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### **Dialectical Behaviour Therapy for Borderline Personality Disorder in the Community**

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**Prifysgol Bangor  
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**Dialectical Behaviour Therapy for  
Borderline Personality Disorder in the Community**

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Thesis submitted to the School of Psychology, Bangor University, in fulfilment for the degree  
of Doctor of Philosophy

October 2017

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## Table of Contents

<b>Declarations</b>	<b>ii</b>
<b>Acknowledgements</b>	<b>v</b>
<b>Table of contents</b>	<b>vi</b>
<b>List of Tables</b>	<b>ix</b>
<b>List of Figures</b>	<b>xii</b>
<b>Summary.....</b>	<b>1</b>
<b>1: Introduction.....</b>	<b>3</b>
1.1    Classifying borderline personality disorder: A controversial matter..	4
1.2    Epidemiology and prognosis of BPD: Still a bleak portrait.....	6
1.3    Biosocial model of BPD: Promising, but incomplete?.....	7
1.4    Dialectical behaviour therapy: A synthesis of change and acceptance	9
1.5    Stages, targets, functions, and modes: The shape of DBT.....	12
1.6    Effectiveness of DBT: Trials and community studies.....	14
1.7    Improving outcomes, reducing attrition, and rationalising treatment	18
1.8    Aims of this project: A series of studies on DBT in the community	19
1.9    A note on context: Locating the project in a research framework.....	23
<b>2: Dialectical behaviour therapy (DBT) for young adults:</b>	
<b>Evaluation of 22 weeks of community delivered DBT for females 18 – 25 years...</b>	<b>26</b>
Abstract.....	27
2.1    Introduction.....	28
2.2    Method.....	31
2.3    Results.....	36
2.4    Discussion.....	38

<b>3: Outcomes for 18-25 year olds with a diagnosis of borderline personality disorder who received DBT in a young adult only DBT programme compared to a general adult DBT programme.....</b>	<b>40</b>
Abstract.....	41
3.1 Introduction.....	42
3.2 Method.....	45
3.3 Results.....	54
3.4 Discussion.....	58
<b>4: Outcomes for six months of standalone DBT group skills training compared to standard DBT for adults with a diagnosis of borderline personality disorder: A community-based study.....</b>	<b>61</b>
Abstract.....	62
4.1 Introduction.....	63
4.2 Method.....	66
4.3 Results.....	80
4.4 Discussion.....	84
<b>5: Patient variables at baseline as predictors of outcomes of dialectical behaviour therapy for adults with a diagnosis of borderline personality disorder.....</b>	<b>90</b>
Abstract.....	91
4.1 Introduction.....	92
4.2 Method.....	96
4.3 Results.....	105
4.4 Discussion.....	114
<b>6: General Discussion.....</b>	<b>118</b>
6.1 Overview and implications.....	119



6.2	Strengths and limitations.....	123
6.3	Reflections on findings and future work.....	128
6.4	Concluding remarks.....	133
	<b>References.....</b>	<b>134</b>
	<b>Appendices.....</b>	<b>177</b>
	A: Sample consent materials.....	178
	B: Sample research ethics application.....	187
	C: Copies of research ethics approvals.....	198
	D: Copy of DBT Checklist for Clinicians.....	204

## List of Tables

### Chapter 2

Table 2.1	Wilcoxon signed-rank analyses of the BSL23, SCL-90-R, and DBT:WCCL median scores among completers of 22 weeks of DBT for young adults (n = 11).....	37
-----------	---	----

### Chapter 3

Table 3.1	Demographic and diagnostic characteristics of participants. Data are given as a percentage (number) unless otherwise specified.....	47
-----------	---	----

Table 3.2	Series of one way between-groups analyses of covariance comparing post-treatment scores on several measures among completers of a young adult DBT programme (n = 19) and similar aged young adults completers of a general adult DBT programme (n = 11) after adjusting for baseline scores and prior hospitalisation as covariates. Partial eta squared ( $\eta_p^2$ ) is used as a measure of effect size.....	57
-----------	--	----

### Chapter 4

Table 4.1	Studies reporting outcomes for standalone dialectical behaviour therapy (DBT) group skills training for borderline personality disorder (BPD) or deliberate-self harm.....	65
-----------	--	----

Table 4.2	Demographic and clinical characteristics of all participants by treatment condition. Data are given as a percentage (number) unless otherwise specified.....	70
-----------	--	----

Table 4.3	Series of one way between-group analyses of covariance on measures comparing post-treatment scores on several measures among completers of six months of standalone DBT group skills training (n = 21) and standard DBT (n = 45) <sup>a</sup> after adjusting for baseline scores and treatment team as covariates. Partial eta squared ( $\eta_p^2$ ) is used as a measure of effect size.....	81
 <u>Chapter 5</u>		
Table 5.1	Bivariate associations between baseline patient variables and change (baseline minus post-treatment) scores or presence of recovery (i.e. clinically significant change) on borderline symptom severity (BSL23) and general psychopathology (SCL-90-R: GSI).	109
Table 5.2	Baseline patient variables predicting change on borderline symptom severity (baseline minus post-treatment BSL23 scores) among completers of one year of standard DBT for BPD (n = 73) after controlling for the impact of DBT programme type, DBT team, and baseline BSL23 scores.....	110
Table 5.3	Baseline variables predicting recovery (i.e. clinically significant change) on borderline symptom severity (BSL23) for completers of one year of standard DBT for BPD (n = 73) after controlling for the influence of DBT programme type, DBT team, and baseline BSL23 scores.....	111

Table 5.4	Baseline variables predicting recovery (i.e. clinically significant change) on borderline symptom severity (BSL23) for completers of one year of standard DBT for BPD (n = 73) after controlling for the influence of DBT programme type, DBT team, and baseline BSL23 scores.....	112
Table 5.5	<i>Baseline variables predicting recovery (i.e. clinically significant change) on general psychopathology (SCL-90-R: GSI) for completers of one year of standard DBT for BPD (n = 73) after controlling for the influence of DBT programme type, DBT team, and baseline SCL-90-R: GSI scores.....</i>	113

## List of Figures

### Chapter 1

- Figure 1.1 Summary of participant recruitment to clinical programmes and allocation of participant data to the studies reported in Chapters 3 to 5... 23

### Chapter 3

- Figure 3.1 Classification of individual change on measures among one year completers using Jacobson and Truax's (1991) reliable change procedure by treatment condition, young adult only DBT programme (n = 19) and young adults in general adult DBT (n = 11)..... 57

### Chapter 4

- Figure 4.1 Classification of individual change on measures among six month completers using Jacobson and Truax's (1991) reliable change procedure by treatment condition, standalone DBT group skills training (n = 21) and standard DBT (n = 45)..... 83

## Summary

BPD is a severe and chronic psychological disorder associated with high rates of completed suicide and enduring disability. Standard DBT is an evidence-based, multi-modal psychotherapy for BPD which includes individual psychotherapy, group skills training, between-session coaching, and therapist consultation. DBT is effective for reducing many difficulties associated with BPD and can also transfer successfully into the community, yet important practice-relevant questions remain. The work in this dissertation involves four separate studies relating to ways DBT can be delivered in the community and exploring who is likely to respond to DBT. The studies draw on treatment outcome data from a total of 140 patients with a diagnosis of BPD collected over several years by community-based DBT teams involved in a multi-site, practice-based research network (PBRN). In Chapter 2, encouraging outcomes are reported from a small evaluation of standard DBT delivered to a cohort of 18-25 year olds with a diagnosis of BPD in a new young adult only DBT programme. Chapter 3 describes an expanded investigation of this young adult only DBT programme, mainstreamed as an early intervention initiative for 18-25 year olds presenting to community services with a diagnosis of BPD. Better outcomes are reported for the young adult programme compared to similar aged young adults in general adult DBT, suggesting advantages for this age-specific mode of delivery, possibly due to group cohesion. In Chapter 4, largely similar outcomes at six months are found for a rationalised, standalone group skills training adaptation of DBT when compared to standard (i.e. all modes) DBT, with some unexpected advantages for standalone group skills on hopelessness and difficulties in emotion regulation. Treatment conditions are not equivalent due to non-random allocation and the exclusion of higher risk patients from standalone skills, but findings offer support for the usefulness of standalone skills among lower-risk patients with a diagnosis of BPD who are willing to accept a group-only intervention when delivered by experienced DBT

therapists. In Chapter 5, patient variables are investigated as predictors of outcome following one year of standard DBT for BPD. Gender, employment status, post-traumatic stress disorder (PTSD), and baseline suicide ideation are reported to be associated with change or recovery on borderline symptom severity and general psychopathology. Overall limitations of the dissertation, such as measurement problems, failure to formally assess treatment fidelity, and the inclusion of only completers in the analysis, are discussed in Chapter 6. In addition, several areas for future research are identified: the benefits of PBRNs, group cohesion as a factor in outcomes for DBT, and further study of young adult DBT under randomised trial conditions with longer term and wider follow-up.

# **Chapter 1**

## **Introduction**



## 1.1 Classifying borderline personality disorder: A controversial matter

The term borderline personality was first used by Stern (1938) and was popularised as borderline personality disorder (BPD) more than thirty years later (Grinker, Werble, & Dyre, 1968; Gunderson & Singer, 1975; Kernberg, 1970, 1976). The idiom ‘borderline’ originated from a psychoanalytically-informed conceptualisation of an enduring pathology occupying the edge between neurosis and psychosis, which has little relationship to the contemporary understanding of the clinical presentation of the disorder (Paris, 2008). Pervasive emotional instability, impulsivity, unstable relationships, and cognitive disturbance, including transient psychotic states and disassociation, are all difficulties commonly encountered with BPD, all of which are shared with a range of other mental health disorders (Arntz, 2015; Mneimne, Fleeson, Arnold, & Furr, 2017; Widiger & Lowe, 2010).

Gunderson & Singer (1975) created the first behaviourally specific criteria for BPD, which led to their eventual inclusion in the third edition of the American Psychiatric Association’s *Diagnostic and Statistical Manual of Mental Disorders* (DSM-III; American Psychiatric Association, 1980). Similar to previous iterations, the most recent edition of the manual, DSM-V (APA, 2013), continues to describe a polythetic classification system for BPD. It identified nine possible criteria for the disorder, any five or more of which must be satisfied. These cover fear of abandonment, unstable relationships, impaired identity, impulsivity, suicidal or self-harming threats and actions, emotional instability, feelings of emptiness, anger outbursts, and paranoid or dissociative states. Alternative classification systems describe closely overlapping psychopathology to BPD in DSM-5, most notably the category of borderline subtype of emotionally unstable personality disorder (EUPD) in the tenth edition of the World Health Organisation’s *International Classification of Diseases* tenth edition (ICD-10; WHO, 1992; Lai, Leung, You, & Cheung, 2012; Sellbom, Sansone, Songer, & Anderson, 2014).

Criticism has been levelled against the validity of the whole categorical approach to classifying personality disorder adopted by the DSM (Kirk, Cohen, & Gomory, 2015). Research has frequently not supported the categorical classification system (Livesley, 2011; Pull, 2014). Of particular concern has been the absence of any core diagnostic feature of BPD coupled with poor demarcation from other disorders which can result in unwieldy heterogeneity among those meeting criteria for BPD based on the various combinations of symptoms that can apply (Biskin & Paris, 2012). Paris (2008) and Zanarini (2005) have argued for a more stringent domain approach to classification of borderline personality disorder which identifies core features of BPD. This would require the presence of difficulties of sufficient severity in all of four major areas of the disorder: affective instability, unstable relationships, cognitive impairments, and impulsivity. Trait psychologists have also argued for a dimensional approach to conceptualising borderline personality disorder, most commonly with reference to the five factor model of personality (Trull & Widiger, 2013). The DSM-5 expanded on previous versions of the manual by including a dimensional system for informing a diagnosis of BPD and a number of other personality disorders (Regier, Kuhl, & Kupfer, 2013). However, the dimensional component is supplementary in nature and relegated to Section III of the manual which represents emerging diagnostic trends rather than standard practice (Rodríguez-Testal, Senín-Calderón, & Perona-Garcelán, 2014). Despite these objections and challenges, the existing polythetic categorisation system for BPD in DSM-5 remains the standard of the field (Biskin & Paris, 2012). Categorical diagnostic assessment of BPD is typically made by structured clinical interview, although instruments designed to assess for global severity and change on borderline symptoms have also been developed, including both clinician-rated and self-report measures (Bohus et al., 2007).

## **1.2 Epidemiology and prognosis of BPD: Still a bleak portrait**

BPD typically develops in adolescence (Gunderson & Links, 2008). There is some disagreement on the prevalence of BPD in the community with estimates ranging from 1% of the adult population (Coid, Yang, Tyrer, Roberts, & Ullrich, 2006; Gunderson, 2001; Lenzenweger, Lane, Loranger & Kessler, 2007) to 6% (Grant et al., 2008). Rates of deliberate self-injury can be as high as 80%, at least three in four people with BPD will have at least one lifetime suicide attempt, and 8% to 10% will complete a suicide, higher than most other major mental health disorders (Black, Blum, Pfohl, & Hale, 2004; Linehan, Rizvi, Welch, & Page, 2000). Severe functional impairment is common among people with BPD in multiple domains such as work, education, and relationships (Uestuen & Kennedy, 2009). The disorder is less stable than was once believed and the vast majority of patients with BPD show some remission in their symptoms over a 10-16 year period (Gunderson et al., 2011; Zanarini, Frankenburg, Reich, & Fitzmaurice, 2012). However, pronounced psychiatric symptoms remain, with a complex clinical trajectory ranging from depression, anxiety, substance disorders, and psychotic illnesses (Kjaer, Biskin, Vestergaard, Gustafsson, & Munk-Jorgensen, 2016). BPD shows a slow rate of improvement. Perry, Banon, and Ianni (1999) estimated an annual rate of recovery of only 3.7%. Where improvement occurs, it may be more likely with certain associated difficulties such as emotional instability and deliberate self-injury, while other symptoms including mood disturbance may be far more likely to persist (Zanarini et al., 2007). One in ten psychiatric outpatients, one in five psychiatric inpatients, and a considerable portion of emergency service users have been estimated to meet criteria for BPD, generating high treatment costs and making the disorder a clear public health concern (Ansell, Sanislow, McGlashan, & Grilo, 2007; Forman, Berk, Henriques, Brown, & Beck, 2004; Perroud et al., 2010; Zimmerman, Rothschild & Chelminski, 2005).

### **1.3 Biosocial model of BPD: Promising, but incomplete?**

The biosocial theory proposed by Linehan (1993a, 2015) considers pervasive emotional dysregulation (i.e. the inability to change or regulate emotional cues, experiences, and responses across a wide variety of emotions and situations; Gross & Jazaieri, 2014) as the core problem of BPD. Such pervasive emotion dysregulation is formulated as a consequence of a transaction between biological vulnerability and an invalidating environment, especially during childhood. Biological vulnerability is characterised by an innate sensitivity, reactivity, and slow return to baseline of emotional responses, and an invalidating environment is described as one where the communication of internal experiences, including emotions, has been routinely dismissed, ignored, punished, or responded to inconsistently or in a way which reinforces escalated responses (Rizvi, Steffel, & Carson-Wong, 2013). Expanding the original biosocial model, Crowell, Beauchain, and Linehan (2009) further proposed that impulsivity in youth may also play a contributory role as a precursor to BPD. DBT views many index problems associated with BPD, such as suicidal actions, deliberate self-injury, and interpersonal problems, as either direct attempts to regulate emotions or a consequence of a failure in emotion regulation (Koerner & Dimeff, 2007).

There is some empirical support for aspects of Linehan's biosocial model, especially the contribution of emotional dysregulation to the development and maintenance of BPD. Greater reactivity to negative emotions has been associated with BPD (Russell, Moskowitz, Zuroff, Sookman, & Paris, 2007), as has lower reactivity to positive emotions (Sadikaj, Russell, Moskowitz, & Paris, 2010). Additionally, both higher affect intensity (Yen, Zlotnick, & Costello, 2002) and slower return to baseline (Reisch, Ebner-Priemer, Tschacher, Bohus, & Linehan, 2008) have been found among patients with BPD, as has greater experiential avoidance, i.e. an unwillingness to stay in contact with uncomfortable private events (Iverson, Follette, Pistorello, & Fruzzetti, 2012). Salman and Linehan (2012) reported

that BPD was associated with reduced access to emotion regulation strategies. Individuals with BPD may also be especially sensitive to regulatory effects from self-harm and physical pain and specific neurological correlates associated with stress reduction have been found among individuals with BPD under experimentally manipulated incision of the skin (Reitz et al., 2015).

The evidence for Linehan's biosocial model has not been ubiquitous. A recent experimental study by Kuo, Fitzpatrick, Metcalfe, and McMMain, (2016) found neither heightened emotional reactivity nor deficits in the emotion regulation strategies of mindful awareness or distraction among individuals with BPD. Instead, the study reported that individuals with BPD had abnormal baseline physiological emotional activation, although these findings were based on a small sample. Furthermore, the proposed transaction between biological vulnerability and an invalidating environment as precursors to pervasive emotion dysregulation and BPD has not been supported in a number studies, albeit all based solely on self-report, retrospective accounts, rather than longitudinal data (Kim & Warburton, 2014; Sauer & Baer, 2010).

Additionally, the biosocial model has not explicitly incorporated conceptually related work on attachment in the pathogenesis of BPD. This reflects the separate manner in which the wider literature on the development of BPD has investigated emotion dysregulation and attachment difficulties, despite evidence for both concepts as precursors the disorder (Kim, Sharp, & Carbone, 2014). Attachment refers to an innate psychobiological system that motivates humans to seek out proximity to others at times of need, and achieves basic regulatory functions, especially in infants and early childhood, but also in older children and adults (Bowlby, 1982). Specific idiosyncratic patterns of attachment, both healthy and pathological, are informed by early caregiver experiences and persist across the lifespan (Shaver & Milulincer, 2014). So-called unresolved/fearful and preoccupied attachment

patterns have been associated with BPD, whereas the presence of secure attachments predicts the absence of BPD (Carlson, Egeland, & Sroufe, 2009; Levy, 2005; Levy, Beeney, & Temes, 2011). The contribution of attachment difficulties in BPD have been well articulated in the mentalisation based formulation of BPD which describes a relationship between attachment disturbances and deficiencies in mentalising abilities characteristic of BPD, i.e. the capacity to deeply understand the self, others, and the social world (Fonagy & Luyten, 2009).

Interestingly, the first study to directly investigate the relationship between attachment patterns, emotional dysregulation, and the emergence of BPD by Kim et al. (2014) found that attachment insecurity was related to BPD traits via its association with emotion dysregulation. Individuals with secure paternal attachment were protected from BPD through positive emotion regulation strategies (e.g. acceptance, positive reappraisal, putting things in perspective), whereas the presence of negative emotion regulation strategies (e.g. self-blame, rumination, catastrophising) were associated with more severe BPD symptoms and weakened any advantages associated with secure attachment or positive emotion regulation. These findings are preliminary and in need of further investigation, yet it remains a continuing weakness of the field that the relationship between attachment and emotion dysregulation as precursors to BPD has not received adequate attention. This may at least partly attributable to ideological differences between different treatment approaches (Swenson & Choi-Kain, 2015).

#### **1.4 Dialectical behaviour therapy: A synthesis of change and acceptance**

Standard, outpatient dialectical behaviour therapy (DBT: Linehan, 1993a; 1993b; 2015) is an integrative cognitive behavioural therapy and the most widely practiced of a number of structured psychological therapies for BPD that have emerged over the past three decades (Choi-Kain, Albert, & Gunderson, 2016; Wheelis, 2009). In response to such maladaptive

and potentially lethal means of emotion regulation, the guiding focus of DBT for BPD involves teaching patients how to regulate emotional responses more actively and effectively (Neacsiu, Bohus, & Linehan, 2013).

First described in the literature in the 1980s, DBT for BPD evolved from Marsha Linehan's trial-and-error efforts to deliver a version of standard behaviour therapy to chronically suicidal women (Linehan, 1987, 1989). Behaviour therapy has been defined in many ways, including "the use of experimentally established principles of learning for the purpose of changing maladaptive behaviour" (Wolpe, 1969, p. vii) and as "the systematic application of principles derived from behaviour or learning theory and the experimental work in these areas to the rational modification of abnormal or undesirable behaviour" (Franks, 1964, p. 12). Behaviour therapy is not a single, unitary approach, being both varied and evolving, with several competing sets of assumptions (Antony & Roemer, 2011). While identifying several influences from the behavioural tradition in the development of DBT, notably social learning theory, Linehan (1993a) was primarily informed by radical (or contextual) behaviourism. Radical behaviourism originated from the work of B.F. Skinner on operant conditioning and the interaction between the person and the environmental consequences of actions (Rummel, Garrison-Diehn, Catlin, & Fisher, 2012). Rejecting stimulus-response psychology, radical behaviourism included the private world (eg. thoughts, emotions, sensations) alongside the study of overt behaviours in the realm of behavioural science (Tsai, Kohlenberg, Kanter, Holman, & Plummer Loudon, 2012). Radical behaviourism remains most evident in DBT through its central use of a form of functional analysis to guide the treatment of unwanted behaviours (Bedics, Korslund, Sayrs, & McFarr, 2013; Linehan, 1993a). Careful enquiry of internal and external behaviours and their antecedents and consequences is carried out, relying often on verbal accounts rather than observation, with the aim of identifying functional relationships between behaviours and

responses. Such analyses help generate opportunities for engaging in more adaptive and functionally appropriate replacement behaviours (Heard & Swales, 2016).

Linehan quickly recognised that exclusively change-focused behaviour therapy for her cohort of chronically suicidal and complex was prone to derailment (Dimeff & Linehan, 2001). Patients felt invalidated due to the presence of their many complicated difficulties which they did not see as compatible with the expectations of largely linear problem solving in standard behaviour therapy (Manning, 2007). Yet when Linehan responded to such criticism by adopting the opposite stance of solely providing warmth and understanding, patients became “equally frustrated by this treatment, saying it was not doing enough to solve their problems” (Linehan & Wilks, 2015, p. 98). Linehan viewed this as a clear mandate to find new ways to promote acceptance of problems and situations that would be slow to improve (if at all) without dropping well-established and proven behavioural methods (Neacsiu, Ward-Ciesielski, & Linehan, 2012).

Drawing on the eastern practice of Zen, as well as Christian contemplative prayer, Linehan came to advocate for a stance of radical acceptance of the present moment in the absence of any intention to alter or change it (Robins, Schmidt III, & Linehan, 2004). Crediting the works of Hanh (1976), Langer (1989), and May (1987), alongside her own extensive personal training in meditation, Linehan translated Zen-informed acceptance into a set of behavioural skills for use by patients and therapists which she described as mindfulness, employing a term used by others but not widely popularised at that time (Linehan & Wilks, 2015). These mindfulness skills provided patients (and their therapists) with a behaviourally specific means of participating with awareness in the present moment, even when this meant tolerating strong and painful emotions or urges to act in ways which would ultimately prove unproductive or even life-threatening for patients (Swales & Heard, 2017).



To mediate between the opposing pillars of change and acceptance Linehan adopted a dialectical philosophy as the third pillar of DBT (Swenson, 2016). Commonly associated with the ideas of Marx or Hegel, dialectics is a method of persuasion and a worldview with classical origins (Chapman, 2006). Dialectics are concerned with interrelatedness, complexity, the inevitability of polarities, and the continuous nature of change (Linehan, 2015). A dialectical stance is expressed by seeking out what is valid in alternate points of view and by considering what might be missing from any understanding. A dialectical stance holds that no one person or position has the complete handle on the ‘truth’ (Lynch, Chapman, Rosenthal, Kuo, & Linehan, 2006). Dialectical strategies (e.g. embracing confusion, entering the paradox, allowing for natural change, and making lemonade from lemons; Linehan, 1993a) provided DBT with a means of fostering flexibility and movement in response to polarising clinical challenges through a continuing synthesis between change and acceptance (Koerner, 2013).

### **1.5 Stages, targets, functions, and modes: The shape of DBT**

Linehan (1993a) describes DBT as a stage-based psychotherapy, the first of which addresses out-of-control behaviours often associated with a risk of completed suicide or consistent with severe behavioural disturbance. Within this first stage DBT imposes a hierarchy of treatment targets on patients and their therapists which must be responded to in order of ranked importance (Swales & Heard, 2017). Patient behaviours and problems considered imminently life-threatening are prioritised, regardless of any patient preferences to the contrary, followed by behaviours, urges, or affect related to a risk of completed suicide. These include non-suicidal self-injury and suicide-related hopelessness (Koerner, 2012). The treatment next targets behaviours exhibited by either therapist or patient which are likely to interfere with the progress of therapy such as failure to complete homework by the patient or disrespectful behaviours from the therapist (Manning, 2007). Subsequent stage one targets

include behaviours that interfere with a patient's quality of life which the patient themselves wishes to change and also increasing the patient's behavioural skills (Wheeler, 2008). Once these problems have abated, subsequent stages of DBT address difficulties with emotional experiencing and everyday living (Swenson, 2016).

Unlike most psychotherapies, which have one mode of treatment with multiple functions, stage one DBT has several distinct modes, each corresponding to a primary therapeutic function, with some overlap (Dimeff & Koerner, 2007). DBT's modularity arose in response to the complexity of clinical problems among chronically suicidal patients with BPD, where separate modules were needed to ensure all functions of the therapy were provided (Linehan & Wilks, 2015). The first function of DBT is to enhance patients' skills capability through the mode of group-based skills training. Group skills training is offered in a classroom-type, weekly format. Each skills session runs for between two and two and half hours and follows a six month curriculum comprised of four interrelated skills modules: mindfulness, emotion regulation, interpersonal effectiveness, and distress tolerance (Linehan, 2015). The second function of DBT is to enhance patients' motivation, delivered through the mode of individual DBT psychotherapy sessions. Here therapists help their patients to understand and practice solutions to their individual problems using behavioural strategies in the context of an authentic, yet contingent therapeutic relationship (Heard & Swales, 2017). Whereas DBT skills training is intended to get the skills 'into' the patient, individual DBT therapy is intended to 'drag out' those skills where they are needed (Koerner, 2012; Linehan, 1993a). The third function of DBT involves ensuring generalisation of skilful means and uses the mode of between-session skills coaching. With coaching, traditionally delivered by telephone, patients receive in-the-moment help in applying skills on an as-needed basis at any time (Manning, 2011). Structuring the environment so that treatment is not undone by external factors is the fourth function of DBT, provided through a variety of modes including

direct family intervention or consultation to patients to bring about environmental change on their own behalf (Rizvi et al., 2013). The final function of DBT is to enhance therapist motivation, achieved through the modality of therapist weekly consultation meetings that run for one to two hours (Koerner, 2012). As a recursive treatment, DBT consultation meetings help therapists gain insight into their own therapy interfering and non-DBT behaviours and receive coaching from colleagues on applying DBT strategies to themselves as needed in working with challenging problems (Swales, 2010).

## **1.6 Effectiveness of DBT: Trials and community studies**

Standard DBT (i.e. where all five modes of DBT are present) has been considered an empirically supported and evidence-based psychological treatment for BPD for more than a decade by the American Psychological Association (APA Task Force on Evidence-based Practice, 2006). The effectiveness of standard DBT for BPD has been investigated across a series of 14 randomised-controlled trials (RCTs) and has been found to reduce suicide attempts (e.g. Linehan et al., 2006; 2015), non-suicidal self-injury (e.g. Priebe et al., 2012; Verheul et al., 2003), general borderline symptom severity (e.g. Bohus et al., 2004; McMain et al., 2009), depression (e.g. Clarkin, Levy, Lenzenweger, & Kernberg, 2007; Koons et al., 2001), use of emergency services and hospitalisation (e.g. Linehan, Armstrong, Suarez, Allmon, & Heard, 1991; Pasioczny & Connor, 2011), and general functioning (e.g. Carter, Willcox, Lewin, Conrad, & Bendit, 2010; Feigenbaum et al., 2012; Linehan et al., 1999; 2002).

While earlier RCTs of DBT (Linehan et al., 1991, 1999; Verheul et al., 2003) used treatment-as-usual as a control condition, more recent clinical trials have included active psychotherapeutic control treatments. Linehan et al. (2006) reported that one year of standard DBT for BPD out-performed community treatment by experts on dropout and rates of hospitalisation. In addition, standard DBT for BPD showed outcomes that were consistent

with a structured, psychodynamic psychotherapy called Transference Focused Psychotherapy (TFP; Clarkin et al., 2007), although TFP produced changes in more domains than DBT. McMain et al. (2009) found that standard DBT for BPD had similar outcomes to a psychodynamically-informed intervention described as general psychiatric management when the latter was delivered by experts. One year of standard DBT for BPD also had similar effectiveness to DBT group-skills training plus case management and showed some advantages compared to DBT individual therapy without the inclusion of skills training (Linehan et al., 2015). Two further RCTs have compared DBT to active controls for patients with BPD traits not necessarily meeting full diagnostic criteria for the disorder. Pistorello, Fruzzetti, MacLane, Gallop, & Iverson (2012) compared a marginally adapted standard DBT with a psychodynamically-informed psychotherapy for college students with borderline traits and reported several benefits for DBT. In contrast, Andreasson et al. (2016) compared DBT with Collaborative Assessment and Management of Suicidality treatment (CAMS) for adults with BPD traits but found no differences between treatment conditions despite lower treatment intensity for CAMS.

In addition to establishing whether a treatment works, it is also of crucial importance to demonstrate that effective treatments can be successfully delivered by routine clinicians to intended real world patients who are willing to accept such intervention by accessing and completing treatment (Abrahamson, 2001; Kendall & Chambless, 1998; Westen, Novotny, & Thompson-Brenner, 2004). Higher levels of therapist training and supervision, greater treatment structure and fidelity, the absence of concurrent adjunctive treatments, restrictive participant selection, certain participant characteristics such as willingness to accept treatment-as-usual, and treatment parameters such as dose and frequency are all factors which may limit the external validity of randomized controlled trials carried out in research clinics (Chiesa & Fonagy, 1999; Clarke, 1995; Weisz & Weiss, 1989; Rounsaville, Carroll, &

Onken, 2001). Several DBT trials were conducted in real world settings (e.g. Carter et al., 2010; Feigenbaum et al., 2012; Pasioczny & Connor, 2011; Priebe et al., 2012). Findings across these studies show modest advantages for DBT. Compared to treatment-as-usual in the community in Australia, Carter et al. (2010) found reduced levels of disability for DBT in a trial of 73 patients and Pasioczny & Connor (2011) reported wide advantages for DBT across multiple symptom domains in a small trial with 43 patients. Priebe et al. (2012) reported that DBT produced greater reductions in self-harm than treatment-as-usual in a London-based trial of 80 patients as well finding comparable changes in many secondary mental health indices. Feigenbaum et al. (2012) in a second, independent London-based study also included other 'Cluster B' personality disorder diagnoses with BPD and described a small advantage for standard DBT on risk and post-traumatic stress disorder in a trial of 42 patients where the comparison condition was treatment-as-usual.

Several uncontrolled studies conducted in the community also provide further evidence that DBT can be successfully implemented in the real world. Blennerhassett, Bamford, Whelan, Jamieson, and O'Raghallaigh (2009) and Stanley, Brodsky, Nelson, and Dulit (2007) both described encouraging outcomes for DBT in small, uncontrolled community studies which lasted six months. Comtois, Elwood, Holdcraft, and Simpson (2007) described outcomes for 23 women with BPD following one year of standard DBT in Seattle. The completion rate of one year of treatment was 76% and there were significant reductions in service usage, such as rates of hospitalisation and crisis support access. Stiglmayr et al. (2014) reported on 70 patients with BPD who engaged in outpatient DBT in Berlin. Similar to Comtois et al. (2007), three quarters of the sample completed one full treatment year, although the dropout from the study protocol itself was slightly greater. Statistical and clinically significant changes were reported among completers across multiple domains, including reductions in deliberate self-harm, use of hospitalisation, borderline

symptoms, general psychopathology, and depression. Benchmarking by Stiglmayr and colleagues indicated outcomes which compared well to those of the clinical trials.

