regularly involved in attending student crises, namely security, residential services, and the health service were invited to participate, however subsequently declined, as they were either did not want to participate, or it was against their policy to participate in college-based research. The aforementioned services all comprise of staff that characteristically interact with students in crisis on campus, thus their input would have been invaluable on broadening the perspective on this topic. Lastly, the student group self-selected to participate in the research, based upon characteristics named in the recruitment poster, namely, having experienced suicidal behaviour, self-harm and aggression. Both the literature and results indicated that an absence of adaptive behaviours such as withdrawal and avoidance could signify a psychological crisis, and students with these characteristics may not have been suitably represented in the participant group.

7.2.6.6 Conclusion

Student psychological crises are likely to remain a college-specific management issue, and as the number of crises some staff had attended exceeded 300, these events do not represent isolated incidents. While a student psychological crisis is highly distressing for both the student and staff alike, positive attitudes toward effective resolution of these events was apparent from both groups. Nonetheless, strategies and programs to enhance staff capacity to manage these events are likely to come at a financial cost to the colleges during an uncertain economic environment. As such, colleges need to carefully consider their capacity to provide both care and a safe environment, with psychological crisis prevention and management invariably representing a pertinent consideration in achieving this goal.

7.2.7 References

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77-101. doi:10.1191/1478088706qp063oa

Brennaman, L. (2012). Crisis emergencies for individuals with severe, persistent mental illnesses: A situation-specific theory. *Archives of Psychiatric Nursing, 26*(4), 251-260. doi:10.1016/j.apnu.2011.11.001

Bryan, C.J., & Bryan, A.O. (2014). Sociodemographic correlates of suicidal thoughts and behaviours among college student service members/veterans. *Journal of American College Health*. Advance online publication. doi:10.1080/07448481.2014.939982

Burnard, P., Gill, P., Stewart, K., Treasure, E., & Chadwick, B. (2008). Analysing and presenting qualitative data. *British Dental Journal, 204*(8), 429-432. doi:10.1038/sj.bdj.2008.292

Caleb, R. (2014, May 7). Uni counselling services challenged by growing demand. *The Guardian.* Retrieved from http://www.theguardian.com

Cleary, M., Walter, G., & Jackson, D. (2011). "Not always smooth sailing": Mental health issues associated with the transition from high school to college. *Issues in Mental Health Nursing, 32*(4), 250-254. doi:10.3109/01612840.2010.548906

Creswell, J.W. (2006). *Qualitative inquiry and research design: Choosing among five approaches*. London: Sage.

Drum, D.J., Brownson, C., Burton Denmark, A., & Smith, S.E. (2009). New data on the nature of suicidal crises in college students: Shifting the paradigm. *Professional Psychology: Research and Practice*, *40*(3), 213-222. doi:10.1037/a0014465

Eisenberg, D., Hunt, J., & Speer, N. (2012). Help seeking for mental health on college campuses: review of evidence and next steps for research and practice. *Harvard Review of Psychiatry, 20*(4), 222-232. doi:10.3109/10673229.2012.712839

Everly, G. Jr., & Lating, J. (2013). *A clinical guide to the treatment of the human stress response*. New York: Springer.

Gallagher, R.P., Gill, A.M., & Sysco, H.M. (2000). *National survey of counseling center directors*. Alexandria, VA: International Association of Counseling Services. Retrieved from http://www.iacsinc.org/

Gunderson, J.G. (2009). Borderline personality disorder: Ontogeny of a diagnosis. *The American Journal of Psychiatry*, *166*(5), 530-544. doi:10.1176/appi.ajp.2009.08121825

Hersh, R.G. (2013). Assessment and treatment of patients with borderline personality

disorder in the college and university population. *Journal of College Student Psychotherapy, 27*(4), 304-322. doi:10.1080/87568225.2013.824326

Hunt, J., & Eisenberg, D. (2010). Mental health problems and help-seeking behavior among college students. *Journal of Adolescent Health, 46*(1), 3-10. doi:10.1016/j.jadohealth.2009.08.008

Hurst, D. (2014, November 4). David Leyonhjelm threatens to end his support for university funding cuts. *The Guardian.* Retrieved from http://www.theguardian.com

Kitchener, B., & Jorm, A. (2002). Mental health first aid training for the public: Evaluation of effects on knowledge, attitudes and helping behavior. *BMC Psychiatry, 2*(1), 10-23. doi:10.1186/1471-244X-2-10

Koekkoek, B., Hutschemaekers, G., van Meijel, B., & Schene, A. (2011). How do patients come to be seen as difficult: A mixed-methods study in community mental health care. *Social Science & Medicine, 72*(4), 504-512. doi:10.1016/j.socscimed.2010.11.036

Linehan, M.M. (1993a). *Cognitive-behavioural treatment of borderline personality disorder.* The Guildford Press: NY.

Macaskill, A. (2012). The mental health of university students in the United Kingdom. *British Journal of Guidance & Counselling, 41*(4), 426-441. doi:10.1080/03069885.2012.743110

McAuliffe, D., Boddy, J., McLennan, V. & Stewart, V. (2012). Keeping the door open: Exploring experiences of, and responses to, university students who disclose severe mental illness. *Journal of Social Inclusion, 3*(1), 117-129. doi:10.1016/j.invent.2015.07.006

Monahan, J., Bonnie, R.J., Davis, S.M., & Flynn, C. (2011). Interventions by Virginia's colleges to respond to student mental health crises. *Psychiatric Services, 62*(12), 1439-1442. doi:10.1176/appi.ps.002082011

Moustakas, C. (1994). *Phenomenological research methods*. Thousand Oaks, CA: Sage.

Morse, J. M., Barrett, M., Mayan, M., Olson, K., & Spiers, J. (2002). Verification strategies for establishing reliability and validity in qualitative research. *International Journal of Qualitative Methods*, *1*(2), 13-22.

Penven, J.C., & Janosik S.M. (2012). Threat assessment teams: A model for coordinating the institutional response and reducing legal liability when college students threaten suicide. *Journal of Student Affairs Research and Practice*, *49*(3), 248-358.

doi:10.1515/jsarp-2012-6339

Pitman, T. (2013, April 19). Funding cuts pose challenges for the university business model. *The Conversation.* Retrieved from http://theconversation.com

Polkinghorne, D.E. (1989). *Phenomenological research methods*. In R.S. Valle & S. Halling (Eds.), Existential-phenomenological perspectives in psychology (pp. 41–60). New York: Plenum.

Quinn, N., Wilson, A., MacIntyre, G., & Tinklin, T. (2009). 'People look at you differently': students' experience of mental health support within higher education. *British Journal of Guidance & Counselling, 37*(4), 405-418. doi:10.1080/03069880903161385

Reavley, N., & Jorm, A. F. (2010). Prevention and early intervention to improve mental health in higher education students: a review. *Early Intervention in Psychiatry, 4*(2), 132-142. doi:10.1111/j.1751-7893.2010.00167.x

Richards, D., Timulak, L., & Hevey, D. (2012). A comparison of two online cognitive-behavioural interventions for symptoms of depression in a student population: The role of therapist responsiveness. *Counselling and Psychotherapy Research, 13*(3), 184-193. doi:10.1080/14733145.2012.733715

Rockland-Miller, H.S., & Eells, G.T. (2006). The implementation of mental health clinical triage systems in university health services. *Journal of College Student Psychotherapy, 20*(4), 39-51. doi:10.1300/J035v20n04_05

Schmitz, W.M., Allen, M.H., Feldman, B.N., Gutin, N.J., Jahn, D.R., Kleespies, P.M., . . . Simpson, S. (2012). Preventing suicide through improved training in suicide risk assessment and care: An American Association of Suicidology task force report addressing serious gaps in U.S. mental health training. *Suicide and Life-Threatening Behavior, 42*(3), 292-304. doi:10.1111/j.1943-278X.2012.00090.x

Stallman, H.M. (2012). University counselling services in Australia and New Zealand: Activities, changes, and challenges. *Australian Psychologist, 47*(4), 249-253. doi:10.1111/j.1742-9544.2011.00023.x

Storrie, K., Ahern, K., & Tuckett, A. (2010). A systematic review: Students with mental health problems—A growing problem. *International Journal of Nursing Practice, 16*(1), 1-6. doi:10.1111/j.1440-172X.2009.01813.x

van Manen, M. (1990). *Researching lived experience: Human science for an action sensitive pedagogy*. Albany: State University of New York Press.

Watkins, D.C., Hunt, J.B., & Eisenberg, D. (2012). Increased demand for mental health services on college campuses: Perspectives from administrators. *Qualitative Social*

Work, 11(3), 319-337. doi:10.1177/1473325011401468

Watts, J., & Robertson, N. (2011). Burnout in university teaching staff: a systematic literature review. *Educational Research, 53*(1), 33-50. doi:10.1080/00131881.2011.552235

7.2.8 Tables

Table 7.1. Student participant details

Name	Age	Self-reported Diagnosis[1]	Number of crises	Crisis Behaviours[2]	Help sought on campus[3]	Treatment[4]
Fleur	18	Depression; Anxiety; BPD	2	Self-harm; Suicidal ideation	Health Service; Counselling Service	*Counselling Service; Health Service; Medication*
Jess	19	Depression; Anxiety; BPD	7	Suicidal ideation; Suicide attempt	Health Service; Counselling Service; Academic staff	Psychiatrist; Medication
Taylor	24	Depression	2	Self-harm; Suicidal ideation; Aggression	Academic staff	Medical practitioner (off campus)
Charlie	18	Depression; Anxiety	1	Suicidal ideation	Academic staff	Medical practitioner (off campus); Medication
Missy	19	Depression; BPD	2	Self-harm;	None	*Medical practitioner (off campus)*; *Psychologist (off campus)*
Phoebe	21	Depression; Anxiety	3	Suicidal ideation; Aggression; Alcohol intoxication	Health Service; Academic staff	*Health Service; Medication*

Note. All names are fictitious to protect anonymity; [1] Diagnosis students reported they had been given over past two years, BPD= borderline personality disorder; [2] Behaviours students engaged in on campus during crisis; [3] Services/individuals students sought help from during crisis; [4] Treatment students reported having undertaken (current in italics).

Table 7.2. Staff Participant Details

Name	Role[1]	Duration[2]	No. of crises[3]
Isabella	Psychologist	7	>200
John	Psychologist	7	>10
Margaret	Psychologist	15	>300
Shirley	Psychologist	2	>10
Rachael	Psychologist	3	>70
Mia	Psychologist	7	>100
Janice	Student support	5	>200
Charlotte	Student support	4	5
Toni	Student support	.9	>10
Matt	Student support	6.5	>200
Paul	Student support	15	>100
Leigh	Student support	1	>10

Note. All names are fictitious to preserve the anonymity of participants; [1] Position/role in college; [2] Years in in current role; [3] Approximate number of times they have assisted a student in crisis.

Chapter 8: Guidelines for Managing a Student Psychological Crisis on Campus

8.1 Chapter Overview

The chapter discusses the development and content of proposed Guidelines for university staff to assist a student who is experiencing a psychological crisis while on campus, herein referred to as the Guidelines. The chapter commences with a discussion of the information sources used to develop the Guidelines, while the latter part of the chapter outlines, and provides a rationale for the sections contained within the complete Guidelines, which may be viewed in Appendix 8A. Finally, the chapter concludes with recommendations for further research in relation to obtaining feedback on the feasibility of the Guidelines from university staff and students. Throughout this chapter, the term *non-psychological staff* is used to denote university staff without psychological training who may assist a student in crisis.

8.2 Development of the Guidelines

8.2.1 Background to Guidelines

A student psychological crisis on campus is an event that has the potential for poor outcomes in terms of the students' safety and wellbeing, and similarly may exact an emotional toll on the university staff that may be mobilised to assist during this event. A psychological crisis may be evidenced by either engaging or expressing intent to self-harm, attempt suicide, or behaving in a manner that appears hostile or aggressive (Gunderson & Links, 2008; Lieb, et al., 2004). Alternatively, a psychological crisis may manifest as a lack of functional behaviour (Flannery & Everly, 2000), including social withdrawal, cessation of academic engagement, avoidance and failure to communicate or engage in help seeking. In either case, a student that is displaying crisis-related behaviour may come to the attention of a range of university staff, which in turn will characteristically vary in mental health literacy. While an effective approach to managing these events requires tailoring to individual needs, there is also the need for consistency between staff and across crisis presentations (Weinberg, Ronningstam, Goldblatt, Schechter, & Maltsberger, et al., 2011). Specifically, the strategies used to engage a student who is behaving in a hostile manner would be necessarily different from those who are withdrawn and suicidal, however staff will need to be consistent in how the event is ultimately managed, to lessen the risk of inadvertently failing to obtain a crucial piece of information, and to maximise the likelihood of appropriate follow-up and engagement in treatment ongoing (Weinberg, et al., 2011). To this end, it was first necessary to investigate any action staff currently undertake when assisting students during a psychological crisis, as effective strategies may have already been in place. This was enacted using the method described in Chapter 6, while the experience of a psychological crisis was presented in Chapter 7. The following information presents information

obtained, but not reported in the study described in Chapter 7.

8.2.1.1 Existing Guidelines on Managing Psychological Crises

As detailed in Chapter 7, all staff interviewed indicated that they were unaware of any existing university-wide guidelines to assist a student with a psychological crisis. The counselling service had previously adhered to an inter-service protocol, however the entire service had been physically relocated rendering this protocol obsolete. Despite lacking a framework all psychologists had postgraduate training in assessment and management of crisis presentations, and some with over 10 years experience in working with students therapeutically. As such, many psychologists indicated they had their own process for assisting students in crisis that had evolved over years of experience and training, and as such, varied significantly across the psychologists interviewed. Psychologists noted variations between clinicians, thus considered guidelines to have utility in the interest of consistency between clinicians and across student crisis presentations.

Support staff were very positive toward guideline development citing the need for informative and directive instruction around management of either problematic behaviour, or simply being guided around appropriate and effective actions they could take to either de-escalate or soothe a student in considerable psychological distress. To date, all support staff had relied on life experience while assisting a student in crisis, and expressed that they sometimes felt overwhelmed when students presented with severe psychological symptoms. All support staff indicated that the first course of action was to take students to the counselling service, however compared to earlier years, the availability of counsellors was very poor, rendering this action problematic. As a result, staff expressed awareness that a wider range of staff would need to assist students in crisis, and indicated considerable trepidation around the preparedness of university staff for this task.

8.2.1.1 Information Sources used in Guidelines

University psychologists, support staff and students provided information that played an integral role in the formulation and eventual decision as to which content was included in the final Guidelines. As mentioned previously, this information was obtained from university-based psychologists at the counselling service, student support staff, and students that had experienced at least one crisis on campus. In addition, the content of the Guidelines was based upon the frameworks recommended by the World Health Organisation (WHO) and National Institute for Health and Care Excellence (NICE). The WHO published a handbook for guidelines development (2014) containing criteria for content, methods and presentation. While the aforementioned document was intended for WHO guideline committee use, the content

represented a useful framework for developing the current guidelines.

WHO delineates three types of guidelines namely rapid advice guidelines, standard guidelines, and full guidelines. For the purpose of the current study, the rapid advice guideline format was appropriate given this type of document would be produced within one to three months, evidence-informed, but may not be supported by a full review of the evidence (WHO, 2014). Primarily, WHO (2014) guidelines contain recommendations about health interventions, and offer directive instruction as to possible actions that may be undertaken for any given public health concern. As a university setting is characteristically more localised than community-based health services, a second framework was consulted, namely a range of NICE Quick reference guides for self-harm (NICE, 2004), and Borderline Personality Disorder (NICE, 2009). These guidelines provide context specific recommendations for hospital and community mental health settings, and are presented in a format that allows ease of reference. Given these characteristics, the quick reference format was drawn upon in developing the Guidelines described in the current chapter.

8.3 Guideline Content

8.3.1 Overview

The Guidelines were not designed to be a comprehensive assessment tool, which characteristically requires extensive training in psychology practice. Rather the Guidelines were developed to represent a quick reference resource that could be used by staff with or without psychological training, to identify when a student was experiencing a crisis, appropriately manage problem behaviours and distress, provide insight into some of these behaviours, and outline appropriate courses of action within a university context. The following represents a discussion of the Guidelines content. Specifically, each section is discussed in terms of key characteristics, the rationale for including the information, and where relevant, the sources of information that were drawn upon in developing each section. The information domains represented as sub-headings relate to sections included in the Guidelines. The complete Guidelines may be viewed in Appendix 8A.

8.4 The Guidelines

8.4.1 About the Guidelines

The section concisely lists the types of staff they were intended for, namely both university based psychological and non-psychological staff, and indicates when the guidelines may be useful. Specifically this section promotes that the Guidelines have content representing preparative reading that should be undertaken prior to a student crisis event, as some familiarity is needed with specific organisational contacts and services. The section delineates the

Guidelines have two parts, one directed at non-psychological university staff, the other for university-based mental health staff. Lastly, this section provides a caution that the Guidelines do not represent the sole courses of action available, represent only select behaviours that may occur during a psychological crisis, and that consultation should be sought when managing these events.

8.4.2 Background to the Guidelines

This section briefly outlines some characteristics of mental health among Australian university students to provide context and suggest the scope of the issue. The latter is illustrated through figures from Stallman's (2008) research of Australian university students, and those obtained through the research described in Chapter 5 of the thesis. Specifically, psychological stress over a one-week period and a range of problematic behaviours over the same period are described and depicted in graphs for ease of reference. The sources of information utilised in the Guidelines are described in greater detail and context given as to the scope, content and possible uses for the Guidelines. Finally, the reader is directed to a range of resources at the end of the document, which represent useful further reading around existing management protocols and psychoeducation around the various aspects of a psychological crisis. The resources are purposefully minimal, given that staff are often working within time constraints, thus the specific resources chosen were thought to represent the most appropriate summations of information available for each topic.

8.4.3 Key Priorities for Implementation of the Guidelines

The Key Priorities are broad domains that need to be considered when implementing the Guidelines. The first of these is *autonomy and collaboration*. Autonomy refers to the fact that if there is no immediate risk to the student or those around them, the student should be given a range of resources and encouraged to contact these organisations, as opposed to mobilising emergency services as a default action. Premature and unnecessary referral of people in psychological crisis can result in greater levels of distress and minimise future help seeking (Jobes, Jacoby, Cimbolic, & Hustead, 1997; Schweitzer, Klayich, & McLean, 1995). As such, it may be more effective to give the student options to pursue, and ensure that follow-up is undertaken to establish whether the student has successfully linked in with these services.

Collaboration underpins the need for the student to be involved in the decision to choose one course of action over another. In situations where it is clear that the risk to the student outweighs their capacity for collaboration then clear communication is required. The staff member should attempt to communicate the steps that are being taken, if relevant, the likely process this action will represent, and any outcomes (e.g. hospitalisation, medical assistance)

that may be expected. Both collaboration and clear communication can ease some of the distress students may be feeling, and also assists with engagement.

The section *Diversion from university-based mental health resources* refers to a significant issue that was elucidated through interviews with staff. Namely, the retraction of the number of psychologists at the counselling service resulted in support staff reporting longer waiting periods to have a student seen, and in some cases an inability to see highly distressed students on that day. In the case of a student with immenent suicidal intent, support staff could simply call an ambulance directly, as this represents the action counselling staff would undertake in these circumstances.. The next key priority refers to *peer consultation and support* and emphasises that staff are not required to undertake the care of a distressed student alone. Rather they should actively consult either other members of their team, or draw upon the services based within the university. Finally, the section *Safe or quiet room* highlights the need for a private location on campus for students to access during crisis events, or as a waiting area for students who have been referred to external emergency services, as discussed in Chapter 7.

8.4.4 Recognising a Psychological Crisis

The results detailed in Chapter 7 suggested utility in defining characteristics of a crisis for university staff. The staff interviewed reported that a crisis might involve the presence of maladaptive behaviours, an absence of adaptive behaviours, or a combination of both. Chapter 7 further elucidated role-contingent descriptions of crisis-related behaviours, suggesting there may be a risk of staff failing to identify a student who requires assistance. In order to minimise this outcome, the Guidelines provide a brief set of characteristics representing both behaviours that are apparent, and those that represent an absence of functional behaviour. These characteristics draw upon feedback from staff, students, and the literature pertaining to functional domains that may be affected when a person is in an episode of severe psychological illness.

8.4.5 Managing a Psychological Crisis

As described, the content relative to managing a psychological crisis is represented by three potentially difficult behaviours associated with this event. Staff identified that self-harm, suicidal ideation or attempts, and aggression as the most difficult aspects of student psychological illness to manage. As each of these behaviours is different in terms of the approach required, they are described separately, however it is noted that should the behaviours co-occur then intervention should target the behaviour that poses the greatest risk to the wellbeing of the student or staff member.

8.4.5.1 Self-harm

Psychologists represented the sole group who volunteered possible motivations for self-

harming behaviours, suggesting this warranted inclusion with the aim of increasing empathy and confidence in staff when assisting a student who had self-harmed. The management of self-harm is presented in the Guidelines by first describing the types of observable injuries it may manifest as. Some definitions of self-harm (e.g. Gunderson & Links, 2008) also describe the ingestion of various poisons, however, both non-psychological staff and psychologists would not intervene in this case, other than to immediately call an ambulance. As such, the behaviours described represent physical injury that may either be observed or reported. The following section of the guidelines gives a brief understanding of some possible motivations for having engaged in self-harm, and emphasises the need for empathic, non-judgemental support. The section then offers a range of questions that may be helpful in ascertaining whether assistance is required, or if there is a current support that can be harnessed. Finally, a range of options is given mainly with the purpose of either having the self-harm medically assessed, or facilitating a referral for assessment and treatment ongoing.

8.4.5.2 Suicidal Ideation and Attempts

Staff indicated that they felt relatively confident they could identify a student who was experiencing suicidal ideation, however none of the staff interviewed stated that they would explicitly ask whether someone was considering ending their lives. While this may be an elementary aspect of assessment for psychological staff, this assumption may not extend to other staff. In response to this potential deficit, the need to evaluate suicidal intention through questioning is strongly emphasised in the Guidelines. Asking people whether they are having thoughts of ending their life has not been associated with an increase in suicidal behaviour, and in fact has been linked to significant decreases in suicidal ideation over time (Mathias, 2012).

Should the student crisis necessitate calling an ambulance, staff indicated they often spent protracted amounts of time with highly distressed students, waiting for the ambulance to take them to hospital. Staff expressed how difficult these situations could be in terms of knowing what to say, if anything, and how to manage these often lengthy waiting periods. Staff reported finding engagement very difficult in these situations, and indicated feeling inadequate or lacking confidence around strategies to soothe the student. During these periods, the use of specialist organisations may serve to address this difficulty. Services such as Lifeline, or the Suicide Helpline are trained in both engagement and supportive counselling, and can be called upon in circumstances such as these. Similarly, where the crisis has been precipitated by an adverse life event such as domestic violence, or unplanned pregnancy, other specialist organisations may be more appropriate. To this end, staff are referred to a list of contacts at the end of the Guidelines.

8.4.5.2.1 Suicidal Ideation Checklist

Both psychologists and support staff indicated the need for a succinct template of questions to ascertain whether the student was having suicidal thoughts, and required further intervention. The checklist for all staff represents a prompt of questions that staff should ask a student they consider might be in crisis. Non-psychological staff should not attempt to undertake a risk assessment, thus the purpose of the checklist is to assist staff ascertain the presence of suicidal ideation. An overarching function of the checklist is to prompt non-psychological staff to call an ambulance when suicidal intent is present, rather than taking the student to the counselling service. As described in Chapter 7, diversion from university-based mental health resources was warranted in order to maximise the likelihood highly distressed student obtained prompt and specialist help, given the often poor availability of counselling staff. Alternatively, the risk assessment checklist for university-based psychological staff provides greater detail including assignation of risk severity. Psychological staff interviewed reported that a student psychological crisis could represent an emotionally charged event for staff, thus a risk assessment framework could assist staff to ensure key questions were asked routinely, and consistently across staff. Chapter 7 reported that psychological staff had experienced difficulty obtaining an assessment through psychiatric triage, or that this action had not proved useful. Following this feedback, calling psychiatric triage was not included as a step within the Guidelines for staff.

8.4.5.2.2. Suicide Intervention Flowchart

For ease of reference, a brief intervention flowchart was included as a quick reference guide for use during a student psychological crisis. The content represents a summation of the information in the preceding section on managing suicidal behaviour; in addition to a reminder to both engage in the appropriate follow-up, and to document this action.

8.4.5.3 Aggressive behaviour

Aggressive or hostile behaviour represents a management issue that can often result in poor outcomes. Unlike self-harm and suicidal ideation, aggressive or hostile behaviour may be directed externally and often to those who are attempting to provide assistance. Subsequently, in these situations the safety of staff would warrant priority, as a highly distressed and aggressive student may either intentionally or accidently harm a staff member. With the exception of security and Safer Communities, psychological and non-psychological staff are not usually trained in deescalating aggressive behaviour. Given these characteristics, the goal of this section was to advise staff, only if safe, to attempt to deescalate the student through calm, clear and firm questioning. However, should this strategy fail, the emphasis of the intervention is for staff to secure their safety and that of their colleagues, mobilise university-based specialist staff, and

prepare to either leave the scene, or take no action to prevent the student from leaving.

While possible difficulty in later locating a highly distressed student is less than ideal, university staff, including security, do not have powers to detain students. Where applicable, staff are permitted to follow the student while on university grounds and notify the police if the student represents a threat to other members of the university community. In many cases, people experiencing crisis-related hostility or aggression deescalate by themselves if given the opportunity to leave confined spaces such as offices or buildings. Calling the police represents a last resort action due to the potentially aversive and punitive outcomes associated with this option, unless staff or other students are in physical danger.

8.4.5.3.1 Aggressive Behaviour Flowchart

As with the suicide intervention flowchart, the aggressive behaviour flowchart represents a quick reference guide. However the emphasis is on quickly establishing whether there is a risk of being harmed, and mobilising specialist services should this be the case. Again, follow-up is emphasised however on the proviso that, where risk to staff exists, this may need to be enacted through other involved organisations or services such as Safer Communities.

8.4.6 Post Crisis Management

8.4.6.1 Post-incident support for staff

Both staff groups reported that they experienced distress immediately following having dealt with a student crisis, and that this emotional state can linger for a lengthy period subsequent to the event. This characteristic underpinned the need for universities to increase staff awareness of available supports, and in turn, to enable such facilities are freely available both post-incident and ongoing. The type of support that staff require may differ due to factors such as the severity of the incident, or individual staffs own response suggesting flexibility of supports is required. For example, staff may benefit from individual supervision, or post-incident counselling, while debriefing may also be of benefit. While psychologists indicated they utilised within team debriefing and had excellent access to this form of support, the other staff interviewed indicated that no such support framework was available within their unit. Support such as debriefing, is an integral facet of facilitating wellbeing in those who assist others during crisis events (Kinzel & Nanson, 2000). As such, the section on debriefing aimed to make staff aware of debriefing as a necessary step following assisting a student during a crisis, in addition to suggesting some possible sources of this process.

8.4.6.2 Follow-up

The student psychological crisis may have been resolved either through contact with staff at the time, or referral to an internal (e.g. university health service or counselling), or external

agency (e.g. as a psychiatric inpatient). However, in many instances the student will not follow through with treatment ongoing, which is regularly the case for people with BPD following a crisis. Further, a follow-up contact can lessen feelings of isolation in students and increase the probability of linking in with referrals. Both psychological and support staff indicated they enacted follow-up less often than they believed appropriate, and as such the Guidelines sought to emphasise the importance of this process. Further, psychological staff indicated they had little time to undertake this task, emphasising the need to schedule follow-up in their calendars or delegate this task where their employment fraction was part-time.

8.4.6.3 Self-care

For those who assist people in crisis, self-care following an incident is an important yet too seldom enacted aspect of psychological crisis management. This may be particularly the case where university academics are involved in assisting students during a crisis given they are less likely to work within teams. Indeed, none of the staff interviewed indicated that they engaged in self-care strategies, yet all reported that they experienced distress, anxiety, rumination and sometimes hopelessness following having assisted a student in crisis. As such, a section on self-care was included in order to both provide psychoeducation on the importance of this strategy and briefly suggest some means of enacting this process. Broadly, staff reactions suggest they felt unsupported and over-burdened when assisting a student in crisis. Given some staff had assisted in several hundred of these events, there appears to be a need for university-based support such as further training, peer supervision, and within service or faculty teams to assist in distributing the workload more equitably across university staff.

8.4.7 Contacts

For ease of reference, the contact details of a range of services mentioned in the Guidelines are included. Where applicable, organisations that offer 24 hours, 7 day per week availability are noted. In some cases, the counselling service may provide a student with a safety plan, such as the one provided in the Guidelines, which gives options around the most suitable person or service to contact should the student experience a crisis after hours. While it would not be appropriate for non-psychological staff to develop a safety plan, they can feasibly offer a range of contact numbers to students to the same end. Given that most Australian universities are spread over several campuses, each with their own unique contact numbers, services that could vary in contact details were left blank so staff could fill in the relevant numbers for their campus.

8.4.8 Further Reading

The Guidelines concluded with a list of additional resources, representing supplementary information or the complete reference of information provided in text. This included a series of guidelines that were drawn upon in the content of the current Guidelines, and a range of further reading that was appropriate in both scope and content for a wide range of university staff. While not exhaustive, the resources were chosen as they provide the relevant information in a succinct manner, and each contained links to further reading should staff wish to pursue a specific field of enquiry.

8.5 Recommendations for Future Research

Due to both time constraints, and the already considerable scope of the thesis, a feasibility study of the Guidelines could not be undertaken. As such an opportunity exists to seek feedback for the Guidelines through consultation with a range of university students and staff. A range of considerations was identified through interviews with staff and students. In the first instance, staff had raised a concern that one set of guidelines may have limited utility across the wide range of presentations falling under the definition of a psychological crisis. Whether guidelines such as the current document would be able to overcome this drawback would need to be assessed following their utility during a student psychological crisis. Similarly, as practicality and usefulness were identified as important components of the Guidelines, this should be a domain of investigation assessed when considering feasibility.

As discussed, the Guidelines were designed for use by both non-psychological and psychological staff, however this could possibly lead to the content lacking sufficient detail to be useful to psychological staff, or alternatively being overly prescriptive for the use of other staff. Further, risk screening is potentially a problematic inclusion for non-psychological staff. It was decided that in the absence of any available counsellors, or clear suicidal intent, non-psychological staff would be capable of establishing whether or not an ambulance should be called using clear criteria. However, it may be that in the absence of psychological training, staff could tend to either over or under utilise ambulance services. A further consideration relates to the staff interviewed having roles where assisting students in crisis was an expectation. It may be that a broader range of university staff would express unwillingness to be involved in these events, or perceive that assisting students in crisis was not part of their role at the university. This characteristic coupled with the small number of staff consulted for the Guidelines may have considerable implications for generalizability of their use.

Finally the feasibility of the Guidelines is contingent on many university-based factors that could not be accounted for in the content. Departments or services other than those of the

staff interviewed may in fact have their own Guidelines. This would have been relevant for security and the university residential service, however as these divisions declined participation it cannot be established whether this was the case.

8.6 Conclusion

The Guidelines aimed to provide clear, practical and achievable recommendations for a range of university staff that may be engaged in assisting a student during a psychological crisis on campus. The contents attempted to bridge the knowledge of psychological and non-psychological staff, and suggest a framework that may promote consistency around staff management of student crises. A range of relevant staff and students were consulted, and Guidelines developed in relation to their experiences (see Table 8.1 and 8.2). Nonetheless, the utility of these Guidelines requires investigation, which could be achieved through further research both through obtaining feedback from a wide range of university staff and students, and testing their application during a student crisis event.

Table 8.1. Summary of staff recommendations, and subsequent inclusions to Guidelines.

Recommendation	**Inclusion in Guideline (Section)**	**Page of Guidelines**
Staff need to listen rather than react immediately	Recommendations bridge the knowledge of psychological and support staff	Throughout Guidelines
Staff need to engage well with students in crisis	Key priorities for implementation describes engagement framework	6
Support staff need to be able to recognise a psychological crisis	Characteristics and behaviours of a psychological crisis delineated with observable behaviours or affect	8
Support staff were not familiar with the motivation underpinning self-harm	A brief description was given as considerations staff should be aware of when assisting students who had or expressed intent to engage in self-harm	10
Staff were not asking if someone was considering ending their lives as a standard enquiry during a crisis	Staff were prompted to ask this question of all students in crisis	13
Staff requested a brief template of questions to ask in determining if students were at risk	Staff were provided with a brief suicide ideation checklist	14
Staff asked for a quick reference guide of simple steps to take before and after a suicidal presentation	A suicide intervention flowchart was developed and provided	15

Support staff were unable to leave distressed students with counsellors due to lack of availability	Staff have been directed to undertake the same actions counsellors would take (e.eg. call ambulance), as this does not require psychological training	Throughout Guidelines
Staff stated there was no protocol for aggressive behaviour. Some staff mentioned calling Safer communities but were unsure when to do this	Staff have been provided with a range of psychoeducation, questions to ask, and a process to use during incidents of student aggression	16 - 18
Debriefing was not standard across all staff	The importance of and possible options for debriefing were provided.	20
Staff did not consistently follow-up students following the resolution of a crisis	The importance of follow-up and recommendations around this process were included in the Guidelines	Throughout Guidelines and 21
Staff gave no indication of awareness relative to how assisting students in crisis could affect their own wellbeing ongoing	Staff were provided with psychoeducation to this effect	22

Table 8.2. Summary of student recommendations, and subsequent inclusions to Guidelines.

Recommendation	**Inclusion in Guideline (Section)**	**Section/page of Guidelines**
Students wanted staff to listen rather than immediately refer	Addressed in Key priorities for implementation which describes engagement framework	6
Students needed to be felt "heard" and involved in any action undertaken	Addressed in Key priorities for implementation which describes engagement framework	6
Students wanted staff to attempt to reassure and give them hope first, then if unsuccessful mobile external assistance	Key Considerations and Possible Forms of Assistance contains this recommendation	13-14
Students who had self-harmed wanted staff to ask them whether they needed medical help rather than simply referring them	Outlined in Possible forms of Assistance	10
Students wanted staff to know that hostile or aggressive behaviour was often due to fear, frustration, or anxiety rather intent to harm staff	Outlined in Key Considerations	16

Chapter 9: Discussion

9.1 Chapter Overview

The following chapter provides a brief reiteration of the rationale, and subsequent aims for the thesis. In turn, the key findings, implications, and limitations of the research are discussed, and recommendations for future research suggested.

9.2 Summary of Thesis Aims

The purpose of the thesis was to address a considerable gap in the literature relative to the prevalence, characteristics, treatment and management of Borderline Personality Disorder (BPD) in university students. This undertaking represented the first BPD-specific examination of this type both within an Australian and international context. A growing body of literature suggests that people engaged in tertiary study may be at greater risk of poor psychological health (e.g. Connell, Barkham & Mellor-Clark, 2007; Said, Kypri & Bowman, 2013), yet it was unclear whether students with BPD were represented within this population. Research emphasis was warranted given characteristics such as the 10% suicide rate associated with the disorder, peak symptom severity in younger age, and engagement in behaviours such as self-harm, suicide attempts and aggression (Lieb, Zanarini, Schmahl, Linehan & Bohus, 2004; Morse et al., 2009). Behaviours associated with BPD may cause considerable distress for the student with the disorder, yet potentially also for other students and university staff (Bayram & Bilgel, 2008). Further, the investigations within the thesis were timely, as cuts to staffing in university based mental health services, both in Australia and overseas, imply that a wider range of university staff may be required to assist students with symptoms of severe psychological illness on campus, including those with BPD (Penven & Janosik, 2012).

During development of the thesis topic, a review of existing literature on BPD in university student populations suggested four key research domains, namely, establishing prevalence, identifying characteristics, and proposing treatment and management of the disorder in university students. In the first instance, the literature indicated prevalence estimates varied significantly across university student populations disallowing accurate estimation of the extent of the issue, and variance in methodological factors appeared a key consideration in this outcome. Second, despite there being a considerable body of research examining demographic and cognitive characteristics associated with BPD symptoms in clinical and community populations, it was unclear whether the findings replicated in university samples. In turn, establishing these characteristics may have considerable use for university-based interventions. Third, given the reported tendency for students with BPD to present at university-based mental health services during episodes of high symptom severity, but also having poor adherence to

subsequent treatment (Brennaman, 2012; Koekkoek et al., 2011), a time and cost effective counselling service based intervention for students with BPD warranted examination. Finally, a comprehensive search of the literature failed to reveal research examining the experience of being a university student and having an episode of severe psychological symptoms while on campus, or being a university staff member who assisted a student during one of these events. Similarly, there were no available guidelines for staff in attending to a student during periods of high symptom severity. Insight of such experiences would both inform a structured approach for staff when providing assistance to a student in crisis, and generate a greater understanding of supports staff may require in order to effectively undertake the helper role.

Relative to the aforementioned characteristics, the aims of the thesis were to first, establish pooled prevalence of BPD in university students through a systematic review, meta-analysis and meta-regression, and second, examine demographic and psychological factors associated with BPD in university students. In turn, the thesis reported on a pilot of a modified Dialectical Behaviour Therapy group held at a university counselling service, and last, explored the experience of a psychological crisis from the perspective of students with BPD, and university staff, using interviews and qualitative thematic analysis. Key experiential themes were extrapolated to form the basis of guidelines developed for staff to assist students experiencing a psychological crisis. The aforementioned aims are presented by studies detailed in Chapters 2, 4, 5 and 7. The following section provides a summary of these findings and highlights the main conclusions resulting from each study.

