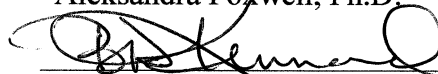


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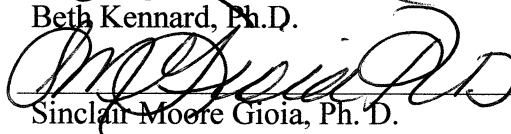
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ACKNOWLEDGEMENTS

It brings me great pleasure to thank the people who made the completion of this thesis possible. First of all, I would like to thank Dr. Foxwell for devoting so much time, late night edits, and most importantly, believing in me throughout this process. Her research expertise, patient instruction and warm encouragement is invaluable. I would also like to thank my committee members, Dr. Kennard and Dr. Gioia for contributing their invaluable research and clinical expertise as well as sympathetic understanding when adjusting deadlines. I would also like to thank Kristin Wolfe for her encouraging words and supportive advice. Furthermore, I greatly appreciated Jacquelyn Matney and Brandon Oscarson for the countless hours they spent organizing and cleaning SPARC data. In addition, I would like to thank Jessica King who was kind enough to take time away from her own busy schedule to share her statistical expertise. Finally, I would like to thank my brothers, Monty and Matt, for showering me with love and unwavering support. It was an honor and a privilege to work with such novel data, as well as learn from such knowledgeable and esteemed professionals in the field of clinical psychology. I am grateful for having had this opportunity and look forward to using my newfound knowledge in the future.

BORDERLINE PERSONALITY FEATURES AND TREATMENT OUTCOMES IN AN
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by

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THESIS

Presented to the Faculty of the School of Health Professions

The University of Texas Southwestern Medical Center

Dallas, Texas

In Partial Fulfillment of the Requirements

For the Degree of

MASTER OF CLINICAL REHABILITATION COUNSELING

Abstract

Borderline Personality Disorder (BPD) is a common psychiatric disorder associated with severe functional impairment, high rates of suicide, comorbid mental disorders, frequent utilization of mental health treatment, and therefore, high cost to society in both adults and adolescents. Although treatments have been developed to treat BPD in adults, little is known about the effectiveness of treatments in adolescents, in particular in an intensive outpatient setting. The current study examined differences in clinical characteristics among adolescents with and without borderline features who participated in an intensive outpatient program (IOP) for suicidal behaviors. In addition, this study examined whether borderline features predicted treatment outcomes at discharge. Fifty-eight participants, ages 13-17 (14.98 ± 1.15), were categorized into adolescents with BPD features and those without. Assessments include the Concise Health Risk Tracking form (CHRT; self-report), Columbia Suicide Severity Rating Scale (C-SSRS; clinician-rated), Quick Inventory of Depressive Symptomatology- Adolescent version (QIDS-A; self-report), and the 11-item Borderline Personality Features scale for Children (BPFSC-11; self-report). Statistical analyses include chi-square and ANOVA for demographic and clinical characteristics. Spearman's correlations and a hierarchical linear regression were used to examine treatment outcomes. Results indicate that adolescents with BPD features presented to treatment with more severe depression and suicide risk than adolescents without BPD features. Following IOP treatment, adolescents with BPD features continued to endorse more severe depressive symptoms than those without BPD features. However, there was no statistical difference between groups in regards to suicidality. The presence of BPD features did not predict depression severity at discharge, but the relationship appeared to be trending.

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FIGURE 1 65

LIST OF ABBREVIATIONS

BPD – Borderline Personality Features

BPFSC- Borderline Personality Features Scale for Children

CBT- Cognitive Behavior Therapy

CHRT- Concise Health Risk Tracking

DBT- Dialectical Behavior Therapy

DSM- Diagnostic Statistical Manual

IOP- Intensive Outpatient Program

MDD – Major Depressive Disorder

NSSI – Non-Suicidal Self-Injury

PAI- Personality Assessment Inventory

SA – Suicide Attempts

SI – Suicidal Ideation

SPARC- Suicide Prevention & Resilience in Children

QIDS- Quick Inventory of Depressive Symptomatology

CHAPTER ONE

Introduction

Borderline personality disorder (BPD) is a common psychiatric disorder associated with severe functional impairment, high rates of suicide, comorbid mental disorders, frequent utilization of treatment, and high costs to society (Bateman & Fonagy, 2008; Winograd, Cohen & Chen, 2008; Hörz et al., 2010; Keuroghlian, Frankenburg & Zanarini, 2013). According to the Diagnostic Statistical Manual of Mental Disorders-Fifth edition (DSM-5; American Psychiatric Association, 2013), BPD is characterized by a pervasive pattern of instability in interpersonal relationships, affect, identity, and impulsivity. Symptoms include, frantic efforts to avoid abandonment, a history of unstable interpersonal relationships, unstable sense of self, impulsive behavior in more than one context, repeated suicidal behaviors, affective instability, intense or uncontrollable anger, chronic feelings of emptiness, and paranoid ideation or dissociative symptoms in response to stress. The DSM-IV first allowed individuals younger than eighteen to be diagnosed with a personality disorder: more specifically, when pervasive and persistent maladaptive traits have been present for at least a year and are not limited to a developmental stage or an Axis-I episode (APA, 2013; Blashfield & Intoccia, 2000). Despite this inclusion, there has been reluctance to diagnose youth with BPD (Stepp, 2012). However, similar to adults, youth diagnosed with BPD are at an increased risk for suicide (Guilé & Greenfield, 2004), Axis I pathology, and impaired global functioning (Lewinsohn, Rhode, Selley, & Klein, 1997; Chanen, Jovev, & Jackson, 2007; Sharp et al., 2012), which may warrant earlier diagnosis and treatment.

The wide range of symptoms in BPD could imply multiple presentations of the disorder with varying degrees of severity, which may lead to inaccurate diagnosis and ineffective treatment approaches (Hoffman, 2008; Paris, 2009). In order to address this issue, researchers

have aimed to clarify its underlying components (Morey, 1988; Trull, Useda, Conforti, & Doan, 1997). Thus, Morey and his colleagues (1988) used factor analysis to identify the major components underlying BPD (PAI; Morey, 2003): identity disturbance, affective instability, self-harm, and negative relationships. These factors, included in the BPD subscale of the Personality Assessment Inventory (PAI), were used in the development of the Borderline Personality Features Scale for Children (BPFSC) and the shortened form, BPFSC-11 (Crick, Murry- Close, & Woods, 2005; Sharp, Steinberg, Temple, & Newlin, 2014). To date, there are few studies examining treatment outcomes in youth with BPD features in an intensive outpatient setting. Therefore, the purpose of the current study is to compare treatment outcomes in youth with and without borderline features as measured by the BPFSC-11 in an intensive outpatient program (IOP) for suicidal behaviors. The aims of the study include:

Aim 1: To examine differences in demographic and clinical characteristics in adolescents with BPD features (BPFSC-11 ≥ 34) and those without BPD features, who received treatment in an intensive outpatient program for suicidal behaviors.

Hypothesis 1: Adolescents with BPD features (BPFSC-11 ≥ 34) will endorse higher depression severity, comorbid diagnoses, and suicide related risk factors (e.g. academic problems, impulsivity, interpersonal interactions, emotion dysregulation, social support, sleep). Females will be more likely to meet criteria for BPD than their male counterparts.

