THE EFFICACY OF A DIALECTICAL BEHAVIOR THERAPY-BASED JOURNAL-WRITING GROUP WITH INPATIENT ADOLESCENT FEMALES: IMPROVING EMOTION REGULATION, DEPRESSIVE SYMPTOMS AND SUICIDAL IDEATION

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by

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THE EFFICACY OF A DIALECTICAL BEHAVIOR THERAPY -BASED JOURNAL-WRITING GROUP WITH INPATIENT ADOLESCENT FEMALES: IMPROVING EMOTION REGULATION, DEPRESSIVE SYMPTOMS AND SUICIDAL IDEATION

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ABSTRACT OF DISSERTATION

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ABSTRACT

PURPOSE: To determine whether a dialectical behavior therapy (DBT)-based journal-writing group is effective at increasing the emotion regulation abilities and decreasing depression and suicidal ideation in a sample of inpatient adolescent females. METHOD: Forty inpatient adolescent females completed surveys of emotion regulation, depression, and suicidal ideation (Toronto Alexithymia Scale (TAS-20), Difficulties in Emotion Regulation Scale (DERS), Beck Depression Inventory (BDI), & Suicide Probability Scale (SPS)) at pre- and post-intervention. Twenty-one adolescent females participated in the DBT-based journal-writing experimental group and nineteen adolescent females participated in the Treatment as usual control group. RESULTS: Participants in the experimental group reported significant decreases in suicidal ideation and depressive symptoms and significant increases in emotion regulation abilities (BDI: \( t = 4.3, p = .000 \), DERS: \( t = 2.9, p = .009 \), TAS-20: \( t = 2.0, p = .058 \), SPS: \( z = -1.9, p = .053 \)), whereas participants in the control group did not report significant change (BDI: \( t = 1.3, p = .198 \), TAS-20: \( t = 0.5, p = .649 \), DERS: \( t = 1.4, p = .187 \), SPS: \( z = -1.1, p = .887 \)). When changes in pre- to post-test scores were compared between the control group and the experimental group, significant results were found only for the BDI (\( t = -2.5, p = .019 \)). CONCLUSION: A DBT-based journal-writing group is an effective way to decrease depressive symptoms and suicidal ideation and increase emotion regulation abilities in inpatient adolescent females and can be used in the future as a means to maximize treatment gains for adolescents on inpatient units.
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CHAPTER ONE: INTRODUCTION

This chapter explores the background and statement of the problem, the purpose and significance of the study, the theoretical perspective, and the research questions and corresponding hypotheses.

Background of Research Problem

This project developed out of the need for more empirical research on adolescent inpatient psychiatric units. The aim of this study is to provide support for the use of a developmentally appropriate Dialectical behavior therapy (DBT) based journal-writing group as a treatment intervention for adolescent female inpatients. It extends prior research by assessing whether journal writing used in conjunction with DBT is an effective means of increasing emotion regulation abilities and decreasing depressive symptoms and suicidal ideation in psychiatrically hospitalized female adolescents. In this section, normative adolescent development will be described in regards to the importance of taking a developmentally appropriate approach to intervention. Existing treatment on adolescent inpatient units, including the treatment of emotion dysregulation, will be explored in addition to the use of journal writing with adolescent inpatient populations.

Normal Adolescent Development

It is critical to understand the typical developmental challenges associated with adolescence in order to determine the most effective approach to treatment. Research indicates that adolescence is a period of increased mood variability when the importance of interpersonal relationships and life events intensifies (Basow & Rubin, 1999; Grotevant, 1997; Hankin et al., 1998). One of the most predominant struggles includes the conflict between wanting to conform to peer opinions and wanting to explore one’s
own voice and feelings (Elkind, 1978; Gilligan, 1982; Gilligan, Rogers, & Tolman, 1991). This struggle is thought to be even greater for female adolescents, with females typically inhibiting the verbal expression of their emotions to a greater extent than males (Hudson & Gray, 1986; Zeman & Shipman, 1997; 2001). For adolescents with psychiatric problems, such developmental changes can be even more difficult to manage (Cicchetti & Rogosch, 2002; Delaney, 2006).