Secondary analyses of data from some of the trials indicate factors which may mediate outcomes for DBT. There was a significant interaction between the therapeutic relationship and treatment condition when reductions in self-injury were compared across standard DBT and treatment by experts in the community (Bedics, Atkins, Comtois, & Linehan, 2015). Patients in DBT who viewed their therapists as warm, loving, and protective reported lower deliberate self-injury than patients in the control condition. Bedics and his colleagues interpreted their findings as possible evidence that the engaged, flexible, yet controlling, interpersonal stance adopted by DBT therapists relates to benefits of DBT. In addition, DBT skills use has been conceptualised as a mechanism of change in DBT (Lynch, Chapman, Rosenthal, Kuo, & Linehan, 2006). Not only has DBT skills use been found to increase over treatment with DBT (Lindenboim, Comtois & Linehan, 2007; Stepp, Epler, Jahng & Trull, 2008), but skills use has also been found to mediate improvements during treatment. Neacsiu, Rivzi, and Linehan (2010) reported that for patients in DBT skills use fully mediated reductions in suicide attempts, depression, and increase in anger, and partially mediated reductions in deliberate self-harm. Barnicot, Gonzalez, McCabe, and Priebe (2016) subsequently found that DBT skills use predicted both lower dropout and deliberate self-injury independently of the common treatment processes of treatment credibility, therapeutic relationship, and patient self-efficacy (i.e. the belief that one can cope with life's challenges). The authors interpreted their findings as an endorsement of the central idea in DBT that using DBT skills can help patients reduce self-harm by developing more effective ways of coping.

The question of whether DBT for BPD works, including its ability to transfer into the real world, has largely been resolved. This conclusion is consistent with Stoffers et al.'s (2012) Cochrane review of psychological treatments for BPD which reports a moderate effect

for DBT compared to treatment-as-usual. Stoffers and his colleagues also determined that despite the greater volume of studies carried out on DBT compared with other specialised BPD treatments, no structured treatment for BPD shows superiority, notwithstanding the need for additional non-DBT research. Bateman and Krawitz (2013) echo this view that specialist BPD treatments produce similar outcomes. This emerging availability of several therapeutic options for BPD is especially encouraging given that the disorder was a source of prejudice among clinicians, and considered resistant to treatment until as recently as two decades ago (Choi-Kane, Albert, & Gunderson, 2016).

### **1.7 Improving outcomes, reducing attrition, and rationalising treatment**

Fifty years ago pioneering researcher Gordon Paul invited clinical psychology and psychotherapy to establish “what treatment, by whom, is most effective for this individual with that specific problem, under which set of circumstances” (Paul, 1967, p. 111). Despite a rigorous and broad research agenda, DBT has yet to fully respond to all of Paul’s questions. Many patients with BPD fail to respond to DBT. Stiglmayr et al. (2014) found borderline symptoms did not reliably improve among 59% of patients with BPD after one year of treatment. The proportion who recovered in their study (i.e. those who had post-treatment borderline symptoms that were closer to the mean of healthy adult controls than BPD patients) was 16%. Little is known about the differences in characteristics of responders and non-responders to DBT, or indeed any specialised treatment for BPD (Gratz, Dixon-Gordon, & Tull, 2014). Such patient-focused research has been described as a crucial component of evidence-based practice, and may help to inform modification of treatments in the presence of certain characteristics and identify patients most likely to gain from a particular therapy (Kazdin, 2001).

Treatment attrition is also of concern for DBT in the real world, with an implication of wasted resources and untreated disorder (Bohart & Wade, 2013). While dropout rates of

between 17% and 39% have been reported in the research trials, dropout in the community may be higher (Landes, Chalker, & Comtois, 2016). The London community-based RCTs described dropout of 52% (Priebe et al., 2012) and 58% (Feigenbaum et al., 2012) respectively. Study-specific explanations have been provided in both instances (i.e. the impact of care coordination in Priebe and colleague's study, and the inclusion of non-BPD patients coupled with a single problematic therapist in Feigenbaum and colleague's study), yet dropout in the community warrants further attention.

Difficulties in resourcing the standard DBT treatment package in many community settings is also of some concern, where insufficient DBT is available relative to demand (Carmel, Rose, & Fruzzetti, 2014; Richter, Steinacher, zum Eschenhoff & Bermpohl, 2016). The standard model of DBT places a greater-than-usual burden on resources due to the multiple modes of delivery amounting to roughly 200 hours of patient-facing hours of treatment over one year plus therapists' consultation meetings. Although DBT has been shown to significantly reduce overall healthcare costs in the community, mainly through reductions in hospitalisation (Heard, 2000), in most practice settings this is unlikely to convert into the additional staffing resources that are often needed to implement DBT. Questions persist about the practicality of delivering standard DBT on a large scale in the real world (Brodsky & Stanley, 2013; Swenson, Torrey, & Koerner, 2002). Further research is needed on scaled-back or single-mode adaptations of DBT for BPD in the community.

## **1.8 Aims of this project: A series of studies on DBT in the community**

I originally conceived this project as a large community-based evaluation of one year of DBT for patients with a diagnosis of BPD across several sites. A multi-site strategy was planned to boost opportunities for participant recruitment in response to the truncated treatment lengths and underpowered samples that had been previously been reported on DBT for BPD in the community (e.g. Blennerhassett et al., 2009; Carter et al., 2010; Stanley et al., 2007;



Comtois et al., 2007; Pasienczny & Connor, 2012). I established a practice-based research network (PBRN) comprised of community-based DBT teams to support the multi-site aspirations of the project. PBRNs have been described as collaborations among multiple clinicians who “commit to using their work settings as laboratories for practice-based knowledge generation” (McMillen, Lenze, Hawley & Osborne, 2009, p. 308). Underused in mental health settings, PBRNs are a means of collecting large scale, generalisable data on real world psychotherapy (Barkham, 2014; Kelly et al., 2015; DeFife et al., 2015). PBRNs have particular value for DBT given the resource-intensiveness and long duration of the standard DBT treatment for BPD, which usually leads to small annual throughput at any one centre (Koerner, Dimeff, & Swenson, 2007). The network agreed to monitor patient outcomes using the same battery of measures. In developing the PBRN I adopted the recommendations of Borkovec, Echemendia, Raguse, and Ruiz (2001) who have experience with maintaining a long-established psychotherapy PBRN in Pennsylvania. Following these recommendations, administrative time required for research activities was minimised and clinicians in the PBRN were incentivised for their participation. Incentives consisted of gratis on-site and remote continuing education and consultation in DBT provided by myself, an accredited DBT therapist and trainer. Ongoing supervision had the added benefit of doubling as a shared protocol to informally monitor treatment fidelity.

The initial question concerning general effectiveness of DBT in the community became increasingly redundant as larger and more methodologically sophisticated real world studies were reported (Feigenbaum et al., 2012; Priebe et al., 2012; Stiglmayr et al., 2014) in addition to the imminent reporting of outcomes from a large-scale, systemic implementation of standard DBT for both adolescents and adults in the public mental health system in Ireland. Yet, the aims of PBRNs go beyond a single research question. PBRNs are well-positioned to investigate evolving clinical concerns in routine practice, enabled by continuing

collection of patient and service data (Barkham & Margison, 2007). A number of treatment innovations were piloted by some of the DBT teams participating in the PBRN over the lifetime of the project. This provided opportunities to carry out a series of naturalistic investigations into ways in which DBT was being applied or adopted in the community. The resulting series of studies on these innovations are reported in the dissertation in Chapters 2, 3, and 4. Chapter 2 describes data from a single site but both Chapters 3 and 4 draw on data collected by two sites in the PBRN. The overall success of the PBRN in recruiting a large number of participants also provided an opportunity to explore patient factors as predictors of outcomes for standard DBT in Chapter 5 where data from all four sites in the network was included.

In Chapter 2, I describe a pilot evaluation of a new young adult DBT programme provided exclusively to 18 and 25 years with a diagnosis of BPD following the first 22 weeks of treatment. This programme had been launched due to local concerns about high dropout and low referral rates among this age group. In Chapter 3, I compare outcomes at one year for a subsequent intake of 24 consenting users of the young adult DBT programme with 13 patients in the same young adult age group in general adult (i.e. not age specific) standard DBT attending another service. The young adult programme was conceived as an early intervention for adults with BPD, pre-empting Chanen, Sharp, and Hoffman's (2017) recent position that BPD be treated as a public health priority requiring early intervention similar to other severe mental health disorders given high mortality and disability associated with BPD. These are the first studies to report on outcomes for DBT specifically targeted at young adults in community mental health services. In chapter 4, I compare outcomes at six months for 34 users of a pilot standalone DBT group skills training programme with 54 users of standard, full treatment package DBT. This is the first such comparison to be conducted in a community setting despite the common use of group-only adaptations of DBT in routine

services (Valentine et al., 2015). In Chapter 5, I investigate several patient variables at baseline as predictors of outcome among 73 treatment completers of one full year of DBT. This is the first such analysis of patient factors to be reported on outpatient DBT, an analysis which has seldom been possible for specialised treatments of BPD, such as DBT, due to very small samples (Levy & Scott, 2007). Figure 1.1 presents a schematic diagram of participant recruitment and allocation to the studies described in chapters 3 to 5. Chapter 2 was excluded because this pilot study of 16 participants over 22 weeks was carried out at a single site prior and separately to the other studies using a different methodology.

### **1.9 A note on context: Locating the project within a research framework**

A number of models have been described which attend to the translation of basic scientific discoveries into the design of applications for human utilisation and their dissemination and implementation into the community, a sequence that has been referred to as the ‘translational continuum’ (Hastings, Hatton, Lindsay, & Taylor, in press). Typically, such translational models are linear and comprise a series of stages in the progression from science to practice to implementation (e.g. Westfall, Mold, & Fagnan, 2007; Zehouni, 2003). Initial translational models, such as the influential original framework of the British-based Medical Research Council (MRC) for complex interventions in health care (MRC, 2000), afforded little detail on the implementation stage and limited recognition of non-randomised research strategies in informing the translational process, despite common reliance on such methodologies in studying complex psychosocial interventions on both pragmatic and conceptual grounds (Kendal, Holmbeck, & Verduin, 2004; Weisz, Hawley, Pilkonis, Woody, & Follette, 2000). More recent models of the translation continuum have adopted a transactional account of the steps from theory to implementation. Revised guidance on complex intervention research by the MRC describes a multi-directional relationship between

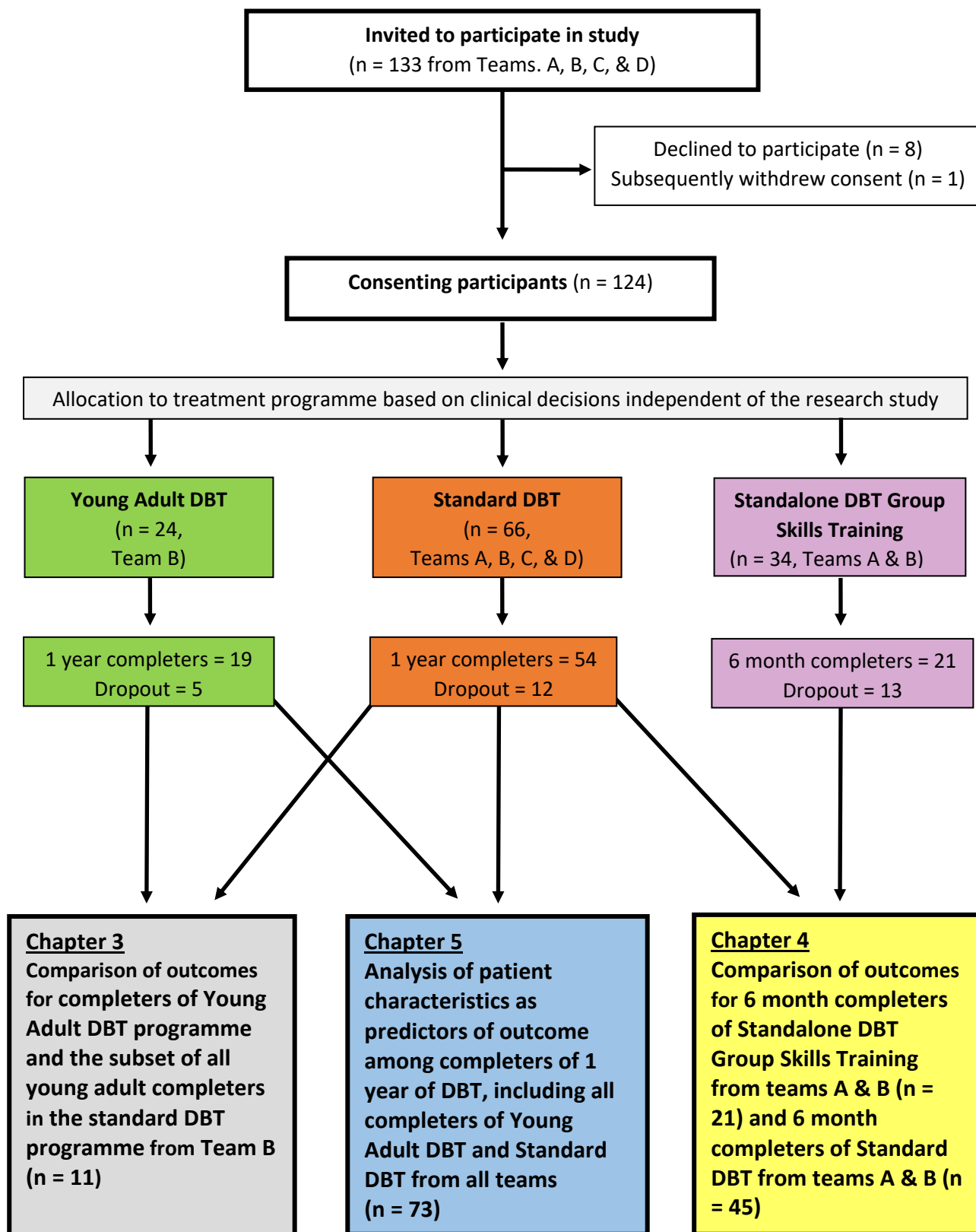


Figure 1.1 Summary of participant recruitment to clinical programmes and allocation of participant data to the studies reported in Chapters 3 to 5.

basic science, feasibility, evaluation, and implementation studies (Craig et al., 2008). This revised guidance also adopts a more accommodating stance towards the value of non-randomised methodologies in informing the development of complex interventions prior to a ‘definitive’ randomised controlled trial (Campbell et al., 2007).

A five-phase translational model by Thornicroft, Lempp, and Tansella (2011) shares many characteristics with earlier frameworks. This model describes phase 0 as basic science discovery, phase 1 as early human studies, phase 2 as early clinical trials, phase 3 as late clinical trials, and phase 4 as implementation. Similar to some other translational accounts (e.g. Westfall et al., 2007), Thornicroft et al.'s (2011) model allows for the inclusion of well controlled studies conducted in practice settings in phase 3, alongside randomised controlled trials. In addition, Thornicroft and colleague's translational model offers elaboration on the final phase, implementation, consistent with the rapid growth of implementation science (Madon, Hofman, Kupfer, & Glass, 2007). Three discrete steps of research on implementation are identified: adoption in principle, early implementation, and persistence of clinical guideline implementation (Tansella & Thornicroft, 2009). Extensive examples of research reflecting the first four phases of this model are available on basic science related to BPD and the development and evaluation of DBT for BPD across a series of feasibility studies and randomised and non-experimental trials (see sections 1.2, 1.3, 1.6, and 1.7 above). Research on factors related to the implementation of DBT for BPD is only beginning to emerge (e.g. Landes et al., 2016; Swales, Taylor, & Hibbs, 2012; van den Bosch & Sinnaeve, 2015), consistent with what might be expected from a relatively new, complex intervention (Schoenwald, McHugh, & Barlow, 2012).

The studies described in this project can be contextualised as being primarily consistent with the implementation phase of Thornicroft et al.'s (2011) translational model. Each study is broadly concerned with understanding and resolving challenges related

to the successful transfer of DBT into the real world by routine clinicians. Clinical effectiveness is also considered throughout the project, albeit not without significant constraints given the absence of experimental conditions across the project due to pragmatic considerations (e.g. ethical, logistical, and administrative barriers to randomisation). These are not unfamiliar compromises in carrying out routine practice research (Chiesa & Fonagy, 1999), notwithstanding the challenges these design decisions present in establishing causality (Eccles, Grimshaw, Campbell, & Ramsay, 2003). Chapters 2 and 3 describe a strategy intended to address a perceived implementation barrier to DBT in the community, namely low levels of engagement among young adults in mental health services. Chapter 4 addresses another challenge to community implementation of standard DBT, long waiting times. Chapter 5 considers an additional aspect of implementation, prediction of responses to standard DBT among users in routine practice settings, findings from which may inform real-world clinical decision making, such as considering adjunctive interventions where indicated. As with much real world research, the methods and nature of data collection and design across all the studies here fall short of the randomised and carefully controlled standards that would be expected in a research center or clinical trial (Wampold & Imel, 2015). Yet, the the studies that comprise this project take as their focus the essential interchange between prior trial-based findings and their translation into the real world. This is a messy junction characterized by complexity and lack of systematic control, but is also the desirable destination of almost all clinical research - the point at which a useful intervention is delivered into the community (McGartland Rubio et al., 2010).

## Chapter 2

### **Dialectical behaviour therapy (DBT) for young adults: Evaluation of 22 weeks of community delivered DBT for females 18–25 years**

A version of this chapter was originally published as:

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## **Abstract**

**Background.** Dialectical behaviour therapy (DBT) is a multi-modal psychological therapy with established efficacy in treating borderline personality disorder (BPD). Young adults represent a group more likely to drop out of treatment than their older counterparts and treatments specifically targeted at this younger cohort may be advantageous.

**The current study.** We describe an evaluation of a DBT programme in a mental health centre for young adults aged between 18–25 years who met criteria for BPD ( $N = 16$ ).

**Method.** We used a simple pre/post-test design, measuring BPD symptoms, general mental health symptoms, and coping skills using self-report questionnaires at the beginning of DBT and again following the delivery of 22 weeks of DBT.

**Findings.** Dropout was 31% at 22 weeks of treatment. Statistically significant reductions were found in borderline symptom severity and general psychopathology alongside an increase in DBT skills use. Methodological weaknesses and avenues for future research are discussed.



## 2.1 Introduction

Dialectical behaviour therapy (DBT) is a multi-modal psychotherapy originally developed for the treatment of borderline personality disorder (BPD), which includes individual psychotherapy, group skills training, between session skills coaching, environmental intervention, and therapist support (Linehan, 1993a, 1993b). DBT targets an agreed set of problem behaviours for change with skills training, exposure, cognitive modification, and contingency management within a validating therapeutic context (Swales & Heard, 2009; Koerner, 2012). Regarded as the gold standard of care for the reduction of suicidal and self-injurious behaviours, DBT is classified as an evidence-based treatment with more than a dozen well-controlled trials and scores of uncontrolled studies (Stoffers et al., 2012). DBT is effective in reducing frequency and severity of self-injury. DBT also reduces length of hospitalisation, anger, depression, suicidal ideation, and alcohol abuse (Linehan et al., 1991, 1999, 2006; Koons et al., 2001; Verheul et al., 2003; van den Bosch et al., 2005; Stanley et al., 2007; Carter et al., 2010). The mechanisms of action of DBT remain an empirical question (Koerner, 2013). However, Neacsiu et al. (2010) and Barnicot et al. (2016) have found DBT skills use by patients mediates changes in key clinical domains.

As with all evidence-based treatments, dissemination of DBT into routine community settings is a complex task, which involves far more than merely training clinicians (Carmel et al., 2014; Karlin & Cross, 2014). It cannot automatically be presumed that training will inevitably confer comparable outcomes in the community. Many other variables may contribute to outcomes, such as organisational and systemic factors, level of clinician supervision, patient preferences, and greater levels of co-morbidity (Swales, 2010; Landes & Linehan, 2012). Of note, dropout (or premature termination) was high in two recent British community-based studies of DBT. Both Feigenbaum et al. (2012) and Priebe et al. (2012) reported dropout of more than 50%. Dropout from treatment has long been considered a

significant problem in psychotherapy and remains high across different approaches, standing as a significant barrier to desirable clinical outcomes (Wierzbicki & Pekarik, 1993; Garfield, 1994; Barrett et al., 2008). Many factors have been attributed to dropout, among them age. A recent meta-analysis of 669 studies from across the field of psychotherapy found patients' age to be a significant predictor of treatment dropout, with younger adults more likely to terminate treatment prematurely (Swift & Greenberg, 2012). Landes et al. (2016) were the first to report that younger age was associated with dropout from community-based DBT for adults with BPD.

Age-related attrition was a particular clinical concern facing the existing adult DBT programme at my adult community mental health service prior to this study. High levels of dropout had been observed among young adults (i.e. individuals between 18 and 25 years) accessing our local adult DBT programme, where in the previous three years a total of five out of six patients in this age group who accessed DBT had prematurely terminated from treatment. Referral rates of young adults with BPD were also low given the expected peak of borderline symptoms in early adulthood (Kjear et al., 2016). Interestingly, when DBT has been delivered exclusively to adolescents with problems of suicidal and self-harming behaviours in age-specific programmes, good levels of retention have been found (Mehlum et al. 2014; Millar, Rathaus, & Linehan, 2007; Neece, Berkeley, Combs-Ronto, 2013). This is despite the typically high levels of dropout frequently observed among adolescents in psychotherapy (Pekarik & Stephenson, 1988). Although attractive treatment characteristics may contribute to good levels of retention of adolescents in DBT, there is also the possibility that some additional factors may be influencing lower dropout. As DBT includes a group skills training component, the effect of accessing a treatment alongside a similar age cohort could be contributing to the retention of adolescents in DBT. Being part of a homogeneous cohort can boost retention and make group-based psychotherapy programmes more appealing

(Burlingame, Fuhriman, & Johnson, 2011). We subsequently wondered if a DBT programme offered exclusively to young adults may influence retention rates. We also wondered if the promotion of a young adult programme would increase referrals of this age group. A new young adult DBT programme was established at my service, open exclusively to young adults with a diagnosis of BPD between the ages of 18 and 25 year.

The present study is primarily an initial evaluation of this young adult programme. Our aims were to explore any changes in borderline symptom severity or general psychopathology for users of the programme. In addition, we tracked dropout rates and aimed to investigate any changes in the use of DBT skills associated with the programme.

## **2.2 Method**

### **2.2.1 Setting**

The study was conducted in a state-funded multidisciplinary general mental health service in the Dublin area with responsibility for the delivery of services for a range of acute and enduring mental health difficulties.

### **2.2.2 Participants**

Data was collected between March 2012 and October 2013. Inclusion criteria for the study had been to meet the referral criteria for the DBT programme for young adults, namely 18–25 year olds with an existing diagnosis of BPD (American Psychiatric Association, 2000) and more than one incident of suicidal behaviour and/or non-suicidal self-injury in the previous year in the absence of a primary drug or alcohol problem or an active psychotic illness. The decision to refer to the DBT programme for young adults was made by the treating community clinical team on a voluntary basis, in consultation with the patient and other stakeholders as needed. All patients accepted onto the DBT programme for young adults over an 18-months period were invited to participate in this study. Although patients were expressly informed that the availability of DBT was independent of participation in the study, all 16 patients accepted onto the DBT programme for young adults over this period consented to participate in the study. Although the programme was open to both male and female patients, referrals to the programme over the duration of the study were exclusively female with the exception of a single male who dropped out early in treatment. This may reflect proportionately higher rates of BPD in females but also may indicate a diagnostic bias (Simmons, 1992). All but four of the participants were in full-time or part-time education at second or third level at the beginning of treatment and of the remainder only two were not gainfully employed outside of the home. More than two-thirds of participants still lived with

at least one parent or guardian. A range of co-morbid problems were diagnosed among participants, with the majority presenting with at least a mood disorder and/or an anxiety disorder.

### **2.2.3 Treatment**

The four modes of DBT were included in the programme for young adults, i.e. individual psychotherapy, skills training, telephone consultation, and therapist consultation group (Linehan, 1993a). The programme matched standard DBT in all respects with the single exception that the DBT skills group consisted exclusively of young adults between 18 and 25 years. Linehan's (1993b) four module skills curriculum of mindfulness, emotion regulation, distress tolerance, and interpersonal effectiveness was scheduled to take 22 weeks to complete, with the option to repeat all modules if needed, consistent with standard comprehensive DBT for BPD (Koerner & Dimeff, 2007). The DBT skills training group was designed to function as an 'open group', so that patients would be able to join the programme at the beginning of any skills module and as the group skills training component was planned to run on a continuous cycle, patients would be able to complete the desired number of modules regardless of his or her starting point.

Treatment was delivered by a team of ten clinicians consisting of four psychologists, a mental health social worker, and five mental health nurses who fulfilled at least one of the roles of either individual therapist or groups skills trainers, and frequently both. This team of clinicians was drawn from across the service and had voluntarily opted to avail of DBT training and to work towards the delivery of DBT as a minor component of their weekly clinical duties. All clinicians had received at least the first part of intensive training in DBT (Landes & Linehan, 2012) at the onset of the study and by the conclusion of the study, all clinicians had completed the second part of this training. The majority of clinicians had no

prior experience in delivering DBT and specialist supervision was not available at the time of the study.

#### **2.2.4 Measures**

***Borderline Symptom List 23.*** (BSL23; Bohus et al., 2009). The BSL23 is a self-rating instrument for the specific assessment of borderline symptom severity employing 23 questions answered on a five-point scale, from 0 = ‘not at all’ to 4 = ‘very strong’. Bohus et al. (2009) reported that the development of the scale was based on five different samples with borderline patients and the internal consistency of the BSL23 was found to be high (Cronbach’s  $\alpha = 0.94\text{--}0.97$ ;  $n = 694$ ). In addition, test–retest reliability was found to be satisfactory alongside ability to discriminate between the patient group and sensitivity to change.

***Symptom Checklist-90-Revised.*** (SCL-90-R; Derogatis 1994). The SCL-90-R was used to assess general psychopathology. The SCL-90-R comprises 90 questions about symptom or problem areas over the past 7 days answered on a five-point scale, from 0 = ‘not at all’ to 4 = ‘extremely’, which produce nine scales that reflect major symptom dimensions, namely somatisation, obsessive–compulsive behaviour, interpersonal sensitivity, hostility, depression, anxiety, phobic anxiety, paranoid ideation, and psychoticism. In addition, the SCL-90-R can be scored and interpreted on three global indices of distress including the Global Severity Index. Horowitz et al. (1988) reported test–retest reliability coefficients on the SCL-90-R individual scales ranging from 0.68 to 0.83 over the course of 10 weeks among a psychiatric outpatient sample.

***DBT ways of coping checklist.*** (DBT:WCCL; Neacsiu et al., 2010). The DBT:WCCL is a self-report questionnaire with 38 items measuring frequency of DBT skills use over the previous month (e.g. ‘just took things one step at a time’) and 21 items

measuring dysfunctional, non-DBT coping strategies (e.g. ‘blamed others’). All items are rated from 0 = ‘never use’ to 3 = ‘always use’, and neutral ‘non-DBT’ language is used to describe skills in order to avoid potential response bias alongside the removal of any reference to DBT on the questionnaire. In the current study, only the DBT Skills Usage Subscale was used. Neacsiu et al. (2010) reported favourable psychometric properties of the DBT:WCCL, where the DBT Skills Subscale of the DBT:WCCL was found to have excellent internal consistency (Cronbach  $\alpha = 0.92\text{--}0.96$ ;  $n = 316$ ) and acceptable test–retest reliability at four months treated without access to skills training ( $\rho I = 0.71$ ,  $p < 0.001$ ), whereas individuals who did receive skills training had significantly higher scores after four months.

***Dropout.*** Dropout for the purpose of the study was defined as not attending both DBT skills group and individual therapy at least once in the four weeks before week 22 of treatment, consistent with definitions of dropout in standard DBT practice (Linehan, 1993a, 1993b).

### **2.2.5 Procedures**

Once a patient was referred to the DBT programme for young adults, a member of the DBT team conducted ‘pre-treatment’, a clearly defined stage of DBT involving assessment and commitment building (Linehan, 1993a; Koerner, 2012), where a decision was subsequently made to offer DBT, the patient was then invited to participate in the study. Informed consent to participate in the study was achieved through a mixture of discussion and the provision of written materials (see Appendix A for consent materials). The independence of the study from clinical decision making and treatment provision was stressed, whereby the availability of DBT was not contingent on participation in the study. Participants were also made aware that no remuneration was available and they were welcome to withdraw from the study at any time. On agreeing to participate in the study, participants were asked to complete all self-report measures (BSL23, SCL-90-R, and DBT:WCCL) during the first week of the ‘treatment

phase' of DBT, usually coinciding with the onset of the participant's first week of DBT group skills training (at which time participants had been working with their individual therapists for on average one month on 'pre-treatment'). Participants were then asked to complete the same battery of measures again 22 weeks later coinciding with their completion of the full DBT skills curriculum for the first time alongside an equivalent number of weekly individual DBT sessions. The decision to measure at 22 weeks was not intended to capture final clinical outcomes since treatment was available for one year. However, since 22 weeks reflected the first full completion of the DBT skills curriculum, it was judged to represent a meaningful point to assess whether treatment was associated with clinical progress. Dropout rates were also recorded. Ethical approval for this study was provided by St John of Gods research ethics committee in Dublin with institutional approval from Bangor University (see Appendix B for confirmation of ethical approval).



## 2.3 Results

A total of 11 out of 16 participants (69%) remained in DBT at 22 weeks. In all, ten of this 11 went on to complete a full year of treatment in the DBT programme for young adults although our results here only account for outcomes at week 22. Of the five participants who dropped out of treatment before week 22, three of these did so within the first 5 weeks (including the single male in the cohort), one of these at week 16, and one was referred to an alternative treatment at week 18 following a revision of diagnosis and clinical needs. Follow-up data could not be collected for participants who dropped out of the study as they were not accessible for evaluation purposes. Analyses of differences between scores at week 1 and week 22 were conducted on the remaining 11 completers using the Wilcoxon signed-rank method for non-parametric data (see Table 2.1 for a summary of the analyses). Effect sizes were calculated by dividing the  $z$  value by the square root of  $n$ , where  $n$  is the number of observations (Pallant, 2010). When describing this method, Cohen (1988) classified  $r = 0.1$  as a small effect size,  $r = 0.3$  as a moderate effect size, and  $r = 0.5$  as a large effect size. Significant improvements were found on borderline symptoms severity (BSL23), general psychopathology (Global Severity Index on SCL-90-R), and several specific domains of psychopathology (obsessive compulsions, depression, anxiety, hostility, phobic anxiety, and psychoticism subscales on SCL-90-R) over 22 weeks. There was also a significant increase in self-reported DBT skills over 22 weeks (Skills Usage Subscale of DBT:WCCL). These changes over time were associated with estimated effect sizes in the medium to large range.