Hypothesis 2: Adolescents with BPD features (BPFSC-11 ≥ 34) will endorse higher rates of NSSI, lifetime suicidal ideation and suicidal behaviors at intake.

Aim 2: To determine whether BPD features are correlated with treatment outcomes.

Hypothesis: Borderline Personality features (BPFSC-11 ≥ 34) will be positively correlated with outcomes of depression severity (e.g. QIDS-SR). BPD features will also be positively correlated with acute suicide risk and propensity scores (e.g. CHRT).

Aim 3: To determine whether BPD features (BPFSC-11 ≥ 34) are predictive of treatment outcomes after controlling for intake depression severity, gender, and treatment dose (e.g. number of group sessions attended).

Hypothesis: Adolescents with BPD features (BPFSC-11 ≥ 34) will exhibit poorer outcomes in depression severity and both acute suicide risk and propensity scores (e.g. QIDS-SR, CHRT), following intensive outpatient treatment compared to adolescents without BPD features.

CHAPTER 2

Review of the Literature

Prevalence and Functional Impairment of BPD

BPD is one of the most commonly diagnosed personality disorders (Zimmerman, Chelminski, & Young, 2008; Lieb, Zanarini, Schmahl, Linehan, & Bahus, 2004). In adult samples, BPD reportedly occurs in 1-3% of community samples, up to 10% in outpatient populations and 20% in inpatient settings (Hoffman et al., 2008; Lieb, Zanarini, Schmahl, Linehan, & Bahus, 2004; Paris, 2009; Tomko, Trull, Wood, & Sher, 2014). The prevalence rates are slightly higher in adolescents, with occurrence of BPD in 11- 28% in outpatient settings and between 26- 49% among inpatients (Grilo et al., 1998; Sharp, Ha, Michonski, Venta & Carbone, 2012; Taylor, 2009). In addition, findings from several studies reported similar gender differences between adult and youth populations: females are more commonly diagnosed than males (Busch, Balsis, Morey, & Oltmann, 2015; Claes et al., 2010; Keilp et al., 2006; Mohammadi, Shamohammadi, & Salmanian, 2014). One suggested reason for this is that females may be more likely to enter treatment due to emotional symptoms, however, males are more likely to exhibit externalizing behaviors (e.g. impulsivity, uncontrollable anger, identity disturbance). These behaviors in males are, more often than not, associated with Conduct Disorder and Oppositional Defiant Disorder rather than personality pathology (Becker, McGlashan & Grilo, 2006).

This debilitating disorder has been shown to affect social, medical, financial, academic and vocational areas of functioning in adults (Chen et al., 2004; Paris, 2009), especially in youth populations who continue to report functional impairment in multiple life areas following treatment (Bateman & Fonagy, 2008; Linehan, 2015; Paris, 2009).

Social. The maladaptive coping strategies, impulsivity, aggression, and emotional instability of BPD encumber the development of healthy interpersonal relationships (National Advisory Mental Health Counsel, 1995; South, Turkheimer & Oltmanns, 2008; Winograd, Cohen, & Chen, 2008). Tomko and colleagues (2014) reported that within a community sample of 34,481 participants, BPD was significantly associated with divorce and separation, and difficulty in relationships with friends, family, and coworkers. Furthermore, Chen, Cohen and colleagues (2004) surveyed 200 young adults and found that participants with BPD reported more severe and persistent patterns of conflict within family and friend relationships.

Medical. In addition to interpersonal impairments, the presence of BPD has shown to significantly predict somatic complaints, overall poor health, and poor vitality (Tomko, Trull, Wood, & Sher, 2014). Studies have reported that adults with BPD were more likely to report chronic medical conditions and poor lifestyle choices, such as smoking, substance use, little to no exercise, and overuse of pain medication (Chen et al., 2009; Frankburg & Zanarini, 2004; Winograd et al., 2008).

Financial. Borderline Personality Disorder demands extensive long-term health care treatment because of the broad functional impairment and significant risk of comorbid disorders (Knaak, Szeto, Fitch, Modgill, & Patton, 2015; Paris, 2009). Some research suggested those with BPD are far more inclined to psychiatric hospitalizations and up to 40% are considered frequent users of mental health services (Bender et al., 2006; Hörz, Zanarini, Frankenburg, Reich, & Fitzmaurice, 2010; NEA, 2008). Similarly, in Tomko's study (2014), researchers examined the rates of health care utilization among young adults ages 18- 25 with BPD: 74.9% of the participants who met criteria for BPD reported regular visits to a physician, counselor, therapist or other mental health professional. In addition, reportedly a little over 63% were prescribed

medication specifically for mental health symptoms. Consistent with the adult literature, adolescents with BPD report more prescription drug use for mental health symptoms, and more frequently utilize outpatient (as high as 98.4%), inpatient (as high as 79%), and emergency services (Cailhol et al., 2013; Guilé & Greenfield, 2004; Sio et al., 2011; Tomko, Trull, Wood, & Sher, 2014).

Vocational. The high incidence of health care utilization may cause persistent financial burden, and time-consuming treatments that may interfere with work performance or school attendance (Chanen, 2015; Chanen & Thompson, 2015; Jackson & Burgess, 2004). Early onset of symptoms suggests potential barriers to reaching developmental milestones and subsequent academic and occupational achievement (Chanen, 2015; Crawford et al., 2008; Newton-Hawes et al., 2015). Winograd, Cohen, and Chen (2008) examined long-term outcomes for ages 8- 18 with BP features and found that symptom onset during early adolescence (mean= 13.7 years) negatively impacted level of academic and vocational achievement. This is consistent with reports that 50% of those with BPD have trouble maintaining permanent employment in adulthood (Frankenburg & Zanarini, 2004; Keuroghlian, Frankenburg, & Zanarini, 2013; NEA, 2008).

Controversy in Diagnosing Youth with BPD

The ability to diagnose youth with BPD has created a great deal of controversy among clinicians who contend that this diagnosis should be deferred given the interpersonal, emotional, and identity changes inherent in adolescent development (APA, 2013; Sharp & Romero, 2007; Stepp, 2012; Taylor, 2009). In addition, some findings suggested criterion symptoms have been shown to fluctuate over time (National Collaborating Centre for Mental Health; NCCMH, 2009). Consequently, many clinicians opt to treat the symptoms associated with comorbid Axis-I

disorders before patients turn eighteen (Aviram, Brodsky, & Stanley, 2006). However, some research revealed that treatment of Axis-I comorbidities is not sufficient to improve long-term outcomes for adolescents with BPD (Chanen, 2015; Kuba et al., 2011; Winograd, Cohen & Chen, 2008). Additionally, clinicians may hesitate to diagnose because there are fewer evidence-based or affordable treatments available for youth and such a stigmatized label may create more confusion than clarity for developing teens (Aviram, Brodsky, & Stanley, 2006; Catthoor, Feenstra, Hutsebaut, Schrijvers, & Sabbe, 2015; Knaak et al., 2015; Stepp, 2012).