9.3 Summary of Findings

The first study, described in Chapter 2, represented a systematic review of literature reporting the prevalence of BPD in college student populations, and employed meta-analysis and meta-regression to examine methodological and participant characteristics that contributed to variance in rates between studies. First, despite having employed two rigorous searches of the literature, we were able to identify only 43 studies that reported prevalence of clinically relevant BPD in university populations from 1994 to 2014. Nonetheless, we found BPD was apparent in student populations, and that rates had increased to 11.6% across the 2008 to 2014 period, compared to compared to 6.5% between 2001 to 2007, and 7.8% during 1994 to 2000. However, we also found methodological factors played an important role when interpreting these trends, participant anonymity, incentive type, research focus and participant type contributing to variance between studies. In turn, characteristics of the sample also warranted interpretative caution as sample size, and self-identifying as Asian or "other" race contributed to between study variances. Ultimately, we were able to demonstrate a pooled prevalence of 9.7% and elucidate

the need for studies examining prevalence of BPD in university populations, and recommend consistency in methodology, described in more detail in section 9.6.1. As such, we were able to contribute to the literature by demonstrating that BPD is apparent in college students, and ultimately justify an attempt to investigate the characteristics of these students in greater detail.

The second study examined the characteristics of Australian university students with diagnostically relevant symptoms of BPD. In the first instance, we identified that 8.1% of our sample (N=2261) reported symptoms indicative of a diagnosis, and 22.5% endorsed BPD symptoms at a sub-clinical level. As such, we were able to demonstrate prevalence of BPD in an Australian university population aligning with those previously reported in the USA (e.g. 9.9%; Klonsky, 2008), and Canada (7.9%; Presniak, Olson & MacGregor, 2010). Yet, we consider we were able to contribute novel information to the literature, through our findings on BPD-related behaviours. Specifically, we found that females above the cut-off for BPD were more likely to engage in BPD-related behaviours, with particular emphasis on aggression (46%), and self-harm (38%) compared to males with BPD, and all students below the cut-off for BPD. The implications of this result are discussed further in section 9.4.1. In turn, we grounded the investigation of demographic and cognitive predictors of the relationship between BPD symptoms and behaviours, by drawing upon the theoretical frameworks of Linehan's Biosocial Theory (1993a), and Emotional Cascade Theory (Selby, Anestis & Joiner, 2008). While results were consistent with theory, the relationship between BPD symptoms and behaviours being subject to severity of rumination and alexithymia represented a unique finding.

The third study examined the efficacy of a Dialectical Behaviour Therapy program (DBT; Linehan, 1993b), modified for use, and piloted within a university counselling service. The group was run over three consecutive university semesters, and was undertaken by 17 students with a diagnosis of BPD. Predominantly, the literature asserts that any appreciable BPD symptom amelioration requires longer-term therapy (e.g. Bateman & Fonagy, 2008; Young, 1994), yet our results showed some promise over an eight-week period. The participants reported a reduction in BPD symptoms, depression severity, and an increase in select coping skills, yet we considered that no hospitalisations occurred during the program a positive feature of the study. The journal article resultant to this study (Meaney-Tavares & Hasking, 2013), attracted correspondence from university counselling services internationally, and two separate research groups who have utilised, or referred to some aspect of the program in their own counselling service-based DBT programs (i.e. Chugani, 2015; Panepinto, Uschold, Olandese & Linn, 2015). This may suggest the program described in the thesis has contributed somewhat to university counselling services considering modified DBT as a treatment option for students with BPD.

The final study had a dual aim, the first investigating the experience of a psychological crisis from the perspective of students who had experienced this event on campus, and staff that had assisted a student during a crisis. At the time of thesis completion, the study yielded information that otherwise had not been previously reported in the literature. The findings demonstrated that despite having the appropriate qualifications, or specialist training, and in many cases, considerable experience, assisting a student in crisis exacted a considerable toll on the wellbeing of staff. Predominantly, this outcome was attributable to staff feeling unsupported in this role by both the university, and external mental health services. In sum, professional and academic staff reported university-based mental health services lacked capacity, in turn, mental health staff described difficulty referring students to external specialist services, and both highlighted that students referred externally tended to return to university staff for assistance in any case. Yet, the students indicated they approached staff in order to have someone to talk to, be reassured, or their distress validated. The students interviewed indicated they were aware of, or linked in with specialist services, and considered referral invalidating. The apparent disconnect between student and staff expectations of help-seeking interactions and limited access to services suggested staff could benefit from structured guidance when assisting a student in crisis. As such, Guidelines for this purpose were developed, and the evaluation of this document is detailed in Section 9.6.3.

9.4 Implications

9.4.1 Policy

Students with significant mental health issues such as BPD have high risk of attrition or drop out from college (Avery, Howell & Page, 2014), representing an outcome reported to cost Australian universities $1.4 billion per year (Hare, 2010), or approximately $14,000 per student (Austin & Kiernan, 2013). Further, students who drop out of university have been reported, on average, to earn $1.5 million less than their qualified counterparts over a lifetime (Hare, 2010), suggesting attrition is associated with a range of broader societal implications. The incidence of university students reporting severe mental health issues is increasing (Engberg & Gilbert, 2014), and both our research, and that of others suggests students with BPD are well represented within this group (e.g. Chugani, 2015). The thesis reported 8.1% of the Australian students surveyed would meet diagnostic criteria for BPD, thus when benchmarked against another large scale Australian study with data collected in the same year (Said, Kypri and Bowman, 2013), rates of BPD were equitable to those of engaging in harmful drinking, and experiencing clinically significant depression as depicted in Figure 9.1. This suggests that BPD may have epidemiological relevance in Australian university populations, yet the disorder does not appear

to be represented within university mental health initiatives, much less acknowledged in policy.

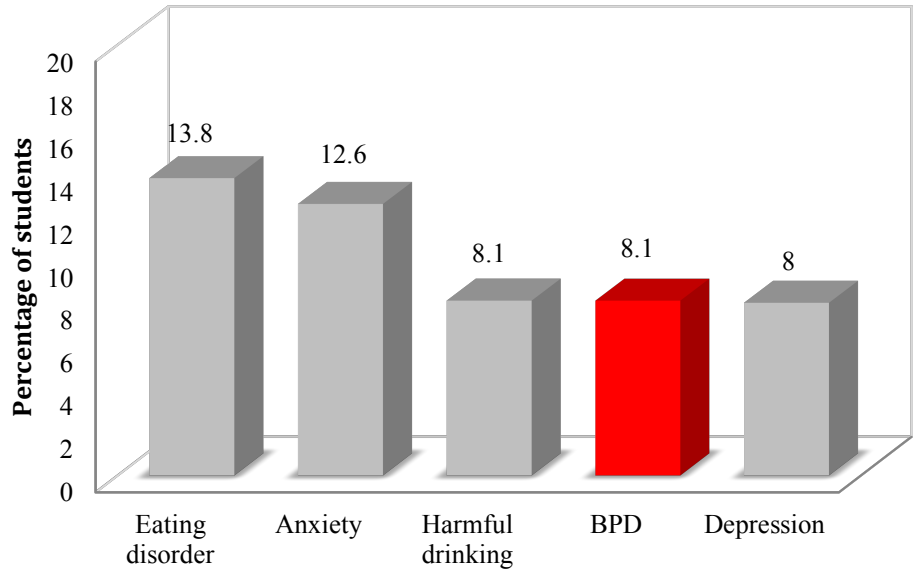


Figure 9.1 Diagnostically relevant psychological symptoms reported by Australian university students over one week.

Note: Data shown in grey was derived from Said, Kypri and Bowman (N=6044; 2013), while BPD data represents that of the study in Chapter 5 of the thesis. Eating disorder = Anorexia Nervosa and Bulimia Nervosa; Anxiety = All Anxiety Disorders; Harmful Drinking = More than 20 drinks per week; BPD=Borderline Personality Disorder; Depression = All Mood Disorders.

While BPD-related behaviours such as suicidal expression and substance abuse, feature dominantly in a range of university-based mental health programs (e.g. SafeTalk; Monash University, 2015), they are generally not designed to target the complex combination of personality factors and behaviours that people with BPD often display (Brennaman, 2012; Koekkoek et al., 2011). A lack of BPD-specific services and programs within universities may be due to factors such as low awareness of the disorder, or perceived low prevalence within university populations (Panepinto, Uschold, Olandese & Linn, 2015), or universities viewing students engaging in behaviours such as suicide attempts and self-harm, as unfit for study (Eisenberg et al., 2012). Yet, both the literature, and results reported in the thesis suggest students with BPD successfully undertake study, and that periods of high symptom severity are often episodic as opposed to pervasive (e.g. Brennaman, 2012). Yet, BPD is associated with a 10% suicide rate (Siever, Torgenson, Gunderson, Livesley, & Kendler, 2002), and problematic behaviours, which in combination have the potential to cause distress for others within the university community.

Universities are required to balance the often competing demands of duty of care, and social

inclusion. In response, most universities have a policy that bears the term "fitness to study" or similar (Stewart, 2013). Attendant to this policy, students who display problematic behaviour may be suspended or excluded from study, and prohibited from entering university premises, however this may result in avoidance of help-seeking, and subsequently greater risk of poor outcomes (Stewart, 2013). While fitness for study policies were developed to manage risk to the university community (Stewart, 2013), students with BPD predominantly represent a greater risk to themselves (Trepal & Wester, 2007). As such, universities need to consider the appropriateness of applying fitness for study policy, in the case of BPD, whereby symptoms of mental illness such as suicide attempts and self-harm occur within acute periods of psychological distress, yet do not reflect capacity for study overall (Brennaman, 2012). Accordingly, to meet responsibilities inherent to social inclusion, universities will need to recognise students with BPD may be disadvantaged over a lifetime if excluded from study following peak symptom severity episodes.

9.4.2 Funding

Recently, universities have attracted criticism for prioritising their budget toward student engagement, while simultaneously retracting student services such as counselling (Caleb, 2014; Sharda, n.d.). Moreover, universities have consistently reduced staffing levels over academic, administrative and student services over the past 10 years, while increasing student enrolments (McAuliffe et al., 2012; Stallman, 2012). Some have cautioned these actions may result in a volatile university environment, whereby greater numbers of students amplify demand for campus-based mental health services, concurrent to under-resourced staff struggling to meet the demand (Sharda, n.d.). In turn, university staff have indicated feeling under considerable pressure, and increasingly seeking counselling for work related stress, anxiety and depression (Page, 2012). In the words, of one participant from the fourth study, "universities are tripping over dollars to save pennies, given staff who are student-focused are struggling to bear the workload; they're the ones the university will lose first, yet also the staff they need to retain the most." Conversely, some have argued that provision of campus-based mental health services falls outside the function of the university, however the pedagogical framework of tertiary institutions is inclusive of duty of care toward its students and staff (McAuliffe et al., 2012; Stallman, 2012). Accordingly, universities should carefully consider whether continued student service retraction and staffing cuts will ultimately impact on student and staff wellbeing, and as such, render the institution a less attractive option for students or their parents when considering which university to attend.

Overall, in order to adopt a more holistic and ethically responsible role toward an educational experience, universities should prioritise services that promote student wellbeing,

such as counselling services. The International Association of Counseling Services (2000) recommends one full-time equivalent professional staff member to every 1,000 to 1,500 students, yet this rarely occurs in actual practice (Engberg & Gilbert, 2014). Despite government funding cuts being cited as the reason counselling service staff have been cut, universities have considerable discretionary capacity to allocate funding within the university structure (Engberg & Gilbert, 2014; Stallman, 2012). As such, universities should consider flexible modes of mental health service delivery, such as contracting mental health professionals to deliver short-term treatment programs, and bolster counselling staff numbers during peak demand periods such as during exams.

9.4.3 Prevention

BPD develops in line with a number of factors including genetic predisposition, trauma, and problematic home environments during childhood (Brown, Comtois, and Linehan, 2002; Linehan, 1993). Diagnostically relevant symptoms of BPD have been reported in children as young as nine years old, and may represent a pervasive pattern of behaviour by age 14 or 15 (Guzder, Paris, Zelkowitz, & Marchessault, 1996). As such, prevention programs would ideally take place during secondary schooling. As described earlier, the tertiary sector has seen a reduction in government funding, alternately Australian schools have been the focus of funding increases, with particular emphasis on mental health programs (Australian Government, Department of Health, 2014). Given this outcome, schools may be well placed to offer prevention in the form of skills building, highlighting constructs such as distress tolerance, and emotion regulation (Linehan, 1993b). In turn, by providing skills useful to a number of young people, it may be unnecessary to identify, and label young people with stigma associated disorders, such as BPD. Existing, prevention programs such as Mind Matters (Australian Government, Department of Health, 2014), target suicide and self-harm behaviours, through acquisition of adaptive coping strategies such as distraction. As such, complementary skill frameworks such as distress tolerance could feasibly be incorporated into existing programs, and potentially reduce the number of people who enter university with symptoms of BPD.

9.4.4 Early Identification

The reasons students with severe BPD symptoms come to the attention of university staff are rarely positive, yet simultaneously represent an opportunity for staff to encourage adaptive help-seeking at the outset. Staff do not need to recognise disorders such as BPD, rather they could be assisted to conceptualise that difficult student behaviours such as aggression may warrant psychological assistance rather than attract disciplinary measures (e.g. Koekkoek et al., 2011). The findings of the fourth study indicated staff were overwhelmingly supportive of both

university-wide staff training, and structured guidance around managing risk-associated student behaviours such as self-harm. Further, staff perceived the task of ascertaining student wellbeing would fall to a greater number of staff, yet questioned their preparedness for this role. The aforementioned findings marry with those of the broader literature in suggesting only a relatively small number of university staff are equipped to recognise, or provide assistance to, a student presenting with psychological symptoms (e.g. Brennaman, 2012; Storrie, Ahern, & Tuckett, 2010). As such, early identification could be entrenched within university staff culture as a shared responsibility, rather than limited to those acting as gatekeepers to mental health services, such as counselling staff. Empowering staff to recognise signs of psychological illness promotes capacity to meet duty of care toward students, and may also act as a peer support mechanism to assist staff recognise when their colleagues may have adverse symptoms as well.

9.5 Limitations

While discussed in detail within each study, overall, the research was associated with several limitations, the first of which broadly relates to generalisability. Females were over-represented by comparison with both broader university populations both in Australia and internationally (e.g. Australian Government Department of Industry, 2012; United States Census Bureau, 2012), and also as proportion of students with diagnostically relevant BPD, given no gender differences have been reported (e.g. Chien, Gau & Gadow, 2011; Gratz, Breetz & Tull, 2010). In turn, the relevance of the findings would be problematic to generalise outside of university populations due to the relative heterogeneity of university students in terms of age (e.g. Australian Government Department of Industry, 2012; United States Census Bureau, 2012), and level of cognitive function by comparison with the general population (Zanarini et al, 2004). BPD has been reported as associated with lower cognitive capability (e.g. Avery, Howell & Page, 2014), and high drop-out rates during secondary schooling (e.g. Zanarini et al, 2004), both of which represent prerequisite criteria for university study. Second, the study detailed in Chapter 4, and much of the data analysed in Chapter 2, drew upon cross-sectional data. As a diagnosis of BPD, or any other personality disorder, is contingent on demonstrating a pervasive pattern of maladaptive behaviour as outlined in the Diagnostic and Statistical Manual of Mental Disorders fifth edition (DSM-5; American Psychiatric Association, 2013), the stability of BPD symptom severity in university students over time remains unclear. Section 9.6.1 proposes research to address this gap in the literature.

Another limitation relates to the preliminary nature of two of the studies (treatment group and guidelines), and limited scope of constructs undergoing analyses. The research had practical constraints such as time available to undertake studies, and limiting the features of BPD that

were measured. In keeping with the practical aims of the research, emphasis was given to BPD constructs with greater relevance in university aged students as justified in Chapter 1, and those that could inform treatment such as emotional dysregulation, and management considerations such as BPD behaviours. As such, other constructs bearing strong relationships with BPD, such as attachment (Bolwby, 1969), were not measured in the research. The following section recommends areas of future research that may account for some of the limitations.

9.6 Future Research

9.6.1 The prevalence of BPD in university populations

The second study in the thesis demonstrated that 8.1% of student participants reported symptoms indicative of a BPD diagnosis. While the sample size obtained for the purpose of the study was reasonably large (N=2261), there are over 1.2 million people currently enrolled in Australian universities (Universities Australia, 2014). As such, should the findings of the second study extrapolate, over 97 000 university students in Australia could be experiencing diagnostically relevant symptoms of BPD. Correspondingly, quantifying students with BPD may have epidemiological merit and direct resources, however the first study emphasised the importance of methodological rigour when engaged in this undertaking. Accordingly, any future epidemiological examination of BPD in students should consider the use of a well-validated measure, particularly those previously normed across university student populations. Such measures of BPD exist, namely the McLean Screening Instrument for Borderline Personality Disorder (MSI-BPD; Zanarini et al., 2003), and Borderline Symptom List, short form (BSL-23; Bohus, et al., 2009). Both scales represent freely available, empirically validated measures, considered well suited to epidemiological analysis (e.g. Klonsky, 2008; Presniak, Olson & MacGregor, 2010).

Self-report measures have yielded over-estimates of a construct (e.g. Huprich, Bornstein & Schmitt, 2011), yet the findings of the first study suggest this factor bore no influence on prevalence, when compared with clinical interviews formats. As described earlier, longitudinal research design improves the validity of findings when examining personality disorders, and self-report scales may represent a parsimonious method of data collection at multiple time points. Moreover, the first study demonstrated participant anonymity may facilitate greater disclosure while examining contentious or sensitive constructs, such as BPD symptoms and behaviours. In response, future research should ensure that participants are provided with a range of referral and contact options, to offset any potential risk inherent with participant anonymity. Alternately, future research should consider using random sampling techniques to minimise sample bias, and ensure participation from a diverse range of university students, particularly

those often considered under-represented such as postgraduate students and males (e.g. Huprich, Bornstein & Schmitt, 2011). Finally, the first study identified that the inclusion of miscellaneous research categories such as "other race," could prevent important insights. For example, higher rates of BPD have been reported in racial minority student groups (e.g. Tomko, Trull, Wood & Sher, 2013), suggesting the utility of discerning minorities with particular risk. Accordingly, future research could include specific scale items that allow participants to qualitatively describe their racial identification.

9.6.2 University based treatment programs for students with BPD

The counselling service based treatment program for students with BPD described in the third study showed considerable promise in treating symptoms of the disorder over an eight-week period. However questions remain around whether the results obtained were due to the program, or extraneous factors such as concurrent individual counselling, and additional consultation with the group facilitators. As such an opportunity exists to evaluate the efficacy of treatments for BPD symptoms and behaviours modified for use in university counselling services, employing experimental evaluation techniques, namely a randomised controlled trial. As per the convention of this methodology, the design of the study should include two samples of students with a diagnosis of BPD, one group allocated to the short-term treatment group, the other in a positive-control group, such as individual counselling, over the same period. Due to the ethical considerations of providing no treatment at all for participants with risk-associated presentations, a placebo group would be inappropriate within the context of students with BPD. Further, the second study contained methodology that could be improved upon. In the first instance, the measure of BPD should represent a psychometrically sound scale that taps a wide range of constructs associated with BPD, with the BSL-23 (Bohus, et al., 2009), and MSI-BPD (Zanarini et al., 2003), representing two suitable options. Similarly, the Depression, Anxiety and Stress Scale (DASS, Lovibond & Lovibond, 1993), may assist in distinguishing whether stress through variations in university workload contributes significantly to fluctuations in symptoms of anxiety and depression, given that the measures of these domains utilised in the second study did not tap this construct. As stress can exacerbate symptoms of BPD, and university assessment periods are clustered within similar time periods, it may be the case that negligible reductions in anxiety levels are related to concurrent university assessment tasks, as opposed to being ineffectively targeted by the treatment program. In turn, empirically identifying effective university-based treatment programs for students may reduce costs to the public mental health system, which in turn may assist campus-based mental health services to justify funding allocation for this purpose.

9.6.3 Staff role in assisting students during a psychological crisis

University staff may benefit from obtaining skills and support that build their confidence in assisting students during psychological crises. As detailed in the fourth study, this could be achieved through university wide training in mental health literacy and psychological crisis management, or including these domains as part of new staff induction programs. However, enriching staff capacity to assist students in distress does not necessarily predicate staff willingness to engage in this task. Only a small number university staff were sampled in the fourth study, and while their attitudes toward providing assistance to students were overwhelmingly positive, this may have been related to this particular task being a function of their roles. It is not clear whether a broader range of staff express similar sentiments relative to preparedness, and willingness, to assist students with psychological distress. This suggests the utility of a quantitative study, sampling staff across various roles and functions, with the goal of examining attitudes, and identifying any barriers staff may indicate would prevent them from assisting students with psychological symptoms. In turn, an opportunity exists to evaluate the guidelines developed as a secondary aim of the fourth study, as detailed in Chapters 7 and 8. It may be the case that staff attitudes are more positive toward engaging in a helper role, should they have a structured framework to follow when a student presents with suicidal ideation or self-harm. Accordingly, there is scope to combine evaluation of the guidelines, and examination of staff attitudes as related constructs in future research.

9.7 Conclusions

The thesis has provided four novel research contributions to the literature on BPD in university student populations. Through these tasks, the thesis demonstrated an identifiable cohort of university students reported diagnostically relevant symptoms, specifically 9.7% pooled prevalence internationally, and 8.1% of Australian students that participated in the second study. Previously, the number of university students with the disorder had not been reported in the literature, and was instead thought to mirror general population figures (1-2%; APA, 2013), yet the findings demonstrated university students had over four times higher likelihood of BPD by comparison. Due to high-risk behaviours and 10% suicide rate associated with the disorder (Siever, Torgenson, Gunderson, Livesley & Kendler, 2002), students with BPD represent a particularly vulnerable population, underpinning the need for targeted intervention, and allocation of appropriate services. As a step toward targeted intervention, characteristics associated with BPD behaviours in students were examined; in turn those with more BPD symptoms, a family history of psychological illness, and higher levels of stress were more likely to engage in behaviours. With the goal of recommending treatment, the second study further

reported on cognitive constructs predicting the relationship between BPD symptoms and behaviours.

The latter studies shifted the focus of the thesis to treatment and management of BPD on campus. Subsequently, the third study evaluated a pilot treatment program for students with BPD, held at a university counselling service. While showing some promising treatment outcomes, the program highlighted that a number of students with BPD commenced the program having recently attempted suicide, and recently hospitalised following a suicide attempt. Moreover, many of the students regularly engaged in self-harm, some of which had been enacted on campus. Symptoms of peak symptom severity, referred to as a psychological crisis includes self-harm, suicidal ideation and attempts, and aggressive behaviour. The final study represented a qualitative examination of the experience of a crisis on campus, from the perspectives of both students who had such an event on campus, and also staff who had provided assistance to students with severe psychological symptoms. The experience of this event was highly distressing for both students and staff, yet the findings demonstrated that staff perceived a lack of support from both the university, and external specialist services. Guidelines were developed to provide a framework for staff when assisting students with suicidal, self-harm, or aggressive behaviours. Nonetheless, a picture emerged that universities need to recognise their role in providing services for students with severe psychological symptoms, and allocate funding accordingly.

Universities often promote themselves as adhering to environmental and social responsibilities, such as a safe learning environment, and social inclusion, yet translating this to practice on campus requires greater focus on particular at risk groups. Students with BPD represent such a group, and while these students may pose distinct challenges when acutely unwell, supporting these students through university-based programs may forestall poor outcomes such as attrition, and reduce the number and severity of crisis events they may experience. In turn, providing students with BPD skills to cope with severe symptoms, would assist them in having successful study careers, in addition to skills for life. The thesis has highlighted some positive outcomes that can be achieved by this group of students when supported by the university, and while dedicated staff play a considerable part in this outcome, they require funding and support to continue in this work.

List of references

Abela, J.R., Payne, A.V., & Moussaly, N. (2003). Cognitive vulnerability to depression in individuals with borderline personality disorder. *Journal of Personality Disorder*s, *17*(4), 319-329. doi:10.1521/pedi.17.4.319.23968

Ainsworth, M.D.S., Blehar, M.C., Waters, E., & Wall, S. (2014). *Patterns of attachment: A psychological study of the strange situation*. East Sussex: Psychology Press.

American Psychiatric Association. (1980). *Diagnostic and statistical manual of mental disorders* (3rd ed.). Washington, DC: Author.

American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders* (4th ed., text rev.). Washington, DC: Author.

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Arlington, VA: American Psychiatric Publishing.

Arbuthnott, A.E., Lewis, S.P., & Bailey, H.N. (2015). Rumination and emotions in nonsuicidal self-injury and eating disorder behaviours: A preliminary test of the emotional cascade model. *Journal of Clinical Psychology, 71*(1), 62-71. doi:10.1002/jclp.22115

Atkinson, P.A., Coffey, A., & Delamont, S. (2003). *Key themes in qualitative research*. Walnut Creek CA: Alta Mira.

Australian Bureau of Statistics. (2013). *Selected higher education statistics – 2013 student data*. Retrieved from http://www.education.gov.au.

Australian Bureau of Statistics. (2013, September 23). *Socio-economic indexes for areas (SEIFA)*. Retrieved from http://www.abs.gov.au/

Australian Council for Private Education and Training. (2012). *Helping tertiary institutions address student mental health issue*s. Retrieved from http://www.acpet.edu.au/

Australian Government Department of Health. (2014). *Better access to psychiatrists, psychologists and general practitioners through the MBS (Better Access) initiative*. Retrieved from http://www.health.gov.au/

Australian Government, Department of Health. (2014). *National suicide prevention strategy*. Retrieved from http://www.health.gov.au/

Australian Government, Department of Health. (2014). *Programs and initiatives*. Retrieved from http://www.health.gov.au/

Avery, C., Howell, J.S., & Page, L. (2014). *A review of the role of college counseling, coaching, and mentoring on students' postsecondary outcomes*. Research Brief, New York, NY: The College Board. Retrieved from http://research.collegeboard.org.

Baer, R.A., & Sauer, S.E. (2011). Relationships between depressive rumination, anger rumination, and borderline personality features. *Personality Disorders: Theory, Research, and Treatment, 2*(2), 142. doi:10.1037/a0019478

Bagby, R.M., Parker, J.D., & Taylor, G J. (1994). The twenty-item Toronto Alexithymia Scale I. Item selection and cross-validation of the factor structure. *Journal of Psychosomatic Research, 38*, 23-32. doi:10.1016/0022999(94)90005-1.

Banzhaf, A., Ritter, K., Merkl, A., Schulte-Herbrüggen, O., Lammers, C.H., & Roepke, S. (2012). Gender differences in a clinical sample of patients with borderline personality disorder. *Journal of Personality Disorders, 26*(3), 368-380. doi:10.1521/pedi.2012.26.3.368

Barnicot, K., Katsakou, C., Bhatti, N., Savill, M., Fearns, N., & Priebe, S. (2012). Factors predicting the outcome of psychotherapy for borderline personality disorder: A systematic review. *Clinical Psychology Review, 32*(5), 400-12. doi:10.1016/j.cpr.2012.04.004

Bateman, A., & Fonagy, P. (2009). Randomized controlled trial of outpatient mentalization-based treatment versus structured clinical management for borderline personality disorder. *American Journal of Psychiatry, 166*(12), 1355-1364. doi:10.1176/appi.ajp.2009.09040539

Bayram, N., & Bilgel, N. (2008). The prevalence and socio-demographic correlations of depression, anxiety and stress among a group of university students. *Social Psychiatry and Psychiatric Epidemiology, 43*(8), 667-672. doi:10.1007/s00127-008-0345-x

Beblo, T., Fernando, S., Kamper, P., Griepenstroh, J., Aschenbrenner, S., Pastuszak, A., . . . Driessen, M. (2013). Increased attempts to suppress negative and positive emotions in Borderline Personality Disorder. *Psychiatry Research, 210*(2), 505-509. doi:10.1016/j.psychres.2013.06.036

Belch, H.A., & Marshak, L.E. (2006). Critical incidents involving students with psychiatric disabilities: The gap between state of the art and campus practice. *NASPA Journal, 43*(3), 464-483.

Benton, S.A., Robertson, J.M., Tseng, W.C., Newton, F.B., & Benton, S.L. (2003). Changes in counseling center client problems across 13 years. *Professional Psychology: Research and Practice, 34*(1), 66-72. doi:10.1037/07357028.34.1.66

Berthoz, S., Consoli, S., Perez-Diaz, F., & Jouvent, R. (1999). Alexithymia and anxiety: compounded relationships? A psychometric study. *European Psychiatry: The journal of*

the Association of European Psychiatrists, 14(7), 372-378. doi:10.1016/S09249338(99)002333

Black, D. W., Blum, N., Pfohl, B., & Hale, N. (2004). Suicidal behavior in borderline personality disorder: Prevalence, risk factors, prediction, and prevention. *Journal of Personality Disorders, 18*, 226–39. doi:10.1521/pedi.18.3.226.35445

Black, D.W., T. Gunter, J. Allen, N. Blum, S. Arndt, G. Wenman, B. & Sieleni. P. (2007). Borderline personality disorder in male and female offenders newly committed to prison. *Comprehensive Psychiatry, 48*(5),400-405. doi:10.1016/j.comppsych.2007.04.006

Bodner, E., Cohen-Fridel, S., Mashiah, M., Segal, M., Grinshpoon, A., Fischel, T., & Iancu, I. (2015). The attitudes of psychiatric hospital staff toward hospitalization and treatment of patients with borderline personality disorder. *BMC Psychiatry, 15*(1), 2-28. doi:10.1186/s12888-014-0380-y

Bogenschutz, M.P., & Nurnberg, H.G. (2004). Olanzapine versus placebo in the treatment of borderline personality disorder. *The Journal of Clinical Psychiatry, 65*, 104–109.

Bohus, M., Kleindienst, N., Limberger, M.F., Stieglitz, R., Domsalla, M., Chapman, A.L., . . . Wolf, M. (2009). The short version of the borderline symptom list (BSL-23): Development and initial data on psychometric properties. *Psychopathology, 42*(1), 32-39. doi:10.1159/000173701

Bornovalova, M.A., Hicks, B.M., Patrick, C.J., Iacono, W.G., & McGue, M. (2011). Development and validation of the Minnesota Borderline Personality Disorder scale. *Assessment, 18*(2), 234-252. doi:10.1177/1073191111398320

Bowlby, J. (1969). *Attachment and loss: Vol. 1. Attachment.* Reading MA: Addison-Wesley.

Bowlby, J. (1973). *Attachment and loss: Vol. 2. Separation: Anxiety and anger*. New York: Basic Books.

Bracken-Minor, K.L., & McDevitt-Murphy, M.E. (2014). Differences in features of non-suicidal self-injury according to borderline personality disorder screening status. *Archives of Suicide Research, 18*(1), 88-103. doi:10.1080/13811118.2013.809040

Bradley, K.A., DeBenedetti, A.F., Volk, R.J., Williams, E. C., Frank, D., & Kivlahan, D.R. (2007). AUDIT-C as a brief screen for alcohol misuse in primary care. *Alcoholism: Clinical and Experimental Research, 31*(7), 1208-1217. doi:10.1111/j.1530-0277.2007.00403.x

Brambilla, P., Soloff, P.H., Sala, M., Nicoletti, M.A., Keshavan, M.S., & Soares, J.C. (2004). Anatomical MRI study of borderline personality disorder patients. *Psychiatry Research: Neuroimaging, 131*(2), 125-133. doi:10.1016/j.pscychresns.2004.04.003

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77-101. doi:10.1191/1478088706qp063oa

Brennaman, L. (2012). Crisis emergencies for individuals with severe, persistent mental illnesses: A situation-specific theory. *Archives of Psychiatric Nursing, 26*(4), 251-260. doi:10.1016/j.apnu.2011.11.001

Brinker, J. K., & Dozois, D. J. A. (2009). Ruminative thought style and depressed mood. *Journal of Clinical Psychology, 65*(1), 1-19. doi:10.1002/jclp.20542

Brown, T.A. Chorpita, B.F. Korotitsch, W. Barlow, D.H. (1997). Psychometric properties of the Depression Anxiety Stress Scales (DASS) in clinical samples. *Behaviour Research and Therapy, 3*(5) 79–89. doi:10.1016/S00057967(96)00068-X

Brown, M.Z., Comtois, K.A., & Linehan, M.M. (2002). Reasons for suicide attempts and nonsuicidal self-injury in women with borderline personality disorder. *Journal of Abnormal Psychology, 111*(1), 198. doi:10.1037/0021843X.111.1.198

Buck, R.W. (1985). Prime theory: An integrated view of motivation and emotion. *Psychological Review, 92* (1), 389-413.

Burnard, P., Gill, P., Stewart, K., Treasure, E., & Chadwick, B. (2008). Analysing and presenting qualitative data. *British Dental Journal, 204*(8), 429-432. doi:10.1038/sj.bdj.2008.292

Carpenter, R., & Trull, T. (2012). Components of emotion dysregulation in borderline personality disorder: A review. *Current Psychiatry Reports, 15*(1), 1-8. doi:10.1007/s11920-012-0335-2

Carr-Walker, P., Bowers, L., Callaghan, P., Nijman, H., & Paton, J. (2004). Attitudes towards personality disorders: Comparison between prison officers and psychiatric nurses. *Legal and Criminological Psychology, 9*(2), 265-277. doi:10.1348/1355325041719347

Charmaz, K. (2014). *Constructing grounded theory*. London: Sage.

Cheavens, J.S., & Heiy, J. (2011). The differential roles of affect and avoidance in major depressive and borderline personality disorder symptoms. *Journal of Social and Clinical Psychology, 30*(5), 441-457. doi:10.1521/jscp.2011.30.5.441

Chien, Y.L., Gau, S.S.F., Gadow, K.D. (2011). Sex difference in the rates and co-occurring conditions of psychiatric symptoms in incoming college students in Taiwan. *Comprehensive Psychiatry, 52*(2),195-207. doi:10.1016/j.comppsych.2010.03.009

Choi-Kain, L.W., Zanarini, M.C., Frankenburg, F.R., Fitzmaurice, G.M., & Reich, D.B. (2010). A longitudinal study of the 10-year course of interpersonal features in borderline personality disorder. *Journal of Personality Disorders, 24*(3), 365-376. doi:10.1521/pedi.2010.24.3.365

Chugani, C.C. (2015). Dialectical behavior therapy in college counseling centres: Current literature and implications for practice. *Journal of College Student Psychotherapy, 29*(2), 120-131. doi:10.1080/87568225.2015.1008368.

Clandinin, D. J., & Connelly, F. M. (2000). *Narrative inquiry: Experience and story in qualitative research*. San Francisco: Jossey-Bass.

Clark, L.A., & Watson, D. (1991). Tripartite model of anxiety and depression: psychometric evidence and taxonomic implications. *Journal of Abnormal Psychology, 100*(3), 316-336. doi:10.1037/0021-843X.100.3.316

Coid, J., Yang, M., Tyrer, P., Roberts, A., & Ullrich, S. (2006). Prevalence and correlates of personality disorder in Great Britain. *The British Journal of Psychiatry, 188*(5), 423-431. doi:10.1192/bjp.188.5.423

Cohen, J., Cohen, P., West, S.G., & Aiken, L.S. (2013). *Applied multiple regression/correlation analysis for the behavioural sciences*. New York: Routledge.

Connell, J., Barkham, M., & Mellor-Clark, J. (2007). CORE-OM mental health norms of students attending university counselling services benchmarked against an age-matched primary care sample. *British Journal of Guidance & Counselling, 35*(1), 41-57. doi:10.1080/03069880601106781

Corbin, J. M., & Strauss, A. (1990). Grounded theory research: Procedures, canons, and evaluative criteria. *Qualitative Sociology, 13*(1), 3-21.

Crawford, J. R., & Henry, J. D. (2003). The Depression anxiety stress scales (DASS): Normative data and latent structure in a large non-clinical sample. *British Journal of Clinical Psychology, 42*(2), 111-131. doi:10.1348/014466503321903544

Creswell, J. W. (2006). *Qualitative inquiry and research design: Choosing among five approaches*. London: Sage

Creswell, J.W., & Piano Clark, V.L (2007). Designing and conducting mixed methods research. *Australian and New Zealand Journal of Public Health, 31*(4), 388-388. doi:10.1111/j.1753-6405.2007.00096.x

Czarniawska, B. (2004). *Narratives in social science research*. London: Sage.

Davidson, K. M., Tyrer, P., Norrie, J., Palmer, S. J., & Tyrer, H. (2010). Cognitive therapy v. usual treatment for borderline personality disorder: Prospective 6-year follow-up. *British Journal of Psychiatry, 197*(6), 456-462. doi:10.1192/bjp.bp.109.074286

Davies, G. K. (2008, Jan). Connecting the dots: Lessons from the Virginia tech shootings. *Change, 40*, 8-15. Retrieved from http://search.proquest.com/docview/208047686?accountid=12528

Distell, M.A., Trull, T.J., Derom, C.A., Thiery, E.W., Grimmer, M.A., Martin, N.G., ... & Boomsma, D.I. (2008). Heritability of borderline personality disorder features is similar across three countries. *Psychological Medicine, 38*(09), 1219-1229. doi:10.1017/S0033291707002024

Domes, G., Grabe, H.J., Czieschnek, D., Heinrichs, M., & Herpertz, S.C. (2011). Alexithymic traits and facial emotion recognition in borderline personality disorder. *Psychotherapy and Psychosomatics, 80*, 383–385. doi:10.1159/000325828

Douglas, K.S., L.S. Guy, J.F. Edens, D.P. Boer and J. Hamilton. (2007). The Personality Assessment Inventory as a proxy for the Psychopathy Checklist-Revised: Testing the incremental validity and cross-sample robustness of the anti-social features scale. *Assessment, 14*(3) 255-269. doi:10.1007/s109790079122-8

Engberg, M., & Gilbert, A. (2014). The counseling opportunity structure: examining correlates of four-year college-going rates. *Research in Higher Education, 55*(3), 219-244. doi:10.1007/s11162-013-9309-4

Fairchild, A. J., & MacKinnon, D. P. (2009). A general model for testing mediation and moderation effects. *Prevention Science, 10*(2), 87–99. doi:10.1007/s11121-008-0109-6

Flannery, R. B., & Everly, G. S. (2000). Crisis intervention: A review. *International Journal of Emergency Mental Health, 2*(2), 119-126.

Fearon, P., Target, M., Sargent, J., Williams, L.L, McGregor, J., Bleiberg, E., & Fonagy, P. (2006). Short-term mentalization and relational therapy (SMART): An integrative family therapy for children and adolescents. In J. Allen & P. Fonagy (Eds.), *Handbook of mentalization-based treatment* (pp. 201-222).Wiley: New York.