Existing Treatment on Adolescent Inpatient Units

It is important to identify existing treatment models for adolescents on inpatient units. Understanding the current approach to treatment and the efficacy of these interventions helps determine whether improvements are needed.

Psychopharmacological Treatment

Overall, it appears as though pharmacological intervention is the major treatment approach used on inpatient treatment units (Blanz & Schmidt, 2000). According to Blanz and Schmidt (2000), due to the brief nature of most psychiatric hospitalizations, providers’ primary concern is to stabilize functioning through medication management. The consensus is that it is the responsibility of community-based facilities to provide long-term therapeutic support after discharge.

A series of studies reflects the role of psychopharmacology in treating hospitalized patients (Dean, McDermott, & Marshall, 2006; Kelly, Love, Mackowick, McMahon, & Conley, 2004; McLoughlin, West, Phillips, & Holman, 1998). These researchers found that inpatients received more psychotropic medication than outpatients, that the use of atypical antipsychotic medications for adolescent inpatients was becoming a normative aspect of treatment, and that those receiving psychotropic medication were
more likely to be readmitted to inpatient units when compared to those not receiving medication. The research highlights the widespread use of psychopharmacological intervention with adolescent inpatients. While it is understandable that the aim of many providers is to stabilize functioning, it is speculated that the highly structured and protected environment of inpatient units provides the opportunity for intervention beyond pharmacological treatment.

*Group Therapy*

In addition to psychopharmacological evaluation and stabilization, research also documents the use of group therapy on inpatient units. Through group therapy, individuals learn to function more appropriately by interacting with group members and the therapist. Learning occurs from interpersonal exchanges and imitative behavior, psychoeducation, and the universality of experience, among other group therapy strategies (Yalom, 2005).

The use of group therapy has been documented on many inpatient facilities. In general, the limited literature shows that group therapy models produce beneficial effects for patients, and especially for patients with mood disorders. Group therapy tends to include a cognitive behavioral focus and aims to increase patients’ independence, self-directedness, and empowerment. Group treatment also provides patients an outlet for expressing both normal and conflicted feelings (Garrick & Ewashen, 2001; Johnson et al, 1998; Kosters et al, 2006).

Group therapy has also been used with adolescents. It is believed that the group format is effective because it provides the opportunity to connect with peers, which is an important marker of adolescent development (Tillitski, 1990). Research indicates that
group therapy with adolescents led to quicker improvements in functioning when compared to individual therapy (Tillitski, 1990). Similarly, the literature indicates that adolescents are likely to become involved in the group therapy process in a shorter amount of time than when compared to individual therapy (Riley, 1999; Tibbetts & Stone, 1990). Group therapy has also been shown to improve communication skills by providing adolescents with a comfortable setting in which to share experiences (Corder & Whiteside, 1990).

Research documents the efficacy of group therapy with patients with specific problems. Group therapy for inpatients with anger management problems led to significant decreases in the degree of anger patients felt and improvements in their ability to control anger (Snyder, Kymissis, & Kessler, 1999). Other research showed that the goals of group therapy for suicidal inpatients were to provide psycho-education on adolescent suicide, increase awareness of triggers, and help members identify effective coping strategies. While the majority of participants indicated that they had learned something in the group that would prevent them from attempting suicide in the future, the lack of a control group and pre and post data makes it difficult to determine efficacy (Esposito-Smythers, McClung, & Fairlie, 2006).

Overall, prior research indicates that group therapy is an efficacious form of treatment. The use of group therapy on inpatient units has produced positive results in general psychiatric populations, in adolescent populations, and for those with specific problems. However, the lack of detail provided regarding group protocols makes it unclear how to best implement these protocols and which models are most effective. Future research needs to document clear and comprehensive descriptions of group
therapy, including the topics covered and activities engaged in over the course of treatment. Moreover, validated and reliable quantitative instruments should be used to assess the effects of treatment on relevant outcome variables.