On the other hand, clinicians may be missing an opportunity to treat symptoms before they become well-established dysfunctional patterns of behavior (Chanen, 2015). Deferring an official diagnosis may seem protective, but identifying features may aid clinicians in developing more effective treatments and reinforcing more adaptive behaviors (Hawes, Helyer, Herlianto, & Willing, 2013). Despite claims suggesting that symptoms are unstable over time (Meijer, Goedhart, & Treffers, 1998), recent findings indicated symptoms remain relatively stable throughout adolescent development and into adulthood (Cohen, Crawford, Johnson, & Kasen, 2005; Crawford, 2001; Sharp & Romero, 2007; Shiner & Tacket, 2014). Crick, Murray-Close, and Woods (2005) sampled 400 youth across a two-year period and found that symptoms remained stable over time and were distinctly associated with BPD rather than general personality pathology. Lastly, some research suggested that BPD symptoms peak during adolescence but diminish over the lifespan depending on treatment (Miller, Muehlenkamp & Jacobson, 2008; Oltmanns & Balsis, 2011; Segal-Trivitz et al., 2006). Even participants who no longer met criteria for moderate or severe symptoms at follow-up retained sub-clinical or sub-threshold symptoms (Bernstein et al., 1993; Chabrol et al., 2004; Meijer, Goedhart, & Treffers, 1998).

Crick, Murray-Close, & Woods (2005) suggested a compromise between the two sides of the argument, which emphasizes the value of early assessment and treatment among youth with BPD features while remaining mindful of the dangers associated with pre-mature diagnosis. To that end, we hope to use the BPFSC-11 to identify early BPD features in youth enrolled in a Cognitive Behavioral Therapy (CBT) and Dialectical Behavior Therapy (DBT) informed IOP targeting suicidal behaviors and compare outcomes following treatment.

Borderline Personality Features in Youth

In a recent literature review, Sharp and Romero (2007) presented findings from 58 studies between 1940 and 2006 to compare and contrast clinical and diagnostic characteristics between adults and youth with BPD. The diagnostic criteria between the two groups are very similar; however, the conditions for youth typically expand on the adult criteria. For example, where the adult criterion is “chronic feelings of emptiness”, the child criterion is “chronic feelings of emptiness or boredom” (DSM-V; Goldman, D’Angelo, DeMaso, and Mezzacappa, 1992). The inclusion of qualifiers serves to account for the developmental differences between youth and adults (Sharp & Romero, 2007). Other research suggested that certain characteristics were more predictive of BPD in adolescents, such as uncontrollable anger, identity disturbance, and affective instability (Zanarini et al., 2011). Similar to adults, the child literature indicated some gender differences: males are more inclined to externalizing symptoms, such as impulsivity or risky behaviors, whereas females are more inclined to internalizing symptoms, such as affective instability, negative interpersonal relationships, anxiety, or somatoform disorders (De Moor, Distel, Trull, & Moomsma, 2009; McCormick et al., 2007; Sharp & Romero, 2007). Though adults and youth share similarities, their age-appropriate expressive differences prompt further examination of adolescents with BPD.

Similar to adults, BPD in youth is associated with several comorbidities as well as an increased risk for developing long-term psychiatric problems (Cohen, Chen, Crawford, Brook, & Gordon, 2007; Nock, Joiner, Gordon, Lloyd-richardson & Prinstein, 2006; Tomko, Trull, Wood, & Sher, 2014). Studies have shown positive correlations between hopelessness and impulsivity and severity of BPD symptoms (Consoli et al., 2015; Perez, Marco, & Alandete, 2014; Stringer et al., 2013), as well as mood disorders (Johnson et al., 1999). Furthermore, Nock, Joiner, and colleagues (2006) found that a significant percentage of adolescents with BPD (51.7%) report a history of self-harm and suicidality. Consequently, research suggests a correlation between certain BPD traits, such as impulsivity, affective instability, identity disturbance, maladaptive coping strategies and suicidal behaviors [e.g. non-suicidal self-injury (NSSI), suicidal ideation (SI), and suicide attempts (SA)] (Dougherty, 2009; McGirr et al., 2007; Perez, Marco, & Alandete, 2014; Stepp, Pilkonis, Hipwell, Loeber & Stouthamer-Loeber, 2010; Yen et al., 2004; Zanarini, Frankenburg, Ridolfi, Jager-Hyman & Gunderson, 2006).

Non-suicidal self-injury is commonly reported among adult patients with BPD (50-80%), and usually begins by early adolescence. These behaviors are positively associated with severity of BPD symptoms (Brickman, Ammerman, Look, Berman, McCloskey, 2014; Muehlenkamp, Claes, Havertape, Plener, 2012; Perez, Marco, & Alandete, 2014). According to Zanarini and colleagues (2008), adolescents report more NSSI and self-harm behaviors compared to some adult samples. One retrospective study explained that those with an earlier onset and longer duration of NSSI behaviors in childhood were more likely to be diagnosed with BPD in adulthood (Growschwitz et al., 2015). This suggests that early onset of self-injurious behaviors may denote precursors to dysfunctional personality, which merits further examination of BPD

features among youth with these behaviors (Knafo et al., 2015; McGirr et al., 2007; Symons, 2002).

Non-suicidal self-injurious behaviors (NSSI) often co-occur with SI and SA (Arsanow et al., 2011; Gould et al., 1998; Reinherz et al., 1995). There is some evidence to suggest that BPD features account for the incremental risk between SI and SA in young adults (Rudd, Joiner & Rajab, 1996; Sharp et al., 2012; Venta Ross, Schatte, & Sharp, 2012; Yen et al., 2004). Research has suggested that BPD features more than double the risk for SI over and above Major Depressive Disorder (MDD), and demonstrated a significant correlation with age of onset and frequency of SI (Sharp et al., 2012; Venta Ross, Schatte, & Sharp, 2012).

With regards to SA, more than 30% of the adolescents hospitalized for an attempt are likely to meet criteria for BPD (Cohen, 2007; Brent et al., 1994; Duberstein & Conwell, 1997; National Education Alliance for BPD, 2008; Nock et al., 2006). More specifically, adolescents with BPD are at a greater risk for SA than their adult counterparts (Johnson et al., 1999; Kawashima, Ito, Narishige, Saito & Okubo, 2012). Brezo and colleagues (2008) explained that certain personality traits, affective instability and compulsiveness, are unique risk factors for SA in this population. With the increased risk for SI and SA in youth with BPD features, early detection and treatment are warranted. Although several psychological treatment modalities have been used with success in treating suicidal behaviors in adult patients with BPD, the literature is more limited for such treatments in youth.