Fleming, M. F., Barry, K. L., & MacDonald, R. (1991). The alcohol use disorders identification test (AUDIT) in a college sample. *Substance Use & Misuse, 26*(11), 1173-1185.

Fonagy, P., & Bateman, A. W. (2006). Mechanisms of change in mentalization‐based treatment of BPD. *Journal of Clinical Psychology, 62*(4), 411-430. doi:10.1002/jclp.20241

Fonagy, P., & Bateman, A. (2008). The development of borderline personality disorder-A mentalizing model. *Journal of Personality Disorders, 22*(1), 4-21. doi:10.1521/pedi.2008.22.1.4

Fonagy, P., Target, M., Fearon, P., Bleiberg, E., & Asen, E. (2008). Treatment Manual: Short-term Mentalization-based Attachment and Relational Therapy. In J.G. Allen & P. Fonagy (Eds.), The handbook of mentalization-based treatment. Wiley: New York.

Fossati, A., Borroni, S., Feeney, J., & Maffei, C. (2012). Predicting borderline personality disorder features from personality traits, identity orientation, and attachment styles in

Italian nonclinical adults: Issues of consistency across age ranges. *Journal of Personality Disorders, 26*(2), 280-297. doi:10.1521/pedi.2012.26.2.280

Fritz, M. S., & MacKinnon, D. P. (2007). Required Sample Size to Detect the Mediated Effect. *Psychological Science*, *18*(3), 233–239. http://doi.org/10.1111/j.1467-9280.2007.01882.x

Gabbard, G. O. (1993). An overview of countertransference with borderline patients. *The Journal of Psychotherapy Practice and Research, 2*(1), 7-18.

Gallagher, R. P., Gill, A. M., & Sysco, H. M. (2000). *National survey of counseling center directors*. Alexandria, VA: International Association of Counseling Services.

Giesen-Bloo, J., Van Dyck, R., Spinhoven, P., Van Tilburg, W., Dirksen, C., Van Asselt, T., ... & Arntz, A. (2006). Outpatient psychotherapy for borderline personality disorder: randomized trial of schema-focused therapy vs transference-focused psychotherapy. *Archives of General Psychiatry, 63*(6), 649-658. doi:10.1001/archpsyc.63.6.649.

Gilbert, L. A. (1992). Gender and counseling psychology: Current knowledge and directions for research and social action. In S.W. Lent (Ed.), *Handbook of counseling psychology* (2nd ed.) (pp. 383-416). Oxford, England: John Wiley & Sons.

Glenn, C. R., Weinberg, A., & Klonsky, E. D. (2009). Relationship of the Borderline Symptom List to DSM-IV borderline personality disorder criteria assessed by semi-structured interview. *Psychopathology, 42*(6), 394-398. doi:10.1159/000241195

Grant, B. F., Chou, S. P., Goldstein, R. B., Huang, B., Stinson, F. S., Saha, T. D., ... & Ruan, W. J. (2008). Prevalence, correlates, disability, and comorbidity of DSM-IV borderline personality disorder: Results from the wave 2 national epidemiologic survey on alcohol and related conditions. *The Journal of Clinical Psychiatry, 69*(4), 533-45. doi:10.4088/JCP.v69n0404

Gratz, K. L., Breetz, A., & Tull, M. T. (2010). The moderating role of borderline personality in the relationships between deliberate self-harm and emotion-related factors. *Personality and Mental Health, 4*(2), 96-107. doi:10.1002/pmh.102

Gratz, K. L., & Roemer, L. (2004). Multidimensional assessment of emotion regulation and dysregulation: Development, factor structure, and initial validation of the difficulties in emotion regulation scale. *Journal of Psychopathology and Behavioral Assessment, 26*(1), 41-54. doi:10.1023/B:JOBA.0000007455.08539.94

Gratz, K. L., Rosenthal, M. Z., Tull, M. T., Lejuez, C. W., & Gunderson, J. G. (2006). An experimental investigation of emotion dysregulation in borderline personality disorder. *Journal of Abnormal Psychology, 115*(4), 850-855. doi:10.1037/0021-843X.115.4.850

Gross, J. J., & John, O. P. (2003). Individual differences in two emotion regulation processes: Implications for affect, relationships, and well-being. *Journal of Personality and Social Psychology, 85*(2), 348-362. doi:10.1037/00223514.85.2.348

Gunderson, J. G. (2009). Borderline personality disorder: ontogeny of a diagnosis. *The American Journal of Psychiatry, 166*(5), 530-545. doi:10.1176/appi.ajp.2009.08121825

Gunderson, J. G. (2010). Revising the borderline diagnosis for DSM-V: An alternative proposal. *Journal of Personality Disorders, 24*(6), 694-705. doi:10.1001.2011.65

Gunderson, J. G., Links, P. S., & Reich, J. H. (1991). Competing models of personality disorders. *Journal of Personality Disorders, 5*(1), 60-68. doi:10.1521/pedi.1991.5.1.60

Gunderson, J. G., & Ridolfi, M. E. (2001). Borderline personality disorder. *Annals of the New York Academy of Sciences, 932*(1), 61-77. doi:10.1111/j.17496632.2001.tb05798.x

Gunderson, J. G., & Sabo, A. N. (1993). The phenomenological and conceptual interface. *American Journal of Psychiatry, 150*, 19-27.

Hahn, W. K. (2009). Ingenuity and uneasiness about group psychotherapy in university counseling centers. International Journal of Group Psychotherapy, 59(4), 543-552. doi:10.1521/ijgp.2009.59.4.543

Hallahan, B., Hibbeln, J. R., Davis, J. M., & Garland, M. R. (2007). Omega-3 fatty acid supplementation in patients with recurrent self-harm Single-centre double-blind randomised controlled trial. The British Journal of Psychiatry, 190(2), 118-122. doi:10.1192/bjp.bp.106.022707

Hare, J. (2010, October 20). *High university drop-out rates cost 1.4 billion*. The Australian. Retrieved from http://www.theaustralian.com.au/

Hasking, P., Momeni, R., Swannell, S., & Chia, S. (2008). The nature and extent of non-suicidal self-injury in a non-clinical sample of young adults. *Archives of Suicide Research*, *12*(3), 208-218. doi:10.1080/13811110802100957

Henry, J. D., & Crawford, J. R. (2005). The short-form version of the Depression Anxiety Stress Scales (DASS‐21): Construct validity and normative data in a large non‐clinical sample. *British Journal of Clinical Psychology, 44*(2), 227-239. doi:10.1348/014466505X29657

Herman, J. L. (1992). Complex PTSD: A syndrome in survivors of prolonged and repeated trauma. *Journal of Traumatic Stress, 5*(3), 377-391. doi:10.1007/BF00977235

Holm, A. L., & Severinsson, E. (2011). Struggling to recover by changing suicidal behaviour: Narratives from women with borderline personality disorder. *International Journal of Mental Health Nursing, 2*0(3), 165-173. doi:10.1111/j.1447-0349.2010.00713.x

Huprich, S. K., Bornstein, R. F., & Schmitt, T. A. (2011). Self-report methodology is insufficient for improving the assessment and classification of Axis II personality disorders. *Journal of Personality Disorders, 25*(5), 557-570. doi:10.1521/pedi.2011.25.5.557

International Association of Counseling Services. (2000). *Accreditation standards for university and college counseling centers*. Alexandria, VA: International Association of Counseling Services Inc. Retrieved from http://citeseerx.ist.psu.edu

Jacob, G. A., Ower, N., & Buchholz, A. (2013). The role of experiential avoidance, psychopathology, and borderline personality features in experiencing positive emotions: A path analysis. *Journal of Behavior Therapy and Experimental Psychiatry, 44*(1), 61-68. doi:10.1016/j.jbtep.2012.07.006

Jaspers, K. (1963). *General Psychopathology*, (trans. from German by J. Hoenig & M.W. Hamilton). Manchester: Manchester University Press.

Jobes, D. A., Jacoby, A. M., Cimbolic, P., & Hustead, L. A. T. (1997). Assessment and treatment of suicidal clients in a university counseling center. *Journal of Counseling Psychology, 44*(4), 368. doi:10.1037/0022-0167.44.4.368

Johnson, D. M., Shea, M. T., Yen, S., Battle, C. L., Zlotnick, C., Sanislow, C. A., .. Zanarini, M. C. (2003). Gender differences in borderline personality disorder: Findings from the collaborative longitudinal personality disorders study. *Comprehensive Psychiatry, 44*(4), 284-292. doi:10.1016/S0010-440X(03)00090-7x

Joyce, A. S., Fujiwara, E., Cristall, M., Ruddy, C., & Ogrodniczuk, J. S. (2013). Clinical correlates of alexithymia among patients with personality disorder. *Psychotherapy Research, 23*, 690–704. doi:10.1080/10503307.2013.80362

Keith, A. J. (2014). *Suicide assessment practices in college counseling centers* (unpublished doctoral dissertation). Massachusetts School of Professional Psychology, Massachusetts, USA.

Keller, E. W., Hughes, S., & Hertz, G. (2011). A model for assessment and mitigation of threats on the college campus. *Journal of Educational Administration, 49*(1), 76-94. doi:10.1108/09578231111102072

Kernberg, O., & Michels, R. (2009). Borderline personality disorder. American *Journal of Psychiatry, 166*(5), 505-508. doi:10.1176/appi.ajp.2009.09020263

Kinzel, A., & Nanson, J. O. (2000). Education and debriefing: strategies for preventing crises in crisis-line volunteers. *Crisis: The Journal of Crisis Intervention and Suicide Prevention, 21*(3), 126-134. doi:10.1027//0227-5910.21.3.126

Klonsky, E. D. (2008). What is emptiness? Clarifying the 7th criterion for borderline personality disorder. *Journal of Personality Disorders, 22*(4), 418-426. doi:10.1521/pedi.2008.22.4.418

Klonsky, D.E., & Glenn, C.R. (2009). Assessing the functions of non-suicidal self-injury: Psychometric properties of the inventory of statements about self-injury (ISAS). *Journal of Psychopathological Behaviour Assessment, 31*(3), 215-219. doi:10.1007/s10862-008-9107-z

Knight, R. P. (1953). *Borderline states*. In Joint Session of the American Psychoanalytic Association and the Section on Psychoanalysis of the American Psychiatric Association, May, 1952, Atlantic City, NJ, US; Read at the aforementioned conference. International Universities Press, Inc.

Koekkoek, B., Hutschemaekers, G., van Meijel, B., & Schene, A. (2011). How do patients come to be seen as difficult: A mixed-methods study in community mental health care. *Social Science & Medicine, 72*(4), 504-512. doi:10.1016/j.socscimed.2010.11.036

Langley, G. C., & Klopper, H. (2005). Trust as a foundation for the therapeutic intervention for patients with borderline personality disorder. *Journal of Psychiatric And Mental Health Nursing, 12*(1), 23-32. doi:10.1111/j.1365-2850.2004.00774.x

Lapan, R., Whitcomb, S., & Aleman, N. (2012). Connecticut professional school counselors: College and career counseling services and smaller ratios benefit students. *Professional School Counseling, 16*(2), 117-124. doi:10.5330/PSC.n.2012-16.124

Lapointe, M. M. (Ed.). (2008). *Adolescent smoking and health research*. New York: Nova Publishers.

Lawrence, K. A., Allen, J. S., & Chanen, A. M. (2010). Impulsivity in borderline personality disorder: Reward-based decision-making and its relationship to emotional distress. Journal of Personality Disorders, 24(6), 785-799. doi:10.1521/pedi.2010.24.6.785

Leichsenring, F., Leibing, E., Kruse, J., New, A. S., & Leweke, F. (2011). Borderline personality disorder. *The Lancet, 377*(9759), 74-84. doi:10.1192/bjp.bp.110.082776

Lenzenweger, M. F., Lane, M. C., Loranger, A. W., & Kessler, R. C. (2007). DSM-IV personality disorders in the National Comorbidity Survey replication. *Biological Psychiatry, 62*(6), 553-564. doi:10.1016/j.biopsych.2006.09.019

Levenson, R.W. (1994). Human emotions: A functional view. In P. Ekman & R. J. Davidson (Eds.), *The nature of emotion: Fundamental questions* (pp. 123-126). New York: Oxford University Press.

Levy, K. N. (2005). The implications of attachment theory and research for understanding borderline personality disorder. *Development and Psychopathology, 17*(04), 959-986. doi:10.1017/S0954579405050455

Lewis, K.L., & Grenyer, B.F. (2009). Borderline personality or complex posttraumatic stress disorder? An update on the controversy. *Harvard Review of Psychiatry, 17*(5), 322-328. doi:10.3109/10673220903271848

Lieb, K., Völlm, B., Rücker, G., Timmer, A., & Stoffers, J.M. (2010). Pharmacotherapy for borderline personality disorder: Cochrane systematic review of randomised trials. *The British Journal of Psychiatry, 196*(1), 4-12. doi:10.1192/bjp.bp.108.06298

Lieb, K., Zanarini, M. C., Schmahl, C., Linehan, M. M., & Bohus, M. (2004). Borderline personality disorder. *Lancet, 364*, 453-461. doi:10.1016/S01406736(04)16770-6

Linehan, M.M. (1993a). *Cognitive-behavioural treatment of borderline personality disorder*. New York, NY: The Guildford Press.

Linehan, M.M. (1993b). *Skills training manual for treating borderline personality disorder*. New York, NY: The Guilford Press.

Linehan, M.M., Cochran, B.N., Mar, C.M., Levensky, E.R., & Comtois, K.A. (2000). Therapeutic burnout among borderline personality disordered clients and their therapists: Development and evaluation of two adaptations of the Maslach Burnout Inventory. *Cognitive and Behavioral Practice, 7*(3), 329-337. doi:10.1016/S1077-7229(00)80091-7

Linehan, M.M., Comtois, K.A., Murray, A.M., Brown, M.Z., Gallop, R.J., Heard, H.L., ... & Lindenboim, N. (2006). Two-year randomized controlled trial and follow-up of dialectical behavior therapy vs therapy by experts for suicidal behaviours and borderline personality disorder. *Archives of General Psychiatry, 63*(7), 757-766. doi:10.1016/j.brat.2009.06.008

Linehan, M.M., Rizvi, S., Welch, S.S., & Page, B. (2008). Psychiatric aspects of suicidal behaviour: Personality disorders. In K. Hawton & K. van Heeringen (Eds.), *The International Handbook of Suicide and Attempted Suicide* (pp. 147-178). John Wiley & Sons, Ltd. doi:10.1002/9780470698976.ch10

Linehan, M.M., Tutek, D.A., Heard, H.L., & Armstrong, H.E. (1994). Interpersonal outcome of cognitive behavioural treatment for chronically suicidal borderline patients. *American Journal of Psychiatry, 151*(12), 1771-1775. Retrieved from http://courses.washington.edu/

Links, P.S., Steiner, M., Boiago, I., & Irwin, D. (1990). Lithium therapy for borderline patients: Preliminary findings. *Journal of Personality Disorders, 4*(2), 173-181. doi:10.1521/pedi.1990.4.2.173

Little, J., Trauer, T., Rouhan, J., & Haines, M. (2010). Borderline personality disorder and interagency response. *Australasian Psychiatry, 18*(5), 441-444. doi:10.3109/10398562.2010.498886

Loas, G., Speranza, M., Pham-Scottez, A., Perez-Diaz, F., & Corcos, M. (2012). Alexithymia in adolescents with borderline personality disorder. *Journal of Psychosomatic Research, 72*(2), 147-152. doi:10.1016/j.jpsychores.2011.11.006

Lovibond, S.H., & Lovibond, P.F. (1993). *Manual for the depression anxiety stress scales*. Sydney: Psychology Foundation.

Mahadevan, S., Hawton, K., & Casey, D. (2010). Deliberate self-harm in Oxford University students, 1993–2005: a descriptive and case–control study. *Social Psychiatry and Psychiatric Epidemiology, 45*(2), 211-219. doi:10.1007/s00127-009-0057-x

Mathias, C. W., Michael Furr, R., Sheftall, A. H., Hill-Kapturczak, N., Crum, P., & Dougherty, D. M. (2012). What's the Harm in Asking About Suicidal Ideation? *Suicide and Life-Threatening Behavior, 42*(3), 341-351. doi:10.1111/j.1943-278X.2012.0095.x

Mayer, J.D., Caruso, D.R., & Salovey, P. (2000). Selecting a measure of emotional intelligence: The case for ability scales. In D. Goleman, R., Bar-On, J.D.A., Parker (Eds.), *The handbook of emotional intelligence: Theory, development, assessment, and application at home, school, and in the workplace*. (pp. 320-342). San Francisco, CA: Jossey-Bass.

McCormick, B., Blum, N., Hansel, R., Franklin, J. A., St John, D., Pfohl, B., ... & Black, D. W. (2007). Relationship of sex to symptom severity, psychiatric comorbidity, and health care utilization in 163 subjects with borderline personality disorder. *Comprehensive Psychiatry, 48*(5), 406-412. doi:10.1016/j.comppsych.2007.05.005

McEvoy, P.M., Watson, H., Watkins, E.R., & Nathan, P. (2013). The relationship between worry, rumination, and comorbidity: Evidence for repetitive negative thinking as a transdiagnostic construct. *Journal of Affective Disorders, 151*(1), 313-320. doi:10.1016/j.jad.2013.06.014

McKenzie, M.S., & McFarland, B.H. (2007). Trends in antidepressant overdoses. *Pharmacoepidemiology and Drug Safety, 16*(5), 513-523. doi:10.1002/pds.1355

McMain, S. F., Guimond, T., Streiner, D. L., Cardish, R. J., & Links, P. S. (2012). Dialectical behavior therapy compared with general psychiatric management for borderline

personality disorder: Clinical outcomes and functioning over a 2-year follow-up. *American Journal of Psychiatry, 169*(6), 650-661. doi:10.1176/appi.ajp.2012.11091416

McMain, S., Links, P., Gnam, W., Guimond, T., Cardish, R., Korman, L., & Streiner, D. (2009). A randomized trial of dialectical behavior therapy versus general psychiatric management for borderline personality disorder. *American Journal of Psychiatry, 166*(12), 1365-1374. doi:10.1176/appi.ajp.2009.09010039

Meaney-Tavares, R., & Hasking, P. (2013). Coping and regulating emotions: A pilot study of a modified dialectical behavior therapy group delivered in a college counseling service. *Journal of American College Health, 61*(5), 303-309. doi:10.1080/07448481.2013.791827

Meneses-Gaya, C.D., Zuardi, A.W., Loureiro, S.R., & Crippa, J.A.S. (2009). Alcohol use disorders identification test (AUDIT): An updated systematic review of psychometric properties. *Psychology & Neuroscience, 2*(1), 83-97. doi:10.3922/j.psns.2009.1.12

Michl, L.C., McLaughlin, K.A., Shepherd, K., & Nolen-Hoeksema, S. (2013). Rumination as a mechanism linking stressful life events to symptoms of depression and anxiety: Longitudinal evidence in early adolescents and adults. *Journal of Abnormal Psychology, 122*(2), 339-352. doi:10.1037/a0031994

Molenberghs, G., Michiels, B., Kenward, M.G., & Diggle, P.J. (1998). Monotone missing data and pattern-mixture models. *Statistica Neerlandica, 52*(2), 153-161. doi:10.1111/1467-9574.00075

Monash University (2013, September 14). *Monash at a glance*. Retrieved from http://www.monash.edu.au/about/who/glance

Monash University (2014, April 9). *Safer Community Unit*. Retrieved from http://www.adm.monash.edu.au/safercommunity

Monash University (2014, December 10). *Supporting social inclusion*. Retrieved from http://www.monash.edu.au/about/who/glance/socialinclusion

Monash University (2015, August 25). *SafeTalk: Suicide awareness*. Retrieved from http://www.monash.edu.au/counselling/safetalk.html

Montgomery, S.A., Montgomery, D.B., Jayanthi-Rani, S., Roy, D.H., Shaw, P.J., & McAuley, R. (1979, June). Maintenance therapy in repeat suicidal behaviour: A placebo controlled trial. In *Proceedings of the 10th International Congress for Suicide Prevention and Crisis Intervention* (Vol. 19, pp. 227-229).

Morse, J. M. Designing funded qualitative research. In Denzin, Norman K. (Ed); Lincoln, Yvonna S. (Ed), (1994), *Handbook of qualitative research*. (pp. 220-235). Thousand Oaks, CA, US: Sage Publications, Inc.

Morse, J.M., Barrett, M., Mayan, M., Olson, K., & Spiers, J. (2002). Verification strategies for establishing reliability and validity in qualitative research. *International Journal of Qualitative Methods, 1*(2), 1-19.

Morse, J.Q., Hill, J., Pilkonis, P.A., Yaggi, K., Broyden, N., Stepp, S., ... & Feske, U. (2009). Anger, preoccupied attachment, and domain disorganization in borderline personality disorder. *Journal of Personality Disorders, 23*(3), 240-68. doi:10.1521/pedi.2009.23.3.240

Moustakas, C. (1994). *Phenomenological research methods*. Thousand Oaks, CA: Sage.

Mowbray, C.T., Mandiberg, J.M., Stein, C.H., Kopels, S., Curlin, C., Megivern, D., . . Lett, R. (2006). Campus mental health services: Recommendations for change. *American Journal of Orthopsychiatry, 76*(2), 226-237. doi:10.1037/00029432.76.2.226

Muller, N., & Midgley, N. (2015). Approaches to assessment in time-limited Mentalization-Based Therapy for Children (MBT-C). *Frontiers in Psychology*, *6*, 1063. http://doi.org/10.3389/fpsyg.2015.01063

Murphy, K. & Matthews, R. (2010). Examination of the evidence base for psychological interventions in the treatment of mental disorders. *InPsych, 32* (3) 28-29.

Nehls, N. (1998). Borderline personality disorder: Gender stereotypes, stigma, and limited system of care. *Issues in Mental Health Nursing, 19*(2), 97-112. doi:10.1080/016128498249105

National Institute for Health and Care Excellence (2009). *Borderline personality disorder* (BPD) (CG78). Retrieved from http://www.nice.org.uk.

National Institute for Health and Care Excellence. (2014). *Developing NICE Clinical Guidelines*. Retrieved from http://www.nice.org.uk.

New, A.S., Aanhet Rot, M., Ripoll, L.H., Perez-Rodriguez, M.M., Lazarus, S., et al. (2012). Empathy and alexithymia in borderline personality disorder: Clinical and laboratory measures. *Journal of Personality Disorders, 26*, 660–675. doi:10.1521/pedi.2012.26.5.660

Nicolò, G., Semerari, A., Lysaker, P.H., Dimaggio, G., Conti, L., D'Angerio, S., . . . Carcione, A. (2011). Alexithymia in personality disorders: Correlations with symptoms and interpersonal functioning. *Psychiatry Research, 190*(1), 37-42. doi:10.1016/j.psychres.

Nolen-Hoeksema, S., Wisco, B. E., & Lyubomirsky, S. (2008) Rethinking rumination. *Perspectives on Psychological Science, 3*, 400-424. doi:10.1111/j.1745-6924.2008.00088.x

Nordahl, H.M., & Nysæter, T.E. (2005). Schema therapy for patients with borderline personality disorder: a single case series. *Journal of Behavior Therapy and Experimental Psychiatry, 36*(3), 254-264. doi:10.1016/j.jbtep.2005.05.007

Norling, D.C., & Kim, S. (2010). Borderline personality disorder. In J.C. Thomas & M. Hersen (Eds.), *Handbook of Clinical Psychology Competencies*. New York: Springer.

Norton, P.J. (2007). Depression anxiety and stress scales (DASS-21): Psychometric analysis across four racial groups. *Anxiety, Stress, and Coping, 20*(3), 253-265. doi:10.1080/10615800701309279

Ollerenshaw, J.A., & Creswell, J.W. (2002). Narrative research: A comparison of two restorying data analysis approaches. *Qualitative Inquiry, 8*(3), 329-347. doi:10.1177/10778004008003008

Paris, J. (2005). Borderline personality disorder. *Canadian Medical Association Journal, 172*(12), 1579-1583. doi:10.1503/cmaj.045281

Page, A.C., Hooke, G.R., & Morrison, D.L. (2007). Psychometric properties of the Depression anxiety stress scales (DASS) in depressed clinical samples. *British Journal of Clinical Psychology, 46*(3), 283-297. doi:10.1348/014466506x158996.

Page, D. (2012, December 9). *Uni staff under stress*. Newcastle Herald. Retrieved from http://www.theherald.com.au/

Panepinto, A.R, Uschold, C.C., Olandese, M., & Linn, B.K. (2015). Beyond borderline personality disorder: Dialectical behavior therapy in a college counseling center. *Journal of College Student Psychotherapy, 29*(3), 211-226. doi:10.1080/87568225.2015.1045782

Parker, J.D., Taylor, G J., & Bagby, R.M. (2003). The 20-Item Toronto alexithymia scale: Reliability and factorial validity in a community population. *Journal of Psychosomatic Research, 55*(3), 269-275. doi:10.1016/S00223999(02)005780

Penven, J.C., & Janosik S.M. (2012). Threat assessment teams: A model for coordinating the institutional response and reducing legal liability when college students threaten suicide. *Journal of Student Affairs Research and Practice*, *49*(3), 248-358. doi:10.1515/jsarp-2012-6339

Perugi, G., Toni, C., Travierso, M.C., & Akiskal, H.S. (2003). The role of cyclothymia in atypical depression: toward a data-based reconceptualization of the borderline–bipolar II

connection. *Journal of Affective Disorders, 73*(1), 87-98. doi:10.1016/S0165-0327(02)00329-4

Peters, J., & Skirton, H. (2013). Social support within a mother and child group: An ethnographic study situated in the UK. *Nursing & Health Sciences, 15*(2), 250-255. doi:10.1111/nhs.12027

Pinnegar, S. & Hamilton, M.L. (2011). Narrating the tensions of teacher educator researcher in moving story to research. *Advances in Research on Teaching, 13*, 43-68. doi:10.1108/S1479-3687(2011)00000130006.

Plutchik, R. (1962). *The emotions: Facts, theories, and a new model*. New York: Random House.

Polkinghorne, D.E. (1989). Phenomenological research methods. In R.S. Valle & S. Halling (Eds.), *Existential-phenomenological perspectives in psychology* (pp. 41–60). New York: Plenum.

Polkinghorne, D.E. (1995). Narrative configuration in qualitative analysis. *International Journal of Qualitative Studies in Education, 8*(1), 5-23. doi:10.1080/0951839950080103

Pulakos, J. (1993). Two models of suicide treatment: Evaluation and recommendations. *American Journal of Psychotherapy, 47*(4), 603-612.

Putnam, K.M., & Silk, K.R. (2005). Emotion dysregulation and the development of borderline personality disorder. *Development and Psychopathology, 17*(4), 899-907. doi:10.1017/S0954579405050431

Quintrell, N., & Robertson, M. (1995). Student counselling in Australian universities: Forty years of development. *International Journal for the Advancement of Counselling, 18*(4), 203-221. doi:10.1007/bf01408096

Raosoft Incorporated (2004). *Sample size calculator*. Retrieved from http://www.raosoft.com/

Reeves, S., Kuper, A., & Hodges, B.D. (2008). Qualitative research methodologies: ethnography. *BMJ (Clinical research ed.), 337*, a1020. doi:10.1136/bmj.a1020

Robbins, S.B., May, T.M., & Corazzini, J.G. (1995). Perceptions of client needs and counseling center staff roles and functions. *Journal of Counseling Psychology, 32*(4), 641-644. doi:0.1037/0022-0167.32.4.641

Roberts, A.R. (2005). Bridging the past and present to the future of crisis intervention and crisis management. *Crisis intervention handbook: Assessment, treatment, and research*. New York NY: Oxford University Press.

Rubin, D.B. (1987). *Multiple imputation for nonresponse in surveys*. Canada: John Wiley & Sons, Inc.

Said, D., Kypri, K., & Bowman, J. (2013). Risk factors for mental disorder among university students in Australia: findings from a web-based cross-sectional survey. *Social Psychiatry and Psychiatric Epidemiology, 48*(6), 935-944. doi:10.1007/s00127-012-0574-x

Salsman, N., & Linehan, M.M. (2012). An Investigation of the Relationships among Negative Affect, Difficulties in Emotion Regulation, and Features of Borderline Personality Disorder. *Journal of Psychopathology and Behavioral Assessment, 34* (2), 260-67. doi:10.1007/s10862-012-9275-8

Samuels, J., Eaton, W.W., Bienvenu, O.J., Brown, C.H., Costa, P.T., & Nestadt, G. (2002). Prevalence and correlates of personality disorders in a community sample. *The British Journal of Psychiatry, 180*(6), 536-542. doi:10.1192/bjp.180.6.536

Sanislow, C.A., Grilo, C.M., Morey, L.C., Bender, D.S., Skodol, A.E., Gunderson, J.G., ...& McGlashan, T.H. (2002). Confirmatory factor analysis of DSM-IV criteria for borderline personality disorder: Findings from the collaborative longitudinal personality disorders study. *American Journal of Psychiatry, 159*(2), 284-290. doi:10.1176/appi.ajp.159.2.284

Sanislow, C.A., & McGlashan, T.H. (1998). Treatment outcome of personality disorders. *Canadian Journal of Psychiatry, 43*(3), 237-250.

Sansone, R.A., Farukhi, S., & Wiederman, M.W. (2011). Disruptive behaviours in the medical setting and borderline personality. *The International Journal of Psychiatry in Medicine, 41*(4), 355-363. doi:10.2190/PM.41.4.e

Sardá, J., Nicholas, M.K., Pimenta, C.A., & Asghari, A. (2008). Psychometric properties of the DASS-depression scale among a Brazilian population with chronic pain. *Journal of Psychosomatic Research, 64*(1), 25-32. doi:10.1016/j.jpsychores.2007.05.015

Sauer-Zavala, S.E., Geiger, P.J., & Baer, R.A. (2013). The effect of anger rumination in the relationship between borderline personality disorder symptoms and precursors. *Journal of Personality Disorders, 27*(4), 465-472. doi:101521pedi201327098

Saunders, J.B., Aasland, O.G., Babor, T.F., & Grant, M. (1993). Development of the alcohol use disorders identification test (AUDIT): WHO collaborative project on early detection of persons with harmful alcohol consumption‐II. *Addiction, 88*(6), 791-804. doi:10.1111/j.1360-0443.1993.tb02093.x

Sayers, J., & Whiteside, U. (2006). Borderline personality disorder. In W.T., O'Donahue & J.E., Fisher (Eds.), *Practitioner's guide to evidence-based psychotherapy* (pp. 151-160). Springer US.

Schore, A. N. (2002). Dysregulation of the right brain: A fundamental mechanism of traumatic attachment and the psychopathogenesis of posttraumatic stress disorder. *Australian and New Zealand Journal of Psychiatry, 36*(1), 9-30. doi:10.1046/j.1440-1614.2002.00996.x

Schulze, L., Domes, G., Krüger, A., Berger, C., Fleischer, M., Prehn, K., . . . Herpertz, S. C. (2011). Neuronal correlates of cognitive reappraisal in borderline patients with affective instability. *Biological Psychiatry, 69*(6), 564-573. doi: 10.1016/j.biopsych.2010.10.025

Schweitzer, R., Klayich, M., & McLean, J. (1995). Suicidal ideation and behaviours among university students in Australia. *Australasian Psychiatry, 29*(3), 473-479. doi:10.3109/00048679509064956

Selby, E.A., Anestis, M.D., Bender, T.W., & Joiner, T.E. Jr. (2009). An exploration of the emotional cascade model in borderline personality disorder. *Journal of Abnormal Psychology, 118*(2), 375-387. doi:10.1037/a0015711

Selby, E.A., Anestis, M.D., & Joiner, T.E., Jr. (2008). Understanding the relationship between emotional and behavioural dysregulation: Emotional cascades. *Behaviour Research and Therapy, 46*, 593–611. doi:10.1016/j.brat.2008.02.002

Selby, E.A., Franklin, J., Carson-Wong, A., & Rizvi, S. (2013). Emotional cascades and self-injury: Investigating instability of rumination and negative emotion. *Journal of Clinical Psychology, 69*, 1213-1227. doi:10.1002/jclp.21966

Selby, E.A., & Joiner, T.E., Jr. (2009). Cascades of emotion: The emergence of borderline personality disorder from emotional and behavioural dysregulation. *Review of General Psychology, 13*, 219–229. doi:10.1037/a0015687

Selby, E.A., & Joiner, T.E., Jr. (2013). Emotional cascades as prospective predictors of dysregulated behaviours in borderline personality disorder. *Personality Disorders: Theory, Research, and Treatment, 4*, 168–174. doi:10.1037/a0029933

Sharda, H. (n.d.). *Cost cutting at what cost?* Australian University Scenario. Retrieved from http://www.aair.org.au/

Shea, M., Edelen, M.O., Pinto, A., Yen, S., Gunderson, J.G., Skodol, A.E., ... & Morey, L.C. (2009). Improvement in borderline personality disorder in relationship to age. *Acta Psychiatrica Scandinavica, 119*(2), 143-148. doi:10.1111/j.1600-0447.2008.01274.x

Siever, L.J., Torgersen, S., Gunderson, J.G., Livesley, W.J., & Kendler, K.S. (2002). The borderline diagnosis III: Identifying endophenotypes for genetic studies. *Biological Psychiatry, 51*(12), 964-968. doi:10.1016/S0006-3223(02)01326-4

Sihm, F. (1994). Positive and negative symptoms of borderline personality disorder. *Nordic Journal of Psychiatry, 48*(S31), 41-45. doi:10.3109/08039489409096705

Skodol, A.E., Gunderson, J.G., Pfohl, B., Widiger, T.A., Livesley, W.J., & Siever, L.J. (2002). The borderline diagnosis I: Psychopathology, comorbidity, and personality structure. *Biological Psychiatry, 51*(12), 936-950. doi:10.1016/S0006-3223(02)01324-0

Soler, J., Pascuel, J.C., Campins, J., Barrachina, J., Puigdemont, D., Alvarez, E., & Perez, V. (2005). Double-blind, placebo-controlled study of dialectical behavior therapy plus olanzapine for borderline personality disorder. The *American Journal of Psychiatry, 162*, 1221–1224. doi:10.1176/appi.ajp.162.6.1221

Soloff, P.H., Cornelius, J., George, A., & Nathan, S. (1993). Efficacy of phenelzine and haloperidol in borderline personality disorder. *Archives of General Psychiatry, 50*(5), 377-385. doi:10.1001/archpsyc.1993.01820170055007.

Soloff, P.H., Lis, J.A., Kelly, T., Cornelius, J., & Ulrich, R. (1994). Risk factors for suicidal behavior in borderline personality disorder. *American Journal of Psychiatry, 151*, 1316–1323.

Soloff, P.H., Lynch, K.G. & Kelly, T.M. (2002). Childhood abuse as a risk factor for suicidal behavior in borderline personality disorder. *Journal of Personality Disorders, 16*, 201–214. doi:10.1521/pedi.16.3.201.22542

Soper, D. (2013). S*tatistics calculators: Effect size (Cohen's d) calculator for a student t-test*. Retrieved from http://www.danielsoper.com/

Stake, R. (1983). *The case study method in social inquiry evaluation models* (Vol. 6, pp. 279-286): Springer: Netherlands.

Stallman, H.M. (2008). Prevalence of psychological distress in university students-Implications for service delivery. *Australian Family Physician, 37*, 673-7.

Stewart, E. (2013, August 9). *Mental illness at university*. ABC, Ramp Up. Retrieved from http://www.abc.net.au/

Storrie, K., Ahern, K., & Tuckett, A. (2010). A systematic review: Students with mental health problems: A growing problem. *International Journal of Nursing Practice, 16*(1), 1-6. doi:10.1111/j.1440-172X.2009.01813.x

Strauss, A.L. (1987). *Qualitative analysis for social scientists*. Cambridge: Cambridge University Press.

Stepp, S.D., Scott, L.N., Morse, J.Q., Nolf, K.A., Hallquist, M.N., & Pilkonis, P.A. (2014). Emotion dysregulation as a maintenance factor of borderline personality disorder features. *Comprehensive Psychiatry, 55*(3), 657-666. doi:10.1016/j.comppsych.2013.11.006

Swartz, M., Blazer, D., George, L., & Winfield, I. (1990). Estimating the prevalence of borderline personality disorder in the community. *Journal of Personality Disorders, 4*(3), 257-272. doi:10.1521/pedi.1990.4.3.257

Tadić, A., Wagner, S., Hoch, J., Başkaya, Ö., von Cube, R., Skaletz, C., ... & Dahmen, N. (2009). Gender differences in axis I and axis II comorbidity in patients with borderline personality disorder. *Psychopathology, 42*(4), 257-263. doi:10.1159/000224149

Taylor, G.J., Bagby, R.M., Parker, J.D.A. (1997). *Disorders of affect regulation. alexithymia in medical and psychiatric illness*. Cambridge University Press: Cambridge.

Teten, A.L., Miller, L.A., Bailey, S.D., Dunn, N.J., & Kent, T.A. (2008). Empathic deficits and alexithymia in trauma-related impulsive aggression. *Behavioral Sciences and the Law, 26*, 823–832. doi:10.1002/bsl.843

Tomko, R.L., Trull, T.J., Wood, P.K., & Sher, K.J. (2013). Characteristics of borderline personality disorder in a community sample: Comorbidity, treatment utilization, and general functioning. *Journal of Personality Disorders, 28*, 1-17. doi:10.1521/pedi_2013_27_093

Torgersen, S., Kringlen, E., & Cramer, V. (2001). The prevalence of personality disorders in a community sample. *Archives of General Psychiatry, 58*(6), 590-596. doi:10.1001/archpsyc.58.6.590.

Trepal, H.C., & Wester, K.L. (2007). Self-injurious behaviours, diagnoses, and treatment methods: What mental health professionals are reporting. *Journal of Mental Health Counseling, 29*(4), 363-375. doi:10.17744/mehc.29.4.d277t298667q5367

Trestman, R.L., Ford, J., Zhang, W, & Wiesbrock, J. (2007). Current and lifetime psychiatric illness among inmates not identified as acutely mentally ill at intake in Connecticut's jails. *Journal of the American Academy of Psychiatry and the Law, 35*(4), 490-500.