**Emotion Regulation**

Treatment to address emotion regulation in adolescent inpatient females is needed. Emotion regulation is the process by which individuals learn to manage the experience of positive and negative emotions and express those emotions in an adaptive way (Gross & Thompson, 2007). Being able to regulate emotions helps facilitate decision making and interpersonal relationships (Gross & Thompson, 2007). Inpatient adolescents typically have difficulty regulating their emotions, leading to struggles with problem solving and peer interactions (Gross & Munoz, 1995).

**Emotion Regulation on Inpatient Units**

Compared to nonclinical populations, these individuals on inpatient units have greater difficulties regulating emotion. Many of these studies were conducted with patients with identified disorders, such as depression, anxiety, or somatoform disorders (Burba et. al, 2006; Donges et al., 2005; Reijntjes, Stegge, Meerum Terwogt, Telch, & Kamphuis, 2006; Stegge & Terwogt, 2007). In addition, some studies examined emotion regulation in general psychiatric populations. These researchers found inpatient populations to have low levels of emotional awareness, high levels of negative affect, and difficulty identifying feelings (Grabe, Spitzer, & Freyberger, 2004; Subic-Wrana, Bruder, Thomas, Lane, & Kohle, 2005).

**Targeting Emotion Regulation: Dialectical Behavior Therapy**
Dialectical behavior therapy (DBT) is a cognitive-behavioral therapy developed by Linehan and colleagues (1993) and is effective at helping individuals with emotion regulation. The premise of DBT is to aid individuals in becoming less emotionally reactive and better able to identify and express their emotions. Linehan (1993) developed skills training modules to address different areas of dysfunction and allow individuals to learn and practice new skills. The emotion regulation skills module is the focus of the current investigation. While it was originally designed to treat individuals with Borderline Personality Disorder (BPD), aspects of DBT are currently being implemented with different psychiatric populations (Linehan, 1993; Miller, Rathus, & Leigh, 1996; Telch, Agras, & Linehan, 2001).

Overall, DBT has been shown to decrease suicidal and self-harm behaviors, the number of inpatient hospitalizations, treatment dropout rates, and depression and hopelessness (Barley et al., 1993; Koons et al., 2001; Linehan, Armstrong, Suarez, Allmon, & Heard, 1991; Miller, Rathus, & Leigh, 1996). The use of DBT with adolescents is a relatively new area of research. Thus far, results have indicated that adolescent DBT patients had significantly higher treatment completion rates and fewer psychiatric hospitalizations when compared to treatment as usual participants (Miller, Rathus, & Leigh, 1996; Rathus & Miller, 2002). Modifications of DBT with adolescents has also resulted in decreases in binge episodes, Oppositional defiant disorder symptoms, externalizing and internalizing behaviors, the number of inpatient days, and improvements in functioning and interpersonal strength of adolescents in residential treatment facilities (Grove Street Adolescent Residence of The Bridge of Central Massachusetts, Inc., 2004; Nelson-Gray et al., 2005; Sunseri, 2004; Telch, Agras, &
Linehan, 2001). Based on the results of previous research documenting the efficacy of DBT, it is speculated that components of DBT can be applied with inpatient female adolescents to increase their ability to regulate emotion.

**Journal Writing**

In addition to DBT, journal-writing is another intervention that is effective at increasing emotion regulation abilities. As previously indicated, adolescence is a time of developmental conflict between wanting to “fit in” with peers and wanting to investigate one’s own thoughts and feelings. Group-based DBT addresses one aspect of this conflict as the format provides adolescents with a venue for connecting with peers. Journal-writing supports the other half of this developmental conflict as it provides adolescents with a private and structured format for exploring their voice.

The use of journal-writing interventions with adolescents is a relatively new area of research. Thus far, results have indicated that journal-writing decreases psychological distress and depression and increases positive disposition and self-awareness (Banister & Begoray, 2004; Soliday et al., 2004; Stice, Burton, Bearman, & Rohde, 2006).