Psychosocial Treatment for BPD

Personality disorders by definition are pervasive traits and do not respond well to treatment (Dingfelder, 2004; Kuba et al., 2011). However, the severity of symptomology that characterizes BPD seems to diminish over time. For instance, Joel Paris (2009) explained that

75% of patients with BPD are unlikely to meet full criteria by the age of 40. Moreover, this decline in symptoms with age may explain the growing body of research that has brought to light which psychological or pharmacological treatments are most effective in treating BPD symptoms (Paris, 2009). So far, psychodynamic treatments have demonstrated some efficacy in treating adults with BPD (Bateman & Fonagy, 2001; Clarkin, Foelsch, & Levy, 2001; Paris, 2009). Some cognitive approaches, on the other hand, have shown more consistent, though still mixed results among adults: Cognitive Behavior Therapy (CBT) has demonstrated moderate effects in treating certain symptoms and comorbid disorders associated with BPD, but no significant effect on treating the underlying pathology (Paris, 2009; Stoffers et al., 2012). Mentalization-Based Therapy (MBT) and Dialectical Behavior Therapy (DBT) have demonstrated more stable efficacy in a few studies, including some follow-up studies (Biskin, 2013; Paris, 2009). Both approaches originally aimed to treat BPD symptoms but in slightly different ways. DBT is cognitive in nature, which suggests a more structured and directive approach, and is aimed towards improving emotional regulation, skills-building, and interpersonal functioning. MBT utilizes less structure and a somewhat psychodynamic approach aimed at improving awareness of mental states (Paris, 2009). Both approaches have similar aims to help adults with BPD manage their emotions, thoughts, and relationships more effectively (Linehan, 2015). In an initial randomized control trial (RCT), DBT demonstrated greater treatment outcomes than non-behavioral psychotherapy. Specifically, this trial reported that the DBT group utilized fewer prescription psychotropic medications, were half as likely to make a suicide attempt or drop out of treatment. In a more recent RCT comparing specific DBT components with each other, Linehan and colleagues (2015) reported that each DBT component (individual counseling, case management, skills training, treatment team consultations) significantly reduced suicide risk,

depression and anxiety after one year of treatment. However, groups with a skills training component improved sooner than groups without skills training. Unfortunately, the DBT approach is lengthy, time consuming and expensive (Linehan, 2015; Paris, 2009). Similarly, MBT involves time-intensive and costly group work, individual therapy, both of which are provided by a team of mental health professionals (MacPherson, Cheavens & Fristad, 2013). Structured and integrated psychosocial treatments such as these have been shown to significantly improve interpersonal distress, social adjustment problems, and depressive symptoms (including suicidal behaviors) among adults with BPD (Bateman & Fonagy, 2000; Bateman & Fonagy, 2008; Bateman & Fonagy, 2009).

Treatment Outcomes in BPD Populations

Although effective psychotherapy treatments have been developed for BPD in adults, there is limited literature of evidence-based treatments for youth with BPD features (Biskin, 2013). One study examined emotional regulation treatment outcomes in adults with BPD following a brief IOP program that integrated cognitive behavioral approaches and skills training (Blum et al., 2008). Following discharge, BPD patients reported improved depressive symptoms, social adjustment, and overall functioning. Furthermore, at a one-year follow up, patients reported significantly fewer visits to the emergency department than the control group (Blum et al., 2008). Gratz and colleagues (2006) reported outcomes after adults with BPD finished a three-month step-down treatment program involving an integrative approach (CBT, DBT, psychodynamic, rehabilitative services, pharmacology, and psychoeducation). Patients with more severe BPD symptoms reported only moderate improvements in functioning and below average quality of life, as well as a greater likelihood of NSSI (76%) (Gratz, Lacroce, & Gunderson, 2006).

In adolescents with BPD features, community and inpatient studies reported significant post-treatment improvements utilizing DBT techniques (Gratz, Lacroce & Gunderson, 2006; Skodol, Buckley & Charles, 1983). For instance, Woodberry and Popenoe (2008) reported adolescents with specific personality traits, including affective instability and negative relationships, experienced improvements in depression, anger, dissociative symptoms, SI, as well as overall improvement in psychiatric symptoms and functioning following DBT treatment. Further, studies reported similar benefits following DBT treatment in community and inpatient samples of adolescents: significant improvements in depressive symptoms, hopelessness, general functioning, and suicidal behaviors (NSSI, SI; James, Taylor, Winmill, & Alfoadari, 2008; James, Winmill, Anderson, & Alfoadari, 2011; Venta, Ross, Schatte & Sharp, 2012). Additionally, participants reportedly maintained improvement in symptoms at follow-ups typically done within a year of discharge.

The adolescent literature suggests intensive outpatient programs, even intensive DBT programs, are more cost-effective than typical inpatient treatment for those with BPD features (Wagner et al., 2014). Fleischaker and colleagues (2011) reported pre, post and follow up results from an outpatient DBT program: adolescents reported pre-treatment SA, however there were no reports of NSSI or SA during treatment. In addition, participants reported improvements in BPD symptoms, which were maintained at the one-year follow-up. Specifically the mean number of symptom criteria decreased from 5.8 at intake to 2.75 post-treatment, which indicated only 24% met full criteria for BPD at discharge compared to the 84% at intake. Furthermore, studies found adolescents reported significant improvement in SI, depression, global functioning, and anxiety, as well as fewer hospitalizations during treatment and fewer premature dropouts after outpatient treatment (Rathus & Miller, 2002).

Though these results are positive, there remain questions regarding outcomes among adolescents with BPD features after intensive outpatient treatment (Biskin, 2013). Moreover, there is limited research regarding treatment outcomes following an IOP (designed to specifically reduce suicidal behaviors), despite suggestions that it may be more cost-effective than inpatient without sacrificing outcomes (Wagner et al., 2014). For this reason, the current study aims to examine treatment outcomes among adolescents with and without BPD features after receiving intensive outpatient treatment.

To date, the BPFSC-11 is reportedly the only dimensional measure of BPD features in adolescents (Fossati, 2015; Chang, Sharp, & Ha, 2011). To our knowledge this is the first study to utilize the BPFSC-11 in an intensive outpatient treatment sample of adolescents. Previous research has utilized the longer version, 24-item BPFSC, to examine BPD features. The current study aims to examine BPD features among adolescents in IOP treatment for suicidality utilizing the BPFSC-11.

CHAPTER THREE

Methodology

Participants

Participants included youth, ages 13-17 years, who were enrolled in an IOP for adolescents with suicidal behaviors at Children's Health. (n=58) To be eligible, teens must have had a recent SA or severe worsening of SI warranting higher level of care. Patients were referred from within the hospital (psychiatric inpatient unit or Emergency Department) or from community providers. Exclusion criteria included patients who are eighteen and older, those who indicated aggressive and violent tendencies, individuals with severe intellectual disabilities, or patients who required higher levels of care based on the initial evaluation (inpatient, day treatment, partial hospitalization).

Procedures

The IOP integrated CBT and DBT components to reduce risk of self-harm, suicidal thoughts, and behaviors (Bridge, Goldstein, & Brent, 2006; Brent et al., 2009). The program included three hours of group therapy twice weekly, as well as a 1-hour weekly psychoeducational and skills-based parent group. Length of treatment was generally 3-6 weeks, depending on individual patient needs. Teens also received individual and/or family therapy, and were referred to a psychiatrist for medication management as needed. At the outset, participants were required to have been evaluated by a psychiatrist, and also to have made a safety plan and commit to consistent attendance. Participants requiring higher levels of care, such as inpatient were referred to necessary services.

During weekly group sessions, participants were taught coping skills for prevalent risk factors associated with suicidality. These include reasons for living, mindfulness, behavioral

activation, problem-solving, emotional regulation, distress tolerance, peer and family socialization and support, interpersonal effectiveness, positive affect, social media, and sleep. Clinical staff members facilitated group sessions, assessments, and individual and family therapy sessions. The clinical staff included psychologists, postdoctoral fellows, doctoral interns, masters-level clinicians or trainees in the process of meeting requirements for LPC, LCSW, LMFT, or equivalent licensures.