Treynor, W., Gonzalez, R., & Nolen-Hoeksema, S. (2003). Rumination reconsidered: A psychometric analysis. *Cognitive Therapy and Research, 27*(3), 247-259. doi:10.1023/A:1023910315561

Trull, T.J., Distel, M.A., & Carpenter, R.W. (2011). DSM-5 borderline personality disorder: At the border between a dimensional and a categorical view. *Current Psychiatry Reports, 13*(1), 43-49. doi:10.1007/s11920-010-0170-2

Trull, T. J., Sher, K. J., Minks-Brown, C., Durbin, J., & Burr, R. (2000). Borderline personality disorder and substance use disorders: A review and integration. *Clinical Psychology Review, 20*(2), 235-253. doi:10.1016/S02727358(99)00028-8

Tuna, E., & Bozo, Ö. (2014). Exploring the link between emotional and behavioural dysregulation: A test of the emotional cascade model. *The Journal of General Psychology, 141*, 1-17. doi:10.1080/00221309.2013.834289.

Universities Australia. (2014). *Data Snapshot.* Retrieved from https://www.universitiesaustralia.edu.au/

Van Dijke, A., Van, D.H., Van Son, M., Bühring, M., Van, D.H., & Ford, J.D. (2013). Cognitive and affective dimensions of difficulties in emotional functioning in somatoform disorders and borderline personality disorder. *Psychopathology, 46*(3), 153-62. doi:10.1159/000338832

van Manen, M. (1990). *Researching lived experience: Human science for an action sensitive pedagogy*. Albany: State University of New York Press.

Webb, T. L., Miles, E., & Sheeran, P. (2012). Dealing with feeling: A meta-analysis of the effectiveness of strategies derived from the process model of emotion regulation. *Psychological Bulletin, 138*(4), 775-808. doi:10.1037/a0027600

Wedig, M.M., Silverman, M.H., Frankenburg, F.R., Reich, D.B., Fitzmaurice, G., & Zanarini, M.C. (2012). Predictors of suicide attempts in patients with borderline personality disorder over 16 years of prospective follow-up. *Psychological Medicine,* 1(1), 1-10. doi:10.1017/S0033291712000517

Weinberg, I., Ronningstam, E., Goldblatt, M.J., Schechter, M., & Maltsberger, J.T. (2011). Common factors in empirically supported treatments of borderline personality disorder. *Current Psychiatry Reports, 13*(1), 60-68. doi:10.1007/s11920-010-0167-x

Weissman, M.M. (1991). Epidemiology of borderline personality disorder. *Hospital and Community Psychiatry, 42*(10), 1015-32. Retrieved from http://ps.psychiatryonline.org/

Wigley, S., & Fontenot, M. (2010). Crisis managers losing control of the message: A pilot study of the Virginia Tech shooting. *Public Relations Review, 36* (2), 187-189. doi.org/10.1016/j.pubrev.2010.01.003.

Wimpenny, P., & Gass, J. (2000). Interviewing in phenomenology and grounded theory: Is there a difference*? Journal of Advanced Nursing, 31*(6), 1485-1492. doi:10.1046/j.1365-2648.2000.01431.x

Winston, A.P. (2000). Recent developments in borderline personality disorder. *Advances in Psychiatric Treatment, 6*(3), 211-217. doi:10.1192/apt.6.3.211

World Health Organization. (1979). *Emotionally unstable personality disorde*r. In International statistical classification of diseases and related health problems (9th ed.). Retrieved from http://www.cdc.gov/

World Health Organization. (1990). *International statistical classification of diseases and related health problems (10th ed.)*. Retrieved from http://apps.who.int/

World Health Organisation (2014, n.m). *WHO handbook for guideline development*. World Health Organisation. Retrieved from http://www.who.int/

Yeomans, F.E., & Levy, K.N. (2002). An object relations perspective on borderline personality. *Acta Neuropsychiatrica, 14*(2), 76-80. doi:10.1034/j.16015215.2002.140205.x

Yin, R.K. (1992). The case study method as a tool for doing evaluation. *Current Sociology, 40*(1), 121-137.

Young, J.E. (1994). *Cognitive therapy for personality disorders: A schema-focused approach (rev. ed.)*. Sarasota, FL, US: Professional Resource Press/Professional Resource Exchange.

Zaki, L.F., Coifman, K.G., Rafaeli, E., Berenson, K.R., & Downey, G. (2013). Emotion differentiation as a protective factor against nonsuicidal self-injury in borderline personality disorder. *Behavior Therapy, 44*(3), 529-48. doi:10.1016/j.beth.2013.04.008

Zanarini, M. C., & Frankenburg, F. R. (2007). The essential nature of borderline psychopathology. *Journal of Personality Disorders, 21*(5), 518-535. doi:10.1521/pedi.2007.21.5.518

Zanarini, M.C., Frankenburg, F.R., Dubo, E.D., Sickel, A.E., Trikha, A., Levin, A., & Reynolds, V. (1998). Axis I comorbidity of borderline personality disorder. *American Journal of Psychiatry, 155*(12), 1733-1739. Retrieved from http://www.ncbi.nlm.nih.gov/

Zanarini, M.C., Frankenburg, F.R., Hennen, J., Reich, D.B., & Silk, K.R. (2004). Axis I comorbidity in patients with borderline personality disorder: 6-year follow-up and prediction of time to remission. *American Journal of Psychiatry, 161*(11), 2108-2114. doi:10.1176/appi.ajp.161.11.2108

Zanarini, M.C., Frankenburg, F.R., Hennen, J., & Silk, K.R. (2003). The longitudinal course of borderline psychopathology: 6-year prospective follow-up of the phenomenology of borderline personality disorder. *American Journal of Psychiatry, 160*(2), 274-283. doi:10.1176/appi.ajp.160.2.274

Zanarini, M.C., Frankenburg, F.R., Khera, G.S., & Bleichmar, J. (2001). Treatment histories of borderline inpatients. *Comprehensive Psychiatry, 42*(2), 144-150. doi:0.1053/comp.2001.19749

Zanarini, M.C., Gunderson, J.G., Frankenburg, F.R., & Chauncey, D.L. (1989). The revised diagnostic interview for borderlines: Discriminating BPD from other Axis II disorders. *Journal of Personality Disorders, 3*(1), 10-18. doi:10.1521/pedi.1989.3.1.10

Zanarini, M.C., Horwood, J., Wolke, D., Waylen, A., Fitzmaurice, G., & Grant, B.F. (2011). Prevalence of DSM-IV borderline personality disorder in two community samples: 6,330 English 11-year-olds and 34,653 American adults. *Journal of Personality Disorders, 25*(5), 607-619. doi:10.1521/pedi.2011.25.5.607

Zhong, J., & Leung, F. (2007). Should borderline personality disorder be included in the fourth edition of the Chinese classification of mental disorders? *Chinese Medical Journal Beijing-English Edition, 120*(1), 77-82. Retrieved from http://www.cmj.org/

Appendices

Appendix 2A: Database Search Histories

First Search

AMED (Allied and Complementary Medicine)

No	Query Results	Results	Date
#9	#2 AND #6	5	31.03.14
#8	#2 AND #4	0	31.03.14
#7	#2 AND #4 AND #6	0	31.03.14
#6	"prevalence or occurrence or frequency or features" (date 1994-2014)	9,491	31.03.14
#4	"college students or university students or undergraduates or postgraduates or pupils" (date 1994-2014)	708	31.03.14
#2	"borderline personality disorder or BPD or borderline personality" (date 1994-2014)	58	31.03.14

Biological Abstracts

Search ID#	Search Terms	Search Options	Actions	Date
S11	S9 AND S10	**Search modes** - Boolean/Phrase	0	31.03.14
S10	S6 AND S8	**Search modes** - Boolean/Phrase	65,812	31.03.14
S9	S2 AND S4	**Search modes** - Boolean/Phrase	9	31.03.14
S8	"traits OR symptoms OR characteristics OR features" (1994-2014; English)	**Search modes** - Boolean/Phrase	540,953	31.03.14
S6	"prevalence OR occurrence OR frequency"(1994-2014; English)	**Search modes** - Boolean/Phrase	511,852	31.03.14
S4	"college students OR university students OR undergraduate OR postgraduate OR pupil"(1994-2014; English)	**Search modes** - Boolean/Phrase	6,371	31.03.14
S2	"borderline personality disorder OR BPD OR borderline personality" (1994-2014; English)	**Search modes** - Boolean/Phrase	2,721	31.03.14

CINAHL Plus

Search ID#	Search Terms	Search Options	Actions	Date
S7	S5 AND S6	**Search modes** - Boolean/Phrase	2	30.03.14
S6	S3 AND S4	**Search modes** - Boolean/Phrase	26,614	30.03.14
S5	S1 AND S2	**Search modes** - Boolean/Phrase	33	30.03.14
S4	"traits OR symptoms OR characteristics OR features" (1994-2014; English)	**Search modes** - Boolean/Phrase	209,362	30.03.14
S3	"prevalence OR occurrence OR frequency"(1994-2014; English)	**Search modes** - Boolean/Phrase	142,815	30.03.14
S2	"college students OR university students OR undergraduate OR postgraduate OR pupils"(1994-2014; English)	**Search modes** - Boolean/Phrase	21,069	30.03.14
S1	"borderline personality disorder OR BPD OR borderline personality" (1994-2014; English)	**Search modes** - Boolean/Phrase	2,444	30.03.14

Current contents connect (through Web of Science)

Search ID#	Search Terms	Search Options	Actions	Date
S3	AND **TOPIC:** (prevalence OR occurrence OR frequency)	**Search modes** - Boolean/Phrase	48	7.04.14
S2	**Refined by: TOPIC:** (college students OR university students OR undergraduates OR postgraduates or pupils)	**Search modes** - Boolean/Phrase	222	7.04.14
S1	"**TOPIC:** (borderline personality disorder OR BPD OR borderline personality) **Timespan:** 1998-2014. **Indexes:** ABES, SBS, CM, LS, PCES, ECT, AH, BC, EC. "	**Search modes** - Boolean/Phrase	8,138	7.04.14

EBM reviews (Allied and Complementary Medicine)

No	Query Results	Results	Date
#11	#3 AND #6	4	20.04.14
#10	#3 AND #6 AND #9	2	20.04.14
#9	"prevalence or occurrence or frequency" (date 1994-2014) limit 1 to english language [Limit not valid in CDSR,ACP Journal Club,DARE,CCTR,CLCMR; records were retained]	48698	20.04.14
#6	"college students or university students or undergraduates or postgraduates or pupils" (date 1994-2014) limit 1 to english language [Limit not valid in CDSR,ACP Journal Club,DARE,CCTR,CLCMR; records were retained]	1832	20.04.14
#3	"borderline personality disorder or BPD or borderline personality" (date 1994-2014) limit 1 to english language [Limit not valid in CDSR,ACP Journal Club,DARE,CCTR,CLCMR; records were retained]	669	20.04.14

Embase

No	Query Results	Results	Date
#5	#2 AND #3 AND #4	27	20.04.14
#4	prevalence OR occurrence OR frequency	1,532,696	20.04.14
#3	college AND students OR university AND students OR undergraduates OR postgraduates OR pupils	129,414	20.04.14
#1	Keyword search **"borderline personality disorder OR BPD or borderline personality"[MeSH Major Topic]** (date 1994-2014; English)	336	21.04.14

Google Scholar

No	Query Results	Results	Date
#2	Date 1994-2014	129	20.04.14
#1	borderline personality disorder or borderline personality or bpd and college students or university students or undergraduates and postgraduates and prevalence	236	20.04.14

Ovid MEDLINE Search (PubMed)

Search	Most Recent Queries	Date	Result
#10	Search **#4 AND #9** (date 1994-2014)	25.03.14	8
#9	Search **#2 AND #6** (date 1994-2014)	25.03.14	847
#8	Search **traits OR symptoms OR characteristics OR features**(date 1994-2014)	25.03.14	815452
#6	Search "**prevalence OR occurrence OR frequency"** (date 1994-2014; English)	25.03.14	764581
#4	Keyword search **"college students OR university students OR undergraduates OR postgraduates OR pupils"[MeSH Major Topic]** (date 1994-2014, English)	25.03.14	18184
#2	Keyword search **"borderline personality disorder OR BPD or borderline personality"[MeSH Major Topic]** (date 1994-2014; English)	25.03.14	6122

Proquest Central

Search	Most Recent Queries	Date	Result
#7	(((((((((borderline personality disorder) OR (bpd OR borderline personality)) AND (college students OR university students OR undergraduates OR postgraduates)) AND (prevalence OR occurrence)) AND (traits OR symptoms OR characteristics OR features)) NOT adolescent) NOT patient) NOT inmates) NOT inpatients) NOT school	21.4.14	118
#6	((((((borderline personality disorder) OR (bpd OR borderline personality)) AND (college students OR university students OR undergraduates OR postgraduates)) AND (prevalence OR occurrence)) AND (traits OR symptoms OR characteristics OR features)) NOT adolescent) NOT patient	21.4.14	325
#5	(((((borderline personality disorder) OR (bpd OR borderline personality)) AND (college students OR university students OR undergraduates OR postgraduates)) AND (prevalence OR occurrence)) AND (traits OR symptoms OR characteristics **OR**	21.4.14	1,391
#4	**((((borderline personality disorder) OR (bpd OR borderline personality)) AND (college students OR university students OR undergraduates OR postgraduates)) AND (prevalence OR occurrence)) AND (traits OR symptoms OR characteristics OR** features**)** (date 1994-2014)	21.4.14	3,876
#3	**(((borderline personality disorder) OR (bpd OR borderline personality)) AND (college students OR university students OR undergraduates OR postgraduates)) AND (prevalence OR occurrence)** (date 1994-2014; English)	21.4.14	4,063
#2	((borderline personality disorder) OR (bpd OR borderline personality)) AND (college students OR university students OR undergraduates OR postgraduates)	21.4.14	8,370

#1	Keyword search **"borderline personality disorder OR BPD or borderline personality"[MeSH Major Topic]** (date 1994-2014; English)	21.4.14	24,228

PsycINFO Search

Search ID#	**Search Terms**	**Actions**	**Date**
#11	#9 AND #10	0	26.03.14
#10	#6 AND #9	16	26.03.14
#9	#2 AND #4	119	26.03.14
#8	"traits or symptoms or characteristics or features"	312716	26.03.14
#6	"prevalence or occurrence or frequency" **(1994-2014; English)**	220181	26.03.14
#4	"college students or university students or undergraduates or postgraduates or pupils" **(1994-2014; English)**	76351	26.03.14
#2	"borderline personality disorder OR BPD or borderline personality" **(1994-2014; English)**	6349	26.03.14

PubMed

Search ID#	**Search Terms**	**Actions**	**Date**
4	1 AND 2 AND 3 **(1994-2014)**	44	23.4.14
3	(("epidemiology"[Subheading] OR "epidemiology"[All Fields] OR "prevalence"[All Fields] OR "prevalence"[MeSH Terms]) OR ("epidemiology"[Subheading] OR "epidemiology"[All Fields] OR "incidence"[All Fields] OR "incidence"[MeSH Terms])) OR ("epidemiology"[Subheading] OR "epidemiology"[All Fields] OR "occurrence"[All Fields] OR "epidemiology"[MeSH Terms] OR "occurrence"[All Fields]) AND ("1994/01/01"[PDAT] : "2014/12/31"[PDAT])	1,720,137	23.4.14
2	(((college[All Fields] AND ("students"[MeSH Terms] OR "students"[All Fields])) OR (("universities"[MeSH Terms] OR "universities"[All Fields] OR "university"[All Fields]) AND ("students"[MeSH Terms] OR "students"[All Fields]))) OR undergraduate[All Fields]) AND postgraduate[All Fields] AND ("1994/01/01"[PDAT] : "2014/12/31"[PDAT])	2,166	23.4.14
1	(("borderline personality disorder"[MeSH Terms] OR ("borderline"[All Fields] AND "personality"[All Fields] AND "disorder"[All Fields]) OR "borderline personality disorder"[All Fields]) OR bpd[All Fields]) OR ("borderline personality disorder"[MeSH Terms] OR ("borderline"[All Fields] AND "personality"[All Fields] AND "disorder"[All Fields]) OR "borderline personality disorder"[All Fields] OR ("borderline"[All Fields] AND "personality"[All Fields]) OR "borderline personality"[All Fields]) AND ("1994/01/01"[PDAT] : "2014/12/31"[PDAT])	8,261	23.4.14

Scopus

Search ID#	**Search Terms**	**Actions**	**Date**
4	1 AND 2 AND 3 **>1993**	11	28.04.14
3	TITLE-ABS-KEY(prevalence OR occurrence OR frequency) AND PUBYEAR > 1993	2,431,047	28.04.14
2	TITLE-ABS-KEY(university students OR college students OR undergraduates OR postgraduates) AND PUBYEAR > 1993	120,170	28.04.14
1	TITLE-ABS-KEY (borderline personality disorder OR bpd OR borderline personality) (1994-2014)	7403	28.04.14

Taylor & Francis online

Search ID#	**Search Terms**	**Actions**	**Date**
4	1 AND 2 AND 3 (1994-2014)	20	28.04.1
3	Search Everything(prevalence OR occurrence OR frequency) AND	559,054	28.04.1
2	Search Everything (university students OR college students OR undergraduates OR postgraduates) AND PUBYEAR (1994-2014)	969,797	28.04.14
1	Search Everything (borderline personality disorder OR bpd OR borderline personality) (1994-2014)	540	28.04.14

Web of Science

Search ID#	**Search Terms**	**Actions**	**Date**
S3	Refined by: **TOPIC:** *(college students or university students or undergraduates or postgraduates or pupils)* AND **TOPIC:** *(prevalence OR occurrence OR frequency)*.Timespan=1994-2014. Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, CCR-EXPANDED, IC.	55	26.3.14
S2	*(borderline personality disorder OR BPD or borderline personality)* Refined by: **TOPIC:** *(college students or university students or undergraduates or postgraduates or pupils)*. Timespan=1994-2014. Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, CCR-EXPANDED, IC.	250	26.3.14

S1	*(borderline personality disorder OR BPD or borderline personality)* Timespan=1994-2014. Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, CCR-EXPANDED, IC.	11,098	26.3.14

Other databases searched:

Database	Date Searched	Records per total search terms
AEI : Australian Education Index	31.3.14	0
AMI : Australasian medical index	31.3.14	3 (0 relevant)
APAIS : Australian public affairs information service	31.3.14	13 (0 relevant)
BMJ Best Practice	1.4.14	117 (0 relevant)
Cochrane Library	1.4.14	6/8409 (0 relevant)
MIMS Online	20.4.14	0
Informit Online	21.4.14	209 (0 relevant)

Database Search Histories:
Search 2; 29-30th July 2015.

AMED (Allied and Complementary Medicine)

No	Query Results	Results	Date
#9	#2 AND #6	7	29.7.2015
#8	#2 AND #4	0	
#7	#2 AND #4 AND #6	0	
#6	"prevalence or occurrence or frequency or features" (date 1980-2014)	12657	
#4	"college students or university students or undergraduates or postgraduates or pupils" (date 1980-2014)	804	
#2	"borderline personality disorder or BPD or borderline personality" (date 1980-2014)	78	

None usable or new

Biological Abstracts

Search ID#	Search Terms	Search Options	Actions	Date

S11	S9 AND S10	**Search modes** - Boolean/Phrase	**1**	30.7.15
S10	S6 AND S8	**Search modes** - Boolean/Phrase	123792	
S9	S2 AND S4	**Search modes** - Boolean/Phrase	**23**	
S8	"traits OR symptoms OR characteristics OR features" (1980-2014; English)	**Search modes** - Boolean/Phrase	1127983	
S6	"prevalence OR occurrence OR frequency"(1980-2014; English)	**Search modes** - Boolean/Phrase	789614	
S4	"college students OR university students OR undergraduate OR postgraduate OR pupil"(1980-2014; English)	**Search modes** - Boolean/Phrase	17966	
S2	"borderline personality disorder OR BPD OR borderline personality" (1980-2014; English)	**Search modes** - Boolean/Phrase	4154	

None usable or new

CINAHL Plus

Search ID#	Search Terms	Search Options	Actions	Date
S7	S5 AND S6	**Search modes** - Boolean/Phrase	2	**30.7.15**
S6	S3 AND S4	**Search modes** - Boolean/Phrase	30,179	
S5	S1 AND S2	**Search modes** - Boolean/Phrase	40	
S4	"traits OR symptoms OR characteristics OR features" (1980-2014; English)	**Search modes** - Boolean/Phrase	244,180	
S3	"prevalence OR occurrence OR frequency"(1980-2014; English)	**Search modes** - Boolean/Phrase	149,830	
S2	"college students OR university students OR undergraduate OR postgraduate OR pupils"(1980-2014; English)	**Search modes** - Boolean/Phrase	30,829	
S1	"borderline personality disorder OR BPD OR borderline personality" (1980-2014; English)	**Search modes** - Boolean/Phrase	2,537	

None usable or new

Current contents connect (through Web of Science)

Search ID#	Search Terms	Search Options	Actions	Date
S3	AND **TOPIC:** (prevalence OR occurrence OR frequency)	**Search modes** - Boolean/Phrase	56	**30.7.15**
S2	**Refined by: TOPIC:** (college students OR university students OR undergraduates OR postgraduates or pupils)	**Search modes** - Boolean/Phrase	260	
S1	"**TOPIC:** (borderline personality disorder OR BPD OR borderline personality) **Timespan:** 1998-2014. **Indexes:** ABES, SBS, CM, LS, PCES, ECT, AH, BC, EC. "	**Search modes** - Boolean/Phrase	8962	

None usable or new

EBM reviews (Allied and Complementary Medicine)

No	Query Results	Results	Date
#11	#3 AND #6	3	29.7.15
#10	#3 AND #6 AND #9	2	
#9	"prevalence or occurrence or frequency" (date 1980-2014) limit 1 to english language [Limit not valid in CDSR,ACP Journal Club,DARE,CCTR,CLCMR; records were	55068	
#6	"college students or university students or undergraduates or postgraduates or pupils" (date 1980-2014) limit 1 to english language [Limit not valid in CDSR,ACP Journal Club,DARE,CCTR,CLCMR; records were retained]	2078	
#3	"borderline personality disorder or BPD or borderline personality" (date 1980-2014) limit 1 to english language [Limit not valid in CDSR,ACP Journal Club,DARE,CCTR,CLCMR; records were retained]	704	

None usable or new

Embase

No	Query Results	Results	Date
#5	#2 AND #3 AND #4	24	30.7.15

#4	prevalence OR occurrence OR frequency	**1,373,900**	
#3	college AND students OR university AND students OR undergraduates OR postgraduates OR pupils	**121,855**	
#2	Keyword search **"borderline personality disorder OR BPD or borderline personality"[MeSH Major Topic]** (date 1980-2014; English)	**8,269**	

None usable or new

Google Scholar

No	Query Results	Results	Date
#2	Date 1980-1980	0	30.7.15
#1	borderline personality disorder or borderline personality or bpd and college students or university students or undergraduates and postgraduates and prevalence	210	

Ovid MEDLINE Search (PubMed)

Search	Most Recent Queries	Date	Result
#10	Search **#4 AND #9** (date 1980-2014)	30.7.15	11
#9	Search **#2 AND #6** (date 1980-2014)		1031
#8	Search **traits OR symptoms OR characteristics OR features**(date 1980-		977438
#6	Search "**prevalence OR occurrence OR frequency"** (date 1980-2014; English)		
#4	Keyword search **"college students OR university students OR undergraduates OR postgraduates OR pupils"[MeSH Major Topic]** (date 1980-2014, English)		29368
#2	Keyword search **"borderline personality disorder OR BPD or borderline personality"[MeSH Major Topic]** (date 1980-2014; English)		8485

None usable or new

Proquest Central

Search	Most Recent Queries	Date	Result
#3	**(((borderline personality disorder) OR (bpd OR borderline personality)) AND (college students OR university students OR undergraduates OR postgraduates)) AND (prevalence OR occurrence)** (date 1980-2014; English)	30.7.15	17
#2	((borderline personality disorder) OR (bpd OR borderline personality)) AND (college students OR university students OR undergraduates OR postgraduates)		255

#1	Keyword search **"borderline personality disorder OR BPD or borderline personality"[MeSH Major Topic]** (date 1980-2014; English)		24,993

None usable or new

PsycINFO Search

Search ID#	**Search Terms**	**Actions**	**Date**
#11	#9 AND #10	18	30.7.15
#10	#6 AND #9	18	
#9	#2 AND #4	140	
#8	"traits or symptoms or characteristics or features"	482340	
#6	"prevalence or occurrence or frequency" **(1980-2014; English)**	198847	
#4	"college students or university students or undergraduates or postgraduates or pupils" **(1980-2014; English)**	139694	
#2	"borderline personality disorder OR BPD or borderline personality" **(1980-2014; English)**	8398	

None usable or new

PubMed

Search ID#	**Search Terms**	**Actions**	**Date**
4	1 AND 2 AND 3 **(1980-2014)**	53	30.7.15
3	(("epidemiology"[Subheading] OR "epidemiology"[All Fields] OR "prevalence"[All Fields] OR "prevalence"[MeSH Terms]) OR ("epidemiology"[Subheading] OR "epidemiology"[All Fields] OR "incidence"[All Fields] OR "incidence"[MeSH Terms])) OR ("epidemiology"[Subheading] OR "epidemiology"[All Fields] OR "occurrence"[All Fields] OR "epidemiology"[MeSH Terms] OR "occurrence"[All Fields]) AND ("1980/01/01"[PDAT] : "2014/12/31"[PDAT])	**2646276**	
2	(((college[All Fields] AND ("students"[MeSH Terms] OR "students"[All Fields])) OR (("universities"[MeSH Terms] OR "universities"[All Fields] OR "university"[All Fields]) AND ("students"[MeSH Terms] OR "students"[All Fields]))) OR undergraduate[All Fields]) AND postgraduate[All Fields] AND ("1980/01/01"[PDAT] : "2014/12/31"[PDAT])	139086	

1	(("borderline personality disorder"[MeSH Terms] OR ("borderline"[All Fields] AND "personality"[All Fields] AND "disorder"[All Fields]) OR "borderline personality disorder"[All Fields]) OR bpd[All Fields]) OR ("borderline personality disorder"[MeSH Terms] OR ("borderline"[All Fields] AND "personality"[All Fields] AND "disorder"[All Fields]) OR "borderline personality disorder"[All Fields] OR ("borderline"[All Fields] AND "personality"[All Fields]) OR "borderline personality"[All Fields]) AND ("1980/01/01"[PDAT] : "2014/12/31"[PDAT])	11635	

None usable or new

Scopus

Search ID#	**Search Terms**	**Actions**	**Date**
4	1 AND 2 AND 3 **>1979**	32	30.7.15
3	TITLE-ABS-KEY(prevalence OR occurrence OR frequency) AND PUBYEAR > 1993	3,067,731	
2	TITLE-ABS-KEY(university students OR college students OR undergraduates OR postgraduates) AND PUBYEAR > 1993	143,656	
1	TITLE-ABS-KEY (borderline personality disorder OR bpd OR borderline personality) (1980-2014)	10175	

None usable or new

Taylor & Francis online

Search ID#	**Search Terms**	**Actions**	**Date**
4	1 AND 2 AND 3 (1980-2014)	20	30.7.15
3	Search Everything (prevalence OR occurrence OR frequency) AND	766,155	
2	Search Everything (university students OR college students OR undergraduates OR postgraduates) AND PUBYEAR (1980-2014)	1,338,024	
1	Search Everything (borderline personality disorder OR bpd OR borderline personality) (1980-2014)	14854	

Web of Science

Search ID#	**Search Terms**	**Actions**	**Date**
S3	Refined by: **TOPIC:** *(college students or university students or undergraduates or postgraduates or pupils)* AND **TOPIC:** *(prevalence OR occurrence OR frequency)* Timespan=1980-2014. Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, CCR-EXPANDED, IC.	47	30.7.15

S2	*(borderline personality disorder OR BPD or borderline personality)* Refined by: **TOPIC:** *(college students or university students or undergraduates or postgraduates or pupils)* Timespan=1980-2014. Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, CCR-EXPANDED, IC.	294	
S1	*(borderline personality disorder OR BPD or borderline personality)* Timespan=1980-2014. Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, CCR-EXPANDED, IC.	13,380	

None usable or new

Other databases searched:

Database	**Date Searched**	**Records per total search terms**
AEI: Australian Education Index	30.7.2015 Not available	0
AMI: Australasian medical index		3 (0 relevant)
APAIS: Australian public affairs information service		13 (0 relevant)
BMJ Best Practice (now Best Practice)		0
Cochrane Library		7/8623 (0 relevant)
MIMS Online		0
Informit Online		221 (0 relevant)

Appendix 2B: Ten Step Literature Search

1. DATABASE SEARCHING Multidisciplinary: Current Contents Connect, Embase, Google Scholar, Informit Online, Ovid MEDLINE, Proquest Central, Scopus, Taylor & Francis Online, Web of Science with conference procedings; Subject-specific: AMED, Biological Abstracts, CINAHL Plus, Cochrane Library, MIMS Online, PsycARTICLES, PsychINFO, PubMed; n=880 (Journal Articles = 856; Book Sections = 3; Books = 21)
↓
2. REMOVE DUPLICATES Exclude n=43, retain n=813 (Journal Articles = 806; Book Sections = 1; Books = 6)
↓
3. SCREENING #1, BY TITLE Exclude n=283[a], retain n=523 (Journal Articles = 523)
↓
4. SCREENING #2, BY ABSTRACT Exclude n=356[b], retain n=167 (Journal Articles = 167)
↓
5. SCREENING #3, BY FULL TEXT Exclude n=128[c], retain n=39 (Journal Articles = 39)
↓
6. CITED REFERENCE SEARCHING [d] Science Citation Index Expanded (1994-2014) and Social Sciences Citation Index (1994-2014, via ISI Web of Science). Add n=0, retain n=39 (Journal articles = 39)
↓
7. HAND SEARCHING[e] Journal of Personality Disorders and Psychopathology, 1994-2014 Add n=3, retain n=44 (Journal articles = 44)
↓
8. RECORDS ALREADY KNOWN, NOT FOUND IN OTHER SEARCHES Add n=4, retain n=48 (Journal articles = 48[f])
↓
9. CORRESPONDENCE WITH AUTHORS[f] Exclude n=5, retain n=45 records (120 estimates) (Journal articles = 43[f])
↓
10. REPEAT OF ELECTRONIC SEARCHES PRIOR TO SUBMISSION FOR PUBLICATION Add n=0, retain n=43 (50 estimates) (Journal articles = 43)

[a] First Screening Exclusions: see appendix for details
[b] Second Screening Exclusions: see appendix for details
[c] Third Screening Exclusions - see appendix for details
[d] No additional resources that were retained were located
[e] Pavony et al, (2013) & Hocschild-Tolpin (2004).
[f] After writing to authors, 5 journal articles were excluded after discovering they either reported on a sample existing in the review, or had methodological characteristics not reported in the record that met exclusion criteria.

Appendix 2C: Data Items and Explanations

Variable	Definition
author	Author (first) of study
pubyear	Year record was published (1-1994-2000; 2=2001-2007; 3=2008-2014)
datayear	Year data was collected
gapyear	Number of years between data collection & publication
source	Source of record: (DB=database search; CRS=citation reference search; AK=already known)
country	Country data was collected within (USA; Canada; Poland; Spain; Taiwan; Turkey)
prevtotal	Reported % (as decimal) prevalence of clinically significant BPD
N	Total number of participants
studtype	Study level of students (UG = undergraduate; UG/PG = undergraduate & postgraduate; PG = postgraduate)
incentive	Incentive used (yes; no)
incentivetype	Type of incentive used (cash; course credit; none)
anon	Anonymity (anonymous; identifiable)
Research focus	Whether topic under study was BPD or other focus
responrat	Response rate %
toolname	Name of measure used to quantify BPD
periodsymp	Time period BPD symptoms were measured over (2 weeks, month, lifetime)
modemeasure	E.g. structured clinical interview or self report
No of items	Number of items in measure
respformat	Format of measure e.g. 3-point, 4-point, true/false, yes/no
trait/sym/features	Whether measure taps traits, symptoms or features
constructype	Whether items assessed BPD by presence of item, frequency of item, or veracity (e.g. true, very true) of item
clincut	clinical cutoffs of measure
authcut	Clinical cutoffs used by authors relative to measures
cutchange	whether cutoffs had been changed by authors (yes; no)
cutchangno	Numerical difference in cut off change (numerical continuous)
agerangelow	Minimum age of participants
agerangehigh	Maximum age of participants
meanage	Mean age of participants
SDage	Standard deviation of mean age of participants
Female	Proportion of female participants %
Male	Proportion of male participants %
Fem/male	Gender (female =0, male =1)
white	Proportion of white participants %
black	Proportion of African/ black participants %
hispan	Proportion of Hispanic/Latino participants %
asian	Proportion of Asian participants %
other	Proportion of 'other' ethnic participants %

Appendix 2D: Study Characteristics

Citation	Country	Incentive	Sample	N	M Age (SD)	Measure	Period	Anonimity	Collection Format	Q-Format /type	Cut-off	Prev	95% LCI	95% UCI
Abramson, et al., (1998)	USA	No	UG	342	19.8 (3.0)	IPDE	Life	Identifiable	Structured interview	3-point frequency	10	2.3	1.2	4.6
Alemany-Martinez, et al., (2008)	Spain	No	PG	78	30 (NR)	IPDE	Life	Anonymous	SR	3-point frequency	10	32.1	22.7	43.1
Ayduk, et al, (2008)	USA	Yes	UG	379	21.2 (3.6)	PAI-BOR	Life	Identifiable	SR	4-point veracity	38	14.5	11.3	18.4
Bagge et al., (2004)	USA	Yes	UG	351	20 (0)	PAI-BOR	Life	Identifiable	SR	4-point veracity	38	1.7	0.8	3.8
Bracken-Minor & Devitt-Murphy (2014)	USA	Yes	UG	480	21.3 (5.7)	MSI-BPD	Life	Anonymous	SR	yes/no veracity	7	14.2	11.3	17.6
Cheavens et al., (2012)	USA	Yes	UG	330	19.6 (2.3)	PAI-BOR	Life	Potentially	SR	4-point veracity	38	17.3	13.6	21.7
Chen et al., (2011)	USA	Yes	UG	197	21.8 (6.2)	PDI-IV	Life	Identifiable	Structured interview	3-point frequency	10	13.2	9.1	18.7
Chien et al., (2011)	Taiwan	No	UG	2731	19.2 (2.4)	ASRI-4	Life	Identifiable	SR	4-point severity	6	0.5	0.3	0.9
Cierpiałkowska & Pasikowski (2013)	Poland	No	UG	134	NR	BPI-T20	Life	Anonymous	SR	true/false veracity	20	27.6	20.7	35.8
Geiger, et al (2014)	USA	Yes	UG	181	18.9 (1.1)	PAI-BOR	Life	Identifiable	SR	4-point veracity	37	18.8	13.7	25.1

Citation	Country	Incentive	Sample	N	M Age (SD)	Measure	Period	Anonimity	Collection Format	Q-Format /type	Cut-off	Prev	95% LCI	95% UCI
Glenn & Klonsky (2009)	USA	Yes	UG	273	NR	MSI-BPD	Life	Identifiable	SR	yes/no veracity	7	12.3	8.8	17.1
Gratz, Breetz & Tull (2009)	USA	Yes	UG	392	20.3 (2.46)	BEST	1 Month	Anonymous	SR	5-point severity	30	25.5	21.4	30.1
Helfritz & Sanford (2006)	USA	Yes	UG	41	20.0 (1.4)	PAI-BOR	Life	Identifiable	SR	4-point veracity	38	4.9	1.2	17.5
Herr et al., (2013)	USA	Yes	UG	98	18.7 (1.2)	PAI-BOR	Life	Anonymous	SR	4-point veracity	7	24.5	17.0	33.9
Hochschild Tolpin (2004)	USA	Yes	UG	296	19.4 (1.8)	PAI-BOR	Life	Anonymous	SR	4-point veracity	10	10.1	7.2	14.1
Hong et al., (2011)	USA	Yes	UG	234	18.6 (1.2)	PAI-BOR	Life	Identifiable	SR	4-point veracity	38	25.2	20.1	31.2
Klonsky (2008)	USA	Yes	UG/ PG	45	20.1 (1.4)	MSI-BPD	Life	Identifiable	SR	yes/no veracity	7	9.9	6.8	14.0
Krupnick et al., (2004)	USA	Yes	UG	209	20.4 (NR)	SCID-II	Life	Identifiable	Structured Interview	yes/no present	10	1.9	0.7	5.0
Lewis, et al., (2001)	USA	Yes	UG	240	19.0 (1.8)	PAI-BOR	Life	Anonymous	SR	4-point veracity	38	13.8	9.9	18.7
MacLaren & Best (2010)	USA	Yes	UG	153	24.8 (8.1)	NEO-PI-R	Life	Anonymous	SR	5-point veracity	4	7.3	4.1	12.7
Pavony & Lenzenweger (2013)	USA	Yes	UG/ PG	667	19.3 (2.5)	IDPE-S	Life	Anonymous	SR	3-point frequency	38	4.9	1.6	14.2

Citation	Country	Ince-ntive	Sample	N	M Age (SD)	Measure	Period	Anon-imity	Collection Format	Q-Format /type	Cut -off	Prev	95% LCI	95% UCI
Peters et al., (2013)	USA	Yes	UG	227	19.4 (3.0)	PAI-BOR	Life	Anony-mous	SR	4-point veracity	37	11.0	9.2	13.2
Presniak, et al., (2010)	Canada	Yes	UG	674	20.0 (2.5)	PAI-BOR	Life	Anony-mous	SR	4-point veracity	38	7.9	5.7	10.9
Reich, et al., (2013)	USA	Yes	UG	818	19.1 (3.3)	PAI-BOR	Life	Anony-mous	SR	4-point veracity	42	4.1	2.9	5.8
Ruiz, et al. (1999)	USA	Yes	UG	355	19.0 (2.3)	PDQ-R	Life	Anony-mous	SR	true/false veracity	6	10.1	7.4	13.7
Ryan & Sheehan (2007)	USA	Yes	UG	1418	18.2 (NR)	PDQ-4	Life	Anony-mous	SR	true/false veracity	38	12.5	10.9	14.3
Sansone, et al., (1994)	USA	Yes	UG	33	20.6 (1.7)	PDQ-R	Life	Anony-mous	SR	true/false veracity	5	27.0	14.8	44.7
Sar et al., (2006)	Turkey	No	UG	1301	19.1 (NR)	SCID-II	Life	Identif-iable	Structured Interview	yes/no presence	5	8.5	7.1	10.2
Sauer & Baer (2010)	USA	Yes	UG	519	18.0 (0)	PAI-BOR	Life	Identif-iable	SR	4-point veracity	65	17.1	14.1	20.6
Stepp et al., (2005)	USA	Yes	UG	5000	20.8 (4.2)	PAI-BOR	Life	Identif-iable	SR	4-point veracity	38	3.9	3.4	4.5
Taylor, (2005)	USA	Yes	UG	123	19.0 (1.5)	SIDP-IV	Life	Identifi-able	Structured Interview	yes/no presence	10	4.1	1.7	9.4
Taylor et al. (2008)	USA	Yes	UG	2085	19.0 (3.9)	SCID-II-Q	Life	Identifi-able	SR	yes/no presence	5	7.0	6.0	8.2

Citation	Country	Ince-ntive	Sample	N	M Age (SD)	Measure	Period	Anon-imity	Collection Format	Q-Format /type	Cut-off	Prev	95% LCI	95% UCI
Thompson et al., (2012)	USA	Yes	UG	180	NR	PAI-BOR	Life	Identifi-able	SR	4-point veracity	70	3.3	1.5	7.2
Tragesser & Benfield (2012)	USA	Yes	UG	225	20.4 (5.2)	PAI-BOR	Life	Anony-mous	SR	4-point veracity	37	13.3	9.5	18.4
Tragesser et al. (2013)	USA	Yes	UG	606	19.3 (1.8)	PAI-BOR	Life	Anony-mous	SR	4-point veracity	37	1.2	0.6	2.4
Trull (1995)	USA	Yes	UG	1697	19.0 (1.4)	PAI-BOR	Life	Anony-mous	SR	4-point veracity	37	14.2	12.6	15.9
Valentiner et al., (2014)	USA	Yes	UG	329	19.2 (1.8)	MSI-BPD	Life	Anony-mous	SR	yes/no veracity	7	10.6	7.7	14.5
Watson & Sinha (1998)	USA	No	UG	1729	20.4 (4.4)	CATI	Life	Anony-mous	SR	true/false veracity	48	4.0	3.2	5.0
Werner & Crick (1999)	USA	Yes	UG	225	19.5 (NR)	PAI-BOR	Life	Anony-mous	SR	4-point veracity	37	4.9	2.7	8.6
Wright, et al., (2010)	USA	Yes	UG	258	18.9 (0.9)	IPDE-S	Life	Identifi-able	SR	3-point frequency	10	1.6	0.6	4.1
Wupperman et al., (2008)	USA	Yes	UG	342	19.0 (5.1)	PAI-BOR	Life	Anony-mous	SR	4-point veracity	38	10.8	7.9	14.6
Yalch et al., (2012)	USA	Yes	UG	235	NR	PAI-BOR	Life	Anony-mous	SR	4-point veracity	4	29.8	24.3	35.9
Zeigler-Hill & Abraham (2006)	USA	Yes	UG	123	19.0 (2.1)	PAI-BOR	Life	Anony-mous	SR	4-point veracity	38	14.1	9.5	20.5

ASRI-4= Adult Self-report Inventory-4; BEST=Borderline Evaluation of Severity Over Time; BPI-T20 = Borderline Personality Inventory; BSL-23=Borderline Symptom List -23 item; CATI = Coolidge Axis II Inventory; Frequency = frequency of item; IDPE= International Personality Disorder Examination Structured Interview; IPDE-S = IPDE Screening Questionnaire; LCI = Lower Confidence Interval; MSI-BPD = McLean Screening Instrument for Borderline Personality Disorder; NEO-PI-R= NEO Personality Inventory Revised; NR= Not reported; PAI-BOR= Personality Assessment Inventory–Borderline Features Scale; PDE = Personality Disorders Examination; PDI-IV = Personality Disorder Interview for DSM-IV; PDQ-4= Personality Diagnostic Questionnaire 4th-Edition; PDQ-R= Personality Diagnostic Questionnaire – Revised; Presence = whether item present or not; Prev = Prevalence; SCID-II = Structured Clinical Interview for DSM-III-R / DSM-IV personality disorders; SIDP-IV= Structured Interview for DSM-IV Personality; UCI = Upper Confidence Interval; USA = United States of America; Veracity = whether item is “true” or not.