**Table 2.1**

*Wilcoxon signed-rank analyses of the BSL23, SCL-90-R, and DBT:WCCL median scores among completers of 22 weeks of DBT for young adults (n = 11)*

<b>Measure</b>	<b>Median (Wk 1)</b>	<b>Median (Wk 22)</b>	<b>z score</b>	<b>p</b>	<b>Effect Size</b>
<b>BSL23</b>					
Borderline symptoms	3.09	1.65	-2.93	.003	.63
<b>SCL-90-R Scales</b>					
Global Severity Index	61	51	-2.81	.005	.59
Somatisation	57	53	-1.75	.080	.37
Obsessive compulsions	66	55	-2.82	.005	.59
Interpersonal sensitivity	62	55	-1.96	.050	.36
Depression	61	51	-2.33	.020	.49
Anxiety	59	47	-2.81	.005	.60
Hostility	61	58	-2.10	.035	.44
Phobic anxiety	61	51	-2.14	.033	.46
Paranoid ideation	56	54	-1.12	.262	.24
Psychoticism	59	56	-2.29	.022	.49
<b>DBT: WCCL</b>					
DBT Skills Use	1.26	1.79	-2.14	.033	.46

BSL23, Borderline Symptom List 23; SCL-90-R, Symptom Checklist-90-Revised; DBT:WCCL,

Dialectical Behaviour Therapy ways of Coping Checklist

## 2.4 Discussion

We found reductions in borderline symptom severity, general psychopathology, and several mental health symptoms among young adult females with a diagnosis of BPD following the delivery of community-based DBT for young adults over 22 weeks. We also found an increase in DBT skills use. Dropout from the DBT programme over this period was 31%. This relatively modest rate of patient dropout is noteworthy, comparing favourably with the high levels of dropout observed previously among young adults when DBT was delivered in a single programme comprised of adults of all ages, albeit based on very small numbers. Nonetheless, participants still showed elevated symptom scores at 22 weeks which indicated ongoing difficulties, despite gains. While our findings support the viability of the delivery of DBT in a young adult only programme, they do not support a shortened version of DBT for young adults as is typical with DBT for adolescents (Neece et al. 2013), an idea we had considered when developing our programme. During subsequent treatment over the remainder of one year, there were anecdotal accounts of further clinical gains and one full year of DBT may be indicated for this age group, as has been the case for adults generally (Rizvi et al., 2013).

Substantial methodological limitations apply to this short study. Sample size was very small. The study also utilised a single group, pre-post design leaving any interpretations regarding change vulnerable to the statistical artefact of regression towards the mean, whereby extreme scores have a general tendency to move in the direction of more moderate scores on retesting. The pretest scores were also collected at the beginning of the treatment phase of DBT rather than at the beginning of the pre-treatment stage, a distinct commitment and motivation centric stage of DBT that can take several weeks. It is entirely possible that clinical improvement already occurred during pre-treatment and the reported gains under-represent the true nature of clinical progress. A further limitation was the lack of any formal

measure of DBT adherence among participating clinicians in the study, despite including all modes of DBT within the treatment.

Collecting data in routine settings is challenging, yet crucial in understanding the effects of evidence-based treatments in the community (Lambert & Ogles, 2004). Our study suggests that DBT for young adults with BPD warrants further investigation. It would be of particular interest for future research to compare outcomes for a young adult only DBT programme with those of similar aged adults engaged in a general adult DBT programme.

## **Chapter 3**

**Outcomes for 18-25 year olds with a diagnosis of borderline personality disorder who received DBT in a young adult only DBT programme compared to a general adult DBT programme**

## **Abstract**

**Background.** Early intervention for borderline personality disorder (BPD) may carry significant social and clinical benefits and might be achieved through the use of existing evidence-based treatments for BPD, such as dialectical behaviour therapy (DBT).

**The Current Study.** We describe a naturally occurring non-equivalent quasi-experimental comparison of outcomes for an early intervention DBT programme targeted exclusively at young adults with BPD between 18 and 25 years and outcomes for same-aged young adults with BPD who access DBT within a routine general adult programme.

**Method.** 24 young adults accessed a year of standard DBT in a dedicated young adult programme and 13 young adults in the same age range at another service accessed one year of standard DBT in a general adult programme open to adults of all ages. Participants also continued in routine community mental health care. Besides age range of users, both treatment conditions were the same, offering all five modes of DBT. All participants completed a battery of self-report measures on mental health symptoms at baseline and again at treatment completion after one year.

**Findings.** Dropout at one year was 21.8% in the young adult DBT programme and 15.4% among young adults in general DBT. A series of analyses of covariance indicated improved outcomes on borderline symptom severity and general psychopathology among treatment completers in the young adult condition after controlling for covariates.

**Discussion.** There may be advantages in delivering DBT to young adults in an age-restricted, early intervention programme, possibly due to group cohesion. Significant methodological limitations apply to the study, such as small sample size and non-randomisation. Further controlled study is needed.

### 3.1 Introduction

Young adulthood is a developmental stage defined by continuing education, a focus on careers, and experimenting with various life paths before coupling or procreation (Arnett, 2000; Hughes, 2015). Mental health problems among this age group are high and three in four lifetime mental health disorders have an initial onset prior to 25 years (Eckersley, 2011; Kessler et al., 2005). Despite such high prevalence, young adults have low levels of engagement with mental health services and high rates of treatment dropout (Edlund et al., 2002; Reneses, Munoz, & Lopez-Ibor, 2009). This situation is likely to represent missed opportunities for arresting the progression of chronic, disabling and costly problems, not to mention avoiding high levels of human suffering and misery (McGorry, 2011).

Many factors are likely to contribute to the problems associated with mental health provision for young adults. Among them may be the division between child and adult services in many countries and perhaps a lower priority given to treating young adults in adult services. With regard to the former, young adults typically encounter the gap between child and adolescent services at precisely the point where the need for age appropriate support and developmentally sensitive treatment is most pronounced (Murcott, 2012; Patton, 1996). In the case of the latter, the needs of young adults may be somewhat obscured by the more severe presentations of other adults accessing services (Paul, Street, Wheeler, & Singh, 2015). Not without some controversy, the low prioritisation of young adults has sometimes been attributed to a palliative bias in adult mental health services where the focus in adult services may be on managing chronic and enduring conditions rather than adopting a preventative approach to mental health (Callaly, 2014).

A promising alternative to this status quo of mental health service provision for young adults can be found in early intervention programmes for psychosis largely targeted at older teenagers and young adults (Jackson & McGorry, 2009). Such programmes are designed to

increase clinician and community awareness of illness, alongside assertive intervention before problems become increasingly severe, and using established effective treatments (Lyons & Melton, 2005). Improved engagement, prognosis, reduced burden of illness, and cost effectiveness have been demonstrated across early intervention programmes for psychosis (Hegelstad et al., 2012; McGorry, 2015). Similar early intervention practices might inform a wider approach to improved mental health services for young adults across a range of mental health problems but few empirical data are available (Birleson, Luk, & Mileshkin, 2001; McGorry, Bates, & Birchwood, 2013; McGorry, Goldstone, Parker, Rickwood, & Hickie, 2014).

Borderline personality disorder (BPD) among young adults may benefit from such early intervention (Chanen & McCutcheon, 2014; Moran et al., 2012). BPD is a serious and enduring disorder associated with affective instability, unstable interpersonal relationships, cognitive impairments, and impulsivity (Bateman & Krawitz, 2013). The general prevalence of BPD in the community has been reported at 1% (Coid et al., 2006; Lenzenweger, Lane, Loranger & Kessler, 2007) although some estimates are several times higher (Levy, 2013). While the problems of BPD peak in early adulthood and can remit for some within a few years, a chronic pattern throughout adulthood develops for a sizeable minority (Kjear et al., 2016; Zanarini, Frankenburg, Hennen, & Silk, 2003). These problems may not be given adequate attention by adult mental health services (Singh et al, 2010). There appear to be delays in diagnosis and provision of treatment for BPD, with intervention offered late in the trajectory of the disorder and to limited numbers of patients, all against a background of discrimination towards the disorder (Chanen, Sharp, & Hoffman, 2017).

Dialectical Behaviour Therapy (DBT) is a psychosocial treatment originally developed for reducing chronic suicidal and self-harming behaviours (Linehan, 1993a). DBT



has been found to be effective in the treatment of BPD across more than a dozen randomised controlled trials (Stoffers et al., 2012). Standard DBT is delivered via several modalities: group skills training, individual behavioural therapy sessions, between-session coaching, and therapist peer consultation (Neacsiu, Ward-Ciesielski, & Linehan, 2012). DBT shares many characteristics identified by McGorry et al. (2013) as desirable for early intervention programmes including long treatment duration, case management, individual support, group support, liaison with the wider system, and a focus on the general quality of life functioning rather than simply symptom reduction, paralleling the emphasis on ‘building a life worth living’ in DBT (Linehan, 1993a). DBT has been successfully adapted to other age-specific populations, including young adults. In a controlled trial involving college students, Pistorello et al. (2012) reported that a marginally modified version of standard DBT was superior to a psychodynamically informed therapy in treating suicidal young adults with features of BPD. Additionally, in Chapter 2 of this dissertation, a small programme evaluation of standard DBT for young adults with BPD was described with encouraging outcomes at 22 weeks.

We could find no study which investigated advantages of a dedicated DBT programme for young adults compared to young adults engaged in general adult DBT for all ages over 18, the usual mode of service delivery. Any intervention which offers benefits to young adults with a diagnosis of BPD carries potential individual and societal gains in arresting the development of a severe disorder associated with premature mortality, extensive service utilisation, and long-term disability (Chanen et al., 2017; Zanarini, Frankenburg, Reich, & Fitzmaurice, 2012). Our aim was to evaluate outcomes for standard (i.e. all modes) DBT delivered to young adults aged 18 to 25 years with a diagnosis of BPD in such an early intervention, young adult-only programme compared with outcomes for this age group in a general adult DBT programme.

## **3.2 Method**

### **3.2.1 Design**

The study used a non-equivalent, naturally occurring quasi-experimental design which compared a young adult only DBT programme for ages 18 to 25 years and similar aged young adults in a general adult DBT programme for all ages 18 and above. Each treatment condition was delivered at a different site. Self-report mental health symptom measures were collected at baseline and again at treatment completion after one year.

The main inclusion criteria for both conditions was an age of between 18 and 25 years and an existing diagnosis of BPD (APA, 2013) or the equivalent diagnosis of emotionally unstable personality disorder (Lai, Leung, You, & Cheung, 2012; WHO, 1992). Diagnosis had typically been made by a treating psychiatrist. While not used to determine inclusion in the study, scores on the Borderline Symptom List 23 (BSL23: Bohus et al., 2009; see below) were consistent with the presence of BPD. 89.2% of the sample had a score of 2.00 or above on the Borderline Symptom List 23 (BSL23: Bohus et al., 2009, see below) and 41.5% had a score of 3.00. These scores indicate moderate to high BPD severity based on DSM-IV-TR criteria (Glenn, Weinberg, & Klonsky, 2009). Exclusion criteria for participation in the study mirrored exclusion criteria for the DBT teams, namely a history of an enduring psychotic disorder or a primary alcohol or drug related problem.

### **3.2.2 Settings**

Data were collected by two community-based DBT teams which were part of public community-based adult mental health services. Data for the young adult only condition were collected from a DBT team within an adult mental health service in in county Dublin in the Republic of Ireland covering a catchment of 180,000 total population. This team had previously piloted a young adult only programme (Chapter 2), which had since been main-

streamed at part of local services. For the comparison condition of young adults in a general adult DBT programme, data were collected from a DBT team based in counties Down and Armagh in Northern Ireland covering a mixed rural and urban catchment of 300,000 population of all ages. Both teams had been involved in the delivery of standard DBT for several years.

### **3.2.3 Participants**

Data collection took place between September 2013 and August 2016. Participants were 37 users of community mental health services, 78.4% (29) young women and 21.6% (8) young men with an average age of 20.8 years. Twenty four participants were recruited by the Dublin service for the young adult only condition and 13 participants were recruited for the young adults in general adult condition by the Northern Irish team. See Table 3.1 for demographic and diagnostic characteristics across conditions. Comparisons of all characteristics were carried out using independent-sample t-tests for continuous variables and chi-square tests of independence for categorical variables. No significant differences were found between treatment conditions at baseline with the exception of previous hospitalisation. There was a higher incidence of previous hospitalisation among participants in the general DBT condition. ( $\chi^2 = 13.46, p < .01$ ).

### **3.2.4 Treatment conditions**

Treatment was standard DBT for both conditions: One hour of weekly individual DBT therapy including up to four weeks of individual pre-treatment sessions to orientate and commit to the treatment plan, 2.5 hours of weekly skills training, with two skills trainers, weekly therapist consultation meetings, and between-session telephone coaching. The curriculum used for skills training in both services was “Schedule 1: 24 Weeks, Linehan Standard Adult DBT Skills Training Schedule” (Linehan, 2015, pp. 110-111). Each module

**Table 3.1**

*Demographic and diagnostic characteristics of participants. Data are given as a percentage (number) unless otherwise specified.*

<b>Variable</b>	<b>Young adult only</b>		<b>General adult</b>		<b>All</b>	
<b>Demographic Characteristics</b>	N = 24		N = 13		N = 37	
Age, mean (SD)	20.50	(1.91)	21.46	(2.15)	20.84	(2.02)
Gender:						
Female	83.3%	(20)	69.2%	(9)	78.4%	(29)
Male	16.7%	(4)	30.8%	(4)	21.6%	(8)
Education:						
Second level only	29.2%	(7)	38.5%	(5)	32.4%	(12)
Some post-second level	79.8%	(17)	61.5%	(7)	64.9%	(24)
Employment:						
Employed/In education	66.7%	(16)	46.2%	(6)	62.2%	(23)
Unemployed	33.3%	(4)	53.8%	(9)	37.8%	(14)
<b>Pre-existing Clinical Diagnoses</b>						
BPD	100%	(24)	100%	(13)	100%	(37)
Eating disorder	41.7%	(10)	38.5%	(5)	40.5%	(15)
PTSD	29.2%	(7)	38.5%	(5)	32.4%	(12)
Addiction (alcohol or drugs)	12.5%	(3)	30.8%	(4)	18.9%	(7)
<b>History of High Risk Behaviours</b>						
Previous suicide attempt	54.2%	(13)	61.5%	(8)	56.8%	(21)
History of self-injury	70.8%	(17)	76.9%	(10)	73.0%	(27)
Use of ED due to self-injury	37.5%	(9)	53.8%	(7)	43.2%	(16)
<b>Mental Health Service Use</b>						
Previous hospitalisation	25.0%	(6)	52.9%	(7)	35.1%	(13)
Previous therapy	83.3%	(20)	69.2%	(9)	78.4%	(29)
Currently taking medication	70.8%	(17)	84.6%	(11)	75.7%	(18)

consisted of two weeks of mindfulness training followed by a block of training in distress tolerance, emotion regulation, or interpersonal effectiveness. Treatment with DBT in both conditions was offered for one year. In both conditions, DBT was delivered as an open, rolling programme and participants could enter for one year of treatment at the beginning of any new module. DBT in either condition was supplementary to existing routine care in the community which typically consisted of outpatient reviews by a consultant psychiatrist, psychiatric registrar, or family doctor every two to three months plus psychopharmacotherapy.

As noted above, each treatment condition was provided by a different DBT team. Besides this, the only difference between conditions was the age range of programme users. The young adult only condition comprised exclusively of 18 to 25 year olds, whereas the general adult condition accommodated all adults from 18 upwards, although this study is concerned only with the comparison of the young adult programme with the young adults who accessed a general adult DBT programme. The age range of all users of the general adult programme over the study period was 18 to 56 years ( $\bar{x} = 31.9$  years,  $S = 9.2$ ). 32.7% of users of the general adult programme were between 18 to 25 year olds. Data on all users of the general adult programme are included in Chapter 5.

### **3.2.5 Therapists**

The young adult DBT condition was delivered by a team of nine therapists who provided either individual DBT therapy mode or skills training or both. The team was made up of five psychologists and four mental health nurses. The general adult DBT programme was provided by a team of four therapists (one psychologist, two social workers, and one mental health nurse). All therapists across both conditions had completed no less than ten days standard training in DBT. Ten of the therapists had at least four years' experience in

delivering DBT, the remaining three therapists had less than two years' experience with DBT. Individual DBT therapy caseload ranged from one to seven at any one time.

### **3.2.6 Treatment fidelity**

Formal rating of fidelity to the treatment model using the system developed by Linehan and Korslund (2003) was not carried out due to logistical and financial constraints. However, all therapists committed to implementing the treatment conditions as prescribed and there was adherence to following the selected DBT skills training curriculum. Therapists attended weekly consultation meetings which were intended to promote treatment fidelity through peer-monitoring and encouragement (Linehan, 1993a). These meetings were supplemented by informal monthly monitoring of fidelity paired with on-site training and consultation provided by myself as an incentive to therapists for carrying out recruitment and data collection.

### **3.2.7 Measures and dropout**

**Borderline symptom severity.** The Borderline Symptom List 23 (BSL23; Bohus et al., 2009) is a 23 item self-rating assessment of borderline symptom severity which Bohus and his colleague reported to have high internal consistency ( $\alpha = .94 - .97$ ) and satisfactory test-retest reliability, demonstrated alongside sensitivity to change and discriminant validity.

**General psychopathology.** The Symptom Checklist-90-Revised (SCL-90-R; Derogatis, 1994) is a measure of general psychopathology and consists of 90 questions about mental health symptoms or problem areas over the past seven days. The Global Severity Index (GSI) has been found to be the best indicator of the level of current distress on the SCL-90-R with high internal consistency ( $\alpha = .93$ ) in addition to overall satisfactory convergent and discriminant validity for the SCL-90-R (Prinz et al., 2013) and satisfactory test-retest reliability (Horowitz, Rosenberg, Baer, Ureno, & Villasenor, 1988).

**Hopelessness.** Beck Hopelessness Scale (BHS; Beck, Weissman, Lester, & Trexler, 1974). The BHS is a 20-item scale with internal consistency ranging from .83 to .93 (Dozois & Covin, 2004). Among clinical populations, satisfactory test-retest coefficients have been reported (Beck & Steer, 1988).

**Suicide ideation.** Beck Scale for Suicide Ideation (SSI; Beck & Steer, 1991). The SSI is a 21 item questionnaire which has been found to possess high internal reliability (Cronbach's  $\alpha$  ranging from .87 to .97) with moderate test-retest reliability demonstrated over one week with a psychiatric inpatient sample (Beck, Steer & Ranieri, 1988).

**Dropout.** Dropout was recorded when participants were discharged from treatment by their DBT team. Discharge from both conditions took place when a participant missed either skills group or individual DBT therapy for four weeks in a row, consistent with the standard 'four miss rule' in DBT (Linehan, 1993a). Once discharge had taken place, we did not have ethical approval in this community-based study to collect further data on participants.

### 3.2.8 Classification of outcome

We classified outcomes in two ways. The first used post-treatment scores on outcome measures after adjusting for baseline scores on the measure as a covariate. The second involved whether a participant achieved improvement (i.e. reliable change) or recovery (i.e. clinically significant change) on each measure using Jacobson and Truax's (1991) reliable change index, calculated using software developed by Morley and Dowzer (2014). The index is based on changes between baseline and post-treatment on each measure, instrument reliability, and clinical and nonclinical distributions on the measure. Participants were categorised as showing 'no change', 'deterioration', 'improvement', or 'recovery'. No change is defined as individual change between baseline and post-treatment on the measure

of less than  $\pm 1.96$  standard deviations from the sample baseline mean score adjusted for measurement error. Deterioration or improvement (i.e. reliable change) is defined as individual change between baseline and post-treatment equal or exceeding  $\pm 1.96$  standard deviations from the sample mean score adjusted for error. Recovery (i.e. clinically significant change) is defined as the presence of reliable change in addition to a post-treatment score closer to the mean of healthy controls than the clinical-population. The original validation studies were used for establishing normative data for each of the measures in addition to data on adults with BPD where available. The deteriorated or improved indices/reliable change, recovery/clinically significant change cut-offs, and sources of normative data were as follows: BSL23 (deteriorated or improved/reliable change =  $\pm .32$ , recovery/clinically significant change  $\leq .72$ ; Bohus et al., 2009); SCL-90-R: GSI (deteriorated or improved/reliable change =  $\pm .41$ , recovery/clinically significant change  $\leq .69$ ; Derogatis, 1994; Schulz et al., 2008); BHS (deteriorated or improved/reliable change =  $\pm 2.97$ , recovery/clinically significant change  $\leq 6.64$ ; Beck & Steer, 1988; Verardi, Nicastro, McQuillan, Keizer, & Rossier, 2008; Greene, 1981); SSI (deteriorated or improved/reliable change =  $\pm 6.95$ , recovery/clinically significant change  $\leq 1.55$ ; Beck, Kovacs & Weissman, 1979; Beck, Steer, & Brown, 1997).

### **3.2.9 Data analysis**

Statistical analysis of the data was conducted using SPSS version 22.0 (IBM Corp, 2013). A series of one-way between-group analyses of covariance (ANCOVA) were carried out to compare participants' post-treatment scores on outcome measures across the young adult DBT programme open to 18 to 25 year olds and similar aged young adults in a general adult DBT programme. The independent variable in each ANCOVA was the treatment condition, young adult DBT or young adults in general adult DBT. The dependent variables were the post-treatment scores on each of four measures: BSL23, SCL-90-R: GSI, BHS, and SSI.



Participants' baseline scores on the measure were used as a covariate in each analysis. Previous hospitalisation was also included as a covariate due to significant differences at baseline between treatment conditions on this variable reported above. The proportion of individual participants who showed improvement/reliable change and recovery/clinically significant change were compared across treatment conditions on a series of Fisher's exact tests.

### **3.2.9 Procedure**

During the study period all patients offered treatment by the two DBT teams were invited to participate in the study. The invitation to participate took place at the initial meeting with a member of the team where verbal and written information on the research was provided (e.g. this was part of a multi-centre investigation of DBT for people living with BPD). Where a patient expressed a willingness to become involved in the study, signed consent was obtained. Prospective participants were notified that no payment was available for involvement in the study and that they could withdraw from the research at any time.

Prospective participants were also informed that participation in the research would have no effect on treatment options or treatment availability, decisions around which were made independently of the research which would take advantage of naturally evolving research opportunities (see Appendix A for a sample Letter of Information and Consent Form).

Participants completed a battery of measures at baseline and again at post-treatment in the presence of a member of the local DBT team. Baseline demographic and clinical information on participants was also collected from treating therapists.

Ethical approval for the project was granted by St. John of God Services in Ireland for the young adult DBT programme condition and the National Research Ethics Service via the local ethics committee in the United Kingdom for general adult DBT programme with institutional research ethics and governance approval from Bangor University, United

Kingdom (see Appendix B for sample research ethics application and research proposal; see Appendix C for documentation of research approvals from each site).

### **3.3 Results**

#### **3.3.1 Dropout**

20.8% (5) of participants who started the young adult only DBT condition dropped out of treatment. 15.4% (2) of young adult participants who started the general adult DBT condition dropped out of treatment. No difference was found in the proportion of dropouts by treatment condition using Fisher's exact test ( $p = .526$ ).

#### **3.3.2 Comparing post-treatment scores by treatment condition**

Checks were conducted to confirm there were no violations of the assumptions of normality, linearity, homogeneity of variances, homogeneity of regression slopes, and reliable measurement of the covariates. All assumptions were adequately met for each ANCOVA. The analyses found significant effects for condition on borderline symptom severity using BSL23 post-treatment scores and general psychopathology using SCL-90-R: GSI post-treatment scores after controlling for the covariates, with lower scores on these measures in the young adult programme (Table 3.2). Applying Cohen's (1988) criteria to partial eta squared ( $\eta_p^2$ ), there was a large effect size for condition on both measures: 16% of the variance of post-treatment BSL23 scores and 15% of the variance in the post-treatment SCL-90-R: GSI scores are explained by treatment condition. No differences between condition at post-treatment were found for hopelessness using BHS scores and suicide ideation using SSI scores after controlling for the covariates.

#### **3.3.3 Comparing individual change by treatment condition**

Individual change among participants by treatment condition was classified following Jacobson and Truax's (1991) reliable change procedure (Figure 3.1), with participants categorised as deteriorated (i.e. negative reliable change), unchanged, improved (i.e. positive reliable change), or recovered (i.e. clinically significant change). The proportions of

participants who showed at-least improvement (i.e. positive reliable change) on each measure were compared across the two treatment conditions using a series of 2 x 2 Fisher's exact tests due to small cell sizes. No significant associations were found between improvement and condition on any measure: BSL23 ( $p = .126$ ), SCL-90-R: GSI ( $p = .091$ ), BHS ( $p = .515$ ), and SSI ( $p = .579$ ). The proportions of participants who showed recovery (i.e. clinically significant change) on each measure were also compared by treatment condition. Again, due to small cell sizes a series of Fisher's exact tests was used. Significant associations were found between recovery and condition on borderline symptom severity using BSL23 ( $p = .046$ ) and general psychopathology using SCL-90-R: GSI ( $p = .025$ ), with a greater proportion of participants closer to normal functioning than a clinical population in the young adult DBT programme. No differences were detected in recovery by treatment condition on the BHS ( $p = .500$ ) and SSI ( $p = .571$ ) by condition.

**Table 3.2**

*Series of one way between-group analyses of covariance comparing post-treatment scores on several measures among completers of a young adult DBT programme (n = 19) and similar aged young adults completers of a general adult DBT programme (n = 11) after adjusting for baseline scores and prior hospitalisation as covariates. Partial eta squared ( $\eta_p^2$ ) is used as a measure of effect size.*

Measure	Means (standard deviation) at baseline by condition				Means (standard deviation) at post-treatment by condition				Effect of condition on outcomes after controlling for covariates		
	Young adult only		General adult		Young adult only		General adult		F	P	$\eta_p^2$
	$\bar{x}$	S	$\bar{x}$	S	$\bar{x}$	S	$\bar{x}$	S			
BSL23	3.04	.49	2.68	.50	1.24	.84	1.85	.72	4.81	.037	.16
SCL-90-R: GSI	2.22	.49	2.40	.66	1.13	.71	1.82	.74	4.58	.042	.15
BHS	13.16	3.67	14.64	4.65	6.58	4.10	8.45	5.45	.752	.394	.03
SSI	14.58	7.95	19.64	5.87	5.79	7.15	10.82	9.39	.651	.427	.03

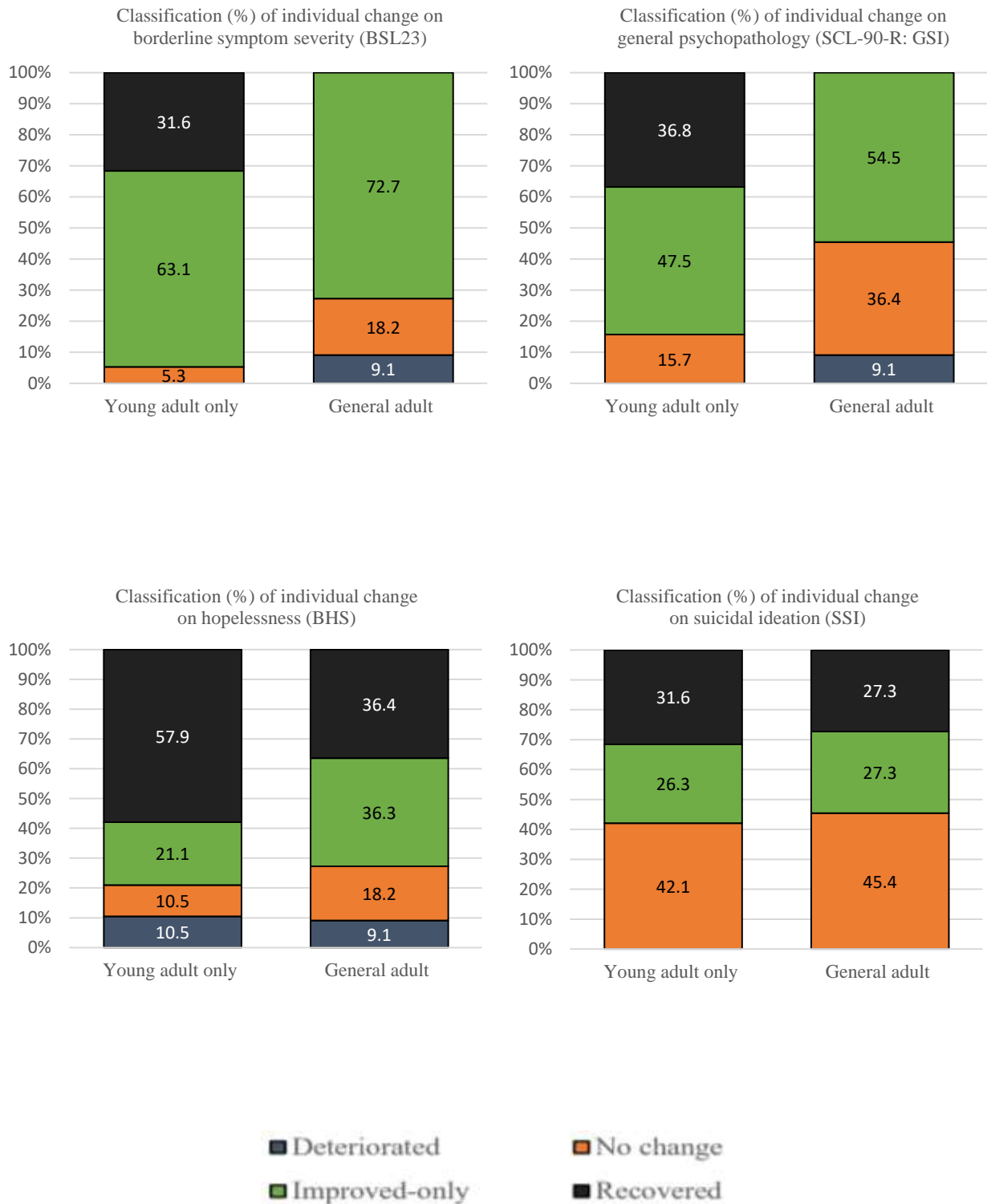


Figure 3.1 *Classification of individual change on measures among one year completers using Jacobson and Truax's (1991) reliable change procedure by treatment condition, young adult only DBT programme (n = 19) and young adults in general adult DBT (n = 11)*

### 3.4 Discussion

We found lower post-treatment borderline symptom severity and general psychopathology for young adults with a diagnosis of BPD who completed one year of standard DBT through an early intervention programme offered exclusively to young adults compared to the same treatment in a general DBT adult programme delivered to all ages 18 and above. We also found a higher proportion of individual recovery among treatment completers of a young adult DBT programme on borderline symptom severity and general psychopathology. No differences between treatment conditions were indicated on hopelessness, suicide ideation, and dropout, the latter which was low across both conditions (20.8% and 15.4% respectively). This was surprising since high dropout for young adults in DBT had been observed locally in the past (see Chapter 2), and Landes et al. (2016) had also found being younger was associated with higher dropout for DBT in the community. Our findings in this study indicate high dropout is not inevitable for young adults. 30 of a total 37 young adults across both conditions completed one year of treatment.

Our findings are consistent with the view that an early intervention programme may be beneficial for BPD (Chanen et al., 2017). Improved outcomes for young adult DBT for BPD is especially encouraging given the seriousness of the disorder in terms of prevalence, chronicity, severity, and one of the highest rates of lifetime suicide among all mental health problems (Kjear et al., 2016; Levy, 2013; Zanarini et al., 2003). Our findings are strengthened by the high bar of comparing DBT for young adults to standard DBT, the same in every respect except for the specificity of age-range. Standard DBT has accumulated by some distance the largest evidence base as a treatment for adults with BPD and compares at least as well to other specialised treatments for BPD (Choi-Kain, Albert & Gunderson, 2016; Stoffers et al., 2012). Our study points to a straight-forward means of making a good treatment work better for a vulnerable group of young adults.