Assessment

Clinicians conducted clinical evaluations with the youth and family before youth entered treatment. Components of the clinical interview at the initial evaluation included psychiatric diagnoses, history of suicidality, family and social history, and history of psychiatric and psychosocial treatments. Safety plans were developed at the initial intake assessment. Clinicians completed intake assessments of all participants and, as part of a larger battery, obtained a list of suicide risk factors and a history of suicidal behaviors (Columbia Suicide Severity Rating Scale; C-SSRS). In addition to the clinical assessment, patients and parents completed a depression rating scale, the Quick Inventory of Depressive Symptomatology – Adolescents (QIDS-A17) and the CHRT-Self Report (SR) at intake and teens completed the Borderline Personality Features Scale for Children (BPFSC-11). At discharge clinicians assessed the number of group and therapy sessions attended, as well as reasons for discontinuation. The QIDS-A17 and CHRT-SR were completed at this time. For each visit during the program, clinicians assessed suicide risk, safety planning, and document progress within 48 hours of their visit. At discharge, the C-SSRS was completed by clinicians, while parents and participants complete the CHRT-SR, QIDS-A17. Participants were not asked to complete the BPFSC-11 at discharge because research suggested BP pathology as identified by the scale remains relatively stable over time (Sharp et al., 2014).

Measures

Concise Health Risk Tracking (CHRT; self-report). The Concise Health Risk Tracking self-report (CHRT- SR) was normed on outpatients with Major Depressive Disorder (MDD) to assess degree of suicide risk, such as hopelessness or pessimism about the future, perceived social support, and active SI or intent (Trivedi et al., 2011). The 16-item self-report asked participants at intake and discharge to rate their feelings and behavior within the last week on a 5-item Likert scale: strongly disagree, disagree, neither agree nor disagree, agree, or strongly agree. Sum of items 1- 13 compose the Propensity Total Score and items total a Risk Score. The Propensity score encompasses risk factors, such as passive ideation, hopelessness, and impulsivity, for suicide and the Risk score is an estimate of active risk (e.g. current suicidal thoughts and plans). The CHRT-SR has good internal consistency, as well as good construct and content validity (Reilley-Harrington et al., 2016; Trivedi et al., 2011).

Columbia Suicide Severity Rating Scale (C-SSRS; clinician-rated). The Columbia Suicide Severity Rating Scale (C-SSRS; Posner et al., 2012) is a semi-structured clinician-rated interview created for use in the Treatment of Adolescent Suicide Attempters (TASA) study (Brent et al., 2009) to assess severity of suicidal behavior and ideation for ages 11 and up in a variety of community, research, and healthcare settings. Unlike other unidimensional measures, the C-SSRS differentiates between four domains: severity of SI, intensity of ideation, suicidal behaviors, and lethality of actual or potential attempts. Clinicians rated participants' suicidal behavior and SI on a 0 to 5 scale with SI ratings ranging from 0, "no ideation," to 5, "SI with intent and a clear plan," and suicidal behavior ratings ranging from 0, "no behavior," to 5, "multiple attempts during the assessment period." The behavior subscale accounts for actual, aborted, and interrupted attempts, as well as preparatory behavior and non-suicidal self-injurious

behavior (NSSI). Similarly, clinicians rated intensity of ideation on a five-point ordinal scale for each of the following items, frequency, duration, controllability, and deterrents. Lastly, clinicians rated lethality for actual attempts on a six-point ordinal scale. In cases where lethality was zero, clinicians rated potential lethality on a three-point ordinal scale. The C-SSRS measures a combined outcome of all categories including five subtypes of SI, five subtypes of suicidal behavior, and self-harm without suicidal intent. A multisite study concluded that the C-SSRS demonstrated robust convergent and divergent validity, as well as predictive validity for past SAs and attempts made during treatment (Posner et al., 2011). Additionally, the C-SSRS was sensitive to changes in severity over time with high specificity for actual, interrupted, and aborted attempts. Moreover, previous research supported its high internal consistency (Cronbach's $\alpha = .937$), as well as inter-rater reliability (Posner et al., 2011; Mundt et al., 2010).

Quick Inventory of Depressive Symptomatology- Adolescent version (QIDS-A; self-report). The Quick Inventory of Depressive Symptomatology for Adolescents (QIDS-A17), a 17- item instrument, measures the presence and severity of depressive symptoms within the last seven days. It was originally adapted from its adult counterpart the QIDS-16 (QIDS16; Rush et al., 2003; Trivedi et al., 2004). This measure was shown to demonstrate a valid and reliable assessment of the nine symptom criteria qualified by the DSM- IV (APA, 2000) for a Major Depressive Episode for youth twelve years and older.

This study administered self-report formats to adolescents at intake and again at discharge. Respondents rated each item that best describes their symptoms on a scale from 0 to 3. A total score, ranging from 0- 27, is obtained by summing all the items. Total scores of six to ten

correspond to moderate depressive symptoms. Scores of sixteen to twenty correspond to severe depressive symptoms, and scores of 21 to 27 correspond to severe depressive symptoms.

Borderline Personality Features Scale for Children (BPFSC-11). The 11-item brief Borderline Personality Features Scale for Children (BPFSC-11) was adapted from the Borderline Personality Features Scale for Children (BPFSC; Crick, Murray-Close, & Woods, 2005) as a shorter alternative for assessing BPD features in childhood. The BPFSC demonstrated good reliability and validity in assessing the presence of BPD features designated by the BOR scale on the Personality Assessment Inventory (PAI; Crick, Murry- Close, & Woods, 2005; Chang, Sharp, & Ha, 2011; Sharp, Mosko, Chang, & Ha, 2011). The original scale was normed on community samples ages 9 and older (Crick, Murry- Close, & Woods, 2005). Sharp, Steinberg, Temple, and Newlin (2014) used item response theory (IRT) to evaluate the 24 items on the BPFSC, and eliminated items with the least relation to the underlying construct. As a result, Sharp and colleagues (2014) established significant construct validity, as well as its sensitivity and specificity in identifying participants who meet criteria for BPD according the DSM-IV among adolescents in an inpatient setting. The measure was normed on 964 participants ages 14-19. Participants were asked to rate how they feel about themselves and other people on a 5-point Likert scale: not at all true, hardly ever true, sometimes true, often true, and always true. The eleven items are summed to give a total score with the highest attainable score being 55. Analyses indicated an ideal cutoff score of 34 accurately diagnosed adolescents who met criteria for BPD (Sharp, Steinberg, Temple, & Newlin, 2014). For the purpose of this study the BPFSC-11 is intended as a brief screening measure in order to identify adolescents with borderline features (≥ 34) and justify more extensive assessments to ultimately improve early detection of

pathology among adolescents. To our knowledge this is the first study to utilize the BPFSC-11 in an intensive outpatient treatment sample of adolescents with depression and suicidality.