Appendix 2E: Full Citations of Studies Included in the Review

1. Abramson, L. Y., Alloy, L. B., Hogan, M. E., Whitehouse, W. G., Cornette, M., Akhavan, S., & Chiara, A. (1998). Suicidality and cognitive vulnerability to depression among college students: a prospective study. *Journal of Adolescence, 21*(4), 473-487. doi: http://dx.doi.org/10.1006/jado.
2. Alemany Martínez, A., Berini Aytés, L., & Gay Escoda, C. (2008). The burnout syndrome and associated personality disturbances. The study in three graduate programs in Dentistry at the University of Barcelona. *Medicina Oral, Patología Oral y Cirugia Bucal, 2008, vol. 13, num. 7, p. 444-450*. doi: none
3. Ayduk, Ö., Zayas, V., Downey, G., Cole, A. B., Shoda, Y., & Mischel, W. (2008). Rejection sensitivity and executive control: Joint predictors of borderline personality features. *Journal of Research in Personality*, *42*(1), 151-168. doi: http://dx.doi.org.ezproxy.lib.monash.edu.au/10.1016/j.jrp.2007.04.002
4. Bagge, C., Nickell, A., Stepp, S., Durrett, C., Jackson, K., & Trull, T. J. (2004). Borderline personality disorder features predict negative outcomes 2 years later. *Journal of Abnormal Psychology*, *113*(2), 279. doi: 10.1037/0021-843X.113.2.279
5. Bracken-Minor, K. L., & McDevitt-Murphy, M. E. (2013). Differences in features of non-suicidal self-injury according to borderline personality disorder screening status. *Archives of suicide research*, (accepted). doi: 10.1080/13811118.2013.809040
6. Cheavens, J. S., Strunk, D. R., & Chriki, L. (2012). A Comparison of Three Theoretically Important Constructs: What Accounts For Symptoms of Borderline Personality Disorder? *Journal of Clinical Psychology, 68*(4), 477-486. doi: 10.1002/jclp.20870.
7. Chen, Y., Huprich, S. K., & Hsiao, W. (2011). Affect regulation and depressive personality disorder. Journal of Personality Disorders, 25(6), 755-64. doi:http://dx.doi.org/101521pedi2011256755
8. Chien, Y. L., Gau, S. S. F., & Gadow, K. D. (2011). Sex difference in the rates and co-occurring conditions of psychiatric symptoms in incoming college students in Taiwan. *Comprehensive psychiatry*, *52*(2), 195-207. doi:10.1016/j.comppsych.2010.03.009
9. Cierpiałkowska, L., Marszał, M., & Pieniążek, M. (2012). Defensive functioning in individuals with borderline personality organization in the light of empirical re-search. *Pol J Appl Psychol*, *10*(1), 7-19. No doi
10. Geiger, P. J., Peters, J. R., & Baer, R. A. (2014). Using a measure of cognitive distortion to examine the relationship between thought suppression and borderline personality features:

A multi-method investigation. *Personality and Individual Differences*, *59*, 54-59. doi: http://dx.doi.org.ezproxy.lib.monash.edu.au/10.1016/j.paid.2013.11.005

11. Glenn, C. R., M.A., & Klonsky, E. D. (2009). Emotion dysregulation as a core feature of borderline personality disorder. *Journal of Personality Disorders, 23*(1), 20-8. Retrieved from http://search.proquest.com/docview/195241794?accountid=12528
12. Gratz, K. L., Breetz, A., & Tull, M. T. (2010). The moderating role of borderline personality in the relationships between deliberate self‐harm and emotion‐related factors. *Personality and Mental Health*, *4*(2), 96-107. doi: 10.1002/pmh.102
13. Helfritz, L. E., & Stanford, M. S. (2006). Personality and psychopathology in an impulsive aggressive college sample. *Aggressive Behavior*, *32*(1), 28-37. doi: 10.1002/ab.20103
14. Herr, N. R., Keenan-Miller, D., Rosenthal, M. Z., & Feldblum, J. (2013). Negative interpersonal events mediate the relation between borderline features and aggressive behavior: Findings from a nonclinical sample of undergraduate women. *Personality Disorders: Theory, Research, and Treatment*, *4*(3), 254-260. doi: 10.1037/a0032212
15. Hong, P. Y., Ilardi, S. S., & Lishner, D. A. (2011). The aftermath of trauma: The impact of perceived and anticipated invalidation of childhood sexual abuse on borderline symptomatology. *Psychological Trauma: Theory, Research, Practice, and Policy*, *3*(4), 360-368. doi: 10.1037/a0021261
16. Hochschild Tolpin, L., Cimbolic Gunthert, K., Cohen, L. H., & O'neill, S. C. (2004). Borderline Personality Features and Instability of Daily Negative Affect and Self‐Esteem. *Journal of Personality*, *72*(1), 111-138. doi: 10.1111/j.0022-3506.2004.00258.x
17. Klonsky, E. D. (2008). What is emptiness? Clarifying the 7th criterion for borderline personality disorder. *Journal of personality disorders*, *22*(4), 418-426. doi: 10.1521/pedi.2008.22.4.418
18. Krupnick, J. L., Green, B. L., Stockton, P., Goodman, L., & al, e. (2004). Mental health effects of adolescent trauma exposure in a female college sample: Exploring differential outcomes based on experiences of unique trauma types and dimensions. *Psychiatry, 67*(3), 264-79. Retrieved from http://search.proquest.com/docview/220668805?accountid=12528
19. Lewis, S. F., Fremouw, W. J., Del Ben, K., & Farr, C. (2001). An investigation of the psychological characteristics of stalkers: Empathy, problem-solving, attachment and borderline personality features. *Journal of Forensic Sciences*, *46*(1), 80-84. doi: none
20. MacLaren, V. V., & Best, L. A. (2010). Nonsuicidal self-injury, potentially addictive behaviors, and the Five Factor Model in undergraduates. *Personality and Individual*

Differences, *49*(5), 521-525. doi: http://dx.doi.org/10.1016/j.paid.2010.05.019

21. Pavony, M. T., & Lenzenweger, M. F. (2013). Somatosensory processing and borderline personality disorder features: a signal detection analysis of proprioception and exteroceptive sensitivity. *Journal of Personality Disorders*, *27*(2), 208-221. doi: 10.1521/pedi_2013_27_076
22. Peters, J. R., Geiger, P. J., Smart, L. M., & Baer, R. A. (2013). Shame and Borderline Personality Features: The Potential Mediating Role of Anger and Anger Rumination. *Personality Disorders: Theory, Research, and Treatment*,*5*(1), 1-9.DOI: 10.1037/per0000022
23. Presniak, M. D., Olson, T. R., & MacGregor, M. W. (2010). The role of defense mechanisms in borderline and antisocial personalities. *Journal of personality assessment*, *92*(2), 137-145. doi: 10.1080/00223890903510373
24. Reich, D. B., Zanarini, M. C., Hopwood, C. J., Thomas, K. M., & Fitzmaurice, G. M. (2013). Comparison of affective instability in borderline personality disorder and bipolar disorder using a self-report measure. *Personality and Mental Health*, *8,* 143-150. doi: 10.1002/pmh.1247
25. Ruiz, M. A., Pincus, A. L., & Bedics, J. B. (1999). Using the structural analysis of social behavior (SASB) to differentiate young adults with borderline personality disorder features. *Journal of Personality Disorders, 13*(2), 187-198. doi:http://dx.doi.org/10.1521/pedi.1999.13.2.187
26. Ryan, K., & Shean, G. (2007). Patterns of interpersonal behaviors and borderline personality characteristics. *Personality and Individual Differences*, *42*(2), 193-200. doi:10.1016/j.paid.2006.06.010
27. Sansone, R. A., Fine, M. A., & Nunn, J. L. (1994). A Comparison of Borderline Personality Symptomatology and Self-Destructive Behavior in Women With Eating, Substance Abuse, and Both Eating and Substance Abuse Disorders. *Journal of Personality Disorders, 8*(3), 219-228. doi: http://dx.doi.org/10.1521/pedi.1994.8.3.219
28. Sar, V., Akyuz, G., Kugu, N., Ozturk, E., & Ertem-Vehid, H. (2006). Axis I dissociative disorder comorbidity in borderline personality disorder and reports of childhood trauma. *Journal of Clinical Psychiatry*, *67*(10), 1583-1590. doi: 10.4088/JCP.v67n1014
29. Sauer, S. E., & Baer, R. A. (2010). Validation of measures of biosocial precursors to borderline personality disorder: Childhood emotional vulnerability and environmental invalidation. *Assessment*, *17*(4), 454-466. doi: 10.1177/1073191110373226

30. Stepp, S. D., Trull, T. J., & Sher, K. J. (2005). Borderline personality features predict alcohol use problems. *Journal of personality disorders*, *19*(6), 711-722. doi: 10.1521/pedi.2005.19.6.711
31. Taylor, J. (2005). Substance use disorders and cluster B personality disorders: Physiological, cognitive, and environmental correlates in a college sample. *The American Journal of Drug and Alcohol Abuse*, *31*(3), 515-535. doi: 10.1081/ADA-200068107
32. Taylor, J., James, L. M., Bobadilla, L., & Reeves, M. D. (2008). Screening for disinhibited disorder cases in a college population: Performance of the SMAST, DAST, SCID-II-Q, and PDQ-4. *Psychological Assessment, 20*(4), 351-360. doi: 10.1037/a0013452
33. Thompson, R. J., Payne, S. C., Horner, M. T., & Morey, L. C. (2012). Why borderline personality features adversely affect job performance: The role of task strategies. *Personality and Individual Differences, 52*(1), 32-36. doi: http://dx.doi.org/10.1016/j.paid.2011.08.026
34. Tragesser, S. L., & Benfield, J. (2012). Borderline personality disorder features and mate retention tactics. *Journal of Personality Disorders*, *26*(3), 334-344.doi: 10.1521/pedi.2012.26.3.334
35. Tragesser, S. L., Jones, R. E., Robinson, R. J., Stutler, A., & Stewart, A. (2013). Borderline Personality Disorder Features and Risk for Prescription Opioid Use Disorders. *Journal of personality disorders*, *27*(4), 427-441. doi: 10.1521/pedi_2013_27_094
36. Trull, T. J. (1995). Borderline personality disorder features in nonclinical young adults: 1. Identification and validation. *Psychological Assessment*, *7*(1), 33-41. doi: 10.1037/1040-3590.7.1.33
37. Valentiner, D. P., Hiraoka, R., & Skowronski, J. J. (2014). Borderline personality disorder features, self-verification, and committed relationships. *Journal of Social and Clinical Psychology, 33*(5), 463-480. doi: http://dx.doi.org/101521jscp2014335463
38. Watson, D. C., & Sinha, B. K. (1998). Comorbidity of DSM‐IV personality disorders in a nonclinical sample. *Journal of clinical psychology*, *54*(6), 773-780. doi: 10.1002/(SICI)1097-4679(199810)54:6<773::AID-JCLP3>3.0.CO;2-I
39. Werner, N. E., & Crick, N. R. (1999). Relational aggression and social-psychological adjustment in a college sample. *Journal of Abnormal Psychology*, *108*(4), 615-23. doi:10.1037/0021-843X.108.4.615
40. Wright, A. G., Pincus, A. L., & Lenzenweger, M. F. (2010). Modeling stability and change in borderline personality disorder symptoms using the Revised Interpersonal Adjective

Scales–Big Five (IASR–B5). *Journal of Personality Assessment*, *92*(6), 501-513. doi: 10.1080/00223891.2010.513288

41. Wupperman, P., Neumann, C. S., & Axelrod, S. R. (2008). Do deficits in mindfulness underlie borderline personality features and core difficulties?. *Journal of Personality Disorders*, *22*(5), 466-482. doi: 10.1521/pedi.2008.22.5.466
42. Yalch, M. M., Thomas, K. M., & Hopwood, C. J. (2012). The veracity of trait, symptom and prototype approaches for describing borderline and antisocial personality disorders. *Personality and Mental Health*, *6*(3), 207-216. doi: 10.1002/pmh.1184
43. Zeigler–Hill, V., & Abraham, J. (2006). Borderline personality features: instability of self–esteem and affect. *Journal of Social and Clinical Psychology*, *25*(6), 668-687. doi: 10.1521/jscp.2006.25.6.668

Appendix 2F: List of Studies Reporting on the Same Sample

* indicates the paper included in the review, others not included

***Glenn, C. R., M.A., & Klonsky, E. D. (2009). Emotion dysregulation as a core feature of borderline personality disorder. *Journal of Personality Disorders, 23*(1), 20-8. Retrieved from http://search.proquest.com/docview/195241794?accountid=12528**

Glenn, C. R., & Klonsky, E. D. (2010). A multimethod analysis of impulsivity in nonsuicidal self-injury. *Personality Disorders: Theory, Research, and Treatment*, *1*(1), 466-473. doi: 10.1002/jclp.20661

Glenn, C. R., Weinberg, A., & Klonsky, E. D. (2009). Relationship of the Borderline Symptom List to DSM-IV Borderline Personality Disorder Criteria Assessed by Semi-Structured Interview. *Psychopathology*, *42*(6), 394-398. doi: 10.1159/000241195

***Peters, J. R., Geiger, P. J., Smart, L. M., & Baer, R. A. (2013). Shame and Borderline Personality Features: The Potential Mediating Role of Anger and Anger Rumination. *Personality Disorders: Theory, Research, and Treatment*,*5*(1), 1-9.DOI: 10.1037/per0000022**

Peters, J. R., Upton, B. T., & Baer, R. A. (2013). Brief Report: Relationships Between Facets of Impulsivity and Borderline Personality Features. *Journal of Personality Disorders*, *27*(4), 547-552. doi: 10.1521/pedi_2012_26_044

Peters, J. R., Eisenlohr-Moul, T. A., Upton, B. T., & Baer, R. A. (2013). Nonjudgment as a moderator of the relationship between present-centered awareness and borderline features: Synergistic interactions in mindfulness assessment. *Personality and Individual Differences*, *55*(1), 24-28. doi: http://dx.doi.org/10.1016/j.paid.2013.01.021

***Sar, V., Akyuz, G., Kugu, N., Ozturk, E., & Ertem-Vehid, H. (2006). Axis I dissociative disorder comorbidity in borderline personality disorder and reports of childhood trauma. *Journal of Clinical Psychiatry*, *67*(10), 1583-1590. doi: 10.4088/JCP.v67n1014**

Sar, V., Alioğlu, F., Akyuz, G., & Karabulut, S. (2014). Dissociative Amnesia in Dissociative Disorders and Borderline Personality Disorder: Self-Rating Assessment in a College Population. *Journal of Trauma & Dissociation*, *15*(4), 477-93. doi: 10.1080/15299732.2014.902415

***Sauer, S. E., & Baer, R. A. (2010). Validation of measures of biosocial precursors to borderline personality disorder: Childhood emotional vulnerability and environmental invalidation. *Assessment*, *17*(4), 454-466. doi: 10.1177/1073191110373226**

Sauer-Zavala, S. E., Geiger, P. J., & Baer, R. A. (2013). The Effect of Anger Rumination in the Relationship Between Borderline Personality Disorder Symptoms and Precursors. *Journal of*

Personality Disorders, *27*(4), 465-472. doi: 10.1521/pedi_2013_27_098

*** Tragesser, S. L., & Benfield, J. (2012). Borderline personality disorder features and mate retention tactics. *Journal of Personality Disorders*, *26*(3), 334-344.doi: 10.1521/pedi.2012.26.3.334**

Tragesser, S. L., & Robinson, R. J. (2009). The role of affective instability and UPPS impulsivity in borderline personality disorder features. *Journal of Personality Disorders*, *23*(4), 370-383. doi: 10.1521/pedi.2009.23.4.370

***Trull, T. J. (1995). Borderline personality disorder features in nonclinical young adults: 1. Identification and validation. *Psychological Assessment*, *7*(1), 33-41. doi: 10.1037/1040-3590.7.1.33**

Trull, T. J., Useda, D., Conforti, K., & Doan, B. T. (1997). Borderline personality disorder features in nonclinical young adults: 2. Two-year outcome. *Journal of Abnormal Psychology*, *106*(2), 307-314. doi: 10.1037/0021-843X.106.2.30

Appendix 2G: Screening Exclusions General Exclusion Criteria

1. prevalence % of clinically significant Borderline Personality Disorder not reported or unable to be calculated e.g. n reported in clinical range as a % of N;
2. not university or college samples;
3. language other than English;
4. samples from prisons, school or clinical settings;
5. adolescents or school-aged children;
6. psychiatric inpatients or outpatients;
7. clinical practice guidelines or recommendations;
8. genetic, molecular, or cellular level studies;
9. editorials, reviews, qualitative studies, case-control or case studies;
10. clinical trials or evaluations of interventions, management strategies or treatments.
11. unpublished dissertations or theses

Screening #1 Exclusions

1. prevalence of BP symptoms, features or traits in clinically significant range not reported (n=172 excluded);
2. not in English (n=6 excluded);
3. clinical populations (n=45 excluded);
4. adolescent/school populations (n=62 excluded);
5. prison populations (n=23 excluded);
6. community samples (n=18 excluded);
7. subjects (total 148 excluded)
8. case-studies (n=4 excluded)
9. case-control in design (n=10 excluded)
10. clinical trials or evaluations of interventions, management strategies or treatments (n=91 excluded);
11. duplicates (n=22 excluded);

Notes: exclusions sum to greater than 694 because as a number of articles were excluded on the basis of more than one criteria.

Screening #2 Exclusions

1. prevalence of BP symptoms, features or traits in clinically significant range not reported (n=274 excluded);
2. not in English (n=6 excluded);

3. clinical populations (n=32 excluded);
4. adolescent/school populations (n=47 excluded);
5. prison populations (n=42 excluded);
6. community samples (n=32 excluded);
7. subjects (total 159 excluded)
8. case-studies (n=16 excluded)
9. case-control in design (n=10 excluded)

Notes: exclusions sum to greater than 356 because some articles were excluded on the basis of more than one criteria.

Screening #3 Exclusions

1. prevalence of BP symptoms, features or traits in clinically significant range not reported (n=132 excluded);
2. clinical populations (n=x excluded);
3. adolescent/school populations (n=x excluded);
4. prison populations (n=18 excluded);
5. community samples (n=21 excluded);
6. subjects (total 326 excluded)
7. duplicates (n=11 excluded);

Data Extraction Form

	Complete?	Included? (reason if not)
Systematic Review	Yes	Yes
Meta-analysis	Yes	Yes

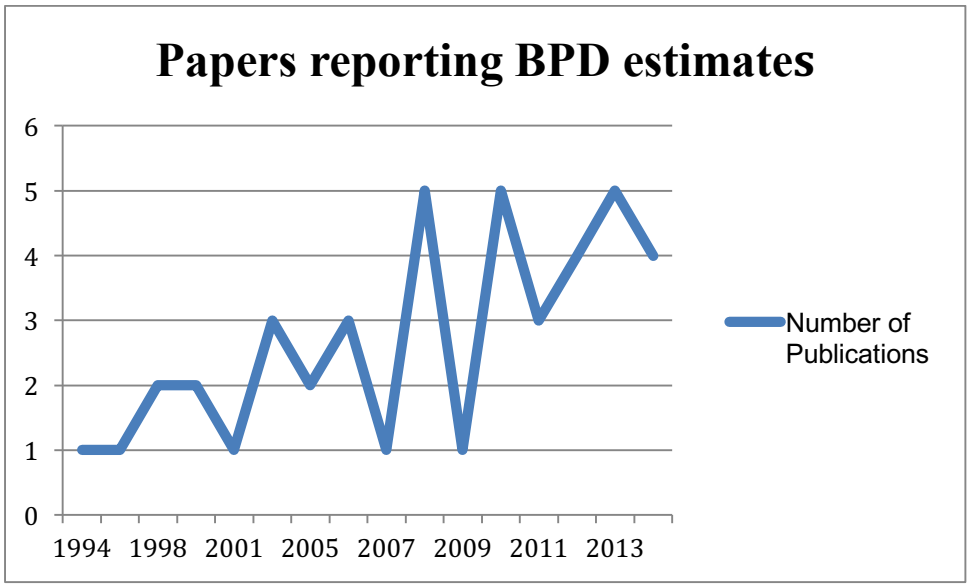
Source						
Report ID	J01					
Study ID	S01					
Article type (i.e. journal article)	Journal article					
Citation (author, pub year, title, journal)	Abramson et al., 1998. Suicidality and cognitive vulnerability to depression among college students: a prospective study					
Context						
Purpose (purpose of current study/ objective / study	Using a behavioral high-risk two-site prospective design, we tested the cognitive vulnerability hypotheses about suicidality					
Context (context in which px answered questions/ in which data was collected/ project name, i.e. was it a health and lifestyle study)	Freshmen less than 30 years old participated in two phase questionnaire					
Country (state/city)	USA (North-eastern)					
Data collection year	1992					
Methods						
Design	Longitudinal					
Sampling/ recruitment	A random sample of 5378 freshman from 2 unis were screened using paper q'naires. Obtained through classes dormitories, campus activities, and campus advertisements. Participants were excluded from the final sample if they met criteria for any mood or anxiety disorder, psychosis, and bipolar.					
Incentive/reward	None					
Response rate	30%					
Participants						
Sample type	Undergraduates					
Sample size	All		F		M	
	170		N= 116	68.2	N=54	31.8
Ethnicity (%)	White/ Cauc.	Hisp/ Latino	Asian	Black/ African	Other	
	80	2.1	3.8	14.1	0	
SES (income)	NR					
SES (education)	At least secondary					
SES (occupation)	Students					
Mental health history	Answered questions about recent psychological distress, suicidal-related behaviours and help-seeking behaviours					

Age	M	SD	MIN	MAX
		3.0	18	22

Measure	
Construct measured	DSM-IV-TR BPD traits
Definition/ instruction told to px/ wording of item	Frequency of symptom – 3-point
Q're Name	IPDE
Q're Type (paper, internet, interview, SAQ)	Structured Clinical interview
Identifiable	Participant completely identifiable
Time period/s	Life
Clinical cut-off	5 – as per DSM diagnostic cut-off
Clinical cutoff changed?	No
Number of items/or item deletion?	9/No

Results						
	All		F		M	
Time period	N	%	N	%	N	%
Life	8/342	2.4				

Appendix 2I: BPD in University Populations: Publications over Time



Appendix 2J: Measures of BPD among Studies in the Review

Name of Questionnaire		%
Personality Assessment Inventory–Borderline Features Scale (PAI-BOR; Morey, 1991)	22	48.9
McLean Screening Instrument for Borderline Personality Disorder (MSI-BPD; Zanarini et al., 2003)	5	11.1
The International Personality Disorder Examination (IPDE; Loranger et al., 1994)	4	8.9
Structured Clinical Interview (SCID-II; First et al., 1997)	3	6.7
Personality Diagnostic Questionnaire – Revised (PDQ-R; Hyler et al., 1990)	2	4.4
Personality Diagnostic Questionnaire- 4th edition (PDQ-4; Hyler, 1994)	1	2.2
Adult Self-report Inventory-4 (ASRI-4; Gadow et al, 2008)	1	2.2
Borderline Evaluation of Severity Over Time (BEST; Pfohl, 2009)	1	2.2
Borderline Symptom List -23 item (BSL-23; Bohus, 2009)	1	2.2
Coolidge Axis II Inventory (CATI; Coolidge, 1992)	1	2.2
NEO Personality Inventory Revised (NEO-PI-R; Costa & McCrae,	1	2.2
Personality Disorder Interview for DSM-IV (PDI-IV; Widiger et al., 1995)	1	2.2
Borderline Personality Inventory (BPI; Leichsenring, 1999)	1	2.2
Structured Interview for DSM-IV Personality (SIDP-IV; Pfohl et al, 1997)	1	2.2

Appendix 3A: Summary of Survey Questions

The Prevalence of psychological distress in Australian University students

Welcome to the Prevalence of psychological distress in Australian University students survey. This survey should take between 20-30 minutes to complete. As we value your time, the end of the questionnaire outlines the process to enter the draw to win the latest release Apple iPad. For more information on this study, including numbers to call or people to contact if you require further information, please read the following information.

Researchers:
Rebecca Meaney-Tavares is conducting a research project with Dr Penny Hasking, a Senior Lecturer and Dr J. Sabura Allen a Lecturer in the School of Psychology and Psychiatry at Monash University. This research is a requirement toward Rebecca's PhD at Monash University.

Details and possible benefits?
The research aims to investigate specific characteristics of university students who are studying in Australia. We are attempting to find out how many university students in Australia are experiencing psychological difficulties, which behaviours these difficulties relate to, and what sort of supports that you have in place that either help, or contribute to these psychological issues. There will not be any immediate direct benefits to you if you participate. However, the information you provide may help to increase our understanding of psychological distress in university students and help us develop psychological programs to assist with distress and coping.

What do you need to do?
Complete the following questionnaire that asks questions mostly about specific ways you think about yourself and your environment, and whether you engage in specific behaviours that may cause problems for you. Some samples of questions about the way that you may think include: “I suffered from shame”, and “I tend to worry about what other people think of me.” For behaviours, some of the sample questions include, “I had episodes of binge eating” and “I got drunk”.

Possible risks
Some of the questions ask about behaviours or thoughts that can be upsetting such as thoughts of suicide, and whether or not you engage in self harm or risky behaviours. If any of your responses are concerning for you or if you are experiencing issues which may put you at risk, please call the telephone numbers of the FREE professional counselling services provided at the end of this section, and within the questionnaire.
Dr. Allen and Dr Hasking are Monash University lecturers in the undergraduate psychology and postgraduate clinical psychology programs. Drs. Allen and Hasking are not associated with data collection, and thus it is unlikely they would have any knowledge of who did or did not participate in the study. Your decision of whether or not to participate will not influence any future interaction with units, programs, or services with Monash University. There is no payment for participation in this research.

Can you withdraw from the research?
Being in this study is voluntary and you are under no obligation to consent to participation. However, if you do consent to participate, you may only withdraw prior to the questionnaire being submitted. Given the questionnaire is anonymous, we won’t be able to withdraw your responses after submitting as we can’t identify which questionnaire is yours.

Confidentiality and data storage/use
We will make every attempt to ensure your confidentiality by means such as reporting group, rather than individual statistics only. Given that we don’t collect your name at any time during the research, this also makes it difficult for individual responses to be identified. Storage of the data collected will adhere to the University regulations and kept on University premises in a

locked archive room for 5 years after it has been statistically analysed. After the 5 year period, all data will be shredded and disposed of. A report of the study may be submitted for publication or presented at a conference, but individual participants will not be identifiable.

Results
If you would like to be informed of the aggregate research finding, please contact Rebecca Meaney-Tavares on rimea1@student.monash.edu.au. The findings are accessible for six months after the completion of data collection at the end of 2012. Due to the anonymity of the survey, individual results will not be available.

If you would like to contact the researchers about any aspect of this study, please contact the Chief Investigators Dr's Allen and Hasking on the email addresses below.
Dr Penny Hasking:
[redacted] or
Dr J.Sabura Allen:
[redacted]
If you have a complaint concerning the manner in which this research CF11/2577 - 2011001508 is being conducted, please contact:

Executive Officer
Monash University Human Research Ethics
Committee (MUHREC) Building 3e,
Room 111
Research Office
Monash University VIC 3800
[redacted]
If you are experiencing any psychological distress or thoughts of suicide, please contact one of the following organisations. Trained professionals are available to you 24 hours a day and are free of cost.

For urgent assistance (e.g. thoughts of suicide)

Crisis & Telephone Counselling Services:

Life Line Australia
Free & Confidential Telephone
Counselling Available 24 hours a day
Ph. 13 11 14

Suicide Line
Free & Confidential Telephone
Counselling Available 24 hours
[redacted]

Crisis Assessment & Treatment Teams (CATT) or Psychiatric Triage:
CATT provides urgent community assessment and short-term treatment interventions to people in psychiatric crisis. The website below provides the contact details for all suburban and rural services:
http://www.health.vic.gov.au/mentalhealth/services/adult/index.htm

Or if your problem is not urgent these options may be helpful:

University Counselling Services:
Most Australian universities offer free Counselling to their students for a wide range of problems. To find the contact details of this service within your university, please type "counselling service" into the search box on your universities home page to access contact details.

For Monash students:

Monash Student Counselling Services:
Information for all campuses found at
www.adm.monash.edu.au/commserv/counselling.
Cost: Free.

Counselling Service for Clayton and Caulfield campuses:

Clayton Campus [redacted]

Caulfield Campus [redacted]

Please tell us some things about you,
and remember that your responses are anonymous!

1. **What is your gender?**
   Female
   Male
   Gender neutral

2. **How old are you? (provide age in numbers)**

3. **Which country were you born in? (write in box)**

4. **Do you identify as any particular cultural background, e.g. Indian, Chinese, Italian. Please write in box**

5. **Do you identify as Aboriginal/Torres Strait Islander?**
   No,
   Aboriginal,
   Torres Strait Islander

6. **Which level of study are you currently doing?**
   Undergraduate,
   Honours
   Grad dip/cert,
   Postgraduate

7. **Which year of study are you enrolled in? (e.g. 1st, 2nd, 3rd and so on; write in box)**

8. **What is your study load?**
   Part-time,
   Full-time

9. **Are you doing paid or volunteer work in addition to your studies?**
   No,
   Yes, volunteering
   Yes, paid part time
   Yes, paid full time
   Additional Comments:

10. What is the name of your university, and which campus are you enrolled at?

University name _____

Campus _____

11. What is the highest level of education you have attained?

High school

Undergraduate

Honours

Grad dip/cert

Postgraduate

Other (please specify in comments)

Additional Comments_____

12. What mark (out of 100) do you normally get for your final semester grades on average? If your grading system is different to Pass - HHD, please pick an approximate mark range out of 100.

Less than 50/100 (Fail)

50- 59 (Pass)

60-69 (Credit)

70-79 (Distinction)

80-89 (High Distinction)

90-100 (High, High Distinction)

13. Who do you live with?

family

friends

partner

flatmate/s

on campus

other (specify in comments)

Additional Comments

14. Where are you living?

Family home

Rental accommodation

Own home

On campus

Other (specify in comments)

15. Are you in a relationship?

Yes

No

Not sure

16. How would you describe your sexual preference?

Heterosexual
Gay
Lesbian
Bisexual
Omnisexual
Asexual
Polyamorous

17. What is the name and postcode of the suburb or town you spent the longest amount of time in as a child?. If outside of Australia, insert the name of the suburb/town and country

Suburb/town
Postcode
Country

***Depression Anxiety and Stress Scale**

Please read each statement and circle a number 0, 1, 2 or 3 which indicates how much the statement applied to you *over the past week*. There are no right or wrong answers. Do not spend too much time on any statement.
The rating scale is as follows:
0 Did not apply to me at all
1 Applied to me to some degree, or some of the time
2 Applied to me to a considerable degree, or a good part of time
3 Applied to me very much, or most of the time

18.	I found it hard to wind down	0	1	2	3
19.	I was aware of dryness of my mouth	0	1	2	3
20.	I couldn't seem to experience any positive feeling at all	0	1	2	3
21.	I experienced breathing difficulty (eg, excessively rapid breathing, breathlessness in the absence of physical exertion)	0	1	2	3
22.	I found it difficult to work up the initiative to do things	0	1	2	3
23.	I tended to over-react to situations	0	1	2	3
24.	I experienced trembling (eg, in the hands)	0	1	2	3
25.	I felt that I was using a lot of nervous energy	0	1	2	3
26.	I was worried about situations in which I might panic and make a fool of myself	0	1	2	3
27.	I felt that I had nothing to look forward to	0	1	2	3
28.	I found myself getting agitated	0	1	2	3
29.	I found it difficult to relax	0	1	2	3
30.	I felt down-hearted and blue	0	1	2	3
31.	I was intolerant of anything that kept me from getting on with what I was doing	0	1	2	3
32.	I felt I was close to panic	0	1	2	3
33.	I was unable to become enthusiastic about anything	0	1	2	3
34.	I felt I wasn't worth much as a person	0	1	2	3
35.	I felt that I was rather touchy	0	1	2	3
36.	I was aware of the action of my heart in the absence of physical exertion (eg, sense of heart rate increase, heart missing a beat)	0	1	2	3
37.	I felt scared without any good reason	0	1	2	3
38.	I felt that life was meaningless	0	1	2	3

***Borderline Symptom List-23**

Please work through these questions and indicate how much you suffered from each problem over the past FOUR weeks. If you felt different ways at different times please answer how you felt on average. Please answer every question

		Not at all	A little	Some what	A lot	All the time
39.	It was hard for me to concentrate	0	1	2	3	4
40.	I felt helpless	0	1	2	3	4
41.	I was absent minded and unable to remember what I was actually doing	0	1	2	3	4
42.	I felt disgust	0	1	2	3	4
43.	I thought of hurting myself	0	1	2	3	4
44.	I didn't trust people	0	1	2	3	4
45.	I didn’t believe in my right to live	0	1	2	3	4
46.	I was lonely	0	1	2	3	4
47.	I experienced stressful inner tension	0	1	2	3	4
48.	I had images that I was very much afraid of	0	1	2	3	4
49.	I hated myself	0	1	2	3	4
50.	I wanted to punish myself	0	1	2	3	4
51.	I suffered from shame	0	1	2	3	4
52.	My mood rapidly cycled in terms of anxiety, anger and depression	0	1	2	3	4
53.	I suffered from voices and noises from inside or outside my head	0	1	2	3	4
54.	Criticism had a devastating effect on me	0	1	2	3	4
55.	I felt vulnerable	0	1	2	3	4
56.	The idea of death had a certain fascination for me	0	1	2	3	4
57.	Everything seemed senseless to me	0	1	2	3	4
58.	I was afraid of losing control	0	1	2	3	4
59.	I felt disgusted by myself	0	1	2	3	4
60.	I felt as if I was far away from myself	0	1	2	3	4
61.	I felt worthless	0	1	2	3	4

In this section we would like to know how many times in the past FOUR weeks that you have done certain things that may have been hurtful or distressing.