Our design limits our ability to infer factors which may have improved outcomes for the young adult programme. Yet we are led to speculate that since the model of therapy was the same across conditions it is possible that some non-specific therapeutic factors (i.e. not directly related to the treatment protocol) contributed to the difference in outcomes. Group membership most clearly differentiates the conditions. The young adult only programme involved attendance at a weekly skills group among peers compared to the general adult programme where the skills groups consisted of an age range from 18 to 56 years. Aspects of the individual therapeutic alliance in DBT have received some attention (Bedics, Atkins, Harned & Linehan, 2015) but little research has been carried out on group factors. Group cohesion is one such process. Cohesion is a complex construct related to bond and task focus in the group and comprises myriad relationships (e.g., leader to member, member to member, and leader to leader; Burlingame & McClendon-Theobald & Burlingame, 2008). Group cohesion has been related to patient improvement in groups, especially for groups longer than 12 sessions and with 5-9 members (Burlingame, Theobald-McClendon & Alonso, 2011), consistent with both DBT conditions. However, cohesion has also been found to be enhanced by similarities (Dunlop & Beauchamp, 2011), including age, especially among younger people (Burlingame et al., 2011). It seems possible that these similarities may have been a salient component in the comparative benefits of the young adult programme. As a general reflection, in providing supervision to both teams I observed that the therapists in the young adult programme regularly commented on the sense of belonging and togetherness which they experienced in the young adult programme skills group sessions, comments I seldom noted from the therapists who provided the general adult skills groups.

Cautious interpretation of our findings is needed since the study suffers from several methodological weaknesses. These include small sample size, sole reliance on self-report instruments to measure outcome, the absence of a formal diagnostic interview at pre-



treatment and relying entirely on pre-existing diagnoses provided by clinicians in the community, no follow up exclusion of dropouts, exclusion of non-completers from the analysis, and an absence of reliable measurement of treatment adherence. In addition, participants were not randomly allocated to treatment conditions which were delivered by two separate teams. This created a concern that outcomes reflected differences between the teams rather than treatment condition, a concern somewhat allayed by separate analyses carried out in Chapter 5. Here we found no association between treating teams and outcomes for DBT at one year among a larger sample of adult completers of DBT of all ages over 18 years from both teams (including young adults). Notwithstanding the above, a strength of our study is the clear demonstration of the viability of engaging young adults with serious mental health difficulties in quality services in the community. This was evident in change associated with both treatment conditions, with particular advantages for the young adult only programme.

This early intervention model for delivering DBT to young adults with a diagnosis of BPD warrants further evaluation, including long term follow up and an evaluation of the associated health economics. If replicated, such findings could have far reaching practice implications. In addition, the study raises questions about mechanisms of change in DBT, in particular the possible contribution made by some group factors. Since trial methodologies are not always ideally suited to exploring how treatment works (Wampold & Imel, 2013), future research on DBT may benefit from incorporating some qualitative and process-orientated research methods to address such material.

## **Chapter 4**

**Outcomes for six months of standalone DBT group skills training compared to standard DBT for adults with a diagnosis of borderline personality disorder: A community-based study**

## **Abstract**

**Background.** Dialectical behaviour therapy (DBT) group skills training shows promise for the treatment of borderline personality disorder (BPD), but data remain limited.

**The Current Study.** We describe a naturally occurring non-equivalent, quasi-experimental comparison of outcomes for standalone DBT group skills training and standard (i.e. all modes) DBT for BPD after six months of treatment.

**Method.** While continuing to receive routine community mental health care, 34 participants with a diagnosis of BPD elected to undertake standalone DBT group skills training as an alternative to a long waiting time for standard DBT. Outcomes were compared to those of 54 participants with a diagnosis of BPD in standard DBT at six months. Participants who had attempted suicide in the past year or who had ongoing medically serious self-harm were excluded from the standalone group skills condition but not standard DBT. All participants completed a battery of outcome measures at baseline which were repeated at six months.

**Results.** Dropout was significantly higher for standalone DBT group skills training than standard DBT at 38% vs. 17% respectively. Analysis of covariance carried out on completers at six months found no differences in outcomes between treatment conditions after controlling for covariates on borderline symptom severity, general psychopathology, and suicide ideation. We also found lower hopelessness and difficulties in emotion regulation for the standalone skills condition. In addition, a higher proportion of completers of group skills training showed clinically significant change on difficulties in emotion regulation.

**Discussion.** Outcomes for completers of standalone DBT group skills training may be similar to standard DBT for some patients who are willing to use a group only treatment where there is no recent suicide attempt or severe self-harm. Methodological factors limit our findings, including non-randomisation and reliance on self-report measures. Future research might investigate a stepped-care model of DBT based on severity of symptoms.

## 4.1 Introduction

Not all people who could benefit from psychotherapy receive it (Dezetter, Briffault, Lakhdar, & Kovess-Masfety, 2013; Kazdin, 2015). Resources are frequently limited and demand for psychotherapy is high (Hadjipavlou, Sierra Hernandez, & Ogrodniczuk, 2015; Hamm et al., 2015). Community-based treatment for borderline personality disorder (BPD) is no exception. BPD is a prevalent, serious psychological disorder associated with high levels of functional impairment, frequent suicide attempts, and a 4% rate of completed suicide over ten years, far higher than most other mental health problems (Kjaer, Bisikin, Vestergaard, Gustafsson, & Munk-Jorgensen, 2016; Zanarini et al., 2007). Standard Dialectical Behaviour Therapy (DBT: Linehan, 1993a, 2015) is an effective treatment for BPD (Stoffers et al., 2012), including in routine settings (Stiglmayr et al., 2014), and with gains that are maintained one year post-treatment (Wilks, Korslund, Harned, & Linehan, 2016). Despite this, there is insufficient DBT available in the community (Carmel, Rose, & Fruzzetti, 2014; Richter, Steinacher, zum Eschenhoff & Bermpohl, 2016). The standard model of DBT places a greater-than-usual burden on resources due to the multiple modes of delivery; namely one hour of weekly individual DBT psychotherapy sessions, two and a half hours of weekly group skills training, between-session telephone coaching, and weekly therapist team consultation meetings (Comtois, Koons, Kim, Manning, Bellows & Dimeff, 2007; Rizvi, Steffel, & Carson-Wong, 2013). While demand on service is also an aspect of other evidence-based therapies for BPD, questions have been asked about the practicality of delivering standard DBT on a large scale in the real world (Brodsky & Stanley, 2013; Swenson, Torrey, & Koerner, 2002).

One well-established strategy to scale up the delivery of empirically supported treatments has been to adapt interventions into group formats (Naik, O'Brien, Gaskin, Munro, & Bloomer, 2013; Petrocelli, 2002). Many of the assumptions of cognitive-behavioural

therapy (eg. patient as active-collaborator and problem-solver) as well as cognitive-behavioural strategies (eg. psychoeducation, acquiring new skills, and between-session tasks or homework) lend themselves easily to group therapy (Bieling, McCabe, & Antony, 2006; Sochting, 2014). Group therapy has often been estimated to have similar outcomes and better cost-effectiveness than individual psychotherapy, although these general conclusions may vary across specific disorders (Burlingame, Strauss, & Joyce, 2013).

Anecdotal accounts suggest widespread implementation of DBT group skills training for BPD in the community without the other modes of standard DBT (McMain, Guimond, Barnhart, Habinski & Streiner, 2016). This practice developed with little empirical support (Valentine, Bankoff, Poulin, Reidler, & Pantalone, 2015). Researchers may have had concerns about investigating a stripped-down version of an evidence-based treatment for a high risk clinical population since DBT has always emphasised the need for careful individual case management (Swales, 2010). Yet from the outset DBT has employed a skills deficit model of BPD where skills development has been framed as a central mechanism of change in treatment (Lynch, Chapman, Rosenthal, Kuo, & Linehan, 2006). Support for this view comes from studies which have found that DBT skills use mediates treatment gains (Neacsiu, Rizvi & Linehan, 2010). Skills use has also been associated with outcomes for DBT independently of patient self-efficacy, therapeutic alliance, or perceived treatment credibility (Barnicot, Gonzalez, McCabe, & Priebe, 2016). Despite the lag between research and practice, recent studies indicate that DBT group skills training may be effective in the treatment of BPD (Table 4.1).

A crucial concern remains how outcomes for standalone group-based DBT skills training for BPD compares to the full, multi-modal DBT treatment package. In an effort to address this question Linehan et al. (2015) carried out a dismantling trial comparing a version of DBT group skills training with standard DBT in the treatment of BPD, the only such study

**Table 4.1**

*Studies reporting outcomes for standalone dialectical behaviour therapy (DBT) group skills training for borderline personality disorder (BPD) or deliberate-self harm*

<b>Authors</b>	<b>Year</b>	<b>Study Design</b>	<b>DBT Component</b>	<b>Main Findings</b>
Soler et al.	2009	Randomised controlled trial  Modified DBT skills training vs Treatment as usual	13 weeks of 2 hours skills training group (partial curriculum)	DBT group had wide ranging mental health improvements compared with treatment as usual
Blackford & Love	2011	Pre-post design, no control	6 months of 1.5 hours weekly skills training group (full curriculum)	Improvement in depression
Gibson, Booth, Davenport, Keogh, & Owens	2014	Randomised controlled trial  DBT informed skills training vs Treatment as usual	Inpatient group programme offered three times per week (limited curriculum)	Greater reductions in self-harm and emotion dysregulation for DBT informed treatment
Linehan et al.	2015	Randomised controlled trial  Standard DBT vs. DBT skills training vs. Individual DBT Therapy Only	1 year of all modes of standard DBT vs 2.5 hours of weekly skills training group (full curriculum) plus case management vs. individual DBT therapy plus support group	Similar improvements in frequency and severity of suicide attempts, suicidal ideation, use of crisis services across conditions. Skills and standard DBT associated with greater reductions in self-harm.
Vickers	2016	Pre-post design, no control	6 months of weekly skills training (adapted curriculum)	Improvement in anxiety and depression
McMain, Guimond, Barnhart, & Steiner	2016	Randomised controlled trial  Standalone DBT skills training vs Treatment as usual	20 weeks of 2 hours skills training group (full curriculum)	Greater reductions in self-harm for DBT skills training

to be published to date. The group skills training condition of the Linehan et al. study excluded individual DBT therapy and telephone coaching, but provided individual case management for reasons attributed to patient safety. Case management offered participants attending weekly DBT skills group the option of individual meetings with a non-DBT trained case worker on an “as-needed” basis. Case managers were trained in the same risk assessment and management protocol used by individual DBT therapists in standard DBT. On average, 19 hours of case management were accessed by participants in the skills training condition over one year of treatment (Linehan et al., 2015, p. 479). Against expectations, Linehan et al. (2015) reported that both the group skills only plus case management and the standard DBT treatments had similar outcomes. They also found that both of these treatment conditions performed better than a third comparison treatment, individual DBT therapy without group skills training.

The study by Linehan et al. (2015) provides support for DBT group skills training in the treatment of BPD. Yet due to their inclusion of case management in their DBT group skills training condition, uncertainty remains concerning how well the standalone group skills condition would perform against standard DBT with no individual clinical support. This is a matter of considerable clinical relevance. It is common practice in the community to deliver DBT group skills training with no individual therapist or caseworkers because of sparse resources (McMain et al., 2016; Valentine et al., 2015). No study has compared outcomes of DBT group skills training without any one-to-one support to standard DBT in the treatment of BPD. Our aim was to carry out such a comparison in community-based clinical services.

## 4.2 Method

### 4.2.1 Design

A non-equivalent, quasi-experimental design was used in the study which compared participant outcomes between two conditions after six months of treatment: standalone DBT group skills training, and standard (i.e. all modes) DBT. Treatment allocation took place independently of the study, which took advantage of a naturally occurring opportunity to compare outcomes across treatment conditions. All participants continued to attend their routine community mental health services for the duration of the study. A battery of self-report measures was administered to participants immediately before beginning treatment in either condition and repeated six months later. The study was carried out at two separate services to increase opportunities for participant recruitment.

The main inclusion criterion for participants was an existing diagnosis of BPD (DSM-IV-TR: APA, 2000) or the equivalent diagnosis of emotionally unstable personality disorder (Lai, Leung, You, & Cheung, 2012; WHO, 1992), typically by a treating psychiatrist. 89.4% of the sample had a score of at least 2.00 on the Borderline Symptom List (BSL23: Bohus et al., 2009; see below) and 39.8% of the sample had a score of at least 3.00 on the BSL23, with a sample mean (SD) of 2.84 (.61) ranging from 1.70 to 3.90. The BSL23 was not used to determine study inclusion but in the absence of an independent diagnostic assessment of BPD as part of the study these scores are consistent with moderate to high BPD severity based on DSM-IV-TR criteria (Glenn, Weinberg, & Klonsky, 2009).

Exclusion criteria for participation in the study mirrored exclusion criteria for the DBT teams. A history of an enduring psychotic disorder or a primary alcohol or drug related problem was an exclusion criterion for all treatments. Standalone DBT group skills training (but not standard DBT) also excluded participants who had either made a suicide attempt in



the previous year and/or who had ongoing medically serious self-harm (defined as self-harm of an imminently life-threatening nature or routinely requiring medical treatment).

Participants in standalone skills training who were attending external counselling or had regular individual professional support of a psychosocial nature were also not included in the study.

#### **4.2.2 Setting and treatment allocation**

Data were collected by two community-based DBT teams which were part of public community-based adult mental health services. The first DBT team was based in counties Down and Armagh in Northern Ireland (Team A) covering a mixed rural and urban catchment of 300,000 population of all ages. The second team was located in county Dublin in the Republic of Ireland (Team B) covering a catchment of 180,000 total population. Both teams had been involved in the delivery of standard DBT for several years. In addition, at the time of the study the teams had accumulated long waiting lists to access standard DBT.

Approval had been independently obtained by both teams to pilot standalone DBT group skills training of six months duration in parallel to continuing standard DBT in an effort to improve availability of treatment. Patients were offered the choice of prompt access to standalone DBT group skills training or to wait for standard DBT. The DBT group skills training option was available in a matter of weeks whereas the waiting time for standard DBT was at least one year. Patients were made aware that choosing DBT group skills training would result in surrendering their position on the waiting list for standard DBT. To receive standard DBT in the future, they would need to be re-referred to the DBT team. Patients were also made aware that if they dropped out of DBT group skills training they would also forsake their place on the DBT waiting list, and would need to be newly referred if they wished to access standard DBT.

### 4.2.3 Participants

Participants were 88 adult users of community mental health services who had been referred to one of the DBT Teams for treatment. 83% (73) were women and 17% (15) were men with an average age of 33.32 years ranging from 18 to 59 years. 54 participants started standard DBT (37 from Team A, 17 from Team B). 34 participants started standalone DBT group skills training (23 from Team A, 11 from Team B). All participants in the standard DBT condition had started treatment prior to the introduction of the DBT group skills training option and had not been given this treatment option. All participants in the standalone DBT group skills training condition had been offered both group skills training and standard DBT (albeit with a long delay for standard DBT), and had elected to take the group skills option. Demographic and clinical characteristics (Table 4.2) were compared by treatment condition using independent-sample t-tests for age and chi-square tests (with Yates Continuity Correction) for all remaining categorical variables. No significant differences were found on demographic and clinical characteristics between treatment conditions with the exception of a previous suicide attempt,  $\chi^2(1, n = 88) = 4.75, p = .03$  and prior use of an emergency department (ED) for self-injury,  $\chi^2(1, n = 88) = 4.61, p = .03$ , both of which were higher in the standard DBT condition.

### 4.2.4 Treatment conditions

**Continuing routine care.** DBT group skills training or standard DBT were supplementary to existing routine care in the community. Routine care typically consisted of outpatient reviews by a consultant psychiatrist, psychiatric registrar, or family doctor every two to three months plus psychopharmacotherapy. 88.6% of all participants (91.2% in DBT group skills training and 87% in standard DBT; Table 2) used daily prescribed psychotropic medication for the full duration of the study.

**Table 4.2**

*Demographic and clinical characteristics of all participants by treatment condition. Data are given as a percentage (number) unless otherwise specified.*

<b>Variable</b>	<b>Group Skills</b>		<b>Standard DBT</b>		<b>All</b>	
<b>Demographic Characteristics</b>	<b>(n = 34)</b>		<b>(n = 54)</b>		<b>(N=88)</b>	
Age, mean (SD)	33.50	(10.46)	33.20	(8.31)	33.32	(9.14)
Gender:						
Female	82.4%	(28)	83.3%	(45)	83.0%	(73)
Male	17.6%	(6)	16.7%	(9)	17.0%	(15)
Education:						
Second level only	79.4%	(27)	70.4%	(38)	73.9%	(65)
Some post-second level	20.6%	(7)	29.6%	(16)	26.1%	(23)
Accommodation:						
Permanent/rented/family	97.1%	(33)	98.1%	(53)	97.7%	(86)
Homeless/sheltered	2.9%	(1)	1.9%	(1)	2.3%	(2)
Employment:						
Employed/In education	29.4%	(10)	25.9%	(14)	27.3%	(24)
Unemployed	70.6%	(24)	74.1%	(40)	72.7%	(64)
<b>Pre-existing Clinical Diagnoses</b>						
BPD	100%	(34)	100%	(54)	100%	(88)
Eating disorder	29.4%	(10)	42.6%	(23)	33.0%	(29)
PTSD	23.5%	(8)	35.2%	(19)	30.7%	(27)
Addiction (alcohol or drugs)	29.4%	(10)	35.2%	(19)	33.0%	(29)
<b>History of High Risk Behaviours</b>						
Previous suicide attempt	67.6%	(23)	88.9%	(48)	80.7%	(71)
History of self-injury	76.5%	(26)	90.7%	(49)	85.2.0%	(75)
Use of ED for self-injury	47.1%	(16)	72.2.8%	(39)	62.5%	(55)
<b>Mental Health Care</b>						
Previous hospitalisation	52.9%	(18)	63.0%	(34)	59.1%	(52)
Previous therapy	82.4%	(28)	77.8%	(42)	79.5%	(70)
Currently taking medication	91.2%	(31)	87.0%	(47)	88.6%	(78)

**Standard DBT.** Our study tracked outcomes for the first six months of standard DBT. Standard DBT provided all four modes of DBT (Linehan, 1993a): one hour of weekly individual DBT therapy including up to four weeks of individual ‘pre-treatment’ sessions to orientate and agree targets and goals prior to the onset of treatment, two and a half hours of weekly skills training with two skills trainers, weekly therapist consultation, and telephone coaching. The curriculum used for skills training was “Schedule 1: 24 Weeks, Linehan Standard Adult DBT Skills Training Schedule” (Linehan, 2015, pp. 110-111). This four module curriculum consists of repeated blocks of mindfulness training followed by modules on distress tolerance, emotion regulation, and interpersonal effectiveness. The standard DBT condition was delivered as an open programme. Recruitment of new participants occurred on a continuing basis. Participants could enter the skills training mode of standard DBT at the beginning of any module, space permitting (i.e. there were three entry points every six months). Consequently, the skills training mode of standard DBT had changing group membership over the course of each participant’s treatment. The trainers also rotated over the period of treatment, usually delivering one or two modules before rotating. Participants in standard DBT could continue with a second six months of this treatment (i.e. six months was not the end-point of treatment with standard DBT) but the outcomes for this additional half year of treatment with standard DBT were not included as part of our study.

**Standalone DBT group skills training.** Standalone DBT group skills training was offered as a six month intervention (i.e. in contrast to the standard DBT condition in the study, the end-point of treatment also corresponded with the final data collection point for outcomes in the study). Standalone DBT skills training involved two modes of DBT: two and a half hours of weekly skills training and weekly therapist team consultation. The same 24 week curriculum was used as for standard DBT (see above). Treatment entailed once-weekly group skills training for 23 consecutive weeks and a month’s interval before the final 24<sup>th</sup>

session. Neither individual DBT therapy nor telephone coaching was provided. Unlike the standard DBT condition, which included an open group mode, DBT group skills training was offered as a closed programme of six months duration. Participants who dropped out of treatment were not replaced by new group members as happened in our standard DBT condition. Also in contrast to our standard DBT condition, the therapists for the skills training condition did not rotate and remained the same for each separate cohort over their six months of treatment. In total, three separate cohorts of DBT group skills training were included in the study, two from Team A and one from Team B.

Similar to other studies of standalone DBT group skills training for BPD (Linehan et al., 2015; McMain et al., 2016) each participant in DBT group skills training was initially provided with one ‘pre-treatment’ consultation. These meetings were carried out by one of the therapists scheduled to run that participant’s group skills programme. As noted above, our standard DBT condition also included pre-treatment sessions which had the same function as the group skills training condition, namely orientation and agreement on targets and goals. However, for the standard DBT condition pre-treatment sessions were conducted by the future individual DBT therapist and up to four pre-treatment sessions were available.

Our standalone DBT group skills training condition required the therapists to use three specific strategies in each skills training session which are characteristic of individual DBT therapy and desirable, but not essential, in the skills training mode of standard DBT (Swenson, 2016). First, as part of adopting a dialectical stance (i.e. being non-rigid, flexible, and accommodating) therapists were required to explicitly comment on at least one dialectical strategy arising from material discussed in the session (e.g. moving away from extremes, making lemonade out of lemons, or letting go of blame; Linehan, 2015; pp-290 - 294). Second, therapists in the group skills training condition were required to use each of Linehan’s (1997) six levels of validation in response to material being addressed at least once

during every group session. These six strategies are intended to communicate what is understandable about a person's response or actions, regardless of the effectiveness or otherwise of such responses or actions. The levels of validation are (1) pay attention, (2) reflect back without judgement, (3) 'read minds', (4) understand causes, (5) acknowledge the valid, and (6) show equality (Linehan, 2015, pp. 298 – 302). Third, participants were taught to carry out their own behavioural and solution analysis in the 17<sup>th</sup> group skills training session. Behavioural (or 'chain') analysis seeks to establish the sequence and contingencies associated with problematic behaviour. Solution analysis is used to generate meaningful replacement behaviours for problematic links on a corresponding behavioural chain (Heard & Swales, 2016). Behavioural and solution analysis is a central strategy in the individual DBT therapy mode of standard DBT (Koerner, 2013) but it is not normally a requirement to teach this in the skills training mode of standard DBT.

#### **4.2.5 Therapists**

The standard DBT condition was delivered by 12 therapists who each provided either the individual DBT therapy mode or skills training mode of treatment. Eight of the 12 provided both modes. Team A was comprised of four therapists (one psychologist, two social workers, and one mental health nurse) and Team B was made up of eight therapists (five psychologists, including myself, one social worker, and two mental health nurses). All therapists had completed no less than ten days standard training in DBT. Ten of the therapists had at least four years' experience in delivering DBT, the remaining two therapists had less than two years' experience with DBT. Most therapists contributed to the skills training mode of standard DBT by co-leading modules and all but one therapist delivered weekly individual DBT sessions. Individual DBT therapy caseload ranged from one to seven at any one time.

The DBT group skills training condition was delivered by a subset of therapists involved in the delivery of the standard DBT condition, two from Team A and two from Team B. The same two therapists delivered all 24 sessions of each group skills programme. Two of the three group skills programmes were led by myself, an accredited DBT trainer with ten years of experience providing all modes of DBT.

#### **4.2.6 Treatment fidelity**

Formal rating of fidelity to the treatment model using the system developed by Linehan and Korslund (2003) was not carried out due to logistical and financial considerations in this study of typical community practice. All therapists committed to implementing the treatment conditions as prescribed (Linehan, 1993a, 2015). In addition to the standard DBT treatment mode of weekly peer consultation meetings which are intended to promote treatment fidelity (Koerner, 2012), supplementary informal monthly monitoring of adherence paired with on-site training and consultation were provided to the teams by myself as an incentive for carrying out data collection.

#### **4.2.7 Measures and dropout**

**Borderline symptom severity.** The Borderline Symptom List 23 (BSL23; Bohus et al., 2009) was used to measure borderline symptom severity. The BSL23 is a 23 item self-rating assessment of symptoms typical of BPD. Bohus et al (2009) reported high internal consistency ( $\alpha = .94 - .97$ ) and satisfactory test-retest reliability, demonstrated alongside sensitivity to change and discriminant validity.

**General psychopathology.** The Symptom Checklist-90-Revised: Global Severity Index (SCL-90-R: GSI; Derogatis, 1994) is a measure of general psychopathology and consists of 90 questions about mental health symptoms or problem areas over the past seven days. The Global Severity Index (GSI) has been found to be the best indicator of the level of

current distress on the SCL-90-R with high internal consistency ( $\alpha = .93$ ) in addition to overall satisfactory convergent and discriminant validity for the SCL-90-R (Prinz et al., 2013) and satisfactory test-retest reliability (Horowitz, Rosenberg, Baer, Ureno, & Villasenor, 1988).

**Hopelessness.** The Beck Hopelessness Scale (BHS; Beck, Weissman, Lester, & Trexler, 1974) was used to measure hopelessness. The BHS is a 20-item scale with internal consistency ranging from .83 to .93 (Dozois & Covin, 2004). Among clinical populations, satisfactory test-retest coefficients have been reported (Beck & Steer, 1988).

**Suicide ideation.** The Beck Scale for Suicide Ideation (SSI; Beck & Steer, 1991) was used as a measure of suicide ideation. The SSI is a 21 item questionnaire which has been found to possess high internal reliability with ( $\alpha$  ranging ranging from .87 to .97) with moderate test-retest reliability demonstrated over one week with a psychiatric inpatient sample (Beck, Steer & Ranieri, 1988).

**Difficulties in emotion regulation.** The Difficulties in Emotion Regulation Scale: Summary Score (DERS: Summary; Gratz & Roemer, 2004) consists of 36 items developed to assess clinically relevant difficulties in emotion regulation. Seven scores are produced including the DERS Summary score which includes all items and is the score used in the present study. The DERS has been reported to possess adequate internal consistency ( $\alpha = .93$ ) and test-retest reliability (Gratz & Roemer, 2004).

**Dropout.** Dropout was recorded when participants were discharged from treatment by their DBT team. For the standalone DBT group skills training condition, discharge took place when the participants missed the group for four weeks in a row. For the standard DBT condition, discharge took place when a participant missed either skills group or individual DBT therapy for four weeks in a row, consistent with the standard 'four miss rule' in DBT



(Linehan, 1993a). Once discharge had taken place, we did not have ethical approval in this community-based study to collect further data on participants.

#### **4.2.8 Classification of outcome**

We classified outcomes in two ways. The first used six month scores on outcome measures after adjusting for baseline scores on the measure as a covariate. The second involved whether a participant achieved improvement (i.e. reliable change) or recovery (i.e. clinically significant change) on each measure using Jacobson and Truax's (1991) reliable change index, calculated using software developed by Morley and Dowzer (2014). The index is based on changes between baseline and post-treatment on each measure, instrument reliability, and clinical and nonclinical distributions on the measure. Participants can be categorised as showing 'no change', 'deterioration', 'improvement', or 'recovery'. No change is defined as individual change between baseline and post-treatment on the measure of less than  $\pm 1.96$  standard deviations from the sample baseline mean score adjusted for measurement error. Deterioration or improvement/reliable change is defined as individual change between baseline and post-treatment equal or exceeding  $\pm 1.96$  standard deviations from the sample mean score adjusted for error. Recovery/clinically significant change is defined as the presence of reliable change in addition to a post-treatment score closer to the mean of healthy controls than the clinical-population. The original validation studies were used for establishing normative data for each of the measures in addition to data on adults with BPD where available. The deteriorated or improved/reliable change indices, recovery/clinically significant change cut-offs, and sources of normative data were as follows: BSL23 (deteriorated or improved/reliable change =  $\pm .32$  recovery/clinically significant change  $\leq .72$ ; Bohus et al., 2009); SCL-90-R: GSI (deteriorated or improved/reliable change =  $\pm .41$ , recovery/clinically significant change  $\leq .69$ ; Derogatis, 1994; Schulz et al., 2008); BHS (deteriorated or improved/reliable change =  $\pm 2.97$ ,

recovery/clinically significant change  $\leq 6.64$ ; Beck & Steer, 1988; Verardi, Nicastro, McQuillan, Keizer, & Rossier, 2008; Greene, 1981); SSI (deteriorated or improved/clinically significant change =  $\pm 6.95$ , recovery/clinically significant change  $\leq 1.55$ ; Beck, Kovacs & Weissman, 1979; Beck, Steer, & Brown, 1997); DERS: Summary (deteriorated or improved/reliable change =  $\pm 15.73$ , recovery/clinically significant change  $\leq 102.24$ ; Gratz et al., 2004; Wilks et al., 2016; Ritschel, Tone, Schoemann, & Lim, 2015).

#### **4.2.9 Data analysis**

Statistical analysis of the data was conducted using SPSS version 22.0 (IBM Corp, 2013). A series of one-way between-group analyses of covariance (ANCOVA) were carried out to compare participants' scores at six months on several measures across standalone DBT skills training and standard DBT. The independent variable in each ANCOVA was the type of treatment, standalone DBT group skills training or standard DBT. The dependent variable in each analysis was the six month score on one of five outcome measures, BSL23, SCL-90-R: GSI, BHS, SSI, and DERS: Summary. Participants' baseline scores on the relevant measure were used as the first covariate in each analysis to control for any differences between conditions at the onset of treatment. The treatment team (Team A or B) was included as a second covariate. Although significant differences were found between the two treatment conditions at baseline on variables relating to prior suicide attempts and use of ED for self-injury (see above), these factors were not introduced as additional covariates because they were a defining feature of the exclusion criteria for the DBT group skills training conditions. The proportion of individual participants who showed improvement/reliable change and recovery/clinically significant change were compared across treatment conditions on series of chi-squared tests (with Yates Correction) and Fisher's exact tests where cells had less than five observations.

#### 4.2.10 Procedure

All patients offered treatment by either DBT team were invited to participate in the study during their initial clinical assessment by the therapist who conducted the assessment interview. Verbal and written information on the research was provided (i.e. this was part of a multi-centre evaluation of outcomes for treatments provided by DBT teams for people living with BPD). Where a patient expressed a willingness to become involved in the study, a request was made for signed consent. Prospective participants were notified that no payment was available in return for involvement in the research. Prospective participants were also informed they could withdraw from the research at any time. It was expressly stated that participation in the research would have no effect on treatment options or treatment availability, decisions around which were made independently of the study (see Appendix A for a sample Letter of Information and Consent Form). 91% of patients who were invited to participate in the study consented to do so. One participant formally withdrew from the study in their 9<sup>th</sup> month of treatment, requesting the destruction of their data. This individual's data have been excluded from the analyses reported in this paper.

Each battery of measures was completed during a single sitting at each data collection point (immediately prior to starting treatment or following 24 weeks of treatment for both treatment conditions) on-site in the presence of a member of the DBT team. Data on a total of three separate DBT group skills training programmes were collected between June 2015 and October 2016 (two delivered by Team A and one delivered by Team B). Data on standard DBT were collected between September 2013 and June 2016. Demographic and clinical information on participants were also gathered from treating therapists.

Ethical approval for the project was granted by the National Research Ethics Service via the local ethics committee in the United Kingdom for Team A and St. John of God Services in Ireland for Team B, with institutional research ethics and governance approval

from Bangor University (see Appendix B for sample research ethics application and research proposal; see Appendix C for documentation of research approvals from each site).