Statistical Analyses

All data was analyzed using Statistical Package for the Social Sciences (SPSS), Versions 16-19, with the significance or alpha level for all analyses will be .05 (two-tailed). Demographic characteristics are described, including means, ranges and standard deviations. Clinical characteristics at intake and discharge between those with low and high scores on BPFSC-11 will be compared utilizing chi-square tests for categorical variables and one-way analysis of variance (ANOVA) for continuous variables. Finally, a hierarchical regression analysis was utilized to examine whether BPD features predicted outcomes at discharge, while controlling for intake depression severity, gender and treatment dose. A power analysis indicated that to detect an adequate effect size, 45 participants were required.

CHAPTER FOUR

Results

Demographic Characteristics

A sample of 120 adolescents ages 13- 17 years were evaluated for treatment in the SPARC IOP program over an 11-month period. Twenty participants did not enter the SPARC program for one of the following reasons: the participant was hospitalized (N=1), they withdrew from treatment prior to entering the program for an undisclosed reason (N=4), they withdrew from treatment for financial or insurance reasons (N=1), or it was determined that the participants did not require an IOP and a lower level of care was sufficient (N=14). Of the 100 participants who entered treatment (defined as attending at least 1 session), 58 adolescents completed the BPFSC-11 and were included in the current study (Figure 1). Of the 58 participants in the sample, the mean age was 14.98 ± 1.15 years. The majority was female (82.8%) and non-Hispanic (87.9%). Forty-eight (82.8%) identified as Caucasian, 6.9% African American, 1.7% identified bi-racial and 1.7% were unreported. See Table 1 for overall sample demographic and clinical characteristics.

Participants (N=58) were categorized into two groups: adolescents with BPD features (those who scored ≥ 34 on the BPFSC-11) and those without BPD features (those who scored < 34 on the BPFSC-11). At intake, 53.4% (n=31) of adolescents met criteria for having BPD features. Of those, the majority of participants were female (93.5%; n=29) with a mean age of 15.16 ± 1.04 years. A little over ninety percent were (n=28) were Non-Hispanic. More specifically, 83.9% (26) identified as Caucasian, 9.7% (3) identified as African American, 3.7% (1) as Asian, and 6.5% (2) unreported. There were no significant differences between groups on

demographic variables, with the exception of gender. Demographic characteristics of the two groups are detailed in Table 2.

Clinical Characteristics

Clinical characteristics were compared between the two groups and are detailed in Table 2. At intake, statistical significance between groups was observed in reported risk factors, lifetime occurrence of suicide attempt, and lifetime frequency of suicidal ideation, suicide risk and propensity scores, and depression severity. Adolescents with BPD features, 64.5%, reported impulsivity, compared to 22.2% of those without BPD features [$\chi^2(1, N=20)=10.44, p=.001$]. A significant difference between groups was also observed with regards to emotional dysregulation at intake [$\chi^2(1, N=26)=4.38, p=.036$]. Specifically, those with BPD features were more likely to report emotion dysregulation. Adolescents without BPD features reported a higher lifetime occurrence of suicide attempts [$\chi^2(1, N=22)=4.65, p=.029$]. However, adolescents with BPD features endorsed a greater lifetime frequency of suicidal ideation [$F(1,56)=, p<.05$] compared to their non-BPD counterparts. A one way analysis of variance (ANOVA) found a significant difference between adolescents with BPD features and those without with regards to propensity for suicide [$F(1,56)=48.34, p<.01$], active suicide risk [$F(1,56)=24.34, p<.01$] and depression severity [$F(1,55)=24.28, p<.01$] at intake. Specifically, adolescents with BPD features reported greater depression severity, active suicidal ideation (risk score), as well as propensity for suicide (risk factors).

Treatment Outcomes

Adolescents with BPD features attended 10.84 ± 3.25 group sessions, whereas those without BPD features attended 9.65 ± 2.42 sessions. There was no significant difference with regards to treatment dose (e.g. number of group sessions attended). Significant difference at

discharge was not found between the two groups with regards to suicide risk and propensity scores. There was a significant difference, however, between the two groups with regards to depression severity at discharge [$F(1,52)=6.36, p<.05$], Specifically, adolescents with BPD features reported higher depression severity at discharge (Table 3).

Correlational analyses were utilized to compare the two groups with regards to intake clinical characteristics as well as depression severity and suicide risk at both intake and discharge (Table 3). There was a positive correlation between female gender and the presence of BPD features, [$r(56)=.31, p<.05$]. Consistent with our hypotheses, there was a positive relationship between BPD features and depression severity at both intake, [$r(56)=.55, p<.01$], and discharge [$r(56)=.33, p<.05$]. Additionally, at intake BPD features were positively correlated with acute suicide risk [$r(56)=.55, p<.01$]. Acute suicide risk was not associated with BPD features at discharge.

Borderline Personality Features as a Predictor of Treatment Outcome

A hierarchical regression analysis was conducted to examine whether BPD features are predictive of treatment outcomes while controlling for intake depression severity, gender and treatment dose (Table 4). Although not statistically significant, the results suggest a trending relationship between BPD features and depression severity at discharge [$R^2=.17, F(1,48)=3.005, p=.058$]. Results suggest that BPD features in adolescence account for little variance in depressive symptoms. Regression analyses were not significant for suicide risk and propensity.

CHAPTER FIVE

Discussion

The current study aimed to examine BPD features among suicidal adolescents enrolled in an IOP treatment program. Consistent with the literature, we found that female adolescents were more likely to meet criteria for BPD (BPFSC-11 score ≥ 34) (Keilp et al., 2006; Köhling et al., 2015; Sharp et al., 2013). In addition, adolescents with BPD were more likely to report certain suicide-related risk factors, such as impulsivity and emotion dysregulation, which supports previous findings (De Moor, Distel, Trull, & Moomsma, 2009; Horesh, Orbach, Gothelf, Efrati, & Apter, 2003). Contrary to previous literature that suggested younger age was associated with more severe BPD symptom criteria, there was no significant difference with regards to age in the current study (Keilp et al., 2006). Additionally we concluded that adolescents with BPD features did not differ with regards to comorbid diagnoses from those without BPD features (Paris, 2009; Knaak et al., 2015). Furthermore, the two groups did not differ in terms of primary diagnosis: the majority of participants in each group met criteria for Major Depressive Disorder, which is the most common comorbid diagnosis with BPD (Consoli et al., 2015).

This is one of the first studies to examine BPD features and treatment outcomes following an intensive outpatient program in youth utilizing the BPFSC-11. We found that borderline personality features were associated with intake depression severity, suicidal ideation, and acute risk and propensity for suicide (e.g. passive ideation, hopelessness, impulsivity). Specifically, adolescents with BPD features were more likely to present to treatment with greater propensity for suicide, active suicide risk and depression severity. Interestingly, those with BPD features were less likely to present with a lifetime occurrence of suicide attempts, however, had greater frequency of lifetime suicidal ideation. Consistent with previous research by Sharp and

colleagues (2013), BPD features may increase the odds of chronic suicidal ideation among youths. Contrary to our findings, the adult literature suggests that individuals with BPD are more likely to present with a history of suicide attempts (Keilp, 2006). According to Venta & colleagues (2012) these findings could indicate a developmental trajectory--adolescents may endorse more SI as BPD features begin to "emerge" and ultimately lead to SA in adulthood (Sharp et al., 2012; Venta Ross, Schatte, & Sharp, 2012). This merits the validity of earlier identification and interventions for adolescents with BPD features.