Please note: If you are experiencing any distress you can:

- Continue with the questionnaire
- Continue with the questionnaire and skip over the questions you find distressing
- Discontinue the questionnaire
- Continue with the questionnaire and contact the following services below for further support or contact any of the generalist services listed on the explanatory statement:

Crisis & Telephone Counselling Service

Life Line Australia **Free & Confidential Telephone** **Counselling Available 24 hours** **Ph. 13 11 14**	**Suicide Line** **Free & Confidential Telephone** **Support Available 24 hours a day** **Ph. 1300 651 251**

Please answer how much you did these things over the past FOUR weeks

		Not at all	Once	2-3 times	4-6 times	Daily or more often
62.	I hurt myself by cutting, burning, strangling, head banging etc.	0	1	2	3	4
63.	I told other people I was going to kill myself	0	1	2	3	4
64.	I tried to commit suicide	0	1	2	3	4
65.	I had episodes of binge eating	0	1	2	3	4
66.	I induced vomiting and/or used laxatives to stop food being absorbed	0	1	2	3	4
67.	I got drunk	0	1	2	3	4
68.	I took drugs	0	1	2	3	4
69.	I took medication that had not been prescribed or if it had been prescribed, I took more than the recommended dose	0	1	2	3	4
70.	I had outbreaks of uncontrolled anger or physically attacked others	0	1	2	3	4

71. How often do you have a drink containing alcohol?

never

monthly or less

2-4 times per month

2-3 times per week

4 or more times per week

72. How many drinks containing alcohol do you have on a typical day when you are drinking?

1 or 2

3 or 4

5 or 6

7, 8 or 9

10 or more

73. How often do you have 6 or more drinks on one occasion?

never

less than monthly

monthly

weekly

daily or almost daily

74. Do you smoke cigarettes or use other tobacco products?

yes

no

Please answer the following with regard to drug use

		Tried at least once? - write "yes"	How old were you when first tried? (Insert age)	How often have you used? (Insert number)	Have you used in the past month write “yes” or “no”
75.	**Cannabis/ marijuana (pot, weed)**				
76.	**Ecstasy**				
77.	**Heroin/opium /morphine**				
78.	**Speed/Ice/ amphetamine**				
79.	**LSD/Acid**				
80.	**Inhalants (e.g. chroming, sniffing glue)**				
81.	**Others**				

82. Have you ever been involved in an incident on campus where something you have done has resulted in campus security or the police being called?

yes

no

83. Have you ever engaged in academic misconduct such as plagiarism, cheating in exams or similar?

yes
no

84. Does anyone in your family have a history of psychological illness? If yes, please specify in text box.

no
yes
Additional Comments_____

85. Do you have a history of psychological illness? If yes, please specify in text box:

no
yes
Additional Comments_____

86. Have you ever attempted suicide?

no
yes

87. If you have attempted suicide, please answer the following:

How many times have you attempted?

How long ago was your last attempt?

Which method did you use?

Please note: If you are experiencing any distress you can:

a) Continue with the questionnaire

b) Continue with the questionnaire and skip over the questions you find distressing

c) Discontinue the questionnaire

d) Continue with the questionnaire and contact the following services below for further support or contact any of the generalist services listed on the explanatory statement:

Crisis & Telephone Counselling Service

Life Line Australia Free & Confidential Telephone Counselling Available 24 hours Ph. 13 11 14	Suicide Line Free & Confidential Telephone Support Available 24 hours a day Ph. 1300 651 251

***Ruminative Thought Scale**

The rating scale is as follows:

0 Strongly disagree
1 Disagree
2 Neutral
3 Agree
4 Strongly agree

121.	I find that my mind/brain goes over things again and again	0	1	2	3	4
122.	When I have a problem it sticks in my mind for a long time	0	1	2	3	4
123.	I find that some thoughts come to mind over and over throughout the day	0	1	2	3	4
124.	I can't stop thinking about some things	0	1	2	3	4
125.	When I'm anticipating an interaction I imagine every possible scenario and conversation	0	1	2	3	4
126.	I tend to replay past events as to how I would have liked them to happen	0	1	2	3	4
127.	I tend to find myself daydreaming about things I wished I had done	0	1	2	3	4
128.	When I feel that I've had a bad interaction with someone I tend to imagine various scenarios where I acted differently	0	1	2	3	4
129.	When trying to solve a complicated problem I find that I just keep on going back to the beginning without ever finding a solution	0	1	2	3	4
130.	If there is an important event coming up I think about it so much that I work myself into a state	0	1	2	3	4
131.	I have never been able to distract myself from unwanted thoughts	0	1	2	3	4
132.	Even if I think about a problem for hours I still have a hard time coming to a clear understanding	0	1	2	3	4
133.	It is very difficult for me to come to a clear conclusion about some problems no matter how much I think about it	0	1	2	3	4
134.	Sometimes I realise that I have been sitting and thinking about something for hours	0	1	2	3	4
135.	When I'm trying to work out a problem it's like I have a long debate in my mind where I keep going over different points	0	1	2	3	4
136.	I like to sit and recall pleasant events from the past	0	1	2	3	4

137.	When I am looking forward to an exciting event, thoughts of it interfere with what I'm working on	0	1	2	3	4
138.	Sometimes, even during a conversation, I find unrelated thoughts popping into my mind	0	1	2	3	4
139.	When I have an important conversation coming up I tend to go over it in my mind again and again	0	1	2	3	4
140.	When I have an important event coming up I can't stop thinking about it	0	1	2	3	4

***Toronto Alexithymia Scale- 20**

		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
141.	I am often confused about what emotion I am feeling	0	1	2	3	4
142.	It is difficult for me to find the right words for my feelings	0	1	2	3	4
143.	I have physical sensations that even doctors don't understand	0	1	2	3	4
144.	I am able to describe my feelings easily	0	1	2	3	4
145.	I prefer to analyse problems rather than to just describe them	0	1	2	3	4
146.	When I'm upset I don't know if I'm sad, frightened or angry	0	1	2	3	4
147.	I am often puzzled by the sensations in my body	0	1	2	3	4
148.	I prefer to let things just happen rather than to understand why they turned out that way	0	1	2	3	4
149.	I have feelings that I can't quite identify	0	1	2	3	4
150.	Being in touch with my emotions is essential to me	0	1	2	3	4
151.	I find it hard to describe how I feel about people	0	1	2	3	4
152.	People tell me to describe my feelings more	0	1	2	3	4
153.	I don't know what is going on inside of me	0	1	2	3	4
154.	I often don't know why I am angry	0	1	2	3	4
155.	I prefer talking to people about their daily activities rather than their feelings	0	1	2	3	4
156.	I prefer to watch "light" entertainment shows rather than psychological dramas	0	1	2	3	4
157.	It is difficult for me to reveal my innermost feelings, even to close friends	0	1	2	3	4

158.	I can feel close to someone even in moments of silence	0	1	2	3	4
159.	I find that examining my feelings is useful in considering personal problems	0	1	2	3	4
160.	Looking for hidden meanings in movies or plays distracts from their enjoyment	0	1	2	3	4

***Emotion Regulation Questionnaire**

161.	When I want to feel a more positive emotion, I change what I am thinking about	0	1	2	3	4	5	6	7
162.	I keep my emotions to myself	0	1	2	3	4	5	6	7
163.	When I want to feel a less negative emotion, I change what I am thinking about	0	1	2	3	4	5	6	7
164.	When I am feeling positive emotions, I am careful not to express them	0	1	2	3	4	5	6	7
165.	When I am faced with a stressful situation, I make myself think about it in a way that helps me stay calm	0	1	2	3	4	5	6	7
166.	I control my emotions by not expressing them	0	1	2	3	4	5	6	7
167.	When I want to feel a more positive emotion I change the way I'm thinking about the situation	0	1	2	3	4	5	6	7
168.	I control my emotions by changing the way I think about the situation I am in	0	1	2	3	4	5	6	7
169.	When I am feeling negative emotions, I make sure not to express them	0	1	2	3	4	5	6	7
170.	When I want to feel less negative emotion, I change the way I am thinking about the situation	0	1	2	3	4	5	6	7

***General Help-Seeking Questionnaire**

171. If you were having a personal or emotional problem, how likely is it that you would seek help from the following people?

	Extremely unlikely	unlikely	Somewhat unlikely	Not sure	Somewhat likely	likely	Extremely likely
Intimate partner (e.g. girlfriend, wife)							
friend							
parent							
Other family member							
Mental health professional							
Phone/helpline							
Doctor/GP							
Religious leader							
Would not seek help from anyone							

172. If you were experiencing suicidal thoughts, how likely is it that you would seek help from the following people?

	Extremely unlikely	unlikely	Somewhat unlikely	Not sure	Somewhat likely	likely	Extremely likely
Intimate partner (e.g. girlfriend, wife)							
friend							
parent							
Other family member							
Mental health professional							
Phone/helpline							
Doctor/GP							
Religious leader							
Would not seek help from anyone							

Is there anyone else you would seek help from? Please write the relationship of the person to you (e.g. lecturer, teacher) in the box below.

END OF QUESTIONNAIRE - THANK YOU FOR YOUR PARTICIPATION.
If you want to enter the draw for the iPad, please email your name and your address to Rebecca on rimea1@student.monash.edu.au or rimea1@student.monash.edu. The winner will be notified by email when the draw has been completed in a few months.

- **Titles of measure not included in questionnaire**

MONASH University




ARE YOU WILLING TO PARTICIPATE IN A STUDY EXPLORING THE PSYCHOLOGICAL HEALTH OF AUSTRALIAN UNIVERSITY STUDENTS? YOU COULD WIN AN IPAD!!!

WHO: UNI STUDENTS -18 OR OLDER.
WHAT: ANSWER QUESTIONS ABOUT PSYCHOLOGICAL HEALTH IN ENGLISH.
WHERE: ONLINE
WHEN: A TIME CONVENIENT FOR YOU.

Rebecca Meaney-Tavares is conducting a doctoral research project with Drs Penny Hasking and J. Sabura Allen of the School of Psychology and Psychiatry at Monash University. This research is a part of a PhD and aims to investigate specific characteristics of university students who are studying in Australia. If this describes you, then we are hoping you will complete the questionnaire. We are conducting this research to find out how many university students in Australia are experiencing psychological difficulties and related behaviours and what sort of supports you use. The information you provide may help to increase our understanding of psychological distress in university students and may lead to the development of programs to assist with distress and coping specific tor university students. The content of the survey has the potential to cause distress and/or evoke distressing thoughts, i.e. suicide, self-harm and eating disorders. **For more information, contact Rebecca on** rimea1@student.monash.edu.au For more information and to do the survey grab one of the tabs below and paste the link into your browser, or go to the Facebook page: **Australian Uni Student Wellbeing**

http://www.surveymethods.com/EndUser.aspx?B99DF1EBBFFAE9E3BF

http://www.surveymethods.com/EndUser.aspx?B99DF1EBBFFAE9E3BF
http://www.surveymethods.com/EndUser.aspx?B99DF1EBBFFAE9E3BF
http://www.surveymethods.com/EndUser.aspx?B99DF1EBBFFAE9E3BF
http://www.surveymethods.com/EndUser.aspx?B99DF1EBBFFAE9E3BF
http://www.surveymethods.com/EndUser.aspx?B99DF1EBBFFAE9E3BF
http://www.surveymethods.com/EndUser.aspx?B99DF1EBBFFAE9E3BF
http://www.surveymethods.com/EndUser.aspx?B99DF1EBBFFAE9E3BF
http://www.surveymethods.com/EndUser.aspx?B99DF1EBBFFAE9E3BF

Appendix 3C: Research Facebook Page

Appendix 3D: Recruitment Letter to Vice Chancellors

Dear XXXX

My name is Rebecca Meaney-Tavares and I am undertaking a PhD-Med at Monash University under the supervision of Dr Penny Hasking, and Dr J. Sabura Allen who are both lecturers at the School of Psychology and Psychiatry at Monash University.

I am making contact in the hope of obtaining permission to post fliers within University of xxxx, in order to recruit participants for the research project: "The psychological health of Australian university students: Prevalence of psychological issues, and the characteristics that predict well-being or distress in the tertiary student population."

Participation involves completing a questionnaire online, and in the participants own time at a place of their time and choice. In order to inform your decision, I have included a copy of the Plain Language Statement, and a flier advertising the research. As I am based in Victoria, I would be recruiting one of your students through the Career Hub for the purpose of posting the fliers at the xxxx campuses.

The results of this study will be used to develop psychoeducation for Australian tertiary students, for the purpose of assisting in the management of psychological distress. I would be happy to forward the results and summary post-development for use by University of xxxx. This project has approval from the Monash University Human Research Ethics Committee, approval number: CF11/2577 – 2011001508.

Should you agree to the posting of the research fliers at University of xxxx, I would need written permission, either in the form of a brief letter or email sent to [redacted] I would like to thank you in advance for taking the time to read this letter, and I look forward to hearing your decision.

Kind regards

Rebecca Meaney-Tavares MAPS
Psychologist, PhD-Med Candidate
B.Psych. Hons; M.Psych(Clinical)
Building 13d, 4th Floor
Monash University
Wellington Road
Clayton VIC 3800

MONASH University

Monash University Human Research Ethics Committee (MUHREC)
Research Office

Human Ethics Certificate of Approval

Date:	**15 December 2011**
Project Number:	**CF11/2577 - 2011001508**
Project Title:	**The psychological health of Australia university students: Prevalence of psychological issues and the characteristics that predict well-being or distress in the tertiary student population**
Chief Investigator:	**Dr Penelope Hasking**
Approved:	**From: 15 December 2011 To: 15 December 2016**

Terms of approval

1. The Chief investigator is responsible for ensuring that permission letters are obtained, if relevant, and a copy forwarded to MUHREC before any data collection can occur at the specified organisation. **Failure to provide permission letters to MUHREC before data collection commences is in breach of the National Statement on Ethical Conduct in Human Research and the Australian Code for the Responsible Conduct of Research**.
2. Approval is only valid whilst you hold a position at Monash University.
3. It is the responsibility of the Chief Investigator to ensure that all investigators are aware of the terms of approval and to ensure the project is conducted as approved by MUHREC.
4. You should notify MUHREC immediately of any serious or unexpected adverse effects on participants or unforeseen events affecting the ethical acceptability of the project.
5. The Explanatory Statement must be on Monash University letterhead and the Monash University complaints clause must contain your project number.
6. **Amendments to the approved project (including changes in personnel):** Requires the submission of a Request for Amendment form to MUHREC and must not begin without written approval from MUHREC. Substantial variations may require a new application.
7. **Future correspondence:** Please quote the project number and project title above in any further correspondence.
8. **Annual reports:** Continued approval of this project is dependent on the submission of an Annual Report. This is determined by the date of your letter of approval.
9. **Final report:** A Final Report should be provided at the conclusion of the project. MUHREC should be notified if the project is discontinued before the expected date of completion.
10. **Monitoring:** Projects may be subject to an audit or any other form of monitoring by MUHREC at any time.
11. **Retention and storage of data:** The Chief Investigator is responsible for the storage and retention of original data pertaining to a project for a minimum period of five years.

[redacted]

Professor Ben Canny
Chair, MUHREC

cc: Dr Janice Sabura Allen, Mrs Rebecca Meaney-Tavares

Postal – Monash University, Vic 3800, Australia
Building 3E, Room 111, Clayton Campus, Wellington Road, Clayton
Telephone [redacted] Facsimile +61 3 9905 3831
Email [redacted] www.monash.edu/research/ethics/human/index/html
ABN 12 377 614 012 CRICOS Provider #00008C

JOURNAL OF AMERICAN COLLEGE HEALTH, VOL. 61, NO. 5

Experiences From the Field

Coping and Regulating Emotions: A Pilot Study of a Modified Dialectical Behavior Therapy Group Delivered in a College Counseling Service

Rebecca Meaney-Tavares, MPsychClinical, BPsychHons;
Penelope Hasking, PhD, BAHons

Abstract. Objective: To analyze the efficacy of a pilot program, aimed at treating college students with borderline personality disorder (BPD) using short-term, modified group dialectical behavior therapy at an Australian college counseling service (CCS). **Participants**: Seventeen enrolled college students aged between 18 and 28 (76.5% female), with a diagnosis of BPD completed the program between November 2009 and November 2010. **Methods**: Participants attended 8 2-hour group therapy sessions, held at the CCS during semester. Participants were assessed for levels of depression, anxiety, BPD traits, and coping strategies, at commencement and completion of the program. **Results**: There was a reduction in symptoms of depression and BPD traits, and an increase in adaptive coping skills, including problem solving, and constructive self-talk. There was no reduction in anxiety. **Conclusions**: The findings indicate promise for short-term treatment of college students with BPD. Implications and limitations are discussed, with emphasis on replication with a control group.

Keywords: borderline personality disorder, college students, counseling, dialectical behavior therapy, mental health

Borderline personality disorder (BPD) has long been considered as both a serious and intractable psychiatric disorder[1] affecting between 2.0% and 5.9% of the general population.[2,3] Although frequently viewed as chronic and difficult to treat, people with BPD do improve with both time and therapy, and as many as 85% experience a complete remission of symptoms.[1] Still, treatment of BPD is characteristically long-term, averaging between 1 and 3 years before clinically significant improvements occur.[4–6] As a result, people with this disorder often find the cost of treatment beyond their means, which has particular relevance for college students given the relationship between current study and limited income.[7] BPD is regarded as readily identifiable in college student populations in both Australia and the United States,[8] whereby the prevalence of severe BPD-related symptoms in US college populations has been reported as 25.5%.[9] Accurate data estimating BPD in Australian college populations are not available; however, there is no compelling reason that would suggest that prevalence is lower by comparison with US figures.

Where vulnerabilities toward BPD exist, the performance-based nature of college study can act as precipitant for periods of high symptom severity that may result in a presentation to the college counseling service (CCS).[10,11] The delivery model of Australian and US CCSs are closely aligned in that they provide relatively accessible, short-term, individual psychological counseling free of charge to enrolled students. This format, coupled with the tendency of people with BPD to engage in frequent help seeking during periods of severe distress,[1,11–13] can result in recurrent presentations at CCSs, consequently straining resources and reinforcing ineffective help-seeking behaviors in this population.[3,11] Relatedly, counselors often express reluctance toward providing individual therapy to people with BPD, due to problematic interpersonal styles, and the tendency to present while highly distressed or suicidal.[7,11] As such, students with BPD are commonly regarded as unsuitable clients for treatment within a CCS context,[7] and difficult to refer externally for similar reasons,[13,14] suggesting a need for an alternate college-based treatment model.

Treatments for BPD generally represent a combination of therapy and skills building, and have been offered over short-term 8-week programs with promising results, including

Ms Meaney-Tavares *and* ***Dr Hasking*** *are with the Department of Psychology and Psychiatry at Monash University in Clayton, Victoria, Australia.*

increased adaptive coping skills and decreased symptom severity for comorbid disorders such as depression and anxiety.[5,15,16] Group therapy also appears efficacious for BPD and involves less staff, suggesting a more effective and financially viable option for cost-free services such as a CCS.[17,18] Further, treatment adherence is characteristically poor in people with BPD for reasons including cost and accessibility,[19,20] thus a CCS-based treatment program could address these factors. As such, analysis of the aforementioned characteristics culminated in the notion of offering a short-term, CCS-based, group-format treatment protocol for students with BPD.

People with BPD are characteristically deficient in skills such as tolerating distress, recognizing and regulating problematic emotional states, and interacting with others in an effective way, all of which represent skills inherent to dialectical behavior therapy (DBT).[5] The therapy consists of 4 modules—Mindfulness, Interpersonal Effectiveness, Distress Tolerance, and Emotional Regulation[5]—and has been adapted for quasi-clinical settings such as community outpatient services, prisons, and counseling services.[19] DBT aims to assist by balancing an emphasis on acceptance (of distress), with change (increasing adaptive coping skills),[5] and is usually held over a 1-year period.[5,16] However, a reduction in BPD-related behaviors such as self-harm has been achieved through modified short-term, skills-building treatment groups,[5,15,16] suggesting that comparable results could be achieved with DBT.[20,21]

In order to investigate these possibilities, and provide service compatible treatment for students with BPD, the CCS undertook a preliminary pilot of a modified (DBT) group named "Coping and Regulating Emotions" (CARE). The CARE program consisted of the 4 DBT modules; however, the content was modified to be appropriate in both language and complexity in order to engage college level students. For example, CARE was developed to include conceptual frameworks, such as the neurobiological underpinnings of emotion and behavior, and language and examples relevant to college students.

Given the promising results of short-term, group treatments for BPD, it was predicted that participation in the CARE program could result in a decrease in self-reported anxiety, depression, and BPD criterion-related behaviors and an increase in adaptive coping skills.

METHODS

Participants

All enrolled students at the Australian college with a recent formal diagnosis of BPD were eligible to participate, including those having a comorbid diagnosis on either Axis I or II. Twenty-three participants who had been assessed by a clinical psychologist or psychiatrist within the previous 6 months commenced the program; 6 dropped out within the first 3 weeks and were referred for individual therapy within the CCS, leaving 17 participants. All were between 18 and 28 years of age ($M = 22.47$, $SD = 3.84$) at the first session, 76.5% were female, 70% were Australian citizens, and 30% were international students, representative of the broader student population at the college. Further, 35% lived at home with parents, 29% resided with a partner, and the remaining 36% lived in shared accommodation off campus. Of the sample, 57% were enrolled in an undergraduate degree and 43% were in postgraduate programs, 70% were referred by their CCS-based counseling psychologist, and 30% their college-based physician. Of the total participant base, 70% were prescribed antidepressant medication, 15% an antidepressant and an antipsychotic, and 30% were either not prescribed psychotropics, or used anxiolytics as required. Fourteen participants had a comorbid diagnosis of major depressive disorder (MDD), 2 with bipolar disorder, and 1 MDD and substance dependence. Three participants had a hospitalization for a suicide attempt within the past 3 months, and 12 self-reported engaging in weekly or fortnightly self-harm for the 3-month period preceding the program.

Measures

Participants completed the following measures at the start of the first session, and again at the end of the last session.

Depression

Beck Depression Inventory Second Edition (BDI-II).[22] The BDI is a 21-item self-report screen measuring the severity of symptoms of unipolar depression over the previous week. Each item is measured on a 4-point Likert scale ranging from 0 to 3: 0–9 = "Minimal" symptoms of depression; 10–18 = "Mild"; 19–29 = "Moderate"; and 30–63 = "Severe."[23] This scale was reported by the authors as having a high level of internal consistency ($\alpha = .92$), and 2-week test–retest reliability of .93.[24]

Anxiety

Beck Anxiety Inventory (BAI).[25] The BAI is a 21-item self-report screen that measures the severity of symptoms of anxiety experienced over the previous week. Each item is measured on a 4-point Likert scale, with responses ranging from 0 and 3. For the purpose of analysis, clinical cutoffs were as follows: 0–7 = "Minimal" levels of anxiety; 8–15 = "Mild"; 16–25 = "Moderate"; and 26–63 = "Severe." The authors reported the scale as having good psychometric properties, with internal consistency (Cronbach's alpha) ranging from .92 to .94 and test-retest (1-week interval) reliability of .75.

Coping

Coping Scale for Adults (CSA).[26] The CSA is a self-report inventory containing 74 items that assess 18 coping strategies, and 1 scale that delineates an absence of coping strategies. The format is a 5-point Likert scale, with responses ranging from 1 (*doesn't apply or don't do it*) to 5 (*used a great deal*). The coping strategies assessed are the following: seek social support, focus on solving the problem, work hard, worry, improve relationships, wishful thinking, tension reduction, social action, ignore the problem, self-blame, keep

to self, seek spiritual support, focus on the positive, seek professional help, seek relaxing diversions, physical recreation, protect self, humor, and not cope. The CSA was reported by the authors as being reliable, with alphas ranging from .69 to .92.

BPD Symptoms

Participants in 2 of the 3 treatment groups ($n = 10$) completed a checklist of BPD symptoms. Given the aim of reducing BPD-related behaviors or criteria, the first researcher developed a scale that consisted of the 9 *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision* (*DSM-IV-TR*)[2] criteria listed, each with a "yes/no" option to indicate if the criterion had been experienced. If the response was yes, participants were asked to indicate the frequency of the criterion. The options ranged from 0 = not present to yes: 1 = "less than once per year" to 5 = "daily"; thus, the maximum score obtainable was 45, which represented the presence of all 9 criteria, occurring on a daily basis. For the purpose of analysis, cutoffs were as follows: 0–9 = "Minimal" symptoms of BPD; 10–19 = "Mild";, 20–29 = "Moderate"; and 30–45 = "Severe." Cutoffs were derived by determining the points at which the presence and/or frequency of the behaviors shifted, and comparing with the *DSM* criteria for diagnosis. "Minimal" ranges from symptoms occurring once a year to fewer than 6 symptoms occurring less than monthly (ie, subclinical); "Mild" corresponds to at least 5 symptoms appearing between 1 and 2 times per month; "Moderate" indicates weekly symptoms; whereas "Severe" indicates at least 6 criteria occurring daily. The first author (R.M.-T.) also consulted the clinical files of the participants in order to cross-validate these cutoffs, and determined that the categorization based on this measure was consistent with the clinical presentation of the participant.

Procedure

CARE Program Development

The CARE program was based upon DBT, with the content and structure largely unchanged across all 4 modules—Mindfulness, Interpersonal Effectiveness, Emotional Regulation, and Distress Tolerance, which were retained and delivered in this order. The structure of the program was condensed and reworded to represent content that was suitable for college students in complexity, and language representative of national vernacular (eg, the word "dime" was replaced with "ten cents"). In the Emotional Regulation module, emotions were explained in relation to their neurochemical characteristics, including the role of serotonin in mood, norepinephrine underpinning anxiety, and dopamine's role in cognitions. Particular emphasis was given to these neurochemicals due to their relationship with BPD-related symptoms.[27]

CARE Program Delivery

In total, 3 separate groups were delivered (each with between 4 and 8 participants), over 8 weeks by the same 2 cofacilitators throughout the program. One facilitator was female aged late 30s, the other a male aged early 30s, and both identified as being white Australians. Further, both were registered psychologists with supervisory arrangements in place, in addition to being formally trained in DBT and employed as counselors at the CCS. Following Human Research Ethics Committee approval, participants were recruited through either counselors at the CCS, or physicians at the College Health Service. The first author (R.M.-T.) outlined the program and the recruitment process to both groups of professionals. Each group subsequently informed past or current clients with a diagnosis of BPD. Interested students contacted the first author (R.M.-T.) to organize an intake interview. Twenty-seven potential participants were approached by their physician or counselor, and 23 agreed to participate (85.2%).

Intake interviews were held over the course of 2 weeks prior to the program. The intake interview was semistructured in format and screened for the presence of *DSM-IV-TR*[2] Axis I disorders and BPD, psychosocial and clinical history, previous and current treatments including psychotropic medication, and assessed current risk of harm, both with regard to nonsuicidal self-injury and suicidal ideation, intent or plan. All potential participants were provided with a detailed description of the purpose and scope of the CARE program, informed of the research component and the right to withdraw participation. Written informed consent was then obtained from all participants. Data were collected during the group at the beginning of the first session, and again at completion of the final session, thus across all 3 groups, the data collection period spanned November 2009 to November 2010.

Participants who met inclusion criteria of at least 5 *DSM-IV-TR*[2] criteria for BPD, attended 8 weekly sessions, each 2 hours in duration, held at the CCS at midday during semester. Each participant was required to be engaged in weekly counseling with either a psychologist, physician with mental health training, or psychiatrist of his or her choice. Participants were also given a range of after-hours contacts developed after consultation with the participant, representing their individual requirements and preferences. There were no financial incentives for participation.

RESULTS

Pre- and postintervention analyses were performed using SPSS (SPSS, Chicago, Illinois) exploratory analysis, and paired samples *t* tests. Only data from those who completed the entire 8-week program were analyzed ($n = 17$). Per-protocol analysis was utilized as opposed to intention to treat, as the participants who dropped out had lower severity scores across the clinical domains by comparison with participants who continued. Given the exploratory nature of the study, and the potential for type II error using an adjusted alpha, significance was set at .05.[28,29] However given the increased risk of type I error, results should be interpreted with caution.

TABLE 1. Mean and Standard Deviation Scores, Pre- and Posttreatment Across All Domains

	Pre		Post					
Scale	*M*	*SD*	*M*	*SD*	*t*	*p*	95% CI	η^2
Clinical measures								
BDI-II	**31.94**	**12.18**	**19.06**	**11.13**	**4.47**	**.01**	**6.77, 18.96**	**.56**
BAI	22.35	11.78	19.06	9.64	1.13	.21	−11.95, 8.62	.07
BPD	**26.70**	**9.33**	**18.50**	**11.35**	**3.90**	**.01**	**3.45, 12.95**	**.63**
Coping								
Social support	63.24	12.61	66.76	13.57	−.89	.39	−11.95, 4.89	.04
Solving problems	**58.59**	**16.19**	**70.24**	**13.25**	**−2.88**	**.01**	**−20.22, 3.08**	**.48**
Work hard	65.88	16.43	72.53	17.10	−1.55	.14	−15.77, 2.47	.13
Worry	72.65	17.10	62.94	16.21	2.01	.06	19.97, 16.21	.25
Improve relationships	53.82	17.19	56.18	12.81	−.69	.50	−9.57, 4.87	.03
Wishful thinking	57.35	18.97	54.18	16.79	.77	.45	−5.62, 12.09	.04
Tension reduction	62.65	19.13	54.41	13.90	1.75	.10	−1.76, 18.23	.16
Social action	32.65	8.86	38.82	13.05	−2.07	.06	−12.51, 0.16	.26
Ignore problem	61.18	16.70	58.47	18.34	.63	.54	−6.38, 11.80	.02
Self-blame	**74.41**	**24.99**	**60.59**	**21.42**	**2.27**	**.04**	**0.92, 26.73**	**.36**
Keep to self	56.76	19.52	52.65	20.55	.66	.52	−9.15, 17.39	.03
Spiritual support	36.18	24.72	33.00	20.70	.71	.49	−6.26, 12.61	.03
Focus on positive	46.47	14.00	52.05	15.21	−1.49	.16	−13.56, 2.38	.12
Professional help	**62.59**	**14.53**	**68.82**	**18.42**	**−2.17**	**.05**	**−12.34, 0.13**	**.34**
Relaxing diversions	58.24	12.98	66.47	15.18	−1.81	.09	−17.89, 1.42	.17
Physical recreation	41.59	20.48	47.76	17.54	−1.72	.11	−13.80, 1.45	.16
Protect self	**47.06**	**10.90**	**55.88**	**13.14**	**−3.27**	**.01**	**−14.54, 3.11**	**.54**
Humor	49.41	22.80	55.59	18.10	−1.11	.28	−17.97, 5.62	.08
Not cope	75.41	17.80	59.18	16.58	1.59	.13	−2.10, 14.57	.14

Note. Significant results in bold. CI = confidence interval; BDI-II = Beck Depression Inventory Second Edition; BAI = Beck Anxiety Inventory; BPD = borderline personality disorder. BPD traits, $n = 10$; all other scales, $n = 17$.

Clinical Measures

Descriptive statistics for all measures can be seen in Table 1. There was a significant reduction in BDI-II scores from session 1 to the final session. McNemar's test was used to assess for the presence of clinical (severe range: 30–63) depression prior to and following the intervention; 64.7% ($n = 11$) of participants fell within the severe range of scores at session 1, by comparison with 27.3% ($n = 3$) in the final session, $\chi^2(N = 17)$, $p = .008$.

No reduction in BAI scores was evident from pre- to posttesting, yet there was a nonsignificant reduction in the number of participants who reported clinical range anxiety scores (26–63 = "Severe"), with 41.2% ($n = 7$) reporting in this range at session 1, and 17.6% ($n = 3$) at the final session.

A significant reduction in BPD symptoms was observed from session 1 to the final session. Again, the reduction in the number of participants categorized within the clinical range of BPD symptoms (30–45 = "Severe") was nonsignificant (see Table 2). An Edwards-Nunnally corrected reliable change index (RCI)[28] was calculated for each participant on the BDI-II, BAI, and BPD symptom measures using reliability coefficients of .93,[22,24] .75,[25] and .88,[30] respectively. On the BDI-II, 59% of participants achieved a reliable change (RCI < -1.96, $p < .05$), 12% achieved the same result on the BAI, and 40% achieved reliable change in BPD symptoms

TABLE 2. Change in Percentage of Participants' Severity Scores Across the Clinical Domains Pre- and Postintervention

Scale	Pre (%)	Post (%)	Change (%)
BDI-II ($n = 17$)			
Minimal	5.9	23.5	17.6
Mild	5.9	17.6	11.7
Moderate	23.5	41.3	17.8
Severe	64.7	17.6	−47.1
BAI ($n = 17$)			
Minimal	5.9	11.8	5.9
Mild	23.5	23.5	—
Moderate	41.1	35.3	5.8
Severe	29.4	29.4	—
BPD ($n = 10$)			
Minimal	5.9	11.8	5.9
Mild	—	17.6	17.6
Moderate	29.4	23.5	−5.9
Severe	64.7	5.9	−58.8

Note. BDI-II = Beck Depression Inventory Second Edition; BAI = Beck Anxiety Inventory; BPD = borderline personality disorder.

TABLE 3. Reliable Change Index by Participant Using Edwards-Nunnally Adjusted Scores for Regression to the Mean

	BDI-II[a] (*M*)				BAI[b](*M*)				BPD[c] (*M*)			
Participant	T1	T2	AS	RCI	T1	T2	AS	RCI	T1	T2	AS	RCI
1	30	30	30.14	0	29	26	27.34	−0.36	—	—	—	—
2	**38**	**23**	**37.58**	**−3.29**	22	10	22.09	−1.44	—	—	—	—
3	20	14	20.84	−1.32	13	14	15.34	0.12	—	—	—	—
4	**27**	**7**	**27.35**	**−4.39**	12	3	14.59	−1.08	—	—	—	—
5	**32**	**23**	**32.00**	**−1.98**	21	18	21.34	−0.36	—	—	—	—
6	10	13	11.54	0.66	17	16	18.34	−0.12	—	—	—	—
7	28	23	28.28	−1.10	26	24	25.09	−0.24	—	—	—	—
8	35	38	34.79	0.66	25	31	24.34	0.72	22	22	22.56	0.00
9	45	37	44.09	−1.76	21	8	21.34	−1.56	30	32	29.60	0.44
10	**40**	**13**	**39.44**	**−5.93**	13	5	15.34	−.960	22	15	22.56	−1.53
11	**38**	**27**	**35.58**	**−2.41**	17	31	18.34	1.68	31	25	30.48	−1.31
12	**45**	**24**	**44.09**	**−4.61**	12	8	14.59	−4.80	41	35	39.28	−1.31
13	**24**	**0**	**24.56**	**−5.27**	**25**	**5**	**24.34**	**−2.40**	**21**	**3**	**21.68**	**−3.94**
14	4	6	5.96	0.44	5	17	9.34	1.44	9	4	11.12	−1.09
15	**39**	**3**	**38.51**	**−7.90**	27	25	25.84	−1.20	**24**	**10**	**24.32**	**−3.06**
16	**46**	**21**	**45.02**	**−5.49**	40	36	35.59	−.48	**28**	**12**	**27.84**	**−3.50**
17	**43**	**22**	**42.23**	**−4.61**	**55**	**26**	**46.84**	**−3.48**	**39**	**27**	**37.52**	**−2.63**

Note. Significant results in bold. BDI-II = Beck Depression Inventory Second Edition; BAI = Beck Anxiety Inventory; BPD = borderline personality disorder; AS = adjusted score; RCI = reliable change index.
[a]SEM = 3.22; standard difference = 4.557; reliability coefficient = .93.
[b]SEM = 5.89; standard difference = 8.33; reliability coefficient = .75.
[c]SEM = 3.23; standard difference = 4.57; reliability coefficient = .88.

(see Table 3). The mean change in severity of participants' scores can be viewed in Table 2. In addition, there were no hospitalizations during the program, and 94% of participants did not engage in self-harm during the treatment period.

With regard to coping, statistically significant increases in adaptive coping skills were found for focusing on solving the problem, seeking professional help, protecting one's self (constructive self-talk), and a decrease in self-blame (see Table 1).

COMMENT

The findings of the current study show some promise with regard to short-term, college-based programs for students with BPD, particularly with regard to reduction in symptoms of depression. BPD and mood disorders have a high comorbidity, and characteristically improve over long-term (>1-year) interventions where both conditions are present.[31] However, in the current study, over an 8-week period, the mean scores indicated a decrease from the lower end of a severe range of depressive symptoms (29–63) to the upper end of a mild range of symptoms (14–19).[22] These preliminary findings may generate interest when compared with that of a 1-year DBT program (baseline BDI-II, $M = 37.15$, $SD = 12.46$; treatment completion BDI-II, $M = 22.48$, $SD = 16.20$) where unlike the current study, participants with comorbid disorders that deleteriously impact treatment (Bipolar I and substance abuse) were excluded from the study.[32]

The nonsignificant reduction in anxiety symptoms may be related in part to the timing of posttreatment data collection, as the program finished in the week immediately prior to the examination period. The participants highlighted this issue, with several stating that they felt significantly less anxious than usual in the period preceding assessment submission and examinations. Further, there was no increase in anxiety scores from intake, thus it could be argued that the program may have assisted in maintaining levels of anxiety and preventing a predictable increase in anxiety typically associated with examinations.

The coping skills that had increased postintervention were focusing on solving the problem, seeking professional help, protecting one's self, and a reduction in self-blame. Arguably, these coping skills were more relevant in the context of BPD than many of the coping skills that did not undergo significant change. For example, self-blame, deficiencies in problem solving and self-care, and negative self-talk are all associated with the onset and maintenance of both depression and BPD,[1] whereas a skill such as "seeking spiritual support" was less relevant given that none of the participants identified as being religious.