## **4.3 Results**

### **4.3.1 Dropout**

38.2% (13) of participants in the DBT group skills training condition dropped out of treatment and 16.7% (9) of participants in the standard DBT condition dropped out. A chi-squared test (with Yates Correction) found that dropout was significantly associated with treatment condition,  $\chi^2$  (df = 1,  $n$  = 88) = 4.09,  $p$  = .04.

### **4.3.2 Comparing scores at six months by treatment condition**

Checks were conducted to confirm there were no violations of the assumptions of normality, linearity, homogeneity of variances, homogeneity of regression slopes, and reliable measurement of the covariates. All assumptions were adequately met for each ANCOVA. The analyses found no effect for treatment condition at six months on borderline symptom severity using BSL23 scores, global psychopathology using SCL-90-R: GSI scores, and suicide ideation using SSI scores after controlling for covariates (Table 4.3). Hopelessness using BHS scores and difficulties in emotion regulation using DERS Summary scores at six months were significantly lower for the DBT group skills training condition than after adjusting for the covariates. Using partial eta squared ( $\eta_p^2$ ) as a measure of effect size, treatment condition had a moderate effect size ( $r$  = .09) for hopelessness and a large effect size ( $r$  = .13) for difficulties in emotion regulation based on Cohen's (1988) criteria.

### **4.3.3 Comparing reliable change at six months by treatment condition**

Using Jacobson and Truax's (1991) reliable change index, completers were classified as deteriorated (i.e. negative reliable change), no change, improved (i.e. positive reliable change), and recovered (i.e. clinically significant change) on each outcome measure (Figure 4.1). The proportion of participants who showed at least improvement were compared by treatment conditions on each outcome measure using a series of chi-squared tests

**Table 4.3**

*Series of one way between-group analyses of covariance comparing post-treatment scores on several measures among completers of six months of treatment with standalone DBT group skills training (n = 21) and standard DBT (n = 45)<sup>a</sup> after adjusting for baseline scores and treatment team as covariates. Partial eta squared ( $\eta_p^2$ ) is used as a measure of effect size.*

Measure	Means (standard deviation) at baseline			Means (standard deviation) at 6 months			Outcomes at 6 months after controlling for covariates				
	Group skills			Group skills			Standard DBT				
	$\bar{x}$	S	$\bar{s}$	$\bar{x}$	S	$\bar{s}$	$\bar{x}$	S	F	p	$\eta_p^2$
BSL23	2.68	.71	2.97	.54	2.05	.74	2.56	.72	3.47	.07	.05
SCL-90-R: GSI	2.49	.68	2.50	.68	1.77	.76	2.09	.73	3.28	.08	.05
BHS	11.52	4.76	13.44	5.38	8.00	5.51	11.91	4.93	6.06	.02	.09
SSI	12.81	10.06	16.47	8.52	9.00	9.34	13.09	8.72	.70	.41	.01
DEERS: Summary	135.86	17.53	135.30	25.87	96.24	26.25	115.12	20.67	5.70	.02	.13

<sup>a</sup>DEERS: Summary scores are only available for 21 completers of standard DBT

(with Yates Correction). A significant association was found between improvement and treatment condition on difficulties in emotion regulation using DERS: Summary,  $\chi^2(1, n = 42) = 4.68, p = .03$ , where the proportion of improved participants was higher for the standalone DBT group skills training condition. No associations were found between proportion of participants showing improvement and treatment condition on the following measures: BSL23,  $\chi^2(1, n = 66) = .05, p = .82$ ; SCL-90-R: GSI,  $\chi^2(1, n = 66) = 1.08, p = .30$ ; BHS,  $\chi^2(1, n = 66) = 1.45, p = .23$ ; SSI,  $\chi^2(1, n = 66) = .03, p = .86$ .

The proportion of participants who showed recovery were also compared by treatment condition on each outcome measure. Chi-squared tests (with Yates Correction) were carried out on BHS and DERS: Summary and a Fisher's exact test was carried out on SSI scores. There were no incidences of recovery on BSL23 and SCL-90-R: GSI in either treatment condition. A significant association was found between recovery and treatment condition on difficulties in emotion regulation using DERS: Summary,  $\chi^2(1, n = 42) = 3.73, p = .04$ , where the proportion of participants who were closer to normal functioning than a clinical population at the end of six months of treatment was higher for the standalone DBT group skills training condition. No differences in recovery between conditions were found on BHS,  $\chi^2(1, n = 66) = 2.01, p = .16$  or SSI ( $p = .32$ ).



<sup>a</sup>  $n = 21$  for standard DBT condition on DERS: Summary

Figure 4.1. Classification of individual change on measures among six month completers using Jacobson and Truax's (1991) reliable change procedure by treatment condition, standalone DBT group skills training ( $n = 21$ ) and standard DBT ( $n = 45$ ).



## 4.4 Discussion

Standalone group-based DBT skills training for BPD is widely available in the community where it may be perceived as a viable alternative to standard (i.e. all treatment modes) DBT. Encouraging evidence has accumulated for DBT group skills training in the treatment of BPD, yet more research is needed to compare this adaptation with standard DBT. We aimed to carry out the first community-based comparison of outcomes for these two treatment conditions where both were provided as adjuncts to routine mental health care. We found dropout for standalone DBT group skills training was 38%, significantly higher than standard DBT at 17%. We found no differences between conditions among completers of six months of either treatment on borderline symptom severity, general psychopathology, and suicide ideation. We found lower hopelessness and difficulties in emotion regulation scores among completers of DBT group skills training than standard DBT. The proportions of individual participants who improved and recovered on difficulties in emotion regulation were also greater for DBT group skills training than standard DBT.

Similar outcomes between a DBT group skills training condition and standard DBT were also reported by Linehan et al. (2015). Whereas Linehan and her colleagues acknowledged that a confounding factor in their study was the inclusion of elective (and well-utilised) individual case management, our standalone DBT group skills training condition had no such individual case management or any form of individual therapy. The skills condition was entirely group-based with the exception of one individual pre-treatment meeting.

These are interesting, even counter-intuitive, findings. Standard DBT has a higher treatment dose over a six month treatment period than standalone DBT group skills training. Standard DBT is also deliberately tailored to the individual needs of the patient (Rizvi et al., 2013), unlike the DBT group skills condition. One possible interpretation of this pattern of

results is that both treatment conditions share essential active ingredients. The acquisition of DBT skills has been hypothesised as the central mechanism of action in DBT, serving to remediate existing skills deficits presumed to be a defining characteristic of BPD (Lynch et al., 2006). In support of this theory, a number of studies have reported a positive relationship between DBT skills use and improvement (Barnicot et al., 2016; Neacsiu et al., 2010). Our finding of similar outcomes between conditions may reflect the presence of skills training as a potent shared element in both versions of the treatment. An alternative interpretation of our findings relates to group cohesion. Cohesion in group-based psychotherapies refers to the sum of members' attitudes and feelings toward the group, especially the attractiveness of the group and sense of "we-ness" (Yalom & Leszcz, 2005). It includes relationships between leaders and the group as well as between members and the group, and has been found to predict positive outcomes across different therapy models (Marmarosh & Van Horn, 2010). In our study, there were structural differences between treatments in how group skills training was organised which may have impacted cohesion. Our standard DBT condition had an open group skills training component, as is usual in DBT (Linehan, 2015). Group membership changed continuously, including rotating therapists, roughly every two months. By contrast, the DBT group skills training condition was closed. There was fixed group membership, including therapists, for the full six months of each treatment cohort. Longer group membership has been associated with better cohesion because sufficient member interaction is needed for cohesion to develop (Burlingame, McClendon, & Alonso, 2011). Given the benefits associated with higher cohesion, we speculate this may have been a factor in offsetting the absence of individual therapy or case management for participants in the group skills condition.

Our findings also appear to indicate standalone DBT group skills training may offer some benefits over standard DBT in terms of improved emotion regulation, yet we think it

more likely that the difference in outcomes for hopelessness and difficulties in emotion regulation relates to the non-equivalence of our treatment conditions. Our group skills condition excluded higher risk participants who had attempted suicide in the previous year or had ongoing medically serious self-harm, a clinical decision made by the treating teams independently of the research for reasons related to patient safety. No such exclusion criteria applied to the standard DBT condition. Correspondingly, the only differences found between conditions at baseline on demographic or clinical variables were the presence of a prior suicide attempt and use of ED services for self-harm, both of which were higher in the standard DBT condition. It is possible that while both conditions were similar in other respects, more participants in the standard DBT condition had their treatment narrowly focused on specifically reducing suicidality and self-harm, which are always prioritised on a treatment hierarchy in standard DBT when present (Linehan, 1993a). By contrast, more participants in the standalone DBT group skills condition, with less severe risk-related behaviours, may have had opportunity to address a wider range of problems related to building hope for the future and reducing emotion regulation. Additionally, all participants in the standalone group skills condition finished treatment at six months, whereas the participants in standard DBT were continuing with six further months of treatment. We speculate that feelings of optimism and mastery associated with completing a treatment may have inflated some of the self-report scores among the standalone group skills condition compared to the standard DBT.

Our findings have implications for service delivery. Standalone DBT group skills training is a less resource intensive intervention than standard DBT involving fewer clinical contact hours per patient. Delivery of our DBT group skills training condition for ten patients in the same cohort over 24 weeks requires a total of 120 hours of direct clinical contact (two therapists as skills trainers x 2.5 hour skills group x 24 weeks). Standard DBT for ten

patients in the same cohort over 24 weeks requires a total of 360 hours of planned direct clinical contact (ten individual therapist slots x one hour of therapy x 24 weeks plus two therapists as skills trainers x 2.5 hour skills group x 24 weeks), and this excludes time devoted to the telephone consultation mode. Our DBT group skills training condition appears to be an attractive intervention for BPD, clinically justifiable with greater scalability than standard DBT.

There are several caveats to this conclusion. First, the therapists in our study who delivered the DBT group skills training condition were well trained and experienced in all modes of DBT for BPD. Therapist expertise has been shown to influence psychotherapy outcomes (Wampold & Imel, 2015), including the treatment of personality disorders (Siqueland et al., 2000). Our findings should not be interpreted as evidence that therapists with training and experience in solely the skills mode of DBT can achieve the outcomes we report for standalone group skills training. Second, participants who engaged in the standalone DBT group skills training condition did so voluntarily. These individuals showed a willingness to choose a group-based intervention over waiting for more personalised care in standard DBT at a later date. This may not correspond to situations where patients have no choice except a group-based intervention. Third, higher dropout for the group skills condition raises concerns about its suitability for a sizeable minority of participants. The experience of attending standalone DBT group skills training may simply be less appealing than standard DBT. Alternatively, the higher attrition in group skills may reflect absent 'dropout-blocking' practices of individual DBT therapy, where each patient's motivation to remain in treatment is monitored and addressed (Comtois et al., 2007; Linehan, 1993a). A better understanding of factors leading to dropout is needed and in the meantime services delivering standalone DBT skills training for BPD may need to consider contingencies for responding to higher dropout. Fourth, as noted above, participants with suicide attempts in

the past year or severe self-harm were excluded from the standalone skills condition. This describes the high risk, suicidal, and severe self-harming population for which DBT was originally developed, although standard DBT quickly became a treatment for the broader category of BPD which overlaps with chronic suicidality and self-harm (Linehan & Wilks, 2015). Our findings of similar outcomes for group skills and standard DBT do not extend to individuals with BPD who possess these very high risk characteristics. Fifth, we did not collect data on the use of other services by the participants during the six month period and such data would need to be collected in future research. Treatments need to be cost-effective as well as clinically effective. Finally, we report few differences in outcomes between conditions at six months, but it cannot be presumed that such similarity would be preserved across a further six months of treatment in either condition. We found no participants in either condition showed individual recovery on borderline symptom severity or general psychopathology at six months. However, one year of standard DBT for BPD has been associated with recovery among 16% of patients on borderline symptom severity (Stiglmayr et al., 2014). This finding is replicated in Chapter 5 where I describe a recovery rate of 17.8% on both borderline symptom severity and general psychopathology among patients with a diagnosis of BPD following one year of community-based DBT. It is unknown whether similar proportion of patients who show recovery would occur after one year of standalone DBT group skills training.

The main strength of our study is that a clinically important question is addressed which has not been reported in similar community-based research. There are several methodological difficulties which limit our findings. Chief among these is the non-equivalence of participants between treatment conditions where different exclusion criteria were used for the DBT group skills training. In addition, there was no random allocation to treatment conditions. The participants in the group skills condition selected this treatment

option instead of waiting for standard DBT whereas our standard DBT cohort was only offered DBT. There is the possibility that the participants in the group skills condition were different with regard to levels of motivation. Also, we only carried out a completers' analysis rather than an intention-to-treat analysis of the data as we were unable to track participants who dropped out. This is problematic, as differential rates of attrition occurred across conditions with higher dropout for standalone group skills, potentially skewing the comparison of outcomes. Furthermore, we relied exclusively on a single source of data, self-report measures, and included no independent assessment of BPD or any symptoms beyond the presence of an existing clinical diagnosis made by a clinician in the community. Another limitation was the absence of a formal measure of treatment fidelity. The study relied entirely on informal observation by myself to ensure adherent implementation of the components of DBT. Compensatory equalisation may also have occurred where the therapists for the standalone group skills condition may have extended themselves to make up for any perceived disadvantages of this treatment option. Finally, it was not possible to evaluate whether post-treatment outcomes were maintained due to the absence of any follow-up data.

Several areas could be considered by future research. Replication of our findings is needed in other community settings due to the limitations of our study design. Additionally, a controlled study could investigate the viability and cost-effectiveness of a stepped-care model of DBT for BPD based on an assessment of severity and need. Standalone DBT group skills training might be offered to patients with BPD where there is an absence of high risk behaviours and standard DBT might be provided for BPD where high risk behaviours are present. Further investigation is also needed on the poorly understood variable of group cohesion in DBT group skills training, including the relationship of cohesion to treatment outcomes in DBT and factors that may promote cohesion in DBT groups.

## **Chapter 5**

# **Patient variables at baseline as predictors of outcomes of dialectical behaviour therapy for adults with a diagnosis of borderline personality disorder**

## **Abstract**

**Background.** Little has been reported about patient variables which are associated with outcomes for dialectical behaviour therapy (DBT) for borderline personality disorder (BPD) in the community.

**Current study.** We investigated baseline variables of patients with a diagnosis of BPD as predictors of outcome for standard (i.e. all modes) DBT. Potential predictors encompassed sociodemographic characteristics, symptoms, and coping style variables. These were selected based on known relationships to BPD, as well as some naturally occurring variables that may be associated with outcomes.

**Method.** 90 adult participants with BPD started treatment with standard DBT provided by four different teams while continuing to receive routine community mental health care. A battery of self-report measures on symptoms were collected at baseline and therapists also provided participant sociodemographic and clinical information. Treatment outcomes among completers ( $n = 73$ ) of one year of DBT were assessed on borderline symptom severity using the Borderline Symptom List 23 and general psychopathology using the Global Severity Index from the Symptom Checklist 90 Revised.

**Results.** A series of regression analyses found that being female, being employed or in education at the beginning of treatment, lower baseline suicide ideation, and not having a diagnosis of post-traumatic stress disorder (PTSD) were related to better treatment outcomes.

**Discussion.** Treatment modifications may be helpful for factors more likely to be associated with a poor response (e.g. gender-specific skills for males and adjunctive treatment for patients with concurrent PTSD). The selected variables explained only a small proportion of outcome variance. Further investigation of other predictors is needed. Limitations apply, including small sample size and reliance on patient self-report.



## 5.1 Introduction

Dialectical behaviour therapy (DBT; Linehan, 1993a, 2015) has robustly responded to the question of treatment effectiveness. Standard DBT (i.e. including all treatment modalities: individual therapy, group skills training, between-session coaching, and therapist consultation) has been established as an effective psychological treatment for women meeting criteria for borderline personality disorder (BPD) across 14 randomised clinical trials (Bohus et al., 2004; Carter et al., 2010; Clarkin et al., 2007; Feigenbaum et al., 2012; Koons et al., 2001; Linehan et al., 1991; 1999; 2002; 2006; 2015; McMMain et al, 2009; Pasieczny & Connor, 2011; Priebe et al., 2012; Verheul et al., 2003). DBT is also effective for BPD in routine community settings (e.g. Blennerhassett et al., 2009; Comtois et al., 2007). These findings are especially encouraging given that BPD was considered ‘treatment resistant’ until as recently as two decades ago (Choi-Kane et al., 2016).

Despite evidence of effectiveness, many patients fail to respond to treatment with DBT. The largest community-based study to-date on the effectiveness of standard DBT for BPD reported that following one year of treatment, borderline symptoms remained unchanged or deteriorated among 62% of patients and only 16% of patients achieved recovery on borderline symptoms (Stiglymayr et al., 2014). A better understanding of the factors related to outcome are needed if response rates are to be improved (Lynch et al., 2006; Wampold & Imel, 2015). Patient variables are among those factors that have been shown to be associated with psychotherapy outcomes (Bohart & Wade, 2013). Unlike some areas of healthcare, patients in psychotherapy play an active role in the treatment process, where naturally occurring personal characteristics and individual learning style are among the factors that may affect outcomes (Petry, Tennen, & Affleck, 2000). Chambless (2002) has argued that the absence of such patient variables in much outcome research on psychotherapy has led to findings which are uninformative for clinicians, and may even be misleading.

Research on DBT is no exception in this regard, with limited data available on the relationships between patient factors and outcomes (Barnicot et al., 2012; Black et al., 2009).

Patient sociodemographic characteristics such as age, gender, and employment status have been found to be poor predictors of psychotherapy outcome, including for patients with BPD (Bellino, Bozzatello, & Bogetto, 2015; Bohart & Wade, 2013). Yet, such characteristics may warrant consideration as predictors of outcome specifically for DBT. Regarding age, for example, when delivered to adolescents DBT has been associated with clinical gains over six months of treatment that take adults one year (MacPherson, Cheavens, & Fristad, 2013; Stoffers et al., 2012). In terms of gender, DBT is distinct in having been developed specifically for females (Linehan & Wilks, 2015). Only two DBT trials included male participants (Feigenbaum et al., 2012; McMMain et al., 2009), yet BPD is prevalent among men (Kjaer et al., 2016; Skodol & Bender, 2003). Regarding employment or education status, greater recovery from mental health disorders has been associated with being employed (Connell, King, & Crowe, 2011) and employment has been associated with better outcomes in longer-term psychotherapy (Joutsenniemi, Laaksonen, Knekt, Haaramo, & Lindfors, 2012), of which DBT is an example. No relationship has been found between employment status and treatment outcomes for BPD (Bohus et al., 2004; Davidson, Tyrer, Norrie, Palmer, & Tyrer, 2010; Barnicot, Katsakou, Marougka, & Priebe, 2011; Spinhoven, Giesen-Bloo, van Dyck, & Arntz, 2008), but no study has reported on baseline employment status and outcomes for outpatient DBT.

Greater symptom severity has generally been associated with poorer prognosis in psychotherapy (Clarkin & Levy, 2004). Only limited information is available on symptom severity as a predictor of outcomes for DBT (Barnicot et al., 2012). Bohus et al. (2004) found that higher symptom severity was associated with greater post-treatment in an inpatient DBT programme. Use of an emergency department (ED) due to self-injury (i.e. requiring

urgent medical care) or a suicide attempt are indicative of more severe BPD (Paris, 2008), and Harned, Jackson, Comtois, and Linehan (2010) reported that more frequent suicide attempts, but not severity of self-injury, were associated with poorer outcomes for DBT. The co-occurrence of PTSD and BPD also indicates more severe pathology, and has been related to poorer long term prognosis (Pagura et al., 2010; Zanarini, Frankenburg, Hennen, Reich, & Silk, 2006). Remission from self-injury following DBT was found to be lower among some patients with BPD who had more severe PTSD, yet many other BPD patients with less severe PTSD achieved similar, or better, outcomes than patients with only BPD (Harned et al., 2010). Hopelessness has also been associated with greater symptomatic difficulties for BPD, including higher levels of self-injury (Klonsky, 2009; Perez et al., 2014). The relationship between baseline hopelessness and treatment outcomes for standard DBT has not been previously investigated. Chronic suicide ideation has been associated with significant maladaptive interpersonal processes (Sansone & Fierros, 2012) as well as poorer responses to psychotherapy (e.g. treatment of psychotic depression; Bingham et al., 2017). Among patients with BPD the severity of suicide ideation has been found to relate to subsequent suicide attempts (Rudd, Joiner, & Rajab, 1996), yet the relationship between baseline suicide ideation and outcomes for DBT remains unknown.

Finally, patients' coping styles at baseline have been found to relate to therapeutic outcomes for BPD (Fernandez-Alvarez, Clarkin, del Carmen Salgueiro, & Critchfield, 2006). Use of DBT skills as a means of coping has particular relevance in DBT given the central role ascribed to the development of new skills in DBT as a replacement for dysfunctional coping strategies (Lynch et al., 2006). The use of such skills, which comprise a wide range of commonly used ways of coping, has been shown to increase over the course of treatment with DBT (Lindenboim et al., 2007; Stepp et al., 2008) and to mediate reductions in self-harm (Neacsiu et al., 2010; Barnicot et al., 2016). No study has reported on whether

outcomes for DBT can be predicted by the level of pre-existing DBT skills at the start of treatment or reliance on dysfunctional coping.

Clarification and investigation of all of these patient variables as potential predictors of outcome for DBT is needed in the community. Our aim in this study was to explore the relationship between these variables among patients who had received a diagnosis of BPD and their treatment outcomes on borderline symptom severity and general psychopathology following one year of standard DBT.

## 5.1 Method

### 5.2.1 Design

We used a prospective cohort design. Predictors were selected due to their known relationships with outcomes for BPD or were naturally occurring categories which may be associated with outcome, as described above. We chose age, gender, and employment/education status as possible sociodemographic predictors. We selected several indicators of baseline symptoms as potential predictors (prior suicide attempt, prior use of an ED due to self-harm, PTSD diagnosis, borderline symptoms, general psychopathology, hopelessness, and suicide ideation). We also chose baseline use of DBT skills and dysfunctional coping as potential coping style predictors. Baseline data were gathered from sociodemographic and clinical information provided by therapists as well as a battery of self-report measures of symptoms. Treatment outcomes were evaluated using self-report measures of borderline symptom severity and general psychopathology.

The inclusion criteria for the study were the same as those used for the provision of treatment by the participating DBT teams, namely the presence of BPD (DSM-IV-TR: APA, 2000) or the equivalent diagnosis of emotionally unstable personality disorder (Lai, Leung, You, & Cheung, 2012; WHO, 1992). Diagnosis had typically been made by a treating psychiatrist in the community, but our study did not include a formal diagnosis of BPD. While not used to determine inclusion in the study, scores on the Borderline Symptom List 23 (BSL23: Bohus et al., 2009; see below) were consistent with the presence of BPD. 91.1% of the sample had a score of at least 2.00 on the BSL23 and 54.4% of the sample had a score of at least 3.00 on the measure. The mean BSL23 score was 2.86 ( $S = .64$ ), ranging from .70 to 3.90. These scores indicate moderate to high BPD severity based on DSM-IV-TR criteria (Glenn, Weinberg, & Klonsky, 2009). Exclusion criteria for participation in the study was

also the same as those used by the DBT teams, namely a history of an enduring psychotic disorder or a primary alcohol or drug related problem.

### **5.2.2 Settings**

Data were collected by four DBT teams which were part of public community-based adult mental health services. The first DBT team (Team A) was based in counties Down and Armagh in Northern Ireland covering a mixed rural and urban catchment population of 300,000 of all ages. The second and third teams (Teams B & C) were located in south and north county Dublin in the Republic of Ireland covering catchment populations of 180,000 and 120,000 respectively. The fourth team (Team D) was based in county Mayo covering a rural population of 130,000.

### **5.2.3 Participants**

Participants were 90 adult users of community mental health services with a diagnosis of BPD who had been referred to one of the DBT Teams for treatment with standard DBT. Data were collected between August 2014 and October 2016 for Team A, September 2013 and August 2016 for Team B, September 2015 and August 2016 for Team C, and November 2014 to August 2016 for Team D. 41.1% (37) of the sample came from Team A, 45.6% (41) came from Team B, 4.4% (4) from Team C, and 8.9% (8) from Team D. 81% (73) of participants were female and 19% (17) were male, with an average age at baseline across the sample of 29.64 years (SD = 9.34), ranging from 18 to 56 years. 21.1% (19) were married or cohabitating at baseline and the remainder were single or separated. Only 1 participant was homeless at the start of the study. 45.6% (41) had some post-secondary level education. 53.3% (48) were unemployed and the remaining 46.7% (42) were in part/full-time employment and/or education and categorised as 'employed'. 33.3% (30) of participants had an existing diagnosis of post-traumatic stress disorder, 28.9% (26) had been diagnosed with a co-morbid addiction, and 37.8% (34) had an existing diagnosis of an eating disorder. 82.2%

(74) of the sample had a history of non-suicidal self-injury, 53.3% (48) had previously used an emergency department (ED) due to self-injury, and 71.1% (64) had at least one lifetime attempted suicide. 47.3% (43) had been previously hospitalised with mental health difficulties and 78.9% (71) had previously attended some form of counselling or psychotherapy. 91.1% (82) of participants were prescribed pharmacotherapy at baseline. <sup>1</sup>

#### **5.2.4 Treatment**

One year of standard DBT (Linehan, 1993a) was provided which included all four modes of DBT (i.e. one hour of weekly individual DBT therapy, two and a half hours of weekly skills training led by two skills trainers, weekly therapist consultation, and telephone coaching on an as needed basis). The curriculum used for skills training was “Schedule 1: 24 Weeks, Linehan Standard Adult DBT Skills Training Schedule” (Linehan, 2015, pp. 110-111). This four module curriculum consisted of repeated blocks of mindfulness training followed by modules on distress tolerance, emotion regulation, and interpersonal effectiveness. DBT was delivered as an open programme by each team. Recruitment of new participants occurred on a continuing basis who could enter the skills training mode of treatment at the beginning of any module, space permitting (i.e. there were a possible six entry points each year).

24 participants from Team B attended a specialised young adult DBT programme for 18-25 year olds. This was standard DBT in all respects except the target age range (see Chapters 2 and 3 for further description and evaluation of this programme). The remaining 66

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<sup>1</sup> Some participant data included in this study were used elsewhere in work presented in this dissertation. Chapter 3 used baseline and post-treatment data on 13 participants from Team A and 24 participants from Team B. Chapter 4 also used the baseline scores of 37 participants from Team A and 17 participants from Team B.

participants were engaged in standard DBT programmes for all adults aged 18 and older. The provision of DBT was supplementary to existing routine care in the community. This typically consisted of outpatient reviews by a consultant psychiatrist, psychiatric registrar, or family doctor every two to three months plus pharmacotherapy.

### **5.2.5 Therapists**

Treatment was delivered by 23 therapists who each provided individual DBT therapy, skills training, and telephone-coaching with only one exception, who solely contributed to the skills training mode. Team A was comprised of four therapists (one psychologist, two social workers, and one mental health nurse), Team B had 11 therapists (six psychologists, including myself, one social worker, and four mental health nurses), Team C had four therapists (two occupational therapists and two mental health nurses) and Team D had four therapists (two psychologists, one addiction counsellor, and one social worker). All therapists had completed no less than ten days standard training in DBT. Fifteen of the therapists had at least four years' experience in delivering DBT, the remaining eight therapists had less than two years' experience with DBT. Caseload ranged from one to seven participants for individual DBT therapy at any one time. Therapists also rotated the skills trainer role, delivering one or two modules before replacement by other skills trainers.

### **5.2.6 Treatment fidelity**

Formal rating of fidelity to the treatment model using the system developed by Linehan and Korslund (2003) was not carried out due to logistical and financial constraints. However, all therapists committed to implementing the treatment conditions as prescribed as well as closely following the selected DBT skills training curriculum. Therapists attended weekly consultation meetings. As a required mode of standard DBT, consultation is intended to promote treatment fidelity through peer-monitoring and encouragement (Linehan, 1993a; Koerner, 2012). These meetings were supplemented by informal monthly monitoring of



fidelity paired with on-site training and consultation that I provided as an incentive to therapists for carrying out recruitment and data collection.

### **5.2.7 Measures and dropout**

Baseline participant variables included data collected from therapists on employment/education status, lifetime presence of a suicide attempt, lifetime use of an emergency department (ED) due to self-injury, and an existing diagnosis of PTSD. Employment/education was dichotomised into 0 'unemployed and not in education' and 1 'any current employment and/or any current education activities'. Prior suicide attempts were dichotomised into 0 'no prior suicide attempt' and 1 'at least one lifetime suicide attempt'. Prior use of an ED was dichotomised into 0 'never previously used an ED due to self-injury' and 1 'at least one lifetime use of an ED due to self-injury'. PTSD was categorised as 0 'no existing PTSD diagnosis' and 1 'existing PTSD diagnosis'. We did not independently corroborate the presence of PTSD but instead relied on diagnosis made by prior community assessment.

The following measures were used in the study:

**Borderline symptom severity.** The Borderline Symptom List 23 (BSL23; Bohus et al., 2009) was used to measure borderline symptom severity. The BSL23 is a 23 item self-rating assessment of symptoms typical of borderline personality disorder. Bohus et al (2009) reported high internal consistency ( $\alpha = .94 - .97$ ) and satisfactory test-retest reliability, demonstrated alongside sensitivity to change and discriminant validity.

**General psychopathology.** The Symptom Checklist-90-Revised: Global Severity Index (SCL-90-R: GSI; Derogatis, 1994) is a measure of general psychopathology which consists of 90 questions about mental health symptoms or problem areas over the past seven days. The Global Severity Index (GSI) has been found to be the best indicator of the level of

current distress on the SCL-90-R with high internal consistency ( $\alpha = .93$ ) in addition to overall satisfactory convergent and discriminant validity for the SCL-90-R (Prinz et al., 2013) and satisfactory test-retest reliability (Horowitz, Rosenberg, Baer, Ureno, & Villasenor, 1988).

**Hopelessness.** The Beck Hopelessness Scale (BHS; Beck, Weissman, Lester, & Trexler, 1974) was used to measure hopelessness. The BHS is a 20-item scale with internal consistency ranging from .83 to .93 (Dozois & Covin, 2004). Among clinical populations, satisfactory test-retest coefficients have been reported (Beck & Steer, 1988).

**Suicide ideation.** The Beck Scale for Suicide Ideation (SSI; Beck & Steer, 1991) was used as a measure of suicide ideation. The SSI is a 21 item questionnaire which has been found to possess high internal reliability with ( $\alpha$  ranging ranging from .87 to .97) with moderate test-retest reliability demonstrated over one week with a psychiatric inpatient sample (Beck, Steer & Ranieri, 1988).

**DBT skills use and dysfunctional coping.** The DBT Ways of Coping Checklist (WCCL; Neacsiu, Rizvi, Vitaliano, Lynch, & Linehan, 2010) is a self-report questionnaire with a total of 59 items. Using neutral, non-DBT specific language, thirty eight items measure frequency of coping strategies consistent with DBT skills over the previous month producing the DBT Skills Use Subscale (WCCL: SU). The remaining 21 items measure dysfunctional coping inconsistent with DBT skills producing the Dysfunctional Coping Skills Subscale (WCCL: DC). The DBT Skills Use Subscale was found to have excellent internal consistency ( $\alpha = .92 - .96$  and acceptable test-retest reliability over a four month period (Neacsiu et al., 2010).

**Dropout.** Dropout was recorded when participants were discharged from treatment by their DBT team. Discharge took place when a participant missed either skills group or

individual DBT therapy for four weeks in a row, consistent with the standard ‘four miss rule’ in DBT (Linehan, 1993a). Once discharge had taken place, we did not have ethical approval in this community-based study to collect further data on participants.