Contrary to our hypothesis, following an average of 10.84 ± 3.25 (adolescents with BPD features) and 9.65 ± 2.42 (adolescents without BPD features) sessions in a CBT and DBT informed IOP, acute suicide risk and propensity for suicide did not differ between those with BPD features and those without. This suggests that engaging in an intensive outpatient treatment could diminish the differences between those with BPD and without BPD with regards to suicide severity (risk and propensity). Consistent with our hypothesis, those with BPD features continued to endorse more depression severity at discharge than those without BPD. Furthermore, although not statistically significant, we found a trend suggesting that BPD features may predict depression severity outcomes following treatment in adolescents. This was the case after controlling for intake depression severity, gender, and treatment dose. This is consistent with the adult literature, which proposes that individuals with BPD experience chronic mood problems and have lower remission rates despite repeated acute treatment (Grilo et al., 2005; Riihimäki, Vuorilehto, & Isometsä, 2014). Some research suggested a possible reason for this variability in treatment response is that individuals with comorbid BPD and MDD are more likely to present with a unique set of depressive symptoms (e.g. aggression and self-criticism); (Köhling et al., 2015).

The current study found that adolescents with BPD features experience greater depression severity even after receiving intensive outpatient treatment, which could suggest that additional treatment targets be explored to further reduce depressive symptoms among youth with BPD features. In a recent study, Mehlum and colleagues (2016) reported that adolescents with BPD features in an outpatient setting treated over nineteen weeks with DBT-A (Dialectical Behavior Therapy adapted for adolescents) experienced greater and quicker improvements in suicidal ideation, depression, and BPD symptom criteria compared to adolescents treated with Enhanced Usual Care (psychodynamic, or cognitive behavioral with additional pharmacotherapy). Components of DBT-A that are not incorporated into the current intensive outpatient program, including telephone consultations, treatment team consultations, and family therapy may be helpful additions to the IOP to improve depressive symptoms. Alternately, with further research, these findings could indicate a need to incorporate skills that specifically target underlying depressive symptoms in the IOP teen group for this population.

Limitations and Future Directions

We recognize that the study has several limitations. First, the study's sample size was small. However, a meta-analysis reported that several studies examining outpatient treatments outcomes with BPD are relatively small (ranged from 12 to 29 participants; MacPherson, Cheavens & Fristad, 2013). Our sample was also predominantly female, and limited in ethnic and racial diversity, which may limit our ability to generalize these results across adolescent populations. Second, some of the data (specifically the risk factors) were based on semi-structured clinical interviews, and may have some variability related to clinician interpretation. Additionally, data was collected through a wireless tablet, which allowed for convenience of collection, however technical issues inherent in wireless technology caused some difficulties in

obtaining data. Finally, some of the data was not consistently collected at intake due to extenuating circumstances or interviewer-error. Treatment dosage also varied among participations because several participants withdrew for undisclosed reasons, and the number of group sessions attended varied from 2 to 15. Also, specific components of treatment (skills) were not examined with regards to group differences, which would likely supplement our knowledge of treatment outcomes. Lastly, this study did not report on longitudinal outcomes of participants after discharge, which would add to our understanding of long-term outcomes for adolescents with BPD features.

The findings of our study demonstrate the importance of assessing BPD features among adolescents, specifically those with greater depression severity, suicidal ideation, and suicidal behaviors. Future studies should take into account factors such as trauma, age, education and substance use, as research has suggested that these factors can impact treatment outcomes in those with BPD (Zanarini, Frankenberg, Hennen, Reich, & Silk, 2006). Additionally, future studies examining the specific components of the IOP could clarify if certain treatment components influence outcomes for adolescents with BPD features. Finally, it is recommended that research examine longitudinal outcomes for adolescents with BPD features after receiving intensive outpatient treatment.

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Table 1.

Demographic & Clinical Characteristics of Overall Sample

Overall Sample	% (N)
Age	14.98±1.15
Gender	
Male	17.2% (10)
Female	82.8% (48)
Ethnicity	
Hispanic	10.3% (6)
Non-Hispanic	87.9% (51)
Unreported	1.7% (1)
Race	
Caucasian	82.8% (48)
African American	6.9% (4)
Asian	0% (0)
More than one race	1.7% (1)
Unreported	1.7% (1)
CHRT	
<i>Propensity Score</i>	
Intake	25.90±10.26
Discharge	17.72±8.27
<i>Risk Score</i>	
Intake	5.07±3.54
Discharge	2.13±2.22
QIDS-SR (Total Score)	
Intake	14.11±5.89
Discharge	9.72±5.68

Table 2.

Demographic & Clinical Characteristics by Groups

		BPD Features	Non-BPD Features	
Between Groups		% (N)	% (N)	P
Sessions Attended (range, 2-15)		10.84±3.25	9.65±2.42	.147
BPFSC-11 (score ≥ 34)		53.4% (31)	46.6% (27)	
Age (range 13- 17)		15.16±1.04	14.78±1.25	.207
Gender				
	Female	93.5%(29)	70.4%(19)	.023*
	Male	6.5% (2)	29.6% (8)	
Ethnicity				
	Hispanic	9.7% (3)	11.1% (3)	.543
	Non-Hispanic	90.3% (28)	85.2% (23)	
	Unknown	0% (0)	3.7% (1)	
Race				
	Caucasian	83.9%(26)	81.5%(22)	.546
	African American	9.7%(3)	3.7%(1)	
	Asian	0%(0)	3.7%(1)	
	More than one race	0%(0)	3.7%(1)	
	Unknown	6.5%(2)	7.4%(2)	
Risk Factors		% (N)	% (N)	
	Academic	58.1% (18)	70.4% (19)	.243
	Social Support	48.4% (15)	37% (10)	.273
	Emotion Dysregulation	83.9% (26)	59.3% (16)	.036*
	Family Conflict	54.8% (17)	48.1% (13)	.403
	Impulsivity	64.5% (20)	22.2% (6)	.001**
	Sleep	51.6% (16)	33.3% (9)	.128
Comorbid Diagnoses		41.9% (13)	48.1% (13)	.417
Primary Diagnosis				
	Depressive Disorder	83.9% (26)	88.9% (24)	.221
	Anxiety Disorder	6.5% (2)	11.1% (3)	
	Bipolar Disorders	9.7% (3)	0% (0)	
Depression & Suicidal Behaviors		% (N)	% (N)	
SA (last two weeks)		38.7%(12)	63%(17)	.057
SA (Lifetime)		54.8% (17)	81.5% (22)	.029*
SA (during IOP)		32.3% (10)	30.4% (7)	.563
Suicidal Behavior (during IOP)		9.7% (3)	4.2% (1)	.426
NSSI (last two weeks)		54.8% (17)	40.7% (11)	.471
NSSI (Lifetime)		67.7% (21)	74.1% (20)	.407

Table 3.