With regard to feasibility, the program was relatively time-efficient to adapt in both language and content from the original skills-building program.[5] The modification was completed over 12 hours in total by the first author (R.M.-T.), including presentations and weekly handouts for participants. As such, the program could be revised as language and

content appropriate for CCSs internationally with minimal time expended.

One of the issues in the interpretation of these results is the difficulty in discerning which component of the CARE program contributed to these encouraging preliminary outcomes. Participants spent 2 hours per week in the program, and underwent a 1-hour individual session with their primary mental health contact (counseling psychologist or physician). An additional 6 20-minute sessions were set aside after the program for participants to meet with one of the group facilitators, to discuss any problems or concerns that had occurred within the context of the group. These sessions were utilized by 82.3% of the total participants. As such, each participant attended a minimum of 3 hours of therapeutic contact per week, for an 8-week period. Further, both facilitators had several years' experience forming therapeutic alliances with a range of students through their role as counselors, which may have augmented facilitator-group rapport. Consequently, therapeutic alliance may have played a significant role in facilitating these outcomes.[31,32]

Similarly, during the final session, a large proportion of the participants reported that this was the first time they were aware that other college students experienced similar difficulties with emotional dysregulation, self-harm, and suicidal ideation. This suggests that college students experiencing BPD symptoms may benefit from the normalizing effect of having contact with other students experiencing similar difficulties. Conversely, the participants who discontinued the program reported that they did so, as they believed they were not as "unwell" by comparison with other group members, primarily those that had visible signs of having self-harmed (ie, scarring or bandages).

Limitations

The CARE group was trialed as an alternative treatment delivery model for both existing and wait listed clients of the CCS who exhibited symptoms of BPD, including self-harm and suicidal ideation. These factors underpinned the need for expedited design, training, and implementation, which was achieved over a 6-week period. Subsequently, the program represented a preliminary investigation of short-term group DBT rather than a well-controlled experimental design. As a result, several aspects of the methodology limit the scientific merit of the study. For instance, one of the limitations of the study was that although being designed to represent *DSM-IV-TR*[2] criteria, the measure employed to assess for the presence of BPD symptoms was not externally validated. As such, the measure was not necessarily indicative of the broader range of phenomenology associated with BPD. Further, it is unlikely the results would generalize outside of a college setting. The greater proportion of the sample in the current study were high-functioning college students, living at home with their families or partners, and with specific and relatively achievable goals to work toward.

The Australian Bureau of Statistics indicates that 29% of Australian students live at home, 27% with a partner, and the remainder outside of the family or marital home,[33] thus the sample was representative within an Australian college context. However, US figures report 53% of college students reside on campus, 33% off campus, and 12.4% at the family home.[34] Living at home acts as a protective factor and may have played a role in CARE program outcomes. In countries where students leave home to study, such as the United States, additional supports may need to be built into the program.

Given the preliminary nature of the study, other limitations pertain to the absence of a control group, and long-term follow-up assessments. Additionally, the sample size in each group were very small, numbering 4, 8, and 5, respectively, thus problematic to generalize even within the broader college population of students with BPD. As the CARE program was a preliminary pilot study, replication is warranted to address these limitations. A randomized controlled trial may serve to extract the effects of participating in CARE versus the extraneous factors inherent in the program protocol, such as concurrent individual counseling, in addition to minimizing the possibility of regression to the mean.

Conclusion

Despite these limitations, the results are promising with regard to providing efficacious, short-term, and cost-effective treatment of students with BPD within a college counseling service. It may be that college students with BPD will respond well to a college-based treatment, particularly one with a learning-based emphasis that is tailored to skills acquisition. As such, modified DBT groups such as CARE could assist in meeting the therapetic needs of students with BPD within college settings while minimizing the distress caused to this population through difficulties in obtaining an appropriate external referral.

ROLE OF FUNDING SOURCES DISCLOSURE

No funding was used to support this research and/or the preparation of the manuscript.

CONFLICT OF INTEREST DISCLOSURE

The authors have no conflicts of interest to report. The authors confirm that the research presented in this article met the ethical guidelines, including adherence to the legal requirements, of Australia and received approval from the Human Research Ethics Committee of Monash University.

ACKNOWLEDGMENTS

The authors wish to thank Dr Marc Janover and Sally Trembath for their invaluable contribution to the CARE program, and the Monash University Counseling Service psychologists for their significant support role during the CARE program.

NOTE

For comments and further information address correspondence to Rebecca Meaney-Tavares, School of Psychology and Psychiatry, Monash University, Clayton VIC 3800, Australia (e-mail: rimtavares@gmail.com).

REFERENCES

1. Gunderson JG, Stout RL, McGlashan TH, et al. Ten-year course of borderline personality disorder psychopathology and function from the collaborative longitudinal personality disorders study. *Arch Gen Psychiat*. 2011;68:827–837.
2. American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders.* 4th ed., text rev. Washington, DC: American Psychiatric Association; 2000.
3. Zanarini MC, Horwood J, Wolke D, Waylen A, Fitzmaurice G, Grant BF. Prevalence of DSM-IV borderline personality disorder in two community samples: 6,330 English 11-year-olds and 34,653 American adults. *J Pers Disord*. 2011;25:607–619.
4. Frith CD, Frith U. The neural basis of mentalizing. *Neuron.* 2006;50:531–534.
5. Linehan MM. *Cognitive-Behavioral Treatment of Borderline Personality Disorder.* New York, NY: The Guildford Press; 1993.
6. Young J. *Cognitive Therapy for Personality Disorders: A Schema-Focused Approach.* 2nd ed. Sarasota, FL: Professional Resource Press; 1994.
7. Lippincott J. When psychopathology challenges education: counseling students with severe psychiatric disorders. In: Lippincott J, Lippincott R, eds. *Special Populations in College Counseling: A Handbook for Mental Health Professionals*. Alexandria, VA: American Counseling Association; 2007:287–308.
8. Pizzarello S, Taylor J. Peer substance use associated with the co-occurrence of borderline personality disorder features and drug use problems in college students. *J Am Coll Health*. 2011;59:408–414.
9. Gratz KL, Breetz A, Tull MT. The moderating role of borderline personality in the relationships between deliberate self-harm and emotion-related factors. *Personal Ment Health*. 2010;4:96–107.
10. Hahn WK. Ingenuity and uneasiness about group psychotherapy in university counseling centers. *Int J Group Psychother.* 2009;59:543–552.
11. Tryon GS, DeVito AJ, Halligan FR, Kane AS, Shea JJ. Borderline personality disorder and development: counseling university students. *J Couns Dev.* 1988;67:178–181.
12. Gilbert P. *Depression: The Evolution of Powerlessness*. Hove, UK: Lawrence Erlbaum Associates; 1992.
13. Linehan MM, Cochran BN, Mar CM, Levensky ER, Comtois KA. Therapeutic burnout among borderline personality disordered clients and their therapists: development and evaluation of two adaptations of the Maslach Burnout Inventory. *Cogn Behav Pract.* 2000;7:329–337.
14. Wedig MM, Silverman MH, Frankenburg FR, Bradford Reich D, Fitzmaurice G, Zanarini MC. Predictors of suicide attempts in patients with borderline personality disorder over 16 years of prospective follow-up. *Psychol Med.* 2012;22:1–10.
15. Fonagy PA, Bateman A. Mechanisms of change in mentalization-based treatment of BPD. *J Clin Psychol*. 2006;4: 411–430.
16. Huss DB, Baer RA. Acceptance and change: integration of mindfulness based cognitive therapy into ongoing dialectical behavior therapy in a case of borderline personality disorder with depression. *Clin Case Stud.* 2007;6:17–33.
17. Drum D, Becker M, Hess E. Expanding the application of group interventions: emergence of groups in health care settings. *J Spec Group Work*. 2011;36:247–263.
18. Paris J. The treatment of borderline personality disorder: implications of research on diagnosis, etiology and outcome. *Annu Rev Clin Psychol.* 2009;5:75–88.
19. Norling DC, Kim S. Borderline personality disorder. In: Thomas JC, Hersen M, eds. *Handbook of Clinical Psychology Competencies*. New York: Springer; 2010:877–900.
20. Brassington J, Krawitz R. Australasian dialectical behaviour therapy pilot outcome study: effectiveness, utility and feasibility. *Aust Psychiatry.* 2006;3:313–319.
21. Katz LY. Feasibility of Dialectical behavior therapy for suicidal adolescent inpatients. *J Am Acad Child Psychol*. 2004;43:276–282.
22. Beck AT, Steer RA, Brown GK. *Manual for the Beck Depression Inventory-II*. San Antonio, TX: Psychological Corporation; 1996.
23. Kotila M, Numminen H, Waltimo O, Kaste M. Depression after stroke: results of the FINNSTROKE Study. *Stroke*. 1998;29:368–372.
24. Mouanoutoua VL, Brown LG, Cappelletty GG, Levine RV. A Hmong adaptation of the Beck Depression Inventory. *J Pers Assess.* 1991;57:309–322.
25. Beck AT, Steer RA. *Beck Anxiety Inventory Manual*. San Antonio, TX: Harcourt Brace and Company; 1993.
26. Frydenberg E, Lewis R. *Coping Scale For Adults: Administrator's Manual, Research Edition*. Melbourne, Victoria: Australian Council for Educational Research; 1997.
27. Ni X, Chan D, Chan K, McMain S, Kennedy JL. Serotonin genes and gene-gene interactions in borderline personality disorder in a matched case-control study. *Prog. Neuropsychopharmacol Biol Psychiatry.* 2009;33:128–133.
28. Bender R, Lange S. Adjusting for multiple testing—when and how? *J Clin Epidemiol*.2001;54:343–349.
29. Speer DC. Clinically significant change: Jacobson and Truax revisited. *J Consul Clin Psy*.1991;60:402–408.
30. Sharp C, Ha C, Michonski J, Venta A, Carbone C. Borderline personality disorder in adolescents: evidence in support of the childhood interview for DSM-IV borderline personality disorder in a sample of adolescent inpatients. *Compr Psychiatry.* 2012;53:765–774.
31. Stone MH. Management of borderline personality disorder: a review of psychotherapeutic approaches. *World Psychiatry*. 2006;1:15–20.
32. McMain SF, Guimond T, Streiner DL, Cardish RJ, Links PS. Dialectical behavior therapy compared with general psychiatric management for borderline personality disorder: clinical outcomes and functioning over a 2-year follow-up. *Am J Psychiatry.* 2012;169:650–661.
33. Australian Bureau of Statistics. Summary of the 2010 higher education student statistics. Available at: http://www.deewr.gov.au/ HigherEducation/ Publications/ HEStatistics/ Publications/ Pages/Students.aspx. Accessed September 8, 2012.
34. Buhi ER, Marhefka SL, Hoban MT. The state of the union: sexual health disparities in a national sample of US college students. *J Am Coll Health.* 2010;58:337–346.

Received: 8 November 2012
Revised: 14 February 2013
Accepted: 29 March 2013

Appendix 6A: Recruitment Letter for Counselling Service Manager

MONASH University

January 10, 2014

Dear xxxx

My name is Rebecca Meaney and I am undertaking a PhD at Monash University under the supervision of Associate Professor Andrea Reupert from the School of Education at Monash University.

I am making contact in the hope of obtaining your assistance in recruiting participants for the research project: "The experience of a psychological crisis within a tertiary environment." Specifically, I am seeking participation from students that have experienced a psychological crisis evidenced by behaviours such as self-harm, suicidal ideation or attempt/s, and behaviours such as aggression or angry outbursts. It is my understanding that staff at the Counselling Service OR Health Service would have interacted with students who have experienced these symptoms. As such, I hope to obtain your permission to distribute an information pack about the study to your counselling OR medical staff.

Staff participating in this process would be asked to disseminate information about the study, including the plain language statement for students (please see attached) to students they may consider appropriate to be informed of the study. Following this, the potential participant would contact the researcher directly to organise an interview, which will be held at Clayton campus.

The results of this study will be used to develop guidelines to assist university staff in managing students experiencing a psychological crisis, evidenced by behaviours including self-harm and suicidal ideation or attempts. I would be happy to forward the results and summary post-development. This project has approval from the Monash University Human Research Ethics Committee, approval number: CF13/1104 – 2013000534.

Should you agree to your staff disseminating information about the study, I would be grateful if you could contact me indicating your approval for information packs to be sent to your staff. In turn, staff would receive information to pass to clients OR patients by contacting me directly.

I would like to thank you in advance for taking the time to read this email, and would be happy to respond to any enquiries you may have pertaining to this request.

Kind regards

Rebecca Meaney MAPS
Clinical Psychologist, PhD Candidate
B.Psych. Hons; M.Psych(Clinical)
[redacted]

MONASH University

10th January 2014

Explanatory Statement for Mental Health Professionals

Title: The experience of a psychological crisis within a tertiary environment
This information sheet is for you to keep. You are invited to take part in this study. Please read this Explanatory Statement in full before making a decision. Should you decide you wish to participate, please email Rebecca on [redacted] to organise an interview.

Researchers: Rebecca Meaney is conducting a research project with Associate Professor Andrea Reupert from the School of Education at Monash University. This research is a requirement toward Rebecca's PhD at Monash University.

Details and possible benefits?
The research aims to investigate which previous treatments, actions, or services have been effective, or ineffective in assisting people experiencing a psychological crisis. There will not be any immediate direct benefits to you if you participate. However, the information you provide may be included in recommendations around the types of assistance university students would find beneficial when they are experiencing a psychological crisis. Each participant can enter a draw to win either one $100 or one of two, $50 vouchers from Coles-Myer or iTunes depending on your choice, after completion of the interviews.

What do you need to do?
Participation involves attending one 60-minute interview with Rebecca in an office situated at Monash University Clayton Campus. The interview will be audiotaped, and you will be emailed a transcript of the interview to approve. You might also be contacted following the interview should any of your information require clarification or further detail.

Possible risks:
Some of the questions may require you to recollect instances where you have assisted someone during a crisis. If this becomes distressing, you may cease participating in the interview immediately, and if required, assistance in the form of a referral will be provided. If you become distressed after theinterview, you can contact the researchers who will similarly provide assistance in the form of a referral.

Can you withdraw from the research?
Being in this study is voluntary and you are under no obligation to participate. However, if you do consent to participate, you may withdraw at any stage prior to approving the transcript of your interview.

Confidentiality and data storage/use:
You will be asked to sign a consent form (please see attached), which will be the sole document containing your name. In subsequent write-ups (e.g. journal article and thesis), some personal information would be reported such as your age, gender, and professional role. The interview data you provide will be converted into a "theme" which represents a common set of responses. An

example of a theme is if several participants stated they had found attending individual therapy helpful, the theme would be "effective treatment", and would read as "several participants noted that individual therapy was the most effective form of treatment". Storage of the data collected will adhere to the University regulations and kept on University premises in a locked storage room, and password protected hard drive for 5 years after it has been thematically analysed and published. After the 5-year period, all information will be shredded and disposed of, or deleted. A report of the study will be submitted for publication, or to relevant (e.g. Counselling Service) Monash university staff, or presented at a conference, however individual participants will not be identifiable.

Results

If you would like to be informed of the aggregate research finding, please contact Rebecca on [redacted] The findings are accessible for 6 months after analysis at the end of September 2014.

If you would like to contact the researchers about any aspect of this study, please contact the Chief Investigator:	If you have a complaint concerning the manner in which this research CF13/1104 – 2013000534 is being conducted, please contact:
Associate Professor Andrea Reupert [redacted]	Executive Officer Monash University Human Research Ethics Committee (MUHREC) Building 3e Room 111 Research Office Monash University VIC 3800 [redacted]

Thank you.
Rebecca Meaney

MONASH University

January 10, 2014

Dear XXXXX,

My name is Rebecca Meaney and I am undertaking a PhD at Monash University under the supervision of Associate Professor Andrea Reupert from the School of Education at Monash University.

I am making contact in the hope of obtaining permission to recruit participants from your directorate for the research project: "The experience of a psychological crisis within a tertiary environment. Specifically, I am seeking participation from staff that provide treatment for people who experience psychological crises (e.g. self-harm, suicidal behaviour and violence or angry outbursts), in order to ascertain specific strategies or skills they have experienced as being useful in crisis presentations.

OR

Specifically, I am seeking participation from staff that are directly involved in assisting university students who are experiencing difficulties such as suicidal ideation, or have engaged in self-harm.

Participation involves attending a 60-minute interview held at Monash University Clayton campus. In order to inform your decision, I have included a copy of the Plain Language Statement, which outlines the nature of the study and participant rights.

The results of this study will be used to develop guidelines to assist university staff in managing students experiencing a psychological crisis, evidenced by behaviours including self-harm and suicidal ideation or attempts. I would be happy to forward the results and summary post-development. This project has approval from the Monash University Human Research Ethics Committee, approval number: CF13/1104 – 2013000534.

Should you agree to your staff being given the option of participating, I would be grateful if you could indicate this approval via email to [redacted] and I will send an email for you to forward to the appropriate staff. In turn, staff interested in participating would register by contacting me directly.

I would like to thank you in advance for taking the time to read this email, and would be happy to respond to any enquiries you may have pertaining to this request.

Kind regards

Rebecca Meaney MAPS
Psychologist, PhD Candidate
B.Psych. Hons; M.Psych(Clinical)
[redacted]

MONASH University

10th January 2014

Explanatory Statement for University General Staff.
Title: The experience of a psychological crisis within a tertiary environment.
This information sheet is for you to keep. You are invited to take part in this study. Please read this Explanatory Statement in full before making a decision. Should you decide you wish to participate, please email Rebecca on [redacted] to organise an interview.
Researchers: Rebecca Meaney is conducting a research project with Associate Professor Andrea Reupert from the School of Education at Monash University. This research is a requirement toward Rebecca's PhD at Monash University.
Details and possible benefits?
The research aims to investigate the experience of assisting students experiencing a psychological crisis (e.g. self-harm and/or suicidal behaviour) while at university. There will not be any immediate direct benefits to you if you participate. However, the information you provide may be used in guidelines for staff to assist university students when they are experiencing a psychological crisis. Each participant can enter a draw to win either one $100 or one of two, $50 vouchers from Coles-Myer or iTunes depending on your choice, after the interviews have been completed.

What do you need to do?
Participation involves attending one 60-minute interview with Rebecca in an office situated at Monash University Clayton Campus. The interview will be audiotaped, and you would be emailed a transcript of the interview to approve. You might also be contacted following the interview should any of your information require clarification or further detail.

Possible risks:
Some of the questions may require you to recollect instances where you have assisted a student while he or she was highly distressed. If this recollection causes distress, you may cease participating in the interview immediately, and if required, assistance in the form of a referral will be provided. If you become distressed after the interview, you can either contact the researchers who will similarly provide assistance in the form of a referral.

Can you withdraw from the research?
Being in this study is voluntary and you are under no obligation to participate. However, if you do consent to participate, you may withdraw at any stage prior to approving the transcript of your interview.
Confidentiality and data storage/use:
You will be asked to sign a consent form (please see attached), which will be the sole document containing your name. In subsequent write-ups (e.g. journal article and thesis), some personal information would be reported such as your age, gender, and professional role. The data you provide will be converted into a "theme" which represents a common set of group responses. An example of a theme is if several participants stated they had found attending individual therapy helpful, the theme would be "effective treatment", and would read as "several participants noted that individual therapy was the most effective form of treatment". Storage of the data collected will adhere to the University regulations and kept on University premises in a locked storage room, and password protected hard drive for 5 years after it has been thematically analysed and published.

After the 5-year period, all information will be shredded and disposed of, or deleted. A report of the study will be submitted for publication, or to relevant (e.g. Counselling Service) Monash university staff, or presented at a conference; however individual participants will not be identifiable.

Results

If you would like to be informed of the aggregate research finding, please contact Rebecca on rimea1@student.monash.edu. The findings are accessible for 6 months after analysis at the end of September 2014.

If you would like to contact the researchers about any aspect of this study, please contact the Chief Investigator:	If you have a complaint concerning the manner in which this research CF13/1104 – 2013000534 is being conducted, please contact:
Assoc. Prof Andrea Reupert [redacted]	Executive Officer Monash University Human Research Ethics Committee (MUHREC) Building 3e Room 111 Research Office Monash University VIC 3800 [redacted]

Thank you.

Rebecca Meaney

MONASH University

January 10, 2014

Dear XXXXX,

My name is Rebecca Meaney and I am undertaking a PhD at Monash University under the supervision of Associate Professor Andrea Reupert from the School of Education at Monash University.

I am making contact in the hope of obtaining your assistance in recruiting participants for the research project: "The experience of a psychological crisis within a tertiary environment." Specifically, I am seeking participation from students that have experienced a psychological crisis evidenced by behaviours such as self-harm, suicidal ideation or attempt/s, and behaviours such as aggression or angry outbursts. In addition, the person should not currently be in the acute phase of a psychological illness.

You would be asked to disseminate information about the study to past or current clients OR patients that you would regard as both appropriate and suitable to participate in the study. Client OR patient participation involves attending a 60-minute interview held at Monash University Clayton campus. In order to inform your decision, I have included a copy of the Plain Language Statement for Students that outlines the nature of the study and participant rights.

The results of this study will be used to develop guidelines to assist university staff in managing students experiencing a psychological crisis, evidenced by behaviours including self-harm and suicidal ideation or attempts. I would be happy to forward the results and summary post-development. This project has approval from the Monash University Human Research Ethics Committee, approval number: CF13/1104 – 2013000534.

Should you agree to your clients OR patients being given the option of participating, I would be grateful if you could contact me in order to receive a pdf and/or or hard copy of the plain language statement to provide to potential participants. In turn, students interested in participating would register by contacting me directly.

I would like to thank you in advance for taking the time to read this email, and would be happy to respond to any enquiries you may have pertaining to this request.

Kind regards

Rebecca Meaney MAPS
Clinical Psychologist, PhD Candidate
B.Psych. Hons; M.Psych(Clinical)
[redacted]

MONASH University

10th January 2014

Explanatory Statement for Student Participants

Title: The experience of a psychological crisis within a tertiary environment.

This information sheet is for you to keep. Please read this Explanatory Statement in full before making a decision. Should you decide you wish to participate, please email Rebecca on [redacted] to organise an interview.

Researchers: Rebecca Meaney is conducting a research project with Associate Professor Andrea Reupert from the School of Education at Monash University. This research is a requirement toward Rebecca's PhD at Monash University.

Details and possible benefits?
Your counsellor or GP has provided you with this information as they have thought you may be interested in participating in this research. The research aims to investigate the experience of being a university student and having experienced a psychological crisis (e.g. self-harm, suicidal behaviours, and/or angry outbursts) at uni. Specifically, we aim to investigate what has been effective, or ineffective in assisting you during times of distress. There will not be any immediate direct benefits to you if you participate. However, the information you provide may help to increase our understanding of the types of assistance university students experiencing a crisis would find beneficial. Each participant can enter a draw to win a $100 or one of two, $50 vouchers after the interviews have been completed.

What do you need to do?
Participation involves attending one 60-minute interview with Rebecca in an office at Monash University Clayton Campus. The interview will be audiotaped, and you would be emailed a copy of the interview transcript for your approval. You might also be contacted following the interview should any of your information require clarification or further detail.

Possible risks:
Some of the questions require you to recollect instances where you have felt distressed, suicidal, thought of or engaged in self harm, or angry aggressive outbursts, in order to find out what either you did, or other people helped you to do to manage these thoughts and feelings. If this becomes distressing, the interview will be stopped and if required, assistance in the form of a referral will be provided. If you become distressed after the interview, you can either contact the researcher for referral, or the list of services provided at the end of this document.

Can you withdraw from the research?
Being in this study is voluntary and you are under no obligation to participate. Further, your decision will not influence any future interaction with units, programs, or services with Monash University. However, if you do consent to participate, you may withdraw at any stage prior to approving your interview transcript.

Confidentiality and data storage/use:
You will be asked to sign a consent form (please see attached), which will be the sole document

containing your name. In subsequent write-ups (e.g. journal article and thesis), some personal information would be reported such as your age and gender. Storage of the data collected will adhere to the University regulations and kept on University premises in a locked storage room, and password protected hard drive for 5 years after it has been thematically analysed and published. After the 5-year period, all information will be shredded and disposed of, or deleted. A report of the study will be submitted for publication, or to relevant (e.g Counselling Service) Monash university staff, or may be presented at a conference, however individual participants will not be identifiable.

Results

If you would like to be informed of the aggregate research finding, please contact Rebecca on [redacted] The findings are accessible for 6 months after analysis at the end of September 2014.

If you would like to contact the researchers about any aspect of this study, please contact the Chief Investigator:	If you have a complaint concerning the manner in which this research CF13/1104 – 2013000534. is being conducted, please contact:
Associate Professor Andrea Reupert [redacted]	Executive Officer Monash University Human Research Ethics Committee (MUHREC) Building 3e Room 111 Research Office Monash University VIC 3800 [redacted]

Thank you.

Rebecca Meaney

If you are experiencing any psychological distress or thoughts of suicide, please contact one of the following organisations. Trained professionals are available to you 24 hours a day and are free of cost.
For urgent assistance (e.g. thoughts of suicide):

Crisis & Telephone Counselling Services:

Life Line Australia
Free & Confidential Telephone
Counselling Available 24 hours a day
Ph. 13 11 14

Suicide Line
Free & Confidential Telephone
Counselling Available 24 hours
Ph. 1300 651 251

Crisis Assessment & Treatment Teams (CATT) or Psychiatric Triage:
CATT provides urgent community assessment and short-term treatment interventions to people in

psychiatric crisis. The website below provides the contact details for all suburban and rural services.
http://www.health.vic.gov.au/mentalhealth/services/adult/index.htm

Or if your problem is not urgent this option may be helpful:
Monash Student Counselling Services: Information for all campuses found at www.adm.monash.edu.au/commserv/counselling. Cost: Free.

Appendix 6G: Questionnaire for Staff Participants

1. Gender: Female ____ Male_____

2. Position: _____

3. No of years in current role: _____

4. Length (in years) of experience working in a university setting: _____

5. Approximate number of times you have given assistance to a student experiencing a psychological crisis: _____

6. Do you have any tertiary level qualifications?

No ___ Yes, please specify: _____

7. Do you have any training in psychological first aid or crisis management?

No ___ Yes, please specify: _____

Appendix 6H: Consent Form for Psychologist Group

MONASH University

Consent Form – Psychologists

Title: The experience of a psychological crisis within a tertiary environment.

NOTE: This consent form will remain with the Monash University researcher for their records.

I understand I have been asked to take part in the Monash University research project specified above. I have had the project explained to me, and I have read the Explanatory Statement, which I keep for my records.

I understand that:	YES	NO
I will be asked to be interviewed by the researcher	☐	☐
unless I otherwise inform the researcher before the interview I agree to allow the interview to be audio-taped	☐	☐
unless I inform the researcher otherwise, I agree to be contacted for the purpose of obtaining clarification on the data I provide, if required, in addition to reviewing the guidelines at a later date.	☐	☐

I understand that my participation is voluntary, that I can choose not to participate in part or all of the project, and that I can withdraw from the project without being penalised or disadvantaged in any way. I understand that I will not be able to withdraw my data after the transcript of the interview.
and
I understand that any data that the researcher extracts from the interview for use in reports or published findings will not, under any circumstances, contain names or identifying characteristics without my consent.
and
I understand that no information I have provided that could lead to the identification of any other individual will be disclosed in any reports on the project, or to any other party
and
I understand that data from the interview audio recording will be kept in secure storage and accessible to the research team. I also understand that the data will be destroyed after a 5-year period unless I consent to it being used in future research.
and
I understand I will remain anonymous at all times in any reports or publications from the project.

Participant's name: _____

Participant's email address: _____

Signature: _____

Date: _____

Appendix 6I: Consent Form for Support Staff Group

MONASH University

Consent Form – University Staff Group.

Title: The experience of a psychological crisis within a tertiary environment.

NOTE: This consent form will remain with the Monash University researcher for their records.

I understand I have been asked to take part in the Monash University research project specified above. I have had the project explained to me, and I have read the Explanatory Statement, which I keep for my records.

I understand that:	YES	NO
- I will be asked to be interviewed by the researcher	☐	☐
- unless I otherwise inform the researcher before the interview I agree to allow the interview to be audio-taped	☐	☐
- unless I inform the researcher otherwise, I agree to be contacted for the purpose of obtaining clarification on the data I provide, if required, in addition to reviewing the guidelines at a later date.	☐	☐

I understand that my participation is voluntary, that I can choose not to participate in part or all of the project, and that I can withdraw from the project without being penalised or disadvantaged in any way. I understand that I will be given a transcript of my interview to approve, and it will not be possible to withdraw my data after approving the transcript for inclusion in the write up of the research.
and
I understand that any data that the researcher extracts from the interview for use in reports or published findings will not, under any circumstances, contain names or identifying characteristics without my signed consent below.
and
I understand that no information I have provided that could lead to the identification of any other individual will be disclosed in any reports on the project, or to any other party
and
I understand that data from the interview audio recording will be kept in secure storage and accessible to the research team. I also understand that the data will be destroyed after a 5-year period unless I consent to it being used in future research.
and
I understand I will remain anonymous at all times in any reports or publications from the project.

Participant's name: _____

Participant's email address: _____

Signature: _____

Date: _____

Appendix 6J: Consent Form for Student Group

Consent Form – Student Group.

Title: The experience of a psychological crisis within a tertiary environment.

NOTE: This consent form will remain with the Monash University researcher for their records.

I understand I have been asked to take part in the Monash University research project specified above. I have had the project explained to me, and I have read the Explanatory Statement, which I keep for my records.

I understand that:	YES	NO
I will be asked to be interviewed by the researcher	☐	☐
unless I otherwise inform the researcher before the interview I agree to allow the interview to be audio-taped	☐	☐
unless I inform the researcher otherwise, I agree to be contacted for the purpose of obtaining clarification on the data I provide, if required, in addition to reviewing the guidelines at a later date.	☐	☐

I understand that my participation is voluntary, that I can choose not to participate in part or all of the project, and that I can withdraw from the project without being penalised or disadvantaged in any way. I understand that I will not be able to withdraw my data after approving the transcript.
and
I understand that any data that the researcher extracts from the interview for use in reports or published findings will not, under any circumstances, contain names or identifying characteristics without my consent.
and
I understand that no information I have provided that could lead to the identification of any other individual will be disclosed in any reports on the project, or to any other party
and
I understand that data from the interview audio recording will be kept in secure storage and accessible to the research team. I also understand that the data will be destroyed after a 5-year period unless I consent to it being used in future research.
and
I understand I will remain anonymous at all times in any reports or publications from the project.

Participant's name: _____

Participant's email address: _____

Signature: _____

Date: _____

Appendix 6K: Questionnaire for Student Group

Code: _____ Date: _____

1. Gender (tick): Female_____ Male: _____

2. Age (In years): _____

3. Which country were you born in? _____

4. Are you a domestic or international student? _____

5. Do you identify as Aboriginal/Torres Strait Islander? _____

6. Which level of study are you currently doing?

Undergraduate___ honours ___ grad____ dip/cert____ postgraduate___

7. Which year of study are you enrolled in? (e.g. 1st, 2nd, 3rd and so on)
_____

8. What is your study load? Part-time____ full-time____

9. Have you been diagnosed with a psychological illness? Yes____ No_____

10a. If yes, who was it diagnosed by? (e.g. psychologist, psychiatrist)
_____

10b. What was the name of the psychological illness?
_____

11. What year (approximately) were you diagnosed? _____

12. Have you undergone treatment for this illness?

No____ Yes, please specify_____

Seeking Participants: The experience of psychological distress while on campus.

Rebecca Meaney is conducting a doctoral research project with Associate Profs Andrea Reupert & Penny Hasking, and Dr J. Sabura Allen at Monash University. Feedback obtained will be utilised to form guidelines for staff to assist students experiencing severe psychological symptoms within a university environment.

To participate: You must be a student 18 or older, and experienced psychological symptoms (e.g. self-harm, suicidal ideation, intoxication, aggression, violence) on campus (not within previous 3 months).

What it involves: Attending a 40-60 minute interview at Monash with Rebecca. You will be asked a series of questions about things such as what is helpful for others to do for you when you are experiencing distress. Some questions in the interview relate to behaviours such as self-harm and thoughts of suicide which may cause distress.

Benefits/compensation: participants go in a draw for a $50 iTunes vouchers

For more information about the study, contact Rebecca on
Rebecca.meaney.monash.edu (take a photo of poster)
or grab one of the tabs attached to this poster for contact details

Email: Rebecca.meaney@monash.edu
Email: Rebecca.meaney@monash.edu
Email: Rebecca.meaney@monash.edu
Email: Rebecca.meaney@monash.edu
Email: Rebecca.meaney@monash.edu
Email: Rebecca.meaney@monash.edu
Email: rebecca.meaney@monash.edu
Email: Rebecca.meaney@monash.edu
Email: Rebecca.meaney@monash.edu

Screening interview for Student Group

Preface:
Thank you for indicating an interest in participating in the research project: The experience of severe psychological symptoms within a tertiary environment.

I will need to ask you a few questions in order to be sure that you meet inclusion criteria for the project. I'm going to ask you about a/the time you had severe psychological symptoms while on campus. If at any time you feel distressed by these questions please let me know straight away, and I will stop and organize assistance in the form of a referral.

1. First of all, you've indicated that you experienced severe psychological symptoms on campus. Could you please tell me what types of thoughts or feelings you experienced during this event?

2. During this event, did you have any thoughts of wanting to harm yourself or end your life?

3. (If yes), Did you act upon these thoughts?

4. (If applicable), How long ago was this event?

OPTION 1: If less than 3 months, thank the student, explain that the event was too recent therefore there may be a risk of causing distress by attending an interview, and check if they are linked in with assistance. If no, provide contact details of the Monash University Counselling Service

OPTION 2: If over 3 months, and responses indicate severe psychological symptoms, ask student Question 5 & 6 AND if they are interested in organizing an interview time

5. Have you ever been diagnosed with a psychological disorder and/or attended treatment for psychological symptoms for example anxiety, depression or similar?

6. Were university staff involved in assisting you? (If required prompt a few examples such as security, academics and so on).

OPTION 3: If over 3 months, but responses do NOT indicate severe psychological symptoms, thank student, indicate they do not meet inclusion criteria. Ascertain the student's current wellbeing, provide Counselling service contact details if appropriate or required.

MONASH University

Monash University Human Research Ethics Committee (MUHREC)
Research Office

Human Ethics Certificate of Approval

This is to certify that the project below was considered by the Monash University Human Research Ethics Committee. The Committee was satisfied that the proposal meets the requirements of the *National Statement on Ethical Conduct in Human Research* and has granted approval.

Project Number:	**CF13/1104 - 2013000534**	
Project Title:	**The experience of severe psychological symptoms within a tertiary environment**	
Chief Investigator:	**Dr Penelope Hasking**	
Approved:	**From: 26 August 2013**	**To: 26 August 2018**

Terms of approval - *Failure to comply with the terms below is in breach of your approval and the Australian Code for the Responsible Conduct of Research.*

1. The Chief investigator is responsible for ensuring that permission letters are obtained, if relevant, and a copy forwarded to MUHREC before any data collection can occur at the specified organisation.
2. Approval is only valid whilst you hold a position at Monash University.
3. It is the responsibility of the Chief Investigator to ensure that all investigators are aware of the terms of approval and to ensure the project is conducted as approved by MUHREC.
4. You should notify MUHREC immediately of any serious or unexpected adverse effects on participants or unforeseen events affecting the ethical acceptability of the project.
5. The Explanatory Statement must be on Monash University letterhead and the Monash University complaints clause must include your project number.
6. **Amendments to the approved project (including changes in personnel):** Require the submission of a Request for Amendment form to MUHREC and must not begin without written approval from MUHREC. Substantial variations may require a new application.
7. **Future correspondence:** Please quote the project number and project title above in any further correspondence.
8. **Annual reports:** Continued approval of this project is dependent on the submission of an Annual Report. This is determined by the date of your letter of approval.
9. **Final report:** A Final Report should be provided at the conclusion of the project. MUHREC should be notified if the project is discontinued before the expected date of completion.
10. **Monitoring:** Projects may be subject to an audit or any other form of monitoring by MUHREC at any time.
11. **Retention and storage of data:** The Chief Investigator is responsible for the storage and retention of original data pertaining to a project for a minimum period of five years.

[redacted]

Professor Nip Thomson
Chair, MUHREC

cc: Dr Janice Sabura Allen, Mrs Rebecca Meaney-Tavares

Postal – Monash University, Vic 3800, Australia
Building 3E, Room 111, Clayton Campus, Wellington Road, Clayton
Telephone [redacted] Facsimile +61 3 9905 3831
Emai [redacted] http://www.monash.edu.au/researchoffice/human/
ABN 12 377 614 012 CRICOS Provider #00008C

.

Guidelines for Managing a Psychological Crisis on campus

Rebecca Meaney, Penelope Hasking & Andrea Reupert

August 2015

Contents

About these Guidelines

Who are the Guidelines For?

The following guidelines were developed for university staff. Section A represents information for all university staff, while Section B is specifically for university-based mental health professionals.

When should they be used?

The guidelines contain information that may be of use when a student is in psychological crisis. There is also general information about this event that may be useful as background, and recommendations for further reading.

How were the Guidelines developed?

The content of the guidelines represent a synthesis of feedback from university students and staff, relating to the experience of a crisis on campus, and the broader literature on attending to psychological crises.[1]

The Guidelines represent recommendations for university staff to manage a student when they have a psychological crisis on campus. The content aims to assist recognition, assessment, and management of select behaviours associated with a psychological crisis. As such, not all possible behaviours associated with a crisis are represented within the framework. The content is a guide only. Where applicable, professional judgment and/or peer consultation should be used in conjunction with any action undertaken.

Background to the Guidelines

Scope of psychological symptoms in Australian university students

An identifiable cohort of Australian tertiary students are experiencing clinically significant levels of psychological distress concurrent to undertaking study,[2] and the literature suggests that the number of students with mental illness is increasing over time.[3-5] The reasons for this are varied, however are often reported as relating to factors such as overall increases in the prevalence of psychological symptoms in the community, improved access to tertiary study, and stress related to balancing study with other commitments.[6,7] Data we collected from Australian university students in 2013,[8] indicates that over a week period, 7.8% of students reported extremely severe levels of distress, and 10.8% reported severe levels of distress. At any given time close to 20% of university students are experiencing psychological symptoms that fall within clinical ranges (Figure 1.)