### **5.2.8 Classification of outcome**

We classified outcomes in two ways. The first involved numeric change between baseline and post-treatment on borderline symptom severity using BSL23 scores and general psychopathology using SCL-90-R scores. The second involved whether a participant achieved recovery on borderline symptom severity or general psychopathology using Jacobson and Truax’s (1991) reliable change index, calculated using software developed by Morley and Dowzer (2014). The reliable change index is based on changes between baseline and post-treatment, instrument reliability, and clinical and nonclinical distributions.

Recovery on the index (referred to as ‘clinically significant change’ by Jacobson & Truax but recent studies of DBT have described this as ‘recovery’, e.g. Stiglmayr et al., 2014, or ‘normal functioning’, e.g. Wilks et al., 2016) involves two steps. First, an individual must show reliable change (or improvement) on the measure, defined as change equal or exceeding -1.96 standard deviations from the group mean score adjusted for error. Second, the individual must also show a post-treatment score which falls closer to the mean of a healthy population than the clinical population based on available sources of normative data, for which we used the original validation studies of the measures. In addition, we included normative data on the clinical population for the SCL-90-R: GSI from a study by Schulz et al. (2008) which described a sample of 159 adults with BPD. The improvement/reliable change indices, recovery/clinically significant change cut-offs, and sources of normative data were as follows: BSL23 (improved/reliable change = -.38, recovery/clinically significant change  $\leq$  .72; Bohus et al., 2009); SCL-90-R: GSI (improved/reliable change = -.49, recovery/clinically significant change  $\leq$  .69; Derogatis, 1994; Schulz et al., 2008).

### **5.2.9 Data analysis**

Statistical analysis of the data was conducted using SPSS version 22.0 (IBM Corp, 2013). Change scores on borderline symptom severity and general psychopathology were continuous variables and analysed with linear regressions. Recovery/clinically significant change on borderline symptom severity and general psychopathology were dichotomous categorical variables and analysed using a series of logistic regressions. Analyses were carried out on treatment completers only ( $n = 73$ ) as follow-up data were not available on dropouts due to ethical constraints. No adjustments were made for multiple comparisons due to the exploratory nature of the study.

### **5.2.10 Procedure**

During the study period all patients offered treatment by the four DBT teams were invited to participate. This took place at the initial meeting with the team where verbal and written information on the research was provided (e.g. this was part of a multi-centre investigation of DBT for people living with BPD). Where a patient expressed a willingness to become involved in the study, signed consent was obtained. Prospective participants were notified that no payment was available in return for involvement in the research and that they could withdraw from the research at any time. It was expressly stated that participation in the research would have no effect on treatment options or treatment availability, decisions around which were made independently of the research which would take advantage of naturally evolving research opportunities (see Appendix A for sample Letter of Information and Consent Form). 92.8% of patients who were initially invited to participate in the study consented to do so (a total of 7 patients declined consent to participate). One participant subsequently withdrew from the study but not the treatment in their 9<sup>th</sup> month of DBT, requesting the destruction of their data. This individual's data have been excluded from the analyses reported in this paper. Participants completed a battery of measures at baseline and

post-treatment in the presence of a member of the local DBT team. Baseline demographic and clinical information on participants was also gathered from treating therapists.

Ethical approval for the project was granted by the National Research Ethics Service via the local ethics committee in the United Kingdom for Team A, St. John of God Services in Ireland for Team B, Beaumont Hospital Ethics Committee in Ireland for Team C, and Mayo Mental Health Services Management in Ireland for Team D, with institutional research ethics and governance approval from Bangor University, United Kingdom (see Appendix B for sample research ethics application and research proposal; see Appendix C for documentation of research approvals from each site and institution).

## **5.3 Results**

### **5.3.1 Descriptive statistics**

18.9% (17) of participants dropped out of treatment before one year (one participant died by suicide and the remaining participants dropped out by their own choice before the end of the sixth month of treatment). No statistically significant differences were found between treatment completers and dropouts on any variables at baseline using independent t-tests on continuous variables and chi-squared tests (with Yates Correction) on categorical variables.

Using Jacobson and Truax's (1991) procedure, 17.8% (13) treatment completers showed recovery (i.e. clinically significant change) on borderline symptom severity as measured by BSL23. 17.8% (13) of completers showed recovery on general psychopathology as measured by SCL-90-R: GSI. Eight participants showed recovery/clinically significant change on both measures.

### **5.3.2 Predicting change between baseline and post-treatment**

Using hierarchical linear regression, we sought to investigate if patient baseline variables (i.e. sociodemographics, symptoms, and coping style), were associated with change between baseline and post-treatment scores on borderline symptom severity and general psychopathology. In our scenario, hierarchical regression was a two stage process. In the first step of each regression, we controlled for DBT programme type (i.e. young adult DBT or general adult DBT), DBT team (four separate teams contributed data to the study), and baseline scores on the measure used to calculate the dependent variable (i.e. BSL23 baseline scores for the analysis of borderline severity change and SCL-90-R: GSI baseline scores for the analysis of general psychopathology change). In the second step we included selected patient variables. Patient variables were chosen from a pool of potential predictor variables and were selected for inclusion in each regression where a significant bivariate association

was found with change scores on borderline symptom severity or general psychopathology respectively (Table 5.1). Following this strategy, four baseline patient variables were selected as predictors for inclusion in the analysis of change on borderline symptom severity scores (age, gender, employment/ education status, and baseline suicide ideation). Only gender was selected as a predictor for the analysis of change on general psychopathology. Initial analysis of change on the dependent variables indicated there were no violations for linear regression, (i.e. normality, linearity, multicollinearity, and homoscedasticity).

Regarding analysis of change on borderline symptom severity scores, gender, employment/education status, and baseline suicide ideation were significantly associated with change in borderline symptom severity over the course of treatment. The set of selected patient predictors explained an additional 22% of the total variance in changes on borderline symptom severity after controlling for programme type, team, and baseline borderline symptom severity scores (Table 5.2). Female participants had greater change on borderline symptom severity scores as did participants who were in employment or education at the start of treatment. Additionally, participants with lower baseline suicide ideation as measured on SSI showed greater change on borderline symptom severity. Regarding general psychopathology, only gender was significantly associated with change (Table 5.3). 10.4% of additional variance on change in general psychopathology was explained by gender after accounting for programme, team, and baseline general psychopathology scores. Female participants had a greater chance of change on general psychopathology.

### **5.3.3 Predicting recovery**

Using hierarchical logistic regression, we explored whether patient baseline variables were associated with the likelihood that individual participants would show recovery (i.e. clinically significant change) on either borderline symptom severity or general psychopathology.

Again, logistic regression was a two-step process where first we controlled for the influence

of DBT programme type, DBT team, and baseline scores for the measure which was used in the calculation of the dependent variable and in the second step we included patient variables (i.e. BSL23 baseline scores for the analysis of recovery on borderline severity and SCL-90-R: GSI baseline scores for the analysis of recovery on general psychopathology). As previously, patient variables were chosen from a pool of potential predictors and were selected for inclusion in each regression where a significant bivariate association was found with the presence of recovery on borderline symptom severity or general psychopathology respectively (Table 5.1). Four patient variables were selected as predictors for inclusion in the analysis of recovery on borderline symptom severity (employment/education status, PTSD, and baseline general psychopathology on SCL-90-R: GSI, and suicide ideation on SSI). Two patient variables were selected for inclusion as predictors of recovery on general psychopathology (age and PTSD).

In the analysis of recovery on borderline symptom severity, employment/education status and PTSD were significantly associated with scores nearer normal functioning than a clinical population at the end of treatment. We found 24.3% of additional variance in the proportion of participants who showed recovery on BSL23 was explained by the selected set of predictors after controlling for programme, team, and baseline BSL23 scores (Table 5.4). Participants who were in employment or education at the start of treatment were more likely to show recovery on BSL23, as were those without a baseline diagnosis of PTSD. In the analysis of recovery/clinically significant change on general psychopathology, PTSD was significantly associated with post-treatment scores nearer normal functioning than a clinical population. We found that 12.3% of additional variance in the proportion of participants who showed recovery on general psychopathology was explained by the selected predictors after accounting for DBT programme type, DBT team, and baseline general psychopathology



scores (Table 5.5). The absence of PTSD at the start of treatment was associated with greater likelihood of recovery change on general psychopathology.

**Table 5.1**

*Bivariate associations between baseline patient variables and change (baseline minus post-treatment) scores or presence of recovery (i.e. clinically significant change) on borderline symptom severity (BSL23) and general psychopathology (SCL-90-R: GSI).*

Variables	Change score (n = 73)		Recovery (n = 73)	
	BSL23	SCL-90-R: GSI	BSL23	SCL-90-R: GSI
<b>Sociodemographic</b>				
Age	-.33**	-.06	-.19	-.29*
Gender	-.24*	-.28*	-.11	-.12
Employment/education status	.44**	.22	.28*	.30*
<b>Symptom severity</b>				
Previous suicide attempt	-.03	.02	.02	-.12
Previous use of ED for self-injury	-.22	-.17	-.04	-.22
PTSD	-.11	.00	-.32**	-.27*
Borderline symptom severity (BSL23)	.15	.19	-.34**	-.20
General psychopathology (SCL-90-R: GSI)	-.06	.39**	-.27*	-.36**
Hopelessness (BHS)	.02	.04	-.18	-.18
Suicide ideation (SSI)	-.23*	-.09	-.27*	-.17
<b>Coping style</b>				
DBT skills use (WCCL: SU)	.01	-.02	.09	.03
Dysfunctional coping (WCCL: DC)	-.02	.21	-.19	-.09

\* $p < .05$ ; \*\* $p < .01$

ED = Emergency Department; BHS = Beck Hopelessness Scale; SSI = Scale of Suicide Ideation; WCCL: SU = Ways of Coping Checklist: DBT Skills Use; WCCL: DC = Ways of Coping Checklist: Dysfunctional Coping

**Table 5.2**

*Baseline patient variables predicting change on borderline symptom severity (baseline minus post-treatment BSL23 scores) among completers of one year of standard DBT for BPD (n = 73) after controlling for the impact of DBT programme type, DBT team, and baseline BSL23 scores.*

Step	Predictor variable	$\beta^+$	SE <sup>+</sup>	$p(\beta)^+$	R <sup>2</sup>	Adj. R <sup>2</sup>	F <sub>change</sub>	$p(F_{change})$
1	DBT Programme type	.474	.634	.004	.261	.205	4.723	.001
	DBT Team: Team B	-.110	.315	.366				
	Team C	.100	.293	.525				
	Team D	.309	.390	.022				
	Baseline BSL23 scores	.118	.118	.276				
2	Age	-.151	.012	.220	.481	.406	6.672	.000
	Gender	-.191	.231	.049				
	Employment/education status	.369	.202	.001				
	Suicide ideation (SSI)	-.287	.012	.009				

SE = Standard Error

<sup>+</sup> Corresponding to the blockwise results

**Table 5.3**

*Baseline patient variables predicting change on general psychopathology (baseline minus post-treatment SCL-90-R: GSI scores) among completers of one year of standard DBT for BPD (n = 73) after controlling for the impact of DBT programme type, DBT team, and baseline SCL-90-R: GSI scores.*

<b>Step</b>	<b>Predictor variable</b>	$\beta^+$	SE <sup>+</sup>	$p(\beta)^+$	$R^2$	Adj. $R^2$	$F_{change}$	$p(F_{change})$
1	DBT Programme type	.267	.372	.089	.209	.150	3.537	.007
	DBT Team: Team B	-.059	.252	.723				
	Team C	-.041	.243	.732				
	Team D	.069	.362	.576				
	Baseline SCL-90-R: GSI scores	.423	.279	.001				
2	Gender	.234	.132	.002	.313	.251	10.027	.002

SE = Standard Error

<sup>+</sup> Corresponding to the blockwise results

**Table 5.4**

*Baseline variables predicting recovery (i.e. clinically significant change) on borderline symptom severity (BSL23) for completers of one year of standard DBT for BPD (n = 73) after controlling for the influence of DBT programme type, DBT team, and baseline BSL23 scores.*

<b>Step</b>	<b>Predictor variable</b>	<b>Exp (B)<sup>+</sup></b>	<b>CI 95%<sup>+</sup></b>	<b>p (Exp [B])<sup>+</sup></b>	<b>R<sup>2</sup></b>	<b>χ<sup>2</sup></b>	<b>p(χ<sup>2</sup>)</b>
1	DBT Programme	4.271	.205 – 89.145	.349	.329	16.306	.006
	DBT Team: Team B	1.272	.049 – 33.046	.885			
	Team C	12.841	.291 – 566.204	.186			
	Team D	5.559	.095 – 330.984	.408			
	Baseline BSL23 scores	.059	.005 - .748	.029			
2	Employment/education status	18.272	1.785 – 187.011	.014	.572	31.215	.000
	PTSD	.061	.004 - .868	.039			
	General psychopathology (GSI)	.921	.157 – 5.414	.927			
	Suicide ideation (SSI)	1.019	.891 – 1.166	.784			

Exp (B) odds ratio, CI Confidence Interval, R<sup>2</sup> Nagelkerke R square

<sup>+</sup> Corresponding to the blockwise results

**Table 5.5**

*Baseline variables predicting recovery (i.e. clinically significant change) on general psychopathology (SCL-90-R: GSI) for completers of one year of standard DBT for BPD (n = 73) after controlling for the influence of DBT programme type, DBT team, and baseline SCL-90-R: GSI scores.*

Step	Predictor variable	Exp (B) <sup>+</sup>	CI 95% <sup>+</sup>	p (Exp [B]) <sup>+</sup>	R <sup>2</sup>	$\chi^2$	p ( $\chi^2$ )
1	DBT Programme	6.283	.136 – 291.309	.348	.343	17.093	.004
	DBT Team: Team B	2.158	.072 – 64.268	.657			
	Team C	4.162	.080 – 217.660	.480			
	Team D	12.283	.289 – 522.253	.190			
	Baseline SCL-90-R: GSI	.146	.025 - .840	.031			
2	Age	.965	.833 – 1.117	.634	.466	24.314	.002
	Employed/In education	2.841	.494 – 16.336	.242			
	PTSD	.136	.020 – 917	.040			

Exp (B) odds ratio, CI Confidence Interval, R<sup>2</sup> Nagelkerke R square

<sup>+</sup> Corresponding to the blockwise results

## 5.4 Discussion

Our study is among the first to explore the relationship between adult patient variables and outcomes for standard DBT in the community. Despite the effectiveness of DBT, many patients remain symptomatic following treatment (Wilks et al, 2016). A better understanding of patient variables which influence outcomes is one of several ways treatments might be improved (Chambless, 2002). In our study of patients with a diagnosis of BPD, 17.8% of 73 completers of one year of DBT achieved recovery on borderline symptom severity at the end of treatment and the same proportion of completers also achieved recovery on general psychopathology. These findings compare favourably to Stiglmayr et al. (2014) who reported 16.2% of patients recovered on borderline symptom severity and 12.8% recovered on general psychopathology after one year of DBT. In our study, we reported on the associations between a set of patient sociodemographic characteristics, symptoms, and coping style variables at baseline and post-treatment outcomes on borderline symptom severity and general psychopathology. We found better outcomes for patients who were female, employed or in education at the start of treatment, did not have a PTSD diagnosis, and had lower baseline suicide ideation. Other patient variables which we explored were unrelated to outcome (i.e. age, prior suicide attempt, prior use of an ED for self-injury, hopelessness, use of DBT skills, or maladaptive coping). Our analysis of patient predictors accounted for between 10.4% - 24.3% of the total variance in post-treatment change and recovery on borderline symptom severity and general psychopathology.

Our study included one of the largest cohorts of males in any outpatient study of DBT for adults with a diagnosis of BPD. This allowed us to investigate gender effects which have received little prior attention in DBT outcome research (Stoffers et al., 2012). Interestingly, males showed less change over the course of treatment on borderline symptom severity and general psychopathology. Gender differences are uncommon in psychotherapy outcomes

(Bohart & Wade, 2013), yet DBT is unusual among psychotherapies as it was initially developed exclusively with female patients (Linehan & Wilks, 2015). DBT may be better matched to female expression of BPD which varies from that of male expression, possibly due to biological and sociocultural factors (Skodol & Bender, 2003). Our findings indicate that DBT may need to be adapted when delivered to men with BPD. Such adaptations are already underway in the community (e.g. a team in Stockholm are piloting multiple adaptations to the DBT skills curriculum for men; Wettenborg et al., 2016) as well as forensic settings, the source of most existing data on DBT for males (Russell & Seismaa, 2017). Adaptations of DBT for forensic services include Evershed et al.'s (2003) modified distress tolerance skills which incorporate male-typical behaviour and McCann, Ivanoff, Schmidt, and Beach's (2007) targeting of physically violent behaviours.

Employment or education status at the start of treatment was associated with both greater change and higher likelihood of recovery on borderline symptom severity. This was a surprising finding because employment has not been previously related to outcomes for patients with BPD (Barnicot et al., 2012). Our study suggests an intriguing relationship between employment and outcome which has not been found with other treatment approaches for BPD. A possible explanation is that DBT adopts a skills development paradigm, which requires motivation for new learning and application of new problem solving strategies (Koerner, 2013; Neacsiu et al., 2010). Hartmann, Larsen and Nyborg (2009) found that patients who are employed are more motivated in therapy, and this may deliver specific advantages for DBT with its focus on skills and learning. Alternatively, employment or an educational environment may provide a richer milieu of social and vocational activities to practice skills and embed new learning, consistent with the DBT principle of ensuring generalisation (Linehan, 1993a). Emphasis has been placed on the importance of vocational goals during treatment with DBT (Carmel, Comtois, Harned, Holler, & McFarr, 2016;



Comtois, Kerbrat, Atkins, Harned, & Elwood, 2010). Based on our findings, for those patients in DBT who are unemployed at baseline there may be advantages to encouraging progress on such vocational goals as soon as possible from the onset of therapy.

We found that the presence of an existing diagnosis of PTSD was associated with lower likelihood of recovery on both borderline symptom severity and general psychopathology. 33.3% of our sample had an existing diagnosis of PTSD, similar to prior findings on the rates of co-occurrence of BPD and PTSD in the community (Grant et al., 2008). Our finding of a lower likelihood of recovery among patients with PTSD cannot be directly compared to some previous studies since we did not assess for PTSD severity. This is unlike Harned et al. (2010) who reported no difference generally in outcomes for standard DBT between patients with BPD only or both BPD and PTSD, except for a subgroup with more severe PTSD who did exhibit poorer outcomes in several domains. Our sample may have included patients with severe PTSD which could explain the poorer outcomes associated with PTSD/BPD comorbidity. Regardless, there has been an emerging view that treatments should specifically target PTSD and BPD together (Rizvi & Harned, 2013). A recent pilot trial of standard DBT with Prolonged Exposure (PE) for PTSD compared to standard DBT for patients with BPD and PTSD found wide ranging benefits for the DBT+PE condition (Harned, Korslund, & Linehan, 2014). Patients with PTSD and BPD also prefer DBT+PE over DBT alone (Harned et al., 2013). Outcomes for community-based DBT may be enhanced by including adjunctive treatments such as PE where indicated by the presence of PTSD.

We also found that higher baseline suicide ideation was associated with lower change on borderline symptom severity. Suicide ideation has been shown to relate to aspects of emotion regulation (Neacsiu, Fang, Rogriguez, & Rosenthal, 2017). One possibility is that as a private and immediately accessible response to emotional discomfort, suicide ideation may

be an especially intransient maladaptive strategy, serving to interfere with change. Chronic suicide ideation may also indicate more complex interpersonal difficulties and more difficult-to-treat problems (Sansone & Fierros, 2012).

Our study has several limitations. Our sample was small. Only main effects between predictors and outcomes were investigated with no exploration of more complex interactions. The analysis of predictors was based solely on completers rather than using an intention-to-treat approach since we did not have ethical approval to gather subsequent data on participants who dropped out of treatment. We used only two sources of data, self-report measures and therapist accounts of sociodemographic and some clinical characteristics, despite noted difficulties with reliance on self-report (McLeod, 2011). We included no independent diagnostic assessment of BPD or PTSD beyond the presence of an existing clinical diagnosis made by clinicians in the community, creating a threat to validity given the problems with reliable assessment in the community (Aboraya, Rankin, France, El-Missiry, & John, 2006). Finally, although all therapists were trained in DBT, we did not use a formal measure of treatment fidelity due to the constraints of community practice settings. The study relied entirely on myself as an accredited DBT therapist and trainer to informally observe and instruct on adherent implementation of the components of DBT.

Future researchers may wish to explore possible mechanisms for putative effects of gender, employment status, PTSD, and suicide ideation on outcomes for DBT, as well as investigating adjunctive or modified treatments intended to improve outcomes for patients with these factors. Psychological characteristics (e.g. personality traits, treatment preferences, and relationship style) might be also investigated as patient predictors of outcome.

## **Chapter 6**

### **General Discussion**

## 6.1 Overview and implications

Linehan's (1993a) DBT, an integration of behavioural, dialectical, and Zen principles, has led the charge for greater optimism in the treatment of BPD, a severe and life-threatening disorder (Biskin & Paris, 2012; Chapman, 2006; Choi-Kain et al., 2016). To-date, DBT has amassed more evidence than any other specialised treatment for BPD (Stoffers et al., 2012). A series of trials conducted by several independent research teams have found that standard (i.e. all modes) DBT is more effective than treatment as usual for BPD (Linehan et al., 1991, 1999, 2001; Bohus et al., 2004; Verheul et al., 2003). DBT has also shown similar effectiveness to other structured and specialised forms of treatment for the disorder (Clarkin et al., 2007; Linehan et al., 2006; Koons et al., 2001; McMMain et al., 2009). Subsequent studies have also established that DBT can be successfully transferred into the community (Carter et al., 2010; Feigenbaum et al., 2012; Pasienczny & Connor, 2011; Priebe et al., 2012; Stiglmayr et al., 2014).

Contemporary research on DBT for BPD has begun to hone in and elaborate on specific aspects of the treatment and its users. Studies have examined the application of DBT for subgroups or specific demographics with BPD, or closely related disorders, e.g. older adults with personality disorders (Lynch et al., 2003), self-harmers who do not meet full diagnostic criteria for BPD (Andreasson et al., 2016), and chronically self-injuring adolescents (Mehlum et al., 2014). Additionally, concerns about the large resources required for the delivery of standard DBT have contributed to investigation of less intensive adaptations of the treatment model. These include brief DBT (Stanley et al., 2007) and standalone DBT group skills training (Linehan et al., 2015; McMMain et al., 2016). In order to gain a better understanding of the active components and processes of the therapy, researchers have also explored the mechanisms of change in DBT, such as the role of the therapeutic alliance (Bedics et al., 2015) and the use of skills (Barnicot et al., 2016; Linehan

et al., 2015; Neacsiu et al., 2010). The work in this dissertation follows these efforts at deepening our understanding of the application of DBT. I was concerned with exploring how DBT for BPD can be targeted at young adults and rationalised in real world settings. I was also interested in increasing our understanding of who DBT is most likely to help among patients with a diagnosis of BPD.

In Chapters 2 and 3, I described evaluations of a novel application of standard DBT for young adults between 18 and 25 years with a diagnosis of BPD. Young adults are often associated with poor engagement in mental health services (Reneses et al., 2009), yet in the case of severe disorders such as BPD there may also be benefits from assertive and comprehensive early intervention leading to improved long-term prognosis and reduced disability (Chanen et al., 2017; Moran et al., 2012). Besides a previous trial of young adults with some BPD traits attending a student counselling service (Pistorello et al., 2012), these are the first studies to be reported where DBT was delivered specifically to young adults with BPD in community mental health services. In Chapter 2, I described encouraging outcomes for a small pilot of the young adult DBT programme, indicating that offering the therapy exclusively to young adults was viable. Although the young adult programme was evaluated at just 22 weeks of one full year of treatment in Chapter 2, an expanded investigation of the young adult DBT programme was carried out in Chapter 3. Data was collected over one year of treatment from all consenting intakes into the young adult DBT programme over the next two and a half years. This data formed the basis of Chapter 3, where I compared outcomes for the young adult only programme at one year to those of similar aged young adults engaged in a standard adult DBT programme which included all ages 18 and upwards. Treatment conditions were similar in all respects except the target age group, which resulted in different compositions of the age range among group members at weekly skills training, either exclusively young adults or a mix of ages from across adulthood. I found some

statistically and clinically superior post-treatment outcomes for the young adult only programme. These are interesting findings, although cautious interpretation is needed due to methodological problems including sample size, non-random allocation to treatment condition, and the delivery of conditions by different teams of clinicians (albeit there was no relationship between team and outcomes when we included data for all adults treated by both teams: see Chapter 5). If these findings were replicated under equivalent conditions in a larger trial they would have clear implications for how services might be best delivered to young adults with BPD. Based on the available data, DBT as an early intervention for BPD warrants further attention (see below).

In Chapter 4, I described a rationalised, 24 week standalone DBT group skills training programme for BPD which was delivered by experienced DBT therapists. This group skills programme was offered as a more prompt alternative to standard DBT among wait-listed patients with a diagnosis of BPD who had no recent history of severe self-harm or suicide attempts (i.e. they were patients with less risky problem behaviours). Such scaled-back adaptations of DBT based on the group skills training mode have been widely used in the community, a development attributed to the challenges in resourcing standard DBT (Valentine et al., 2015). Research has lagged behind clinical practice, but recent studies on standalone skills for BPD have been encouraging (e.g. Linehan et al., 2015; McMMain et al., 2016). Chapter 4 reports the first community-based study to compare outcomes for standalone DBT group skills training with those of standard DBT in the treatment of BPD. Despite the lower intensity of standalone skills, outcomes at six months on several symptoms were similar for standalone skills and standard DBT. Surprisingly there were some advantages for standalone skills on hopelessness and difficulties in emotion regulation, although it seems probable these might relate to the non-equivalence of treatment conditions on high risk behaviours at baseline. I also found higher dropout for standalone group skills,

thus highlighting concerns about the acceptability of this adaptation for some patients. Yet, despite greater levels of dropout and several methodological issues, the chapter provides tentative support for the usefulness of standalone group skills training for at least some patients with a diagnosis of BPD who are willing to choose and complete this rationalised adaptation of DBT. An important caveat was that the standalone skills clinicians were experienced in the entire DBT treatment, not just the skills training mode. The findings raise the prospect of the potential of tailoring the intensity of DBT to the needs of each patient's presentation. The severity of BPD can vary enormously (Gunderson et al., 2011; Paris, 2008; Zanarini et al., 2012). Standard DBT, with all of the associated resources, may not always be needed for less severe forms of the disorder (Livesly, DiMaggio, & Clarkin, 2016).

In Chapter 5, I investigated the association between baseline patient variables encompassing sociodemographic characteristics, symptoms, and coping style, and outcomes following one year of standard DBT on borderline symptom severity and general psychopathology. This was the first such study to investigate patient factors as predictors of outcome for community-based DBT. Psychotherapy research has been criticised for frequently ignoring patient factors which contribute to outcomes, which in turn can provide further understanding of how treatments might be tailored, adapted, or improved (Bohart & Wade, 2013; Chambless, 2002). With high levels of partial or non-response to DBT in the community, such as those reported in Chapter 5 and Stiglmayr et al. (2014), improvement of outcomes needs to be a continuing concern in DBT. On carrying out a series of analyses I found that a large majority of the variance in post-treatment outcomes for patients was not explained by selected patient factors, yet several patient variables were significantly associated with outcomes. Male and unemployed participants had poorer outcomes, as did those with a diagnosis of PTSD or higher baseline suicide ideation. Notwithstanding the small portion of the variance in outcomes explained by these variables, providers should

consider adapting or augmenting treatment for when these variables are indicated, as has already been pursued to considerable effect in the case of BPD patients with PTSD (e.g. Bohus et al., 2013; Harned et al., 2010). As has been evidenced in areas of medicine, improvement of effective treatments often progresses incrementally based on an increasingly nuanced understanding of the interaction between patient and treatment (Hingorani et al., 2013). This should continue to inform the foci of research on DBT for BPD and should also be part of clinical decision making in relation to the decision to offer DBT and making adaptations or providing adjunctive treatments.

## **6.2 Strengths and limitations**

Several strengths run through the dissertation. It consists of a series of findings which have practical implications for real world service delivery. It also addresses some new questions (young adult DBT and patient factors) while gathering further information on how DBT performs in routine settings, including standalone DBT skills training. In addition, the work in chapters 3 to 5 evaluates individual change among participants, rather than solely relying on statistical significance or effect sizes using group averages, the latter which may not have clinical relevance (Jacobson & Revenstorf, 1988). Of the few studies which have addressed individual change in DBT, some have described the proportion of patients who no longer meet diagnostic criteria for BPD at the end of treatment (e.g. Bohus et al., 2004). This approach reflects the problems of the arbitrary thresholds used within the main psychiatric classification systems, where for example the presence of four criteria for BPD on DSM-5 places a patient outside the diagnostic threshold but would nonetheless be indicative of significant psychopathology (APA, 2013; Paris, 2008). The decision was made in the dissertation to use Jacobson and Truax's (1991) reliable change index to classify individual change, similar to a small number of recent studies of DBT or DBT-informed treatments (Harned et al., 2010; McMMain et al., 2016; Stiglmayr et al., 2014; Wilks et al., 2016). The



two-step procedure of Jacobson and Truax calculates whether an individual has shown improvement or deterioration (i.e. reliable change) on a measure, and if so whether they have also shown recovery (i.e. clinically significant change), which is where post-treatment measurement places the individual closer to the mean of healthy controls than a clinical population. While not without problems such as reliance on the content validity of outcome measures (Thomas & Seltho, 2003) and sensitivity to regression to the mean (Speer, 1992), Jacobson and Truax's method compares well to alternative approaches to individual change (e.g., Bauer, Lambert, & Nielsen, 2004; Ronk, Hooke, & Page, 2016). Considering change in this way allows for the impact of an intervention to be assessed in terms of meaningful benefits, consistent with the objectives of real world research (Nathan, Stuart, & Dolan, 2000).

There are also a number of methodological weaknesses across the work in the dissertation, many of which arose from the challenges and compromises of carrying out community-based research. Patients volunteered to participate in the absence of incentives. Clinicians stretched to accommodate the time needed for recruitment and data collection despite many competing and often urgent work demands. Follow-up data from patients who had dropped out or had completed treatment was impractical due to management concerns about duty-of-care with former patients no longer attending services. As a result, research procedures were calibrated to prioritise ease and efficiency over breadth and depth. This is not uncommon in real world research (Chiesa & Fonagy, 1999), but the resulting weaknesses significantly constrain confidence in the findings reported here.

One weakness related to the classification of the sample. All participants had previously received a diagnosis of BPD or equivalent from an appropriate clinician in the community, yet confirmation of the presence of BPD was not included as part of the research protocol. This creates uncertainty about the accurate description of the sample since

community-based diagnostic assessment is notoriously problematic due to inconsistent procedures and nomenclature employed by clinicians (Aboraya et al., 2006). Confidence in the reliability of findings presented in the thesis would have been enhanced by the inclusion of any one of a number of instruments for diagnosing BPD developed over the past few decades based on the major psychiatric classification systems (Bohus et al., 2007). Most of these measures take the form of semi-structured clinical interviews and require specialist training and time to administer (Widiger, 2002).