Treatment Outcomes at Intake and Discharge

		<i>M (SD)</i>	<i>M (SD)</i>	
BPFSC-11				
	Total Score	39.48±4.42	26.57±3.89	.000**
Suicidal Ideation				
<i>Intake</i>				
	SI Frequency (last two weeks)	3.55±1.23	2.78±1.48	.445
	SI Intensity (last two weeks)	4.10±1.11	4.19±1.18	.526
	SI Intensity (Lifetime)	4.42±1.03	4.67±.784	.312
	SI Frequency (Lifetime)	3.87±1.26	3.15±1.38	.041*
<i>Discharge</i>				
	SI Frequency during IOP	2.13±1.36	2.78±1.39	.277
	SI Intensity during IOP	1.19±1.58	.87±1.33	.429
CHRT				
<i>Intake</i>				
	Propensity Score	32.35±7.79	18.48±7.34	.000**
	Risk Score	6.87±3.04	3.00±2.91	.000**
<i>Discharge</i>				
	Propensity Score	19.13±8.36	15.96±7.99	.163
	Risk Score	2.23±1.99	2±2.52	.705
QIDS-SR (Total Score)				
	<i>Intake</i>	17.06±4.61	10.58±5.33	.000**
	<i>Discharge</i>	11.32±5.77	7.57±4.89	.015*

Note * $p < .05$, ** $p < .01$

Table 4.

Intercorrelations among Measures

Variable	1	2 ^a	3 ^a	4	5	6	7	8 ^a
1. Age	—							
2. Sex ^a	.13	—						
3. BPFSC ^a	-.16	.31 [*]	—					
4. QIDS (<i>intake</i>)	.09	-.43 ^{**}	.55 ^{**}	—				
5. QIDS (<i>discharge</i>)	.12	-.005	.33 [*]	.27	—			
6. RISK (<i>intake</i>)	-.05	-.40 ^{**}	.55 ^{**}	.70 ^{**}	.17	—		
7. RISK (<i>discharge</i>)	-.04	.20	.08	.05	.41 ^{**}	.27 [*]	—	

Note. T2 variables are shaded

* $p < .05$. ** $p < .01$. ^aSpearman's rho reported.

Table 5.

Hierarchical Multiple Regression predicting Treatment Outcomes from Age, Gender, Treatment Dose, and Depressive Symptoms.

Predictors entered in step	R^2	t for predictors	df	β	p
Step 1	.12		3, 49		.101
QIDS T1		2.49		.39	.016*
Treatment dose		-1.31		-.37	.197
Gender		0.76		1.78	.449
Step 2	.17		1, 48		.058
QIDS T1		1.30		.23	.199
Treatment Dose		-1.28		-.36	.207
Gender		.90		2.06	.372
BPFSC		-1.73		-3.27	.089

*Note, N=58, * $p < .05$*

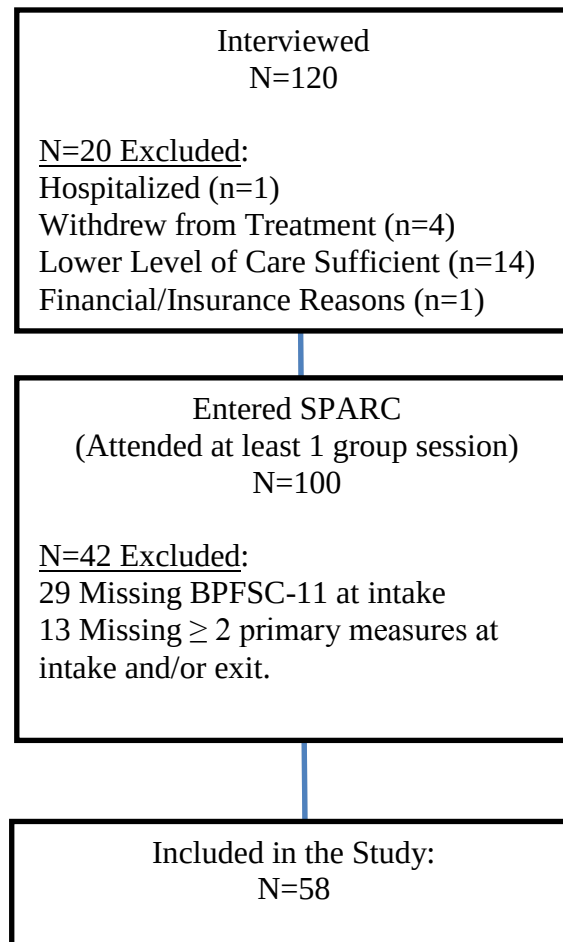


Figure 1. Consort Diagram

BIOGRAPHICAL SKETCH

Katherine Vera Rial

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EDUCATION/TRAINING

Texas Christian University	B.S.	2009-2013	Psychology
Loyola University Maryland		2013-2014	Clinical Psychology
The University of Texas Southwestern School of Health Professions	M.C.R.C.	2014-2016	Clinical Rehabilitation Counseling Psychology

Positions and Employment

2009- 2013 Up 'Til Dawn collegiate fundraising for St Jude's Children's Research Hospital
 2012-2013 ABA Therapist, Behavioral Innovations
 2012 Research Assistant, TCU Cognitive Psychology Research Lab
 2012-2013 Research Assistant, TCU Developmental Psychology Lab
 2012-2013 Research Assistant, TCU Social Psychology Lab
 2014- 2016 Research Assistant, Children's Health Department of Child Psychiatry
 2015 Teaching Assistant, UTSW MCRC Introduction to Assessment Course

Clinical Experience

2012-2013 Grief Group Facilitator, The Warm Place
 2012-2013 ABA Therapist, Behavioral Innovations
 2015- 2016 University Rehabilitation Services, clinical rehabilitation student intern
 2015- 2016 UTSW Personal and Social Adjustment Training student intern
 2016 Consult Liaison Psychology rehabilitation student intern counselor
 2016- Present Dallas Children's Advocacy Center, volunteer

Presentations and Publications

Kennard, B., Biernesser, C., Wolfe, K., Foxwell, A., Lee, S., **Rial, K.V.**, Patel, S., Brent, D. (2016). Developing a Brief Suicide Prevention Intervention and Mobile Phone Application: A Qualitative Report. *Journal of Technology in Human Services*, 33(04), 345-357. doi: 10.1080/15228835.2015.1106384

Rial, K.V., Wolfe, K. L., Patel, S., Foxwell, A. A., Mayes, T., King, J., Kennard, B. D., Emslie, G. J. (2015, October). *Treatment Expectancy and Its Impact on Treatment Outcomes in Depressed Youth*. Poster accepted and presented at the 2015 Annual American Academy of Child and Adolescent Psychiatry Conference, San Antonio, TX.

Amber, C., **Rial, K. V.**, Butterfield, M. E., Delpriore, D. J., Prokosch, M. L., Hill, S. E. (April, 2013). *Sex Ratio and Women's Willingness to Have Sex Without a Condom; Fewer Men Prompt Greater Risks*. Poster presented at the annual TCU Student Research Symposium.

Professional Memberships

2006-2009	National Honor Society
2009- 2013	Alpha Chi Omega Collegiate Sorority
2012-2013	Psi Chi, International Honor Society of Psychology
2015-2016	St Jude Children's Research Hospital Friends of St. Jude (FOSJ)
2014- 2016	UTSW Health Professions Student Advisory Committee
2015- Present	American Academy of Child and Adolescent Psychiatry (AACAP)
2016	International Association of Rehabilitation Professionals (IARP)