Journal writing has been used with both nonclinical and clinical populations. Pennebaker (1997) studied the therapeutic benefits of writing about emotional experiences with nonclinical populations and found that journal writing led to mental and physical health benefits. These benefits included decreases in depression, distress, and negative affect, as well as improvements in immune functioning, decreases in the number of doctor’s visits, shorter time to finding a new job, fewer work absences, better grades, and a reduction in alcohol intake (Pennebaker, 1997; 1999).
In clinical populations, journal writing has been used mostly with eating disordered patients. Results have indicated that journal writing contributed to decreases in distress, increases in self-awareness, and increases in the connections between emotions and behaviors of patients with eating disorder symptoms (Frayne & Wade, 2006; Rabinor, 1991; Schmidt, Bone, & Hems, 2002; Zeiger, 1994). However, there have been few studies and most involved very small samples. While research looking specifically at the influence of journal writing on those with emotion regulation deficits is limited, initial findings are promising. In one study examining the use of an intensive writing intervention with individuals with alexithymia, or difficulty identifying and expressing emotions, the researchers found that participants had significant decreases in negative affect after participating in the intervention (Paez, Velasco, & Gonzalez, 1999).

Overall, initial findings regarding journal-writing with adolescents and both clinical and non-clinical populations are promising. The practice of journal-writing allows individuals to explore personal viewpoints and emotions in a way that is protected and confidential and DBT provides the opportunity for peer connection. For adolescents, who are in the midst of the struggle between asserting themselves and “fitting in,” the use of journal-writing in conjunction with DBT addresses multiple developmental needs.

Theoretical Orientation: Narrative Psychology

Narrative psychology best explains the rationale as to why journal writing may be helpful. In narrative psychology, individuals distance themselves from the emotionality of a problem in order to think about it more constructively. By providing structure and objectivity to a problem, it becomes easier to control the emotional experience related to that problem (Pennebaker & Seagal, 1999). In narrative therapy, the goal is to help
individuals challenge ingrained constructed realities and take new perspectives on their problems. Journal writing allows individuals to access emotionally difficult topics through a structured and safe activity.

Statement of Research Problem

There is limited empirical data on effective treatment strategies on inpatient settings. Although research exists that supports brief hospitalizations versus extended lengths of stay (Bloom, 2000; Swadi & Bobier, 2005), aside from psychopharmacological evaluation and stabilization, there is minimal research examining the use of therapeutic interventions on inpatient units (Burns, Hoagwood, & Mrzek, 1999; Dean, McDermott, & Marshall, 2006; Kelly, Love, Mackowick, McMahon, & Conley, 2004; McLoughlin, West, Phillips, & Holman, 1998; Pappadopulos et al., 2002). Group-based therapy is becoming an increasingly integral component of inpatient programs, and more specifically, DBT-based groups are showing promise at targeting specific symptom areas (Telch, Agras, & Linehan, 2001). According to Blanz and Schmidt (2000), the need for evidence-based treatment is becoming more and more vital as “service providers are increasingly called upon to demonstrate the efficacy and the effectiveness of inpatient treatments” (p. 709). The literature to date falls short in identifying effective therapeutic interventions for hospitalized adolescents, highlighting a gap in the research and a need for empirical studies that provide evidence of effective treatment approaches in psychiatric settings.

The present study uses a DBT-based journal-writing group intervention to increase emotion regulation and decrease depressive symptoms and suicidal ideation. To date, there is research on the efficacy of journal-writing interventions as a means of
increasing emotional awareness in the general population (Paez, Basabe, Valdosed, Velasco, & Iraurgi, 1995; Paez, Velasco, & Gonzalez, 1999), increasing positive disposition and decreasing depressive symptoms in adolescents (Soliday et al., 2004; Stice et al., 2006), and decreasing distress and increasing self-awareness in patients with eating disorder symptoms (Frayne & Wade, 2006; Rabinor, 1991; Schmidt, Bone, & Hems, 2002; Zeiger, 1994). There is also research demonstrating the efficacy of DBT with adolescents (Miller, Rathus, & Leigh, 1996; Nelson-Gray et al., 2005; Rathus & Miller, 2002; Sunseri, 2004; Telch, Agras, & Linehan, 2001). The use of DBT with adolescents requires that the original DBT program be modified to meet the needs of this age group. Because journal-writing is a developmentally appropriate intervention for adolescents, it may be an effective way to modify the DBT program originally designed for adults.