The decision to omit such measures was not made without careful consideration and was informed by experiences while conducting the initial pilot study described in Chapter 2. Here, the original research protocol had planned for the administration of a short interview schedule for measuring suicidal thoughts, the Suicidal Behaviours Questionnaire (SBQ: Linehan, 1980). The only viable means of achieving this was to have clinicians administer the SBQ themselves as it was logistically impractical for each schedule to be administered by myself and no other on-site research assistance was available. In practice however the treating clinicians refused to devote time to learn or administer the instrument. Of the few patients to whom the SBQ was administered there was dissatisfaction at its perceived intrusiveness, unlike the self-report measures which were completed without complaint. In retrospect this is not surprising. Many interview schedules, such as the SCQ, were designed for use in research settings where incentives for participants, including payment, are available and clinicians are often employed as part of a research team (Bernstein & Feldman, 2015). I anticipated that in the planned transition to multi-centre data collection after Chapter 2 the difficulties encountered using the SBQ such as refusals to administer would be encountered again with attempts to include other interview schedules. The subsequent exclusion of a formal interview-based diagnostic assessment for BPD was a pragmatic response made in the

interest of maximising opportunities for collecting a large and representative dataset on community-based DBT.

Another weakness related to the use of a single source of data for measuring outcomes, i.e. symptom-focused self-report. Despite administrative ease, disadvantages of multiple-choice questionnaires for evaluating treatment effectiveness have been long recognised (McLeod, 2011; Shedle, Mayman, & Manis, 1993). In an early critique, Smith, Glass, and Miller (1980) argued that self-report measures are too reactive, leading to an over-estimation of treatment effects. More recently, adopting an epistemological perspective, Hill and her colleagues observed that “we do not know how participants interpret questions or what they are thinking when they assign a number or what that number means to them” (Hill, Chui, & Baymann, 2013, p. 70). While interview schedules as a means of monitoring progress were not viable for reasons outlined above, the studies here would have been strengthened by the inclusion of easily accessed supplementary sources of information. Individualised measures, such as goal attainment scaling (Kieresuk, Smith, & Cardillo, 1994) or target complaints completed by both patient and clinician (Battle, Imber, Hoehn-Saïrc, Nash, & Frank, 1966), could have been completed without much additional administrative burden. Alternatively, objective indicators of functioning (e.g. days in employment or functioning, or levels of service-use such as hospitalisation or attendance at EDs) could have been collected on participants across the treatment period in collaboration with clinicians or a file review.

A further limitation throughout the dissertation was the absence of a formal assessment of treatment fidelity or integrity, i.e. the extent to which treatment was carried out as intended (Leichsenring et al., 2011). Treatment fidelity is a highly desirable feature of psychotherapy research, yet its measurement is regularly absent from studies. Perepletchikova, Treat, and Kazdin (2007) reported that less than 4% of a selected sample of

randomised controlled trials of psychotherapy included a robust measure of treatment integrity. The omission of procedures to monitor fidelity impacts the ability to draw inferences about treatment effect (Kazdin, 2003). Despite not formally measuring fidelity in the dissertation, several factors may have helped lessen the impact of this methodological concern. DBT has distinguishing structural characteristics, in particular multiple modes of treatment. Contributing DBT teams confirmed all modes were present. One of these modes, therapist consultation meetings, also has the express function of helping therapists remain adherent to the DBT model through the monitoring and support of colleagues (Koerner, 2012). In addition, the use of a detailed 24 week skills training curriculum in DBT (Linehan, 2015) ensured a degree of fidelity in the skills mode of the treatment. Furthermore, individual therapists were invited to complete a self-evaluation of their use of DBT strategies on a 27 item checklist following each therapy session (see Appendix D). I developed this checklist to help remind clinicians of DBT strategies and prompt the practice of such strategies. Finally, as part of the multi-site, practice-based research network (PBRN) from where these studies were generated (see below), I provided regular DBT-informed consultation and supervision of teams. This was an opportunity to informally monitor and guide fidelity. While there were many inevitable indications of drift from fidelity over the duration of the project as might be expected with a complex and lengthy intervention, clinicians and teams were uniformly willing to apply consultation on fidelity as matters arose. None of these compensatory factors fully substitute for systematic formal adherence monitoring based on recordings of individual or group sessions, yet they provide a reasonable estimate that at least several defining aspects of DBT were implemented as intended.

A reliance on analyses of treatment completers only throughout the dissertation also warrants consideration as a weakness. The use of intention-to-treat (ITT) analyses would have had advantages (Hollis & Campbell, 1999). ITT designs include all starters in the final

analysis. Dropouts are included either by carrying forward the last observation or, more preferably, following up on dropouts at all planned data collection points (Gupta, 2011; Streiner & Gedes, 2001). ITT procedures help resolve concerns that the benefits of certain treatment conditions can be overestimated by excluding those patients who responded most poorly and dropped out (Lewis & Machin, 1993). Problems related to the exclusion of dropouts may have been less pronounced in the studies described in chapters 3 and 5 where completion rates were higher than 80%. However, standalone DBT group skills training in Chapter 4 had a dropout rate of almost 40%, statistically greater than the standard DBT comparison condition in this study. Research ethics approval was not available to continue measurement of dropouts and since dropout tended to occur early in treatment only baseline data was usually available. There were anecdotal indications from clinicians that where dropout occurred it was due to poor treatment response. Even though findings in the dissertation make explicit reference to being based on completers only, the overall effect of standalone group skills training, and to a lesser extent the other treatment conditions across the study, may have been overinflated.

### **6.3 Reflections on findings and future work**

Most of the studies that make up this dissertation were possible solely due to the creation of a well-functioning practice-based research network (PBRN) which provided data from four separate DBT teams. As elaborated in Chapter 1, PBRNs consist of groupings of real-world clinicians who work together to gather clinically relevant data in order to inform routine practice (Audin et al., 2001; Castonguay, Barkham, Lutz, & McAleavy, 2013). With the exception of the small programme evaluation described in Chapter 2, all studies required access to the shared data of the PBRN. The studies were unplanned at the inception of the network but arose from evolving practice-related questions, as is common among PBRNs (McMillen et al., 2009). In Chapter 3, the comparison condition for the young adult

programme of same-age patients in general adult DBT could only be generated from data collected by a second team within the PBRN which provided no young adult programme but had 13 patients in the matching age range in general adult DBT. The studies described in Chapters 4 and 5 on DBT group skills training and patient characteristics respectively would have required several additional years to be completed by a single team due to low rates of participant recruitment, reflecting the resource intensive and lengthy nature of DBT. The opportunities afforded by the network for broad and timely investigation support Kelly et al.'s (2015) assertion that PBRNs should be used more widely in mental health settings.

The success of PBRNs is not guaranteed however (Barkham, 2014). The success of our network may have been aided by methodological compromises and incentives for clinicians to collaborate. Regarding methodological considerations, as discussed above, a decision was made to use simple, clinically relevant self-report instruments to monitor treatment progress since such measures have been associated with more consistent administration by real world clinicians (Barkham & Margison, 2007). The project experienced negligible levels of missing data due to diligent data collection by clinicians. Regarding incentives, as recommended by Borkovec and colleagues (2001) participation in our PBRN was linked to an offer of training. Teams in the network were provided with continuing professional development (CPD) in DBT which was delivered through both on-site and off-site training and ongoing consultation provided by myself. Expressed in its crudest manner, the incentive amounted to a barter of training for data. The barter placed a premium on data and clinician's time by delivering a substantial body of CPD. Over the four year duration of the PBRN to-date, the equivalent of 30 days of CPD was provided. High rates of attendance and informal clinician feedback conveyed appreciation for this CPD and identified this as an important motivation in persisting with data collection, a task frequently perceived as arduous, even despite the choice of measures. Without the incentive of CPD the

PBRN may have failed to thrive, although the resources required to maintain the network also raises questions about long-term sustainability of this approach.

For too long research has been perceived as a burden in real world settings with many institutional barriers and, at best, management ambivalence. Based on my experiences with this project, PBRNs have the potential to reframe research as an activity which directly impacts on clinician skill and service provision, creating a contingency where clinicians and their managers seek out involvement in research due to the associated benefits. Recent studies have investigated factors associated with implementing PBRNs (e.g. Defife et al., 2015). Further research might directly investigate the costs and benefits of networks, such as the optimal incentives needed to ensure clinicians' cooperation and evaluating whether training provided by the network translates into improved clinical skills or practice.

The findings in both Chapters 3 and 4 indicate that group cohesion could be a salient process in DBT. Definitions of cohesion are contentious. They tend to address the sum of the group members' attitude and feelings toward the group, especially the attractiveness of the group and sense of "we-ness" (Marmarosh & Van Horn, 2010). Cohesion is systemic in nature and includes relationships between leaders and the group, as well as between members and the group (Burlingame et al. 2011). Dropout and outcomes for group psychotherapy across different therapy models are predicted by cohesion, and the concept of cohesion is analogous to the therapeutic alliance in individual psychotherapy (Forsyth & Corazzini, 2000). While therapeutic alliance between patient and individual therapist in DBT has been found to mediate outcomes (Bedics et al., 2015), group cohesion as a factor in DBT has received no attention. A contributory factor here may be that Linehan (1993b; 2015) expressly advised against addressing group process factors in group skills training. On reflection, this is a striking omission. Group-based skills training is ubiquitous to every application and adaptation of DBT (Dimeff & Koerner, 2007). Group processes, such as

cohesion, will inevitably arise in the development of any group, welcome or otherwise (Brabender, 2010).

Group cohesion may offer an explanation for the better outcomes associated with the young adult DBT programme described in Chapter 3. The two treatment conditions in this study are the same, both involving one year of standard DBT (albeit by different teams). The single difference between conditions is the age-range of group members in skills training. Skills training in the young adult condition is made up exclusively 18 to 25 year olds, whereas the general adult condition includes adults between 18 and 56 years. Cohesion has been found to be higher among treatment groups in the same age range (Yalom & Leszcz, 2005), and especially so for younger people (Burlingame et al., 2011). Similarly, the findings in Chapter 4 may point to involvement of group cohesion. Comparable outcomes were found for standalone DBT group skills training and standard DBT, despite the much lower intensity of the standalone skills condition which provided no individual psychotherapy. Structural differences between the treatment conditions may have created more favourable circumstances for cohesion in standalone skills training. The standalone skills condition had closed group membership, including the same skills trainers throughout, akin to most group-based cognitive behavioural treatments (Bieling, McCabe, & Antony, 2006). By contrast, the standard DBT condition used a rolling, open group format for its skills training modality. Membership of both patients and leaders changed frequently, usually every two months. Longer group membership, as occurred naturally with the closed standalone skills condition, is a factor which has been associated with greater cohesion (Burlingame et al., 2011).

There are many possible competing interpretations here, not least because cohesion was neither directly measured nor linked to outcomes. It also seems unlikely cohesion was the only explanatory factor, if at all. The work in the dissertation suggests the importance of optimising cohesion, notwithstanding that many of the guidelines for promoting cohesion by



group leaders described by Burlingame et al. (2001) are already consistent with standard practices in DBT (e.g. pre-treatment orientation to group roles and expectations, use of structure, modelling by leaders or emotional presence, careful timing of real-time feedback). Further investigation on the relationship between group cohesion and outcomes in DBT seems indicated.

The most original contribution of the dissertation relates to the findings, albeit provisional, on the viability and encouraging outcomes for a young adult only DBT programme. While a casual internet search produces details on scores of mental health providers in the United States and elsewhere offering young adult DBT services, the studies here are the first to report on a dedicated young adult programme in a non-college setting. Consistent with the practice of assertive recruitment in early intervention, where the aim is to provide timely treatment before a disorder becomes chronic and enduring (Lyons & Melton, 2005; McGorry et al., 2013), the young adult programme actively promoted itself and proactively identified suitable patients (i.e young adults with a diagnosis of BPD). Several such patients may have been below the typical threshold for referral to DBT (e.g. failure of other treatments, severe self-harm or suicide attempts; Rizvi et al., 2013). The young adult programme, as with all early intervention programmes, deliberately encouraged easy access and front loaded intervention rather than the usual pattern of titrating inadequate intervention while problems worsen (McGorry, 2015). Two sets of descriptive statistics communicate the success of the programme, which at time of writing has been running over five years. First, in the five years prior to the inception of the young adult programme seven 18 to 25 year olds were referred and accepted to standard DBT at this community service. In the five years since the launch of the programme, 52 young adults between 18 and 25 have been referred and accepted for the young adult programme, despite a reduced pool of local DBT therapists due to career changes and economic austerity measures in mental health services. Second, of the

39 treatment completers of the young adult programme, 82% have been discharged from mental health services and have not been re-referred. Coupled with the encouraging outcomes for young adult DBT described in chapters 2 and 3, these observations support Chanen et al.'s (2017) view that the long term progression of BPD might be arrested with the assertive early intervention for BPD using evidence-based treatments. The implications are potentially wide ranging. Controlled, large-scale research is needed to investigate whether the findings of better outcomes for the young adult programme than young adults in general adult DBT can be replicated elsewhere. Further research is also needed to evaluate pattern of service utilisation associated with the introduction of young adult DBT as well as relapse rates and associated health economics.

## **6.4 Concluding remarks**

Taken together, the findings of the dissertation present encouraging indications of DBT for BPD in community settings. Not only does the treatment work when delivered in the real world, but it also shows promise with hard-to-reach young adults and can be rationalised for willing, less high-risk patients when provided by experienced clinicians. There is still much to be learned and need for improvement. In particular, clarification is needed regarding for whom, and indeed how, the treatment works best, with partial or poor response to treatment an ongoing concern. Yet, DBT has had a promising first quarter century during which it has become one of the two most frequently practiced evidence-based psychotherapies in the United States (McHugh & Barlow, 2010). This dissertation provides further support that this adaptable and flexible treatment should continue to receive the widest possible implementation for patients in the community with a diagnosis of BPD.

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## Appendices

## **Appendix A**

### **Sample Consent Materials**



South Eastern Health  
and Social Care Trust



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## *Invitation to take part in a research study*

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### LETTER OF INFORMATION

**PURPOSE OF RESEARCH:** To investigate the effectiveness of Dialectical Behaviour Therapy (DBT) programmes intended to help people living with borderline personality disorder.

#### **RESEARCHERS' DETAILS:**

##### **Chief Investigator:**

Jim Lyng, PhD Candidate, School of Psychology, Bangor University, Gwynedd, LL57 2AS. Also Adjunct Assistant Professor, School of Psychology, Trinity College Dublin, Ireland. Ph: +353 86 0239697; Email: [jlyng@tcd.ie](mailto:jlyng@tcd.ie)

##### **Principal Investigator:**

Dr. Tracy Millar, Principal Clinical Psychologist, Clinical Lead, DBT Team, Stewartstown Road Health Centre, 212 Stewartstown Road, Belfast, Belfast, BT17 0FB. Ph: +44 289 0306035; Email: [Tracy.Millar@setrust.hscni.net](mailto:Tracy.Millar@setrust.hscni.net)

##### **Research Supervisors:**

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Professor Richard Hastings, Centre for Educational Development Appraisal and Research (CEDAR), University of Warwick, Coventry, CV4 7AL. Email: [r.hastings@warwick.ac.uk](mailto:r.hastings@warwick.ac.uk)

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#### **To Whom It May Concern,**

We would like to ask you to take part in a research study to be carried out at the South Eastern Health & Social Care Trust which is also part of a bigger study in Northern Ireland and the Republic of Ireland.

Before you decide whether or not you wish to take part, please read the information in this leaflet carefully and, if you wish, discuss it with your family, friends or health professional. Take time to ask questions – please don't feel rushed and or under pressure to make a quick decision. You should fully understand the risks and benefits (pros and cons) of taking part in this study so that you can make a decision that is right for you. This is known as 'Informed Consent'. Over the page a number of aspects of being involved in the study are discussed.

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### *Why is this study being done?*

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The study is part of a research degree (a PhD study) which the main investigator, Jim Lyng, is doing at the School of Psychology at Bangor University in Wales and the study will eventually be written-up as a dissertation. This study aims to find out how people get on in Dialectical Behaviour Therapy (DBT) programmes for people with borderline personality disorder. Jim and his colleagues will be collecting information from a number of different mental health services in Northern Ireland and the Republic of Ireland.

As part of this research he is working with the DBT Team at the South Eastern Health & Social Care Trust. The DBT Team, to which you will already have been referred, offers treatment programmes for people living with borderline personality disorder and emotional dysregulation. The DBT Team tries to provide good quality services and to help the team and the Trust better understand the benefits of the programmes on offer we are asking for feedback from service users. We are trying to measure the differences these programmes might make in people's lives and help us better understand which treatment options work best for particular types of problems.

The information collected by this research project will be combined in an anonymous way and made available to the DBT Team and the South Eastern HSC Trust. This will be helpful for service development and planning. In addition, we may include your anonymous information in a wider analysis of DBT programmes across a number of different locations and services which might be shared with other health providers and researchers.

### *Why have I been asked to take part?*

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You have been asked to consider taking part in this research study because everyone referred to the DBT Team is asked to participate following an initial assessment by a member of the DBT Team. You are being asked to take part in the study in the strictest of confidence.

### *What does the study involve?*

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If you were to take part in the study, we would ask you to complete a batch of pen-and-paper questionnaires on a range of areas (e.g. how you've been coping) **every three months** until your involvement with the DBT Team is finished. This will include any time you might spend on a waiting list before the team gets started with delivering treatment options to you.

It will take about 30 minutes to complete the questionnaires on *each* occasion. A member of the team will be present at all times to help in case you run into any difficulties. So, for example, if you were attending a programme provided by the DBT Team for one year you would be asked to complete the questionnaires on five separate occasions which would involve a total of two and a half hours of your time.

If you choose to take part in the study, within two months of collecting the last of your questionnaires you would be invited to come and meet with a member of the research team for 30 minutes where we could look at the differences (and similarities) between your personal scores over time. Attending this feedback meeting would be entirely your choice – but the offer will be made for you to accept or turn down.

## *What will happen to my information?*

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The first thing that will happen each time you fill out the questionnaires is the member of the team who is with you will review your answers and check if there is anything that needs to be discussed a little further. Your safety is our priority and we will do this to make sure we don't miss anything important that could relate to your well-being.

All information collected will be **confidential**, with the exception of any information you give us which makes us concerned about safety where we may need to get you some additional support. This is no different than every time you speak with a mental health professional.

You will not be identifiable in any report, thesis or publication, which arises from this study.

All information you provide would be recorded and analysed on a computer in an anonymous way, meaning your identity would be assigned a code rather than using your name. Although computer analysis of the data may take place in a number of different offices, this data will be 'encrypted' which makes it meaningless to an outsider without the relevant passwords and in addition there will be no way to link any computer data with your personal details. The 'hard copies' of your questionnaires would be stored in a locked cabinet with identifying details removed or 'blacked-out' and the code-key linking your questionnaires with your name will be kept separately. The data from this study will be stored securely for five years after which it will be destroyed.

**If you choose to withdraw from the study at any time, you have the right to request that your data is not used and destroyed.**

## *Are there any risks or benefits?*

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Occasionally some people might feel upset by the questions in the questionnaires (for example, questions about some of the problems you may have at present). However, a member of staff or your therapist will be at-hand should this happen.

There are also some possible benefits to taking part in the study. Receiving some feedback on how some things may have changed for you during the year might help boost your motivation and help you focus on future goals. It is also a way to measure if your treatment programme is effective for you.

We also are gathering this information for sharing with the DBT Team and other staff at the South Eastern HSC Trust to help evaluate the helpfulness of the programmes on offer from the Team. We are also gathering this information for inclusion in a wider study of DBT programmes in the community which we hope will help a wider audience of professionals, service-user groups, and the general public better understand DBT programmes. This type of information sharing can help improve existing treatments or lead to the development of new treatments.

### *What if I don't want to take part?*

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This is a very important question. It is entirely up to you to decide whether or not you would like to take part in this study.

#### **\*YOU DO NOT HAVE TO PARTICIPATE IN THIS STUDY\***

Choosing to take part in the research is voluntary and you can also withdraw at any time.

There are a few things you might like to consider. **Taking part in the research in no way changes or affects what treatment options will be provided to you by the service.** If you decide now that taking part in the research is not for you, you will be offered the exact same service you would have received if you had chosen to take part in the research. Not taking part will not restrict you from being offered any appropriate and available treatment options over the next year or in the future. Decisions about treatments are made independently of the research team. On the other hand, if you *do* choose to take part in the research, you will not get any extra service than that which is already being offered by your treating team. And as noted above, you can change your mind at any stage and withdraw from the research – no questions asked.

### *Who do I contact about the study?*

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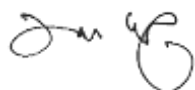
If you have any further questions or comments whatsoever please make contact with either Jim Lyng on +353 86 0239697 or [jlyng@tcd.ie](mailto:jlyng@tcd.ie) or Dr Tracy Millar on +44 289 0306035 or [tracy.millar@setrust.hscni.net](mailto:tracy.millar@setrust.hscni.net)

### *Who do I contact with any concerns about this study?*

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If you have any concerns or complaints about this study, or the conduct of individuals involved in this study please contact *both*:

- Complaints / Patient Liaison Manager, South Eastern HSC Trust, Ards Hospital, Church Street, Newtownards, BT23 4AS.
- School Manager, School of Psychology, Bangor University, Gwynedd, LL57 2AS.




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Jim Lyng

Chief Investigator



South Eastern Health  
and Social Care Trust



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**CONSENT TO PARTICIPATE IN A RESEARCH PROJECT**

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**PURPOSE OF RESEARCH:** To investigate the effectiveness of Dialectical Behaviour Therapy (DBT) programmes intended to help people living with borderline personality disorder.

**RESEARCHERS' DETAILS:**

**Chief Investigator:**

Jim Lyng, PhD Candidate, School of Psychology, Bangor University, Gwynedd, LL57 2AS. Also Adjunct Assistant Professor, School of Psychology, Trinity College Dublin, Ireland. Ph: +353 86 0239697; Email: [jlyng@tcd.ie](mailto:jlyng@tcd.ie)

**Principal Investigator:**

Dr. Tracy Millar, Principal Clinical Psychologist, Clinical Lead, DBT Team, Stewartstown Road Health Centre, 212 Stewartstown Road, Belfast, Belfast, BT17 0FB. Ph: +44 289 0306035; Email: [Tracy.Millar@setrust.hscni.net](mailto:Tracy.Millar@setrust.hscni.net)

**Research Supervisors:**

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Professor Richard Hastings, Centre for Educational Development Appraisal and Research (CEDAR), University of Warwick, Coventry, CV4 7AL. Email: [r.hastings@warwick.ac.uk](mailto:r.hastings@warwick.ac.uk)

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**Further information on this project can be found on the *Invitation to take part in a research study: Letter of Information* which you should have already received.**

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**To Whom It May Concern,**

The purpose of this document is for you to provide written consent that you understand the expectations surrounding participation in this research project and you agree to participate in the project. Before asking you to provide your signature we would like you to review some of the key pieces of information about the project:

## **The nature of the project**

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The study is part of a research degree (a PhD study) which chief investigator Jim Lyng is taking at the School of Psychology at Bangor University, Wales. This study aims to find out how people get on in Dialectical Behaviour Therapy (DBT) programmes for borderline personality disorder. Information is being collected on a number of DBT programmes in Northern Ireland and the Republic of Ireland. As part of this project information is being collected on users of the services provided the DBT Team at the South Eastern HSC Trust. The information collected by this research project will be combined in an anonymous way and made available to the DBT Team and the South Eastern HSC Trust. Additionally, anonymous information may be included in a wider analysis of DBT programmes across a number of different locations and services which might be shared with other health providers and researchers.

## **Procedures of the research**

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Anyone who decides to take part in the study does so voluntarily. Taking part involves completing a set of questionnaires every three months following an initial meeting with the DBT Team until such time that treatment is finished with the DBT Team.

If treatment has already started with the DBT Team in the past six months we will also ask for permission to include questionnaire data in the study which has already been collected as part of routine programme evaluation.

## **Feedback**

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Within two months of completing involvement in the research, all participants will be invited to attend a 30 minute 'feedback' meeting with a member of the research team. This will be an opportunity to review personal scores and talk about the experience of participating in the research. Attendance at this meeting will be entirely at the discretion of the participant.

## **Procedures to maintain confidentiality and anonymity**

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All information collected will be confidential with the exception of any information provided by participants which may be a cause for concern about his or her safety where additional support may be needed. Participants will not be identifiable in any report, thesis or publication, which arises from this study. All information provided by participants will be recorded and analysed on a computer in an anonymous way. Although computer analysis of the data may take place in a number of different offices, this data will be 'encrypted' which makes it meaningless to an outsider without the relevant passwords and in addition there will be no way to link any computer data with personal details of participants. The 'hard copies' of participant questionnaires will be stored in a locked cabinet with identifying details removed or 'blacked-out' and the code-key linking participants' questionnaires with participants' name will be kept separately. The data from this study will be stored securely for five years after which it will be destroyed.

## **Harm and benefits of procedures**

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Possible harm: The questionnaires ask about problems people sometimes have of a personal nature. Some of these questions may be upsetting. A member of the DBT Team will be at hand if any help is needed or issues are raised which need discussion.

Possible benefits: Participants will have the option to review personal scores when they finish with the project. This may be helpful in tracking progress and setting future personal recovery goals. The project should also help the DBT Team evaluate the effectiveness of programmes on offer. Also, since information collected may be included in a wider study of DBT programmes in a number of different services in Northern Ireland and the Republic of Ireland, participation in the study may contribute to a wider understanding of the usefulness of DBT programmes in the community.

## **Withdrawing from the study**

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Participants are free to withdraw from the study at any time. This will not impact on services made available by the DBT Team. If a participant chooses to withdraw from the study, he/she has the right to request his/her data is not used and request all data be destroyed.

## **Reimbursement**

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There is no payment for participation in this research study.

## **More information**

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If you have any further questions or comments whatsoever please make contact with either Jim Lyng on +353 86 0239697 or [jlyng@tcd.ie](mailto:jlyng@tcd.ie) or Dr Tracy Millar on +44 289 0306035 or [tracy.millar@setrust.hscni.net](mailto:tracy.millar@setrust.hscni.net)

## **Complaints**

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Complaints concerning the conduct of research should be addressed to both:

- Complaints/Patient Liaison Manager, South Eastern HSC Trust, Ards Hospital, Church Street, Newtownards, BT23 4AS.
- School Manager, Bangor University, Gwynedd, LL57 2DG.

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**If you are satisfied you fully understand everything so far and if you are still interested in participating in the project, please turn to the next page to give your signed consent.**

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**FORMAL CONSENT**

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I, the undersigned, agree to participate in this study. I have been given a copy of this form and the accompanying *Invitation to take part in a research study: Letter of Information* and have had a chance to read both.

**Please initial here →**

I understand that participation in this research is completely voluntary. Services from the South Eastern HSC Trust or the DBT Team will not be affected in any way whether I agree or not.

**Please initial here →**

I understand that I can withdraw from the research at any time, and this includes my right to have any information about me excluded from the study and destroyed.

**Please initial here →**

I understand that the research will require me to complete a set of questionnaires every three months until my treatment by the DBT Team has finished.

**Please initial here →**

If applicable, I understand that questionnaire data collected in the past six months since my referral to the DBT Team may be included in the research. This data will be completely anonymised before inclusion in the study.

**Please initial here →**

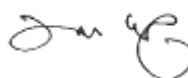
Signature of Participant:

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Date:

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Signature of Chief Investigator



## **Appendix B**

### **Sample research ethics application**





South Eastern Health  
and Social Care Trust



PRIFYSGOL  
**BANGOR**  
UNIVERSITY

## RESEARCH PROPOSAL

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**TITLE: A pilot investigation of Dialectical Behaviour Therapy (DBT) informed treatments for Borderline Personality Disorder (BPD) in the community**

**Projected Start-date:** February 2015 for 3 years

The research proposal is part of a PhD project at Bangor University, Wales. The project involves the planned collection of data at community based services involved in the delivery of DBT-informed treatments in the Republic of Ireland and Northern Ireland. The present proposal relates exclusively to the DBT Team at the South Eastern Health and Social Care Trust and any decisions reached by the Trust relating to the project will not be presumed to confer any approval for practices at other research sites outside the Trust which where approval will need to be obtained locally as appropriate. Data on the DBT Team at the South Eastern HSC Trust will be reported separately and may also be included in a wider analysis of DBT-informed treatments in the community.

### INVESTIGATORS:

**Chief Investigator:** Jim Lyng, PhD Candidate, School of Psychology, Bangor University, Gwynedd, LL57 2AS; Honorary contract, South Eastern HSC Trust. Also Senior Counselling Psychologist, Cluain Mhuire Community Mental Health Services, Blackrock, Co. Dublin. Ph: +353 86 0239697; Email: jlyng@tcd.ie

**Principal Investigator:** Dr. Tracy Millar, Consultant Clinical Psychologist, DBT Team, Stewartstown Road Health Centre, 212 Stewartstown Road, Belfast, Belfast, BT17 0FB. Ph: +44 289 0306035; Email: Tracy.Millar@setrust.hscni.net

**Academic Supervisor:** Dr. Michaela Swales, Consultant Clinical Psychologist & Senior Lecturer, School of Psychology, Bangor University, Adeilad Brigantia, Penrallt Road, Gwynedd LL57 2AS, United Kingdom. Email: m.swales@bangor.ac.uk

**Academic Supervisor:** Professor Richard Hastings, Centre for Educational Development Appraisal and Research (CEDAR), University of Warwick, Coventry, CV4 7AL, United Kingdom; Email: r.hastings@warwick.ac.uk

## 1. ABSTRACT

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### 1.1. Background:

Borderline personality disorder (BPD) is a serious mental health problem associated with emotional, interpersonal, cognitive, self and behavioural instability. Deliberate self-harm and suicidality are common features of the disorder which has a prevalence of almost 20% among outpatient mental health service users. Recent developments in the treatment of people with BPD includes comprehensive dialectical behaviour therapy (C-DBT), a multi-faceted psychological therapy with established efficacy in the treatment of BPD, but comparatively less evidence in routine clinical settings. There are also some indications that truncated forms of DBT, such as DBT group skills training only (DBT:SO), may be clinically useful

### 1.2 Aims:

The study aims to evaluate outcomes for community based DBT-informed treatments for BPD. Within the South Eastern HSC Trust, the study aims to evaluate outcomes for comprehensive DBT (C-DBT) delivered by the recently established DBT Team. The study also aims to compare C-DBT with a naturally occurring waiting list cohort receiving treatment-as-usual (TAU) and a new DBT group skills training only (DBT:SO) programme. Data collected may also be included in a wider analysis of outcomes for DBT-informed treatments in a number of community or 'real world' settings in Northern Ireland and the Republic of Ireland.

### 1.3. Methods:

Participants will be adult male and female service users assessed by the DBT Team at the South Eastern HSC Trust and will have an existing diagnosis of borderline personality disorder. The project will track the progress of participants engaged with the DBT Team through three-monthly assessments of a range of mental health problems from the point of initial assessment by the DBT Team to case-closure by the DBT team. This may include time spent on a waiting list receiving TAU in the community, C-DBT, or DBT:SO. Measurement will entail a repeated battery of short self-report questionnaires (DSHI, DERS, BSS, BHS, Eq-5d, DBT-WCCL, SCL-90-R, and BSL-23). Clinicians' adherence to C-DBT will be captured through a self-report bespoke measure (the DBT Checklist for Clinicians) alongside a review of skills training session plans and similarly clinicians' adherence to DBT-SO will also be captured through a review of skills training session plans.

### 1.4. Results:

Results will be analysed by a series of Analyses of Covariance comparing post-treatment outcomes after controlling for pre-treatment scores. Mean difference effect sizes will be calculated. Individual patient outcomes will also be explored.