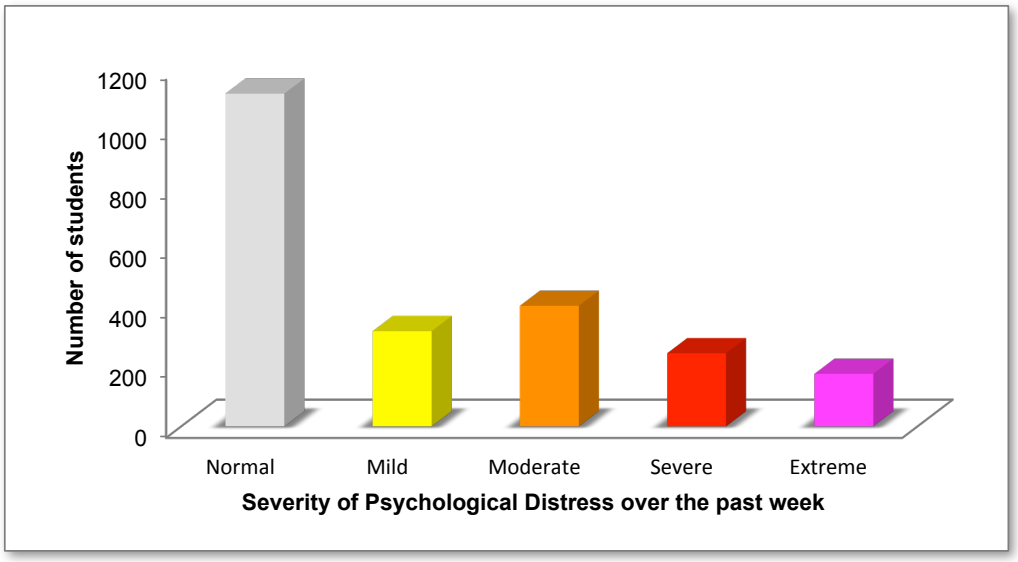


Figure 1. Psychological distress over a one-week period across 2259 students

While many students successfully engage in university study concurrent to experiencing psychological symptoms, a small percentage of students will experience episodes of peak symptom severity referred to as a *psychological crisis*.[9] This event may involve behaviours such as self-harm and/or suicide attempts; heightened emotional states such as severe distress, anger or hostility, or appearing depressed or withdrawn. Problematic behaviours may be relatively common in student populations. Our 2013

figures suggest in the previous week, 13.2% of students reported having an angry outburst or attacking others, 7.2% had engaged in self-harm, 4.5% had told others they were ending their life, while 1.2% had attempted suicide (Figure 2.). Given many students spend a considerable proportion of their time on campus, it is likely that students affected by severe psychological illness will come to the attention of university staff. It is also important to recognise that problematic or high-risk student behaviours can occur in the absence of a diagnosable mental illness.

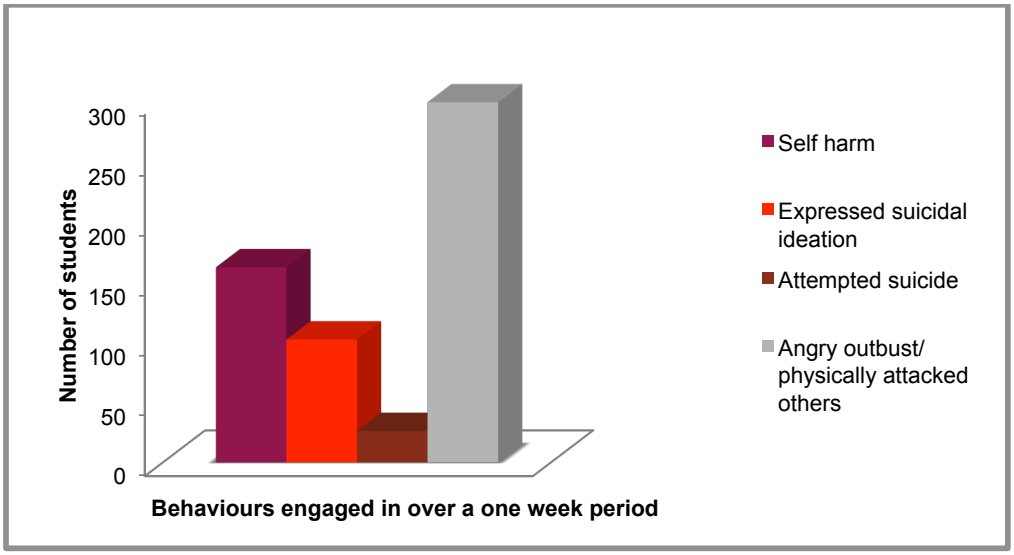


Figure 2. Problematic behaviours over a one-week period across 2259 students

Our research[1]: We conducted interviews with university-based mental health, and non-mental health, staff who had assisted students during a psychological crisis, and students who had experienced this event on campus.

Staff perspectives: Staff reported being highly motivated to assist psychologically unwell students, yet were hampered in undertaking this task by a lack of university-based and external mental health services, and were assisting unwell students primarily in the absence of guidelines or protocols. As university-based mental health resources retract, the task of assisting a student in crisis may fall upon a wider range of university staff. Assisting a student in crisis was shown to be an event that deleteriously impacted staff wellbeing both during and after the event, demonstrating the need for guidance for all university staff.

Student perspectives: Students indicated they approached staff predominantly to have someone to listen to them, as opposed to requiring any particular action, such as calling an ambulance or their parents, undertaken on their behalf. More often than not, students indicated they already had supports in place, and/or knew how to access supports potentially allowing staff to shift the focus of their action from referral to listening and providing reassurance. Despite this, people experiencing suicidal ideation may not have the capacity to adequately ascertain their own safety, rendering referral to mental health professionals or specialist services necessary. Subsequently, when staff refers, they should empathically communicate the reason for this action to the student as part of the referral process.

Guidelines structure

Given the aforementioned considerations, these Guidelines aim to assist staff in the recognition, assessment, and management of common behaviours associated with a psychological crisis when occurring on university campus. The document was developed based on consultation with university staff and students, and through review of existing guidelines with a similar purpose. The Guidelines are designed to provide a quick reference, not a detailed description of all possible assessment protocols or actions available. A range of non-university specific Guidelines are available to mental health staff that provide additional detail,[9-17] and similarly, more comprehensive psychoeducation resources are available to general staff who wish to obtain a detailed understanding of self-harm,[13,15] suicidal ideation and attempts,[10,11,15] hostile or aggressive behavior,[17] or mental health of Australian university students.[18]

There are two Sections in these Guidelines: Section A, for all university staff, and Section B, for university-based mental health staff. Section A provides brief psychoeducation, key characteristics, key considerations, structured guidance for staff in devising a response, and post-crisis management. Section B outlines a risk assessment process for qualified psychologists or other mental health professionals.

Key Priorities for implementation

Autonomy and Collaboration: Wherever possible, the student should be involved in decisions relative to any action undertaken. Make attempts to discuss any steps you are taking, why you are taking them, and explain the options available to the student for assistance and seek their feedback. Collaborative actions obtain better outcomes.

Some students may not be ready to seek help at the current time. If the student is not an immediate risk to themselves (e.g. imminent suicide, severe self-harm), or others, it may be more appropriate to give the person referral options (e.g. Counselling Service, Lifeline), rather than automatically taking them to a service on campus, or calling an ambulance.

Diversion from university-based mental health resources: University-based mental health services are, in many cases, understaffed. This may result in lengthy waiting times or absence of staff availability. Where possible, and safe or appropriate for staff to do so, attempt to ascertain if the student is at risk of harm. If there is an immediate and identifiable risk of harm to self (see Page 16), then staff should call an ambulance directly, and engage security to assist the ambulance locate the student.

Peer consultation and support: Organise a co-located staff member/s as back up for you should a student crisis occur. These events are difficult to manage alone. Many universities also have on-site services that may able to provide advice and assistance. For example, Monash University has an onsite behaviour management unit called "Safer Communities" that provides specialist guidance to staff during instances of student distress, or challenging behaviours. See page 30 for a list of suggested university contacts.

"Safe" or "Quiet" Room: Our research indicated that staff emphasized the importance of having a room, or designated private area, set aside expressly for students experiencing high levels of psychological distress, or to wait for an ambulance. Such rooms would enable greater safety, privacy and potentially containment for students during a crisis.

SECTION A:

ALL UNIVERSITY STAFF

A1. Recognising a psychological crisis

Characteristics that may be apparent for someone in crisis:

Risk-associated behaviours

- Self-harm: e.g. cut/s, burns, scratches, punctures, or other wounds
- Intoxication: May appear as under the influence of drugs or alcohol
- Aggression: Person may have a difficult, or hostile interpersonal style, alternatively, person may be openly aggressive or combative

Evidence of poor self-care

- Person may appear unkempt, have poor hygiene, or appears to have taken little care of physical appearance
- Person may appear tired, unwell, report having little sleep or energy
- Person may mention changes to diet or lifestyle, e.g. lack of appetite or increased appetite, not engaging in activities such as exercise or social outings

Symptoms of poor psychological health

- May appear withdrawn, sad, lack motivation, or interest. May also be unwilling to talk or interact.
- High levels of anxiety-related behavior: panic, shakiness, shallow breathing, , agitation or aggression, pressured or fast speech
- May seem confused, disoriented, paranoid or unreasonable
- May report having few or no social supports, interpersonal conflict, feeling isolated or abandoned by others
- May report academic difficulties such as failure to meet deadlines, uncharacteristic academic failure or misconduct, inability to concentrate

A.2 Managing a Psychological Crisis

Note: Self harm, suicidal ideation and attempts or aggression may occur in isolation or in combination, either in the context, or absence, of a mental health condition.

In the following sections, each behavior and a range of actions have been described separately. Should they co-occur, then the behavior chosen for intervention should be the one that poses the greatest risk to the student and/or the staff member.

A.3 Self-harm

Key recognition points

Evidence or reports of having engaged in behaviours including:

- Cutting the skin with sharp objects
- Burning the skin
- Hitting the body with fists or another object
- Punching walls or other objects
- Scratching or picking the skin, resulting in bleeding or welts

Key considerations:

People self-harm for various reasons. It cannot be assumed that an episode of self-harm is attributable to the same motivation across people, or even for the same person at different times. Due to the stigma associated with the behavior it is important to adopt a non-judgmental, and supportive demeanor.

Self-harm is primarily used a coping strategy. Employing punitive or prohibitive strategies may escalate the person's distress due to perceived inaccessibility to a predominating coping strategy. Students consulted for the purpose of these guidelines indicated they sought staff for the purpose of "being heard". It may be that empathic listening by staff is all that is required in some help-seeking episodes.

Questions to ask:

Note: If necessary, take the person to a more private place. Our work revealed that students primarily approach staff to have someone to talk to. By commencing with empathic listening, students may feel more engaged and supported, allowing staff to ascertain the presence of existing supports, or to suggest that the student may benefit from seeking professional assistance.

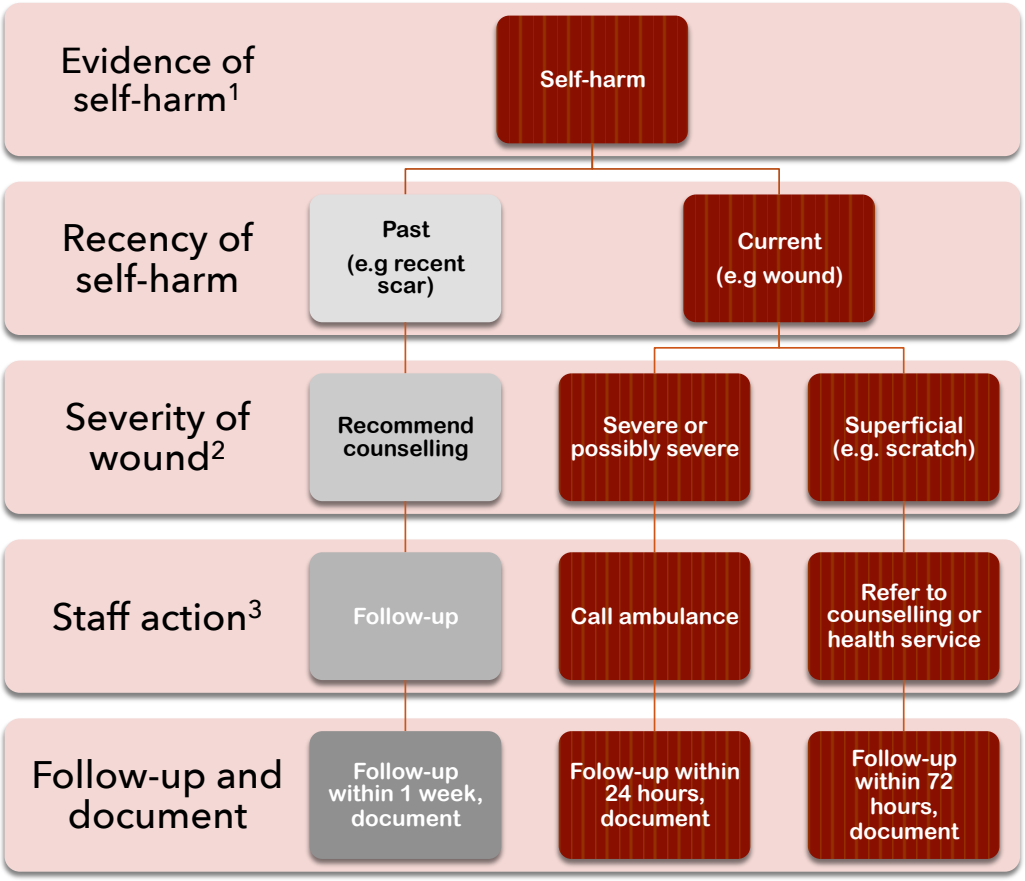
1. I understand that self-harm can be a coping strategy, is there anything happening at the moment that is causing you distress?
2. Is there anything specific you have done in the past that has helped you reduce the urge to self-harm that I could help you do now?
3. Have you sought help in the past for self-harm? (If yes) Would you like to contact this person together?
4. (If no contacts exist, or student deemed them ineffective): Can I offer you some options that may help, or would you prefer just to talk to me about what is happening for you?
5. (If self-harm may require medical assistance, but ambulance not required): It looks like the injury may need medical attention to help the wound heal. Can we organize this together?

Possible Forms of Assistance (see next page also):

Note: In our work, students indicated they were familiar with the severity of their own self-harm and whether it required medical assistance. Ask the student if medical help is needed first.

1. If self-harm appears serious/severe or you are not sure, have the student medically assessed.
2. If self-harm is minor and does not require medical intervention: Referral to campus mental health service for external referral

Possible Forms of Assistance:



Note:

1. Evidence of self-harm: May represent a clearly visible, or reported, wound or damage to skin (e.g. burn, cut bruise).

2. Also consult with the student. People who self-harm often do so more than once, and are thus may be familiar with whether a similar would has required medical attention in the past

3. If the wound appears severe (e.g bleeding profusely, deep cut, or infection), then medical assistance should be organised for the student, and the reason for this clearly communicated (i.e. wound needs medical evaluation)

A.4 Suicidal Ideation and attempts

Key recognition points:

One of the most effective ways to assess if someone is at risk of suicide is to ask them if they are thinking of ending their life.

Key considerations

- Suicidal ideation or attempts can occur in the context of depression, anxiety and numerous other psychological disorders, or in the absence of a disorder entirely
- The person may be withdrawn, seem content, be highly distressed, angry, anxious or a combination of these characteristics
- Previous attempts, access to means of ending their life, isolation, and having a plan are all associated with greater probability of making an attempt, and several of these factors together exponentially increase this risk
- Where possible attempt to remain calm and provide reassurance, empathic support, and promote hope for the future

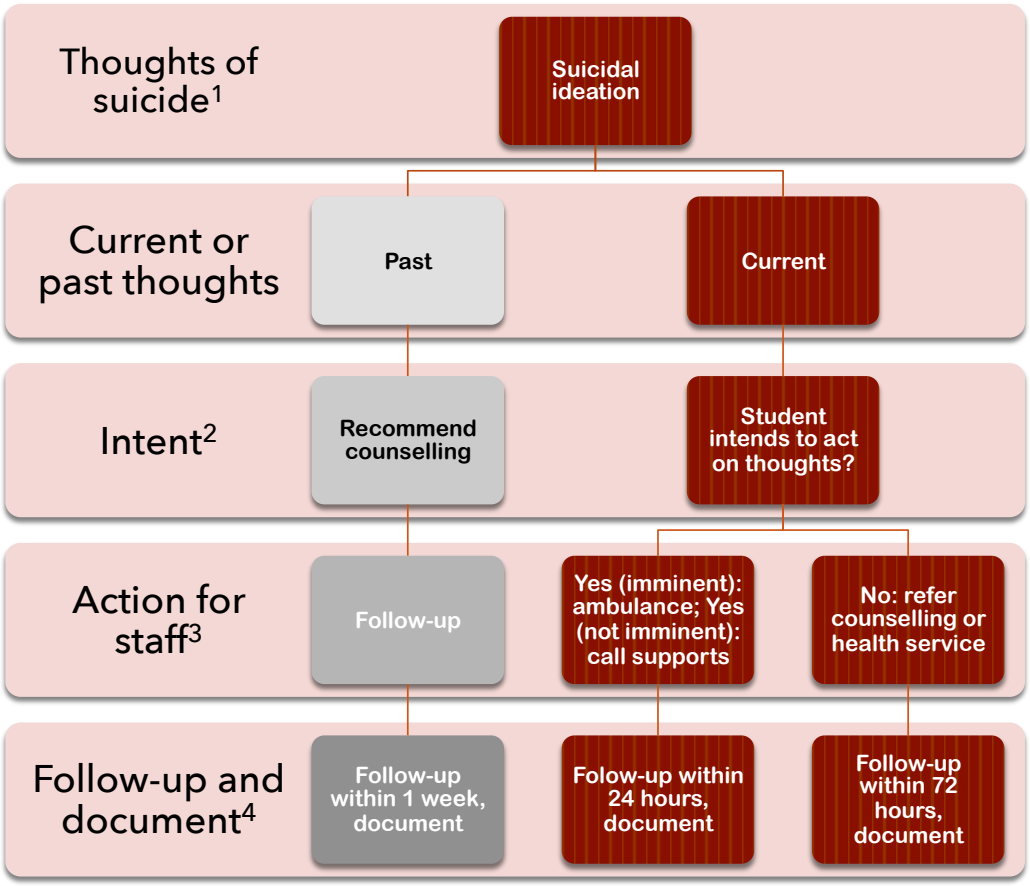
Questions to ask (Suicidal Ideation Checklist):

Questions	**Select and note detail**		
	Yes	**No**	**Detail**
Current suicidal thoughts			
1. Have things been so bad for you that you are considering ending your life at the moment?[1,2,3]			
2. (If yes), How often are you having these thoughts?			
3. Do you intend to act upon these thoughts?[1]			
4. (If yes), When?			
Supports			
5. Do you have any professional supports in place that are helpful for you? (e.g. counselling service, GP, psychologist, psychiatrist)[2]			

NOTE (Also see next section: Possible forms of assistance)

1. If items 1 and 3 endorsed YES, staff should call an ambulance, inform security, and escort the student to the Quiet or Safe room and wait for ambulance to arrive.
2. If item 1 only endorsed YES, ascertain whether student has existing supports.
   If YES, link in with existing support,
   If NO, facilitate referral to a mental health professional.
3. If Item 1 is endorsed NO, provide empathic listening OR refer the student to a colleague with Mental Health First Aid training, or in student advisory role, to provide this to student.

Possible Forms of Assistance (Suicide Intervention Flowchart):



Note:

1. From question (page 16): Have things been so bad for you that you are considering ending your life at the moment?
2. Does the student intend to carry out a suicide plan, and when? Imminent refers to plan to be carried out as soon as possible, not imminent refers to a vague timeline (e.g. sometime in the future)
3. May need to contact supports, or counselling if no adequate supports in place
4. May need to be documented as an incident report as per university requirements (e.g. OH&S or department).

A.5 Aggressive behaviour

Key recognition points:

Aggression or hostility occurs on a continuum of severity. It can include verbal outbursts, throwing objects, making threats and physical intimidation. Aggression can also be subtle, if you feel uncomfortable or threatened, be aware of this and prepare to act.

Key considerations

Your safety is paramount. Do not attempt to de-escalate a situation where there is a threat of being hurt. If in doubt, do not attempt to handle the situation by yourself, or detain the student. Try to note as much information about physical appearance as possible (e.g. clothes, height, build) in case you need to assist authorities later.

In many cases, aggression is due to the person's anxiety. If safe to attempt de-escalation, enact this by helping the person feel less threatened, or fearful by asking them what it is that they need you to do to help them. Alternatively, ask them if they want to go outside for a walk, and that you will be close enough to provide assistance while giving them space.

As a safeguard, when dealing with a student who either is displaying or has a history of aggressive behavior, ensure you both have clear access to exits if inside a building or office.

Possible Forms of Assistance (See also Aggressive Behaviour Flowchart page 20):

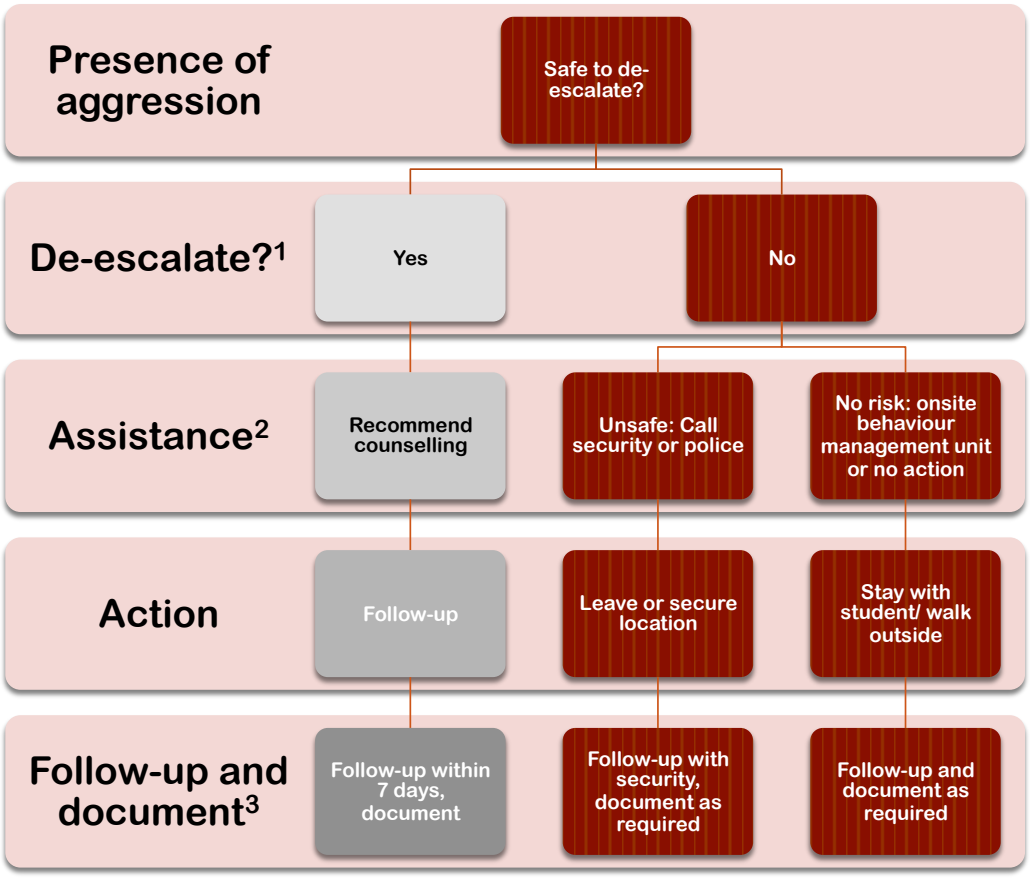
1. If there is an identifiable threat to your safety, leave the location, immediately inform colleagues, and call security
2. If you are safe, you may attempt to de-escalate by asking the student what you can do to help them. Inform colleagues, and call behaviour management unit (such as Safer Communities) or Security if de-escalation is unsuccessful and aggression continues
3. If the aggression is self-directed (e.g. hitting self, banging own head against wall), and student persists or is at risk of serious injury, call an ambulance, security, then inform colleagues
4. If the student wants to leave, do not attempt to detain the student. Note identifying characteristics if the student is unknown to you. Call police or on site authorities if there is risk of harm to self or others by the student, and describe identifying characteristics
5. University staff should never attempt to handle a violent student alone.

Questions to ask if safe:

1. Is there anything I can do to help you?
2. Would you prefer we went outside for a walk while talking?

Note: If necessary, take the person to a more private place or Safe/Quiet room

Aggressive Behaviour Flowchart



Note:

1. Can the student be calmed, by ascertaining what they need to feel less distressed/angry?

2. Where there is no risk, staff should use their discretion as to whether specialist involvement is required. Students may deescalate given the space and time to do so. If staff deem they require specialist back up, many universities have a problematic behaviour management unit onsite (e.g. Monash: Safer Communities) who specialise in assisting staff deal with aggressive behaviours within the university community.

3. Aggressive behaviour on-campus contravenes OH&S regulations and in many cases university policy. Staff may be required to complete an incident report.

A.6 Post Crisis Management

Debriefing

Debriefing is an essential post-crisis step that may prevent or assist with a staff member's own emotional reactions following assisting a student during a crisis event.

Debriefing involves talking to another party who can assist you to talk through the incident and ascertain your own wellbeing. It should be enacted as soon as possible after the incident has been resolved.

Options

1. A colleague, manager, or supervisor
2. Employee Assistance Provider – each university normally has an EAP telephone line that provides after or during hours counseling
3. Friend or family member
4. Your GP
5. University Health Service or Counselling Service

Follow-up

Follow-up is essential to ascertain the wellbeing of the student and check if referrals have been taken up, or if circumstances have changed that would necessitate a new referral.

1. All follow-ups should be documented, either in clinical notes, notations in your calendar, or as an OH&S incident report if applicable (see university policy).

2. Depending on the circumstances (e.g. whether student has been referred out, or it is inappropriate for staff member to undertake this task), follow-up should be enacted promptly and in some cases regularly. This process may involve either contacting the student directly, or in some circumstances the party the student was referred to.

3. Unsuccessful attempts at follow-up may indicate a problem. In these circumstances a welfare check may be warranted. This can be enacted through university-specific units (e.g. Safer Communities), or the police.

4. For incidents involving the student posing a risk to their own safety, follow-up should occur within 24 hour intervals unless care has been discharged to a mental health professional (internal or external), or the risk of harm to self reduces (i.e. no imminent risk of suicide).

5. Where the student has posed a risk to other people (staff and students) in addition to themselves, it is more appropriate to follow-up through a referral organization (e.g. Safer Communities) than with the student directly.

Self-Care

Following having assisted a student during a crisis it is essential that you focus on your own wellbeing as well. S

- Sometimes it is difficult to be aware of how well you are taking care of yourself. Self-report measures such as the Self-care assessment worksheet may be useful for self-monitoring: https://www.ecu.edu/cs-dhs/rehb/upload/Wellness_Assessment.pdf
- There is a considerable body of literature suggesting that university staff, and particularly those who provide psychological assistance to students may be particularly at risk of burnout due to occupational stress.
- Most universities offer Employee Assistance programs (telephone or face to face counseling), or you can obtain a Better Access referral to a psychologist through the university, or your own general practitioner.

There are numerous resources on self-care, however the following represent some useful overviews:

1. Andreula, T. (n.d.). Burnout in mental health professionals. http://pro.psychcentral.com/burnout-in-mental-health-professionals/00771.html#

2. Mathieu, F. (2007). Top 12 Self-care tips for helpers. http://www.compassionfatigue.org/pages/Top12SelfCareTips.pdf

3. Tripod (2015). Mindfulness, self-care and resilience.

A.7 Contact Numbers

Alcohol & Drug VIC	1800 888 236
Behaviour Management Unit	_____
Beyond Blue (24 hours/7 days)	1300 224 636
Counselling Service	_____
Domestic violence (24 hours/7 days)	1800 800 098
Employee Assistance Program	_____
Health (Medical) Service	_____
Kids Helpline (24 hours/7days)	1800 551 800
Lifeline (24 hours/7 day	13 11 14
Mensline	1300 789 978
Poisons Information Centre	_____
Pregnancy counselling	1300 737 732
Psychiatric Triage	_____
Security	_____
Sexual Assault	1800 737 732
Student Rights	_____

SECTION B:

UNIVERSITY- BASED MENTAL HEALTH STAFF

Note:

1. Mental Health Staff may also refer to Section A for further detail.

2. Section B contains suicide risk assessment procedures that require qualifications in mental health

B.1 Suicidal Ideation and attempts

Key considerations

- Suicidal ideation or attempts can occur in the context of depression, anxiety and numerous other psychological disorders
- Risk assessment is not an exact science, there is no rubric that can accurately determine whether someone will die by suicide or not
- The person may be withdrawn, seem content, be highly distressed, angry, anxious or a combination of these characteristics
- Previous attempts, access to means of ending their life, isolation, and having a plan are all associated with greater probability of making an attempt, and several of these factors together exponentially increase this risk
- Where possible attempt to remain calm and provide reassurance, empathic support, and promote hope for the future

Mental Health Staff: Risk assessment checklist

Questions	Select and note detail		
	Yes	No	Detail
Section 1. Previous history			
1. Have you considered ending your life in the past?			
Section 2. Current suicidal thoughts			
2. Are you thinking of ending your life at the moment?[1]			
3. (If yes), How often are you having these thoughts?			
4. Do you intent to act upon these thoughts?[1]			
5. (If yes), When?			
Section 3. Plan			
6. Have you made a plan to end your life?[2]			
7. (If yes), do you have access? (i.e. lethal means)[2]			
8. Have you made any preparations for ending your life (e.g. giving away possessions, writing note)[2]			
9. (If no) Do you intend to make preparations for ending your life (e.g. preparatory behaviours)[2]			
Section 3. Protective factors			
10. Is there anything/anyone that is preventing you from acting on your thoughts?			
11. Is there anyone who you rely on for support?			
12. When you think of your future, do you have any hope that things will get better?Do you have any hope for your future?			

[2]NOTE FOR MENTAL HEALTH PROFESSIONALS:

1. Where Items 2 and 4 endorsed, assign at risk status

2. Where item 6, 8 and/or 9 endorsed, assign higher level of risk (page 24)

Mental health staff: Suicide risk classification table[1]

Risk level	*Characterised by*	*Suggested response*
Non existent	• No identifiable suicidal thoughts, plans or intent	1. Monitor if required (e.g. student has psychological condition or environmental risk factors that could suggest change)
Mild / low	• Suicidal thoughts of limited frequency, intensity and duration • No plans or intent • Mild dysphoria • No prior attempts • Good self-control (subjective or objective) • Few risk factors, Identifiable protective factors	1. Review within session if applicable (not referred out) 2. Identify potential supports if not in place (e.g. specialist services) and provide contact details. 3. Provide client with a Safety Plan[2] to manage escalation of ideation
Moderate	• Frequent suicidal thoughts, limited intensity and duration • Some plans - no intent; **or** some intent, no plans • Limited dysphoria • Some risk factors present, but also some protective factors	1. Organise external referral or gateway to external mental health service assessment (e.g. psychiatrist, Better Access, specialist service) 2. Provide client with a Safety Plan to manage escalation of ideation 3. Review daily until external referral take-up/ handover
Severe / high	• Frequent, intense and enduring suicidal thoughts • Specific plans, some intent • Method is available / accessible, some limited • Preparatory behaviour • Evidence of impaired self-control • Severe dysphoria • Multiple risk factors present, few (if any) protective factors • Previous attempts	If risk is high and the client has an immediate intention to act: 1. Call ambulance then security 2. Relocate client to quiet or safe room 3. Wait with client, and if required client may benefit from speaking to suicide specialist helpline if mental health staff are undertaking activities that require leaving the client for brief periods. 4. Consult with colleague and obtain a back up while waiting for ambulance. 5. Follow-up within 24 hours to ensure client was referred for assistance NOTE: If client has immediate intention AND is non-compliant call security or police in addition to ambulance
Extreme / very high	• Frequent, intense, enduring suicidal thoughts • Clear intent • Specific / well thought out plans • Access / available method • Denies social support and sees no hope for future, impaired self-control, severe dysphoria • Previous attempts • Many risk factors, and no protective factors	

Note:

1. See Appendix Adapted from Further Reading resource item 20.
2. Safety plan template in Appendix (page 33)

Appendix 1: Safety Plan Template

My Safety Plan	
My early warning signs (of a crisis): e.g. thoughts, physical sensations, feelings, events that have been a trigger in the past	
Activities or thoughts[1] that I have found helped me in the past when I notice early warning signs: e.g. relaxation, distraction, exercise	
People or places that have helped me distract myself when I've noticed early warning signs in the past: e.g. movies, friend, relative	
Name:	**Phone:**
Name:	**Phone:**
Place:	
Place:	
People I can approach for help when I notice my early warning signs (e.g. friends, family)	
Name:	**Phone:**
Name:	**Phone:**
Name:	**Phone:**
Professionals or agencies I can contact when nothing has helped	
Name:	**Phone:**
Name:	**Phone:**
Name:	**Phone:**
How I stay safe until help arrives/ I am able to get to my help	
Strategy 1:	
Strategy 2:	

Note: 1. Thoughts may represent challenging cognitive distortions; 2. May involve calling and staying on phone with helpline, removing physical presence from means to suicide.

Further Reading

1. *Meaney, R., Hasking, P., & Reupert, A. (under review). The experience of a student psychological crisis on campus: Perspectives of students and college staff who have provided assistance. (Contact authors for copy).

2. *Stallman, H. M. (2012). University counselling services in Australia and New Zealand: Activities, changes, and challenges. *Australian Psychologist, 47*(4), 249-253. doi: 10.1111/j.1742-9544.2011.00023.x

3. *Stallman, H.M. (2008). Prevalence of psychological distress in university students-Implications for service delivery. *Australian Family Physician*, *37*, 673-87. doi:10.1080/07294360.2012.655241

4. *Hahn, W. K. (2009). Ingenuity and uneasiness about group psychotherapy in university counseling centers. *International Journal of Group Psychotherapy*, *59*(4), 543-552. doi: 10.1521/ijgp.2009.59.4.543

5. *Penven, J.C., & Janosik S.M. (2012). Threat assessment teams: A model for coordinating the institutional response and reducing legal liability when college students threaten suicide. *Journal of Student Affairs Research and Practice*, *49*(3), 248-358. doi:10.1515/jsarp-2012-6339

6. *Watkins, D. C., Hunt, J. B., & Eisenberg, D. (2012). Increased demand for mental health services on college campuses: Perspectives from administrators. *Qualitative Social Work, 11*(3), 319-337. doi: 10.1177/1473325011401468

7. *Reavley, N., & Jorm, A. F. (2010). Prevention and early intervention to improve mental health in higher education students: a review. *Early Intervention in Psychiatry, 4*(2), 132-142. doi: 10.1111/j.1751-7893.2010.00167.x

8. *Meaney, R., Hasking, P., & Reupert, A. (Unpublished). Borderline Personality Disorder in College Students: The complex interplay between Alexithymia, Emotional Dysregulation and Rumination.

9. National Alliance on Mental Illness (2010). *Mental Health Crisis Planning*. Retrieved

from www.namihelps.org/**Crisis**-Booklet-Adults.pdf

10. Mental Health, Drugs & Regions branch, Victorian Government Department of Health. (2010). Working with the Suicidal person. Retrieved from www.health.vic.gov.au/.../**suicide**/**suicidal**-person-book2010.pdf

11. International Association for Suicide Prevention. (2014). IASP Guidelines for Suicide Prevention. Retrieved from http://www.iasp.info/suicide_guidelines.php

12. Royal Australian and New Zealand College of Psychiatrists. (2003). *Australian and New Zealand Clinical Practice Guidelines for the Management of Self-harm in Adults.* Australian and New Zealand Journal of Psychiatry, 38, 864-884. Retrieved from https://www.ranzcp.org/Files/.../CPG_Clinician_Full_DSH-pdf.aspx

13. National Institute of Clinical Excellence. (2014). *Self-harm overview.* Retrieved from http://pathways.nice.org.uk/pathways/self-harm?fno=1

14. National Institute of Clinical Excellence. (2014) *Violence overview.* Retrieved from http://pathways.nice.org.uk/pathways/violence?fno=1#

15. Headspace. (2014). *Self-harm.* Retrieved from http://www.headspace.org.au/is-it-just-me/find-information/self-harm

16. Beyond Blue. (2014). *Suicide Prevention.* Retrieved from http://www.beyondblue.org.au/the-facts/suicide-prevention

17. Queensland Health. (2014). Caring for a Person who is Aggressive or Violent. Retrieved from www.health.qld.gov.au/**mental**health/docs/aggressive.pdf

18. Australian Medical Students Association. (2013). Australian University Student Mental health: A snapshot. Retrieved from www.amsa.org.au/.../AMSA-SMHW-**University**-**Student**-**Mental**-**Health**-summary-Report-1.pdf.

19. Martin, G., Hasking, P., Swannell, S., Lee, M. & McAllister, M., (2011). Seeking solutions to self-injury: A guide for school staff. Centre for Suicide Prevention Studies, The University of Queensland, Brisbane. Retrieved from http://www.suicidepreventionstudies.org/uploads/Seeking%20solutions%20for%20scho

ol%20staff.pdf

20. Mills, K., Deady, M., Proudfoot, H., Sannibale, C., Teesson, M., Mattick, R., Burns, L. (2009). Guidelines on the management of co-occurring mental health conditions in alcohol and other drug (AOD) treatment settings. National Drug and Alcohol Research Centre, University of New South Wales, Sydney. https://ndarc.med.unsw.edu.au/project/guidelines-management-co-occurring-alcohol-and-other-drug-and-mental-health-conditions

* Staff may access these resources through the university library, or for those by the authors, by contacting the authors on rebeccaimeaney@gmail.com