## 2. BACKGROUND & RATIONALE

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Borderline personality disorder (BPD) is a serious multidimensional mental health problem often characterised by symptoms of affective instability, interpersonal problems, impulsivity, and cognitive distortions. Self-injurious behaviours and enduring suicidality are common features of the disorder (Paris, 2005). By some estimates BPD has a prevalence of almost 2% in the general population (Swartz et al., 1990) rising to 10% in outpatient services and more than 50% in certain inpatient facilities (American Psychiatric Association, 1994). The lifetime risk among BPD sufferers of death by suicide has been estimated at almost 20% (Adams et al., 2001), not to mention significant social costs, a high burden of care on others such as families, and marked levels of personal misery and suffering (Beck et al., 2004; Linehan & Heard, 1999).

Historically, the prospects of effective treatment for BPD were anecdotally held to be poor, despite the absence of much reliable data on clinical outcomes (Paris, 2008). There has been an array of contradictory findings in relation to drug-based treatments for BPD, although it has been argued "the evidence base for psychopharmacological treatment of BPD is slim" (Paris, 2005, p. 131). Psychological treatments for BPD have followed a different trajectory to their pharmacological counterparts. The last quarter century has seen something of a proliferation of psychotherapy treatment research and development for BPD (Bateman et al., 2005).

Comprehensive Dialectical Behaviour Therapy (C-DBT) is by some distance the most extensively researched psychological treatment for BPD (Lieb, 2012). Developed by Marsha Linehan at the University of Washington (Linehan, 1993, 2014), C-DBT aims to remediate patient difficulties through an eclectic array of exposure, skills-building, cognitive-restructuring, and contingency management techniques based on careful targeting of

specific problems within a compassionate and solution orientated therapeutic relationship. Multiple modes of treatment are used to facilitate these aims, encompassing individual psychotherapy, skills-training, telephone skills coaching, and therapist consultation meetings (Swales & Heard, 2009).

The efficacy literature on C-DBT for BPD includes more than ten randomised controlled trials (RCTs) (Carmen et al., 2013). These RCTs have shown better outcomes for C-DBT in the treatment of parasuicidal and deliberate self-harming behaviours for individuals with BPD when compared with treatment as usual, validation therapy, and expert treatment in the community (Linehan et al., 1991, 1999, 2002, 2006). Where clients have somewhat less-severe problems, such an absence of recent deliberate self-harm, C-DBT has been found to reduce hopelessness, suicidal ideation and depression (Koons et al., 2001; Lynch et al., 2003; Verheul et al., 2003).

By contrast, evidence for the effectiveness of treatments for BPD such as C-DBT delivered in routine clinical settings has been comparatively limited, despite the crucial task of demonstrating that therapy outcomes can be preserved in the transition from the research environment to the community (Shadish et al., 1997). Comtois and her colleagues demonstrated effective outcomes for C-DBT in a regular community mental health service setting, but in discussing the generalisability of their findings cautioned “the clinical degrees and training of (the setting’s) DBT therapists are comparable to comprehensive DBT (efficacy trials) and much higher than those typically found in mental health” (Comtois et al., 2007, p. 412). In a controlled study of C-DBT delivered by more typical clinicians in a routine setting Pasieczny & Connor (2011) found C-DBT was effective, resulting in clinical improvements similar to the findings of the C-DBT efficacy trials. Subsequently, two controlled British studies have demonstrated the effectiveness of C-DBT in routine settings (Feigenbaum et al., 2012; Priebe et al., 2012). However, attrition was high in both British studies and further investigation of C-DBT in routine practice settings is warranted. In addition, no data is currently available on the effectiveness of DBT in Northern Ireland.

Alongside the findings relating to C-DBT, there are increasing indications that a dismantled version of DBT consisting solely of the skills training component of DBT (DBT:SO) may be useful in the treatment for borderline personality disorder and severe emotional dysregulation (McMain et al., 2014; Neasciu et al., 2014; Soler et al., 2009) but findings are tentative and need replication and further investigation.

### **3. AIMS & OBJECTIVES**

The present application is part of a larger project which aims to investigate outcomes in the treatment of borderline personality disorder in routine clinical practice across several services. In the present instance the project would involve investigating outcomes from treatments provided by the DBT Team at the South Eastern Health and Social Care Trust, although data may also be included in the wider analysis of DBT in the community.

The DBT Team currently offers comprehensive DBT (C-DBT) for individuals meeting criteria for borderline personality disorder. The DBT Team also maintains a waiting list where patients may continue to engage in treatment as usual (TAU) elsewhere in the community until service options are available within the DBT Team. In response to high levels of demand for the services, the DBT team also has Trust approved plans to roll-out a DBT group skills training only (DBT:SO) programme over the coming months.

The study aims to track participants’ progress over the course of C-DBT, comparing expected gains with the rates of gain observed in the expert-led efficacy literature on DBT. The study also hypothesises that participants will show significantly greater clinical improvements while in receipt of C-DBT than participants on a waiting list in receipt of TAU over the same

period. In an instance where the DBT Team offers DBT:SO the study will also track participants' progress over a course of DBT:SO, comparing outcomes with C-DBT and also TAU.

## **4. DESIGN & METHODS**

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### **4.1. Design:**

At the South Eastern HSC Trust the project will track outcomes for consenting participants from initial assessment by the DBT Team to the point at which the case is closed by the team. The project will investigate a naturally occurring quasi-experimental design by comparing the treatment options at the DBT Team, namely comprehensive DBT (C-DBT), a waiting list receiving treatment as usual (TAU) and DBT group skills training only (DBT:SO). Allocation to treatment conditions and all ensuing clinical and treatment decisions will be made entirely independent of the research project. The project merely aims to investigate and compare outcomes across these naturally arising groupings and no treatment option will be provided, delayed or withheld due to participation in the research project.

The independent variable will be the treatment condition: C-DBT, TAU or DBT:SO. Multiple dependent variables will be measured as follows: 1. Suicidality 2. Self-harming behaviours 3. Borderline personality disorder symptoms 4. Hopelessness 5. Maladaptive and effective coping 6. Symptoms of psychological distress 7. General levels of ill-health and 8. Emotional dysregulation. Dependent variables will be measured through a battery of self-report questionnaires repeated every three months and also at the onset of a new treatment condition (eg. moving from a waiting list in receipt of TAU to a C-DBT or DBT:SO treatment option).

### **4.2. Participants:**

All service users initially assessed and subsequently offered services by the DBT Team will be invited to participate in the research project with the exception of any service users already enrolled in a research project. Reflecting the criteria for service delivery by the DBT Team, participants will include both genders and will be over 18 years with an existing diagnosis of borderline personality disorder. Users of the DBT Team who decline to consent to take part in the research will be excluded. While it is very difficult to estimate the number of service users who will consent to participate in the project, based on existing referral rates to the DBT Team there is the projection of 60 participants over three years. This number includes those accessing C-DBT, treatment as usual on a waiting list, and a single proposed DBT:SO programme. Should the DBT:SO become 'mainstreamed' by the DBT Team it is probable there may be an increase in the overall number of participants given a corresponding increase in the number of individuals accessing services delivered by the DBT Team through DBT:SO. There will be no remuneration for participants.

### **4.3. Procedure:**

Once a service user has been initially assessed and accepted by the DBT Team, the team member in question will introduce the possibility of participating in a research project. If the service user expresses an interest in learning more about participation, he or she will be provided with a written invitation to participate in the research project in the form of a Letter of Information. Prospective participants will be clearly informed in writing that participation in the project in no way changes the services that will be available (i.e. participation will neither expedite nor delay particular treatment options) and he or she would be free to withdraw from the study at any time in the future.

Consent to participate will not be sought immediately. A member of the team will follow up several days later by telephone in order to enquire as to the decision of the prospective participant. Where a service user expresses an interest in proceeding with participation he or she will be invited to attend a meeting to provide signed consent regarding participation

and also simultaneously attend a research assessment session. During this assessment the participant will be asked to complete a battery of self-report questionnaires in the presence of a trained mental health professional. Participants will be invited to repeat the same battery of questionnaires every three months until such time as his or her case has been closed by the DBT Team. This will include any period the participant remains on a waiting list in receipt of TAU or any period the participant is engaged in C-DBT or DBT:SO. Participants will also be asked to complete the battery of questionnaires at the onset of any new treatment condition, such as moving from a waiting list in receipt of TAU to C-DBT. As with the initial questionnaire administration session, subsequent administrations will always be completed in the presence of a trained mental health professional.

Each participant will be informed that his or her research data will be recorded in an anonymous manner and will not form part of his or her clinical record. However, participants will also be notified of the priority placed on participant safety and the ensuing limits to confidentiality. Participants will be made aware that all completed questionnaires will be reviewed immediately in his or her presence by the trained clinician responsible for data collection. Should immediate, significant or increased risk be indicated in the participant's questionnaire responses a risk assessment will be carried out by the clinician and appropriate clinical intervention will be taken where needed.

Feedback options will be provided to all participants. Within two months of completing his or her participation in the project, each participant will be given the opportunity to voluntarily attend a 30 minute one-to-one debrief on participation in the project. During this feedback session there will be the option to review personal scores in addition to exploring the experience of participating in the project. This debrief will be conducted by a member of the research team and will include an opportunity for reflection on participation in the research and an chance to review individual scores.

#### **4.4. Measures:**

The following standardised questionnaires will be used to measure the dependent variables:

a.) Beck Scale for Suicide Ideation (BSS):

Description: A 21-item designed to screen for suicidal ideas and intent.

b.) Deliberate Self Harm Inventory (DSHI):

Description: The L-SASI is a standardised self-rating instrument designed to obtain a detailed history of non-suicidal self-injury and suicidal behaviours.

c.) The Borderline Symptom List 23 (BSL-23):

Description: The Borderline Symptom List (BSL-23) was developed as a 23 item self-rating instrument to quantify borderline typical symptomatology.

d.) Beck Hopelessness Scale (BHS):

Description: A 20-item self-report inventory designed to measure three major aspects of hopelessness: feelings about the future, loss of motivation, and expectations.

e.) Dialectical Behaviour Therapy Ways of Coping Checklist (DBT-WCCL):

Description: A 59 item scale which has been found to assess use of skills taught in DBT in addition to the use of dysfunctional coping in difficult situations.

f.) Symptom Checklist 90 Revised (SCL-90-R):

Description: A 90 item multidimensional self-report inventory that screens for nine symptoms of psychopathology and provides three global distress indicators.

g.) Eq-5d:

Description: The EQ-5D is a standardised instrument for use as a measure of health outcome. It is applicable to a wide range of health conditions and treatments and provides a simple descriptive profile and a single index value for health status

h.) Difficulties in Emotion Regulation Scale (DERS):

Description: The DERS is a standardized 36-item, self-report questionnaire designed to assess multiple aspects of emotion dysregulation. The measure yields a total score as well as scores on six scales which measure aspects of emotion regulation.

**4.5. Treatment Adherence:**

Clinician adherence to C-DBT and DBT:SO will be assessed in several ways. Clinicians involved in the delivery of C-DBT will be randomly asked to complete the DBT Checklist for Clinicians following participants' individual DBT psychotherapy sessions. This checklist is a bespoke, non-standardised instrument developed for the current project in consultation with international experts in the provision of DBT. The DBT Checklist for Clinicians prompts the DBT therapist to report on their perception of the presence of a range of DBT-defining strategies in the psychotherapy session they have just provided. A standardised measure of DBT adherence is commercially available which involves the rating of audio or video recorded DBT sessions for adherence on a large range of dimensions. For cost and logistical reasons the use of this standardised measure is outside the scope of the current project. Additionally, the session plans for DBT skills training groups provided as either part of C-DBT or as DBT:SO will be reviewed and evaluated for adherence to the DBT skills training manual (Linehan, 2014).

**4.6. Analysis:**

Given the lack of randomisation, our main analysis will involve the use of a series of Analyses of Covariance comparing post-treatment outcomes after controlling for pre-treatment scores. Mean difference effect sizes will also be calculated. In addition to group analyses, individual patient outcomes will be explored. This will be based on analyses of reliability and clinically significant change at the individual level (Jacobson & Truax, 1991).

**5. POTENTIAL RISKS AND BENEFITS**

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**5.1. Risks:**

Since the project involves investigating treatments in the community which are already in place using methods similar to those found in routine outcome evaluation, the research project does not create any new conditions which may contribute to risk. The research methodology requires participants to answer questionnaires which focus largely on mental health symptoms, similar to the types of questions asked consistently in regular clinical interactions in community mental health care. While there may be some cognitive load and stress attached to the completion of each battery of the questionnaires, this is unlikely to be particularly note-worthy. The batteries consist of brief questionnaires composed of straightforward questions, almost all involving user-friendly likert scales or yes/no responses. Each battery can usually be completed in under 30 minutes. The battery of questionnaires has been in use with this research protocol at another research setting for more than one year (the chief investigator's place of main employment, Cluain Mhuire CMS in Dublin) and participants have completed the questionnaires without difficulty on almost every occasion. Nonetheless, in the event that any of any participant distress, a trained mental health professional will always be present for the full duration of time taken to complete questionnaires.

**5.2. Benefits:**

There are several benefits which should occur as a result of this study. Firstly, at a service level the findings from the project should help in the evaluation of available treatment

programmes and assist in evidence-based treatment planning in the future. Secondly, for individual participants there may be a perception of enhanced care associated with close monitoring of clinical outcomes and the provision of tailored individual feedback. There may also be satisfaction arising from the experience of being able to make a contribution to others through participation in the project. Thirdly, this research may contribute to the wider clinical literature with regard to better understanding DBT-informed treatments of borderline personality disorder in the community.

## **6. ETHICAL ISSUES**

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Beyond consideration of any potential burden likely to be placed on participants through his or her involvement in the project, the most pertinent ethical issue relates to ensuring participant confidentiality is maintained. Several steps will be taken to ensure confidentiality.

### **6.1. Anonymous, coded data:**

Participants will be assigned an anonymous code which will be used as an identifier on all questionnaires. Names will not be recorded on questionnaires at any time. The key for the anonymous codes will be stored separately by the principal investigator and only the principal investigator will have access to this key at any time.

### **6.2. Secure storage:**

Hard copies of participant questionnaires will be stored in a locked cabinet in the office of the local principal investigator, separate from other clinical records. They will permanently remain at this location until the appropriate time has passed to destroy these records.

### **6.3. Encrypted data entry:**

The anonymous hard data from questionnaires will be entered by the chief investigator or another staff member at the South Eastern HSC Trust into a statistics software package (IBM's SPSS) in the office of the local principal investigator so that questionnaires never leave this office at any time. The resulting file, which will consist entirely of anonymous data, will subsequently be encrypted prior to transport to any other location for analysis or review (i.e. the office of the chief investigator or the offices of the academic supervisors).

### **6.4. Limits to confidentiality:**

Participants will be informed that his or her safety remains the key priority of the research team and there are certain circumstances where risk of harm to self or others is indicated which may involve limits to confidentiality. In particular participants will be informed that his or her responses to all research questionnaires will be reviewed immediately on their completion in the presence of the member of the clinical team responsible for data collection. In the event of any communication of immediate, significant or increased risk detected in the participant's questionnaire responses the clinician will conduct an immediate clinical assessment of the risk variables and appropriate actions will be taken consistent with clinical judgement and best practices in harm reduction which may include liaison/escalation to other care providers and/or contact with family members or carers where required.

## **7. RESOURCES**

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The research project is expected to be cost-neutral. Fees and related academic costs such as data analysis and write-up associated with the PhD at Bangor University currently being pursued by the Chief Investigator will be met independently which encompasses research supervision from experts with noted national and international standing.

The clinical activities under investigation involve no additional costs to the South Eastern HSC Trust. The activities in question, such as maintaining a waiting list receiving treatment as usual (TAU), delivering comprehensive DBT (C-DBT) and potentially DBT Skills Only

(DBT:SO) alongside the collection of data on clinical outcomes are all part of routine clinical practice for the DBT Team.

## 8. DISSEMINATION

The results will be made available in several ways. They will be written up as a dissertation for a PhD. They will be presented orally at appropriate service-level seminars. They will also be presented at external conferences nationally and internationally and they will be submitted to academic journals for publication

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## **Appendix C**

### **Copies of Research Ethics Approvals**

	(PI Only)	(PI and Authorized Editors)	(Collaborators)	(Ethics Committee)	
<b>Application number:</b>	2012-7443				<a href="#">Download as PDF</a>
<b>Project Title:</b>	A pilot investigation of community based treatments for borderline personality disorder (BPD) in routine clinical practice				<a href="#">Download attachments.zip</a>
<b>Principal Investigator:</b>	Lyng, James				
<b>Study Start Date:</b>	18 Feb 2013				
<b>Study End Date:</b>	31 Dec 2015 extended/alterred to 30 Sep 2016				
<b>Other Researchers:</b>	Swales, Michaela - Agreed <a href="#">🔗</a>				
	Heatings, Richard - Agreed Problem with username please contact admin				
	Lyng, James <a href="#">🔗</a>				<a href="#">Reset password for username lyngj267</a>
	Lyng, James <a href="#">🔗</a>				<a href="#">Reset password for username lyngj267</a>
<b>Department:</b>	Psychology				
<b>LAST MODIFIED:</b>	29 Jun 2017 10:53a.m.				

## Latest Reviews

### Review 1 (12 Feb 2013)

<b>Scientific Quality:</b>	The research seems interesting and very useful
<b>Care and protection of research participants :</b>	No issues
<b>Adequacy and completeness of participant information:</b>	The information is thorough and clear
<b>Recruitment/Consent:</b>	No issues
<b>Data Protection &amp; participant Confidentiality:</b>	These have been addressed well
<b>Governance issues and risk assessment:</b>	No issues
<b>Other issues:</b>	The investigation will include the administration of two semi-structured interviews and 6 questionnaires. None of these measures have been appended. In order to assess risk and clarity of information further (especially given that some items about suicidality are indicated) I would like to see the questionnaires uploaded for review.
<b>Approval Status:</b>	Approve with amendments that require verification from reviewer

### Review 2 (12 Mar 2013)

<b>Other issues:</b>	Thank you for supplying the questionnaires. As this has run previously without causing distress and there will be access to a named mental health professional during administration of the questionnaires, I am happy to grant approval.
<b>Approval Status:</b>	Approve without amendment

## Previous Reviews

[Pre-screen Questions](#)
[Part 1: Ethical Considerations](#)
[Part 2: A](#)
[Part 2: B](#)
[Part 3: Risk Assessment](#)
[Part 4: Research Insurance](#)

[Supporting Docs](#)

<b>Type of Project:</b>	PhD
<b>What is the broad area of research:</b>	Clinical/Health



**Saint John of God *Hospitaller* Ministries**  
*Hospitaller Ministries Headquarters*

Mr. James Lyng,  
 Cluain Mhuire Community Mental Health Services,  
 Newtownpark Avenue,  
 Blackrock,  
 Co. Dublin

26<sup>th</sup> July, 2013

Dear James,

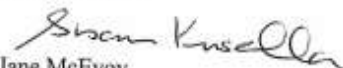
**Re: Research Proposal: "ID No 528" A Pilot Investigation of Community Based Treatments for Borderline Personality Disorder (BPD) in routine clinical practice.**

Thank you for the above Research Proposal submitted to the Provincial Ethics Committee and attending the meeting on Tuesday 16<sup>th</sup> July, 2013 and following amendments.

The Provincial Ethics Committee have pleasure in formally approving the above research proposal and take this opportunity to wish you well with the study and look forward to receiving a copy of your findings.

Kind regards

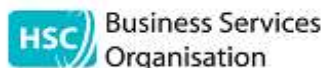
Yours sincerely

  
 Jane McEvoy,  
 Chair  
 Provincial Ethics Committee

Hospitaller House, Stillorgan, Co. Dublin, Ireland. | Tel: +353 1 277 1500 | Fax: +353 1 283 1257  
 Email: [communications@sjog.ie](mailto:communications@sjog.ie) | [www.sjog.ie](http://www.sjog.ie)

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**Office for Research Ethics Committees  
Northern Ireland (ORECNI)**

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[www.orecni.hscni.net](http://www.orecni.hscni.net)

## HSC REC B

25 March 2015

Mr James Lyng  
Cluain Mhuire Family Centre, Cluain Mhuire Community Mental Health Services  
Newtownpark Avenue  
Blackrock, Co. Dublin, Ireland.

Dear Mr Lyng

**Study title:** **A pilot investigation of Dialectical Behaviour Therapy (DBT) informed treatments for Borderline Personality Disorder (BPD) in the community**

**REC reference:** **15/NI/0010**

**IRAS project ID:** **127023**

Thank you for your letter of , responding to the Committee's request for further information on the above research and submitting revised documentation.

The further information has been considered on behalf of the Committee by the Chair and Lead Reviewer.

We plan to publish your research summary wording for the above study on the HRA website, together with your contact details. Publication will be no earlier than three months from the date of this favourable opinion letter. The expectation is that this information will be published for all studies that receive an ethical opinion but should you wish to provide a substitute contact point, wish to make a request to defer, or require further information, please contact the REC Manager, Jane Keenan, [recb@hscni.net](mailto:recb@hscni.net). Under very limited circumstances (e.g. for student research which has received an unfavourable opinion), it may be possible to grant an exemption to the publication of the study.

### **Confirmation of ethical opinion**

On behalf of the Committee, I am pleased to confirm a favourable ethical opinion for the above research on the basis described in the application form, protocol and supporting documentation as revised, subject to the conditions specified below.

### **Conditions of the favourable opinion**

The favourable opinion is subject to the following conditions being met prior to the start of the study.

**You should notify the REC in writing once all conditions have been met (except for site**

*Providing Support to Health and Social Care*

## Beaumont Hospital Ethics (Medical Research) Committee

Chairperson: Professor Gerry McElvaney  
Convenor: Dr. Peter Branagan

Administrator: Phil Oglesby

26<sup>th</sup> April 2016

**REC reference: 15/92**

Mr. Jim Lyng  
Senior Counselling Psychologist / Adjunct Assistant Professor  
Psychology Department  
Cluain Mhuire Community Mental Health Services  
Cluain Mhuire Family Centre  
Newtownpark Avenue  
Blackrock  
Co. Dublin

To: [jim.lyng@sjog.ie](mailto:jim.lyng@sjog.ie)  
cc: [malcolmgarland@gmail.com](mailto:malcolmgarland@gmail.com)

Dear Mr. Lyng

**RE: 15/92 – Mr. Jim Lyng (Cluain Mhuire Community Mental Health Services) / Dr. Malcolm Garland (Dublin North Mental Health Services) – A pilot investigation of Dialectical Behaviour Therapy (DBT) for Borderline Personality Disorder (BPD) in the community**

Further to your correspondence clarifying the points requested, I can confirm that the Committee is happy to approve this study.

With best regards

Yours sincerely

Dr. Peter Branagan  
Convenor  
Ethics (Medical Research) Committee  
[beaumontethics@rcsi.ie](mailto:beaumontethics@rcsi.ie)

c.c.  
Dr. Malcolm Garland  
Consultant Psychiatrist and Senior Lecturer  
Kilbarrack Health Centre  
Greendale Road  
Dublin 5

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"The REC must be satisfied with the scientific quality of the research proposal"  
- Council of Europe (2011) Guide for Research Ethics Committee Members

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Ethics (Medical Research) Committee Beaumont Hospital Dublin 9  
Tel: 353-1-809 2680 Email: [beaumontethics@rcsi.ie](mailto:beaumontethics@rcsi.ie) [www.beaumontethics.ie](http://www.beaumontethics.ie)



**From:** "O'Reilly, Rachael \MCS\" <[Rachael.OReilly@hse.ie](mailto:Rachael.OReilly@hse.ie)>  
**Date:** 29 May 2015 at 16:44:57 IST  
**To:** "Jim Lyng" <[Jim.lyng@yahoo.ie](mailto:Jim.lyng@yahoo.ie)>  
**Subject:** FW: DBT research Ethics

FYI

Rachael O'Reilly, Senior Clinical Psychologist,

Adult Mental Health Service Ballina.

Address: The Primary Care Centre, Kevin Barry Street, Ballina, Co. Mayo.

Office: 096 80450

Mobile: 087 9403950

email: [rachael.oreilly@hse.ie](mailto:rachael.oreilly@hse.ie)

---

**From:** O'Neill, Meena (Mayo PCCC Psychology)  
**Sent:** 29 May 2015 16:43  
**To:** Skerritt, Ursula (MMHS); Rainey, PJ (MMHS Nursing); Garvey-Cecchetti, Breda (MCS); Walsh, Catherine (Mayo Mental Health & Older Peoples Service); Kelly, Michael (MMHS); McNulty, Mary (MMHS)  
**Cc:** O'Reilly, Rachael (MCS)  
**Subject:** DBT research Ethics

Folks,

Just to confirm that I have informed Rachael O'Reilly of the MMHS Management team approval of the research proposal submitted by the DBT team.

Regards,

Meena

Dr. Meena O'Neill,

Principal Psychologist,

Mayo PCCC, HSE West,

St. Mary's HQ,

Castlebar,

Co.Mayo.

Office: 0949049117

email: [meena.oneill@hse.ie](mailto:meena.oneill@hse.ie)



## **Appendix D**

### **Copy of DBT Checklist for Clinicians**

## DIALECTICAL BEHAVIOUR THERAPY CHECKLIST FOR CLINICIANS

Therapist Reference:

Client Reference:

Session Number:

Date:

### FOR COMPLETION IMMEDIATELY FOLLOWING A THERAPY SESSION

**Instructions:** On the next pages is a checklist of strategies used in DBT. Please recall / review your notes for the DBT session you have just provided and complete the strategies checklist as best you can. Mark the indicated strategies as appropriate (eg. circling YES or NO). Please also provide additional information where requested.

You are *not* being asked how well you used each strategy or whether the strategy was effective, just if you used the strategy. Try to be as accurate as you can.

Feedback has informed us that it can initially take up to 20 minutes or longer to complete the checklist. However, when you have completed this checklist a few times and become familiar with the questions it is expected that it will take less than 10 minutes to complete the full checklist.

Thanks for your time and effort.

---

**SESSION BEGINNING STRATEGIES**
**During the session did you:**

- |  |          |
|--|----------|
| 1. Review the diary card out loud.....           | YES / NO |
| 2. Handle diary noncompliance.....               | YES / NO |
| 3. Discuss the plan for the session.....         | YES / NO |
| 4. Recognise the client's emotional state.....   | YES / NO |
| 5. Review homework assignments.....              | YES / NO |
| 6. Check progress in other modes of therapy..... | YES / NO |
- 

**MID-SESSION STRATEGIES: BEHAVIOURAL ANALYSIS****During the session did you:**

- |   |          |
|---|----------|
| 7. Identify a problem(s) from the target hierarchy..... | YES / NO |
|---|----------|

*On the last page you will find a summary of the target hierarchy. Go to this now. Please underline which problem(s) from the list you identified and then return to the questions below*

- |  |          |
|--|----------|
| 8. Describe the problem(s) in behavioural terms.....   | YES / NO |
| 9. Reconstruct the chain of events before, during, and following the problem with the following information: |          |
| a. Prompting/precipitating event(s).....   | YES / NO |
| b. Each intervening emotion, thought, behaviour, and event.....  | YES / NO |
| Please name the primary emotion present in the chain: _____  |          |
| c. Consequences of the problem behaviour.....  | YES / NO |
| 10. Discuss the function of the problem behaviour.....   | YES / NO |
| Please describe: _____   |          |
- 

**MID-SESSION STRATEGIES: SOLUTION ANALYSIS****During the session did you:**

- |   |          |
|---|----------|
| 11. Identify points to use alternative solutions.....   | YES / NO |
| 12. Brainstorm/suggest solutions which included any of following:   |          |
| a. Skills training: Mindfulness, emotion regulation, distress tolerance, interpersonal effectiveness.....                           | YES / NO |
| b. Exposure-based procedures: Reducing emotional sensitivity.....   | YES / NO |
| c. Cognitive modification: Increase functional thinking.....  | YES / NO |
| d. Contingency management: Using consequences in the environment and the therapeutic relationship to change problem behaviours..... | YES / NO |
| 13. Evaluate solutions in terms of outcomes.....  | YES / NO |
| 14. Get commitment to practice solutions, troubleshoot, and/or rehearse.....  | YES / NO |
- 

**IN-SESSION DYSFUNCTIONAL BEHAVIOUR****During the session did you:**

- |  |          |
|--|----------|
| 15. Identify a dysfunctional in-session behaviour.....                                     | YES / NO |
| In a few words please describe: _____  |          |
| 16. Elicit a skilful response or instruct if needed.....                                   | YES / NO |
| 17. Gain commitment and rehearse new behaviour at least once.....                          | YES / NO |
| (eg. pros & cons, foot-in-door/door-in-face, devil's advocate, shaping, freedom to choose) |          |

---

**SESSION ENDING STRATEGIES**
**During the session did you:**

- |  |          |
|--|----------|
| 18. Agree on homework for the week .....                                     | YES / NO |
| 19. Summarise the session: cheerlead, soothe and re-assure.....              | YES / NO |
| 20. Troubleshoot the client's emotional reactions at the end of session..... | YES / NO |
- 

**COMMUNICATION STRATEGIES**

21. During the session, did your style of communication involve at least one of the following: humour, the unexpected, directness, saying what others dare not..... YES / NO

Please give an example: \_\_\_\_\_

---

**CASE MANAGEMENT STRATEGIES**

22. Did you teach the client to skilfully speak for him-/herself in specific situations?..... YES / NO

Please give an example: \_\_\_\_\_

---

**DIALECTIAL STRATEGIES**

23. DBT uses a range of dialectical strategies, which include highlighting paradox, using analogy, extending (taking the client's position more seriously than they take themselves), 'turning lemons into lemonade', allowing for natural change, or any other strategy which results in communication of a dialectical perspective of 'both.....and' rather than a more polarised stance of 'either.... or'.

Please give an example of how you used a dialectical strategy during the session:

\_\_\_\_\_

\_\_\_\_\_

---

**VALIDATION STRATEGIES**

Indicate which (if any) of the following you used at least once during the session:

- |   |          |
|---|----------|
| 24. Put words on thoughts/feelings/actions the client may have struggled to say.....        | YES / NO |
| 25. Make sense of the client's response to a situation based on past learning.....          | YES / NO |
| 26. Make sense of the client's responses to a situation based on current circumstances..... | YES / NO |
| 27. Communicated respect for the client as a person and an equal.....                       | YES / NO |

Please give an example of how you used one of these strategies: \_\_\_\_\_

\_\_\_\_\_

Following Q.7. please underline which of the following **problem behaviour(s)** was identified from the DBT Target Hierarchy; provide addition information if requested.

STAGE 1 PRIMARY BEHAVIOUR TARGETS in DBT

**Target 1: Decrease life-threatening behaviours**

- Suicidal or homicidal crisis behaviours
- Nonsuicidal self-injurious behaviours
- Suicidal ideation and communications
- Suicide-related expectancies and beliefs
- Suicide-related affect
- 

**Target 2: Decrease therapy-interfering behaviours**

In a few words please describe: \_\_\_\_\_

**Target 3: Decrease quality-of-life-interfering behaviours**

In a few words please describe: \_\_\_\_\_

**Target 4: Increase behavioural skills**

- Core mindfulness
- Distress tolerance
- Interpersonal effectiveness
- Emotion regulation

SECONDARY BEHAVIOURAL TAGETS (relevant at all times and stages)

- Increase emotion modulation / decrease emotional reactivity
- Increase self-invalidation / decrease self-invalidation
- Increase realistic decision making and judgment / decrease crisis generating behaviours
- Increase emotional experiencing / decrease inhibited grieving
- Increase active problem solving / decrease active passivity
- Increase accurate communication of emotions / decrease mood dependent behaviour