Purpose of Study

The purpose of the present study is to assess the efficacy of a group-based DBT journal-writing intervention to target emotion regulation, depression, and suicidal ideation. This will be achieved by comparing the responses of participants in both the treatment and control groups on four quantitative measures both pre and post intervention. After being screened to meet the identified inclusion criteria, participants will be assigned to either the experimental group or control group, depending upon which group is running that given week. The aim of the study is to assess the main effects of the independent variable, the DBT-based journal-writing group, on the outcome measures, responses to the Beck Depression Inventory, Suicide Probability Scale,
Toronto Alexithymia Scale-20, and the Difficulties with Emotion Regulation Scale, between the experimental and control group.

**Significance and Potential Benefits**

The significance of this research is to inform approaches to therapeutic interventions with adolescent females in inpatient settings, which are brief in length but can be critical to their stabilization. If positive results are found for participation in the intervention, this information can be used to support a DBT-based journal-writing group as an effective means for increasing emotion regulation and decreasing depressive symptoms and suicidal ideation with this population.

Research highlights the importance of the continuum of care model once patients are discharged from their inpatient stay (Blanz & Schmidt, 2000). However, little is being done to promote this link between inpatient and outpatient treatment. The journal-writing portion of this intervention can serve as a bridge in treatment between the work done in the hospital and the continued long-term work done in outpatient services. According to Blanz and Schmidt (2000), it is necessary to “ensure the transfer and generalization of treatment gains to the discharged patient’s environment and to minimize the risk for re-hospitalization” (p. 707). Thus, the intervention may serve as a link between patients’ inpatient and outpatient services.

**Research Questions and Hypotheses**

This study seeks to examine the effects of a DBT-based journal-writing group intervention on the emotion regulation, depressive symptoms, and suicidal ideation of female adolescents hospitalized on an inpatient unit. The following research questions and hypotheses are posed:
Research Question 1) What are the emotion regulation abilities, depressive symptoms, and suicidal ideation of adolescent females upon admission to a psychiatric unit?

Hypothesis 1) Relative to typically functioning adolescent females, inpatient adolescent females’ emotion regulation abilities will be low and depressive symptoms and suicidal ideation will be high as measured by the Toronto Alexithymia Scale – 20, Difficulties in Emotion Regulation Scale, Beck Depression Inventory, and Suicide Probability Scale upon admission to a psychiatric inpatient unit.

Research Question 2) Does participating in a DBT-based journal-writing group intervention lead to greater increases in emotion regulation and greater decreases in depressive symptoms and suicidal ideation when compared to not participating in the intervention?

Hypothesis 2) Inpatient adolescent females’ ability to regulate emotions will increase to a greater extent and depressive symptoms and suicidal ideation will decrease to a greater extent after participating in a DBT-based journal-writing group intervention when compared to adolescent females who do not participate in the intervention.
CHAPTER TWO: LITERATURE REVIEW

This chapter begins by defining normative adolescent development to explain why interventions targeted at psychiatrically hospitalized adolescents should take developmental characteristics into consideration. Next, the relevant literature on adolescent psychiatric inpatient units is reviewed. Providing background on the population being studied as well as an overview of what treatment interventions are being used helps to ground the argument for the current study. Minimal research exists in the United States that examines emotion regulation in adolescent inpatient populations. Chapter two presents support for the claim that emotion regulation is difficult for adolescents who are hospitalized on inpatient units and that a DBT-based journal-writing intervention is an appropriate tool for improving emotion regulation in this population. The theoretical orientation in support of the journal-writing intervention is derived from narrative psychology. This perspective is reviewed with particular emphasis on how writing is a method of externalizing a problem that leads to a more objective and safe view of that problem. The chapter ends with a discussion of the future implications of the study.

Adolescents & Mental Health

Adolescent Development

Normative Developmental Changes

In general, adolescence is a time of increased developmental changes. Elkind (1978) characterized this period as a time when adolescents' capacity for abstract thinking develops. During this time, adolescents have an increased propensity for egocentric thinking, as their abstract reasoning abilities have not developed as quickly as their
abstract thinking abilities. They tend to view their thoughts and behaviors as universally important and have difficulty seeing beyond their immediate concerns. Elkind (1978) termed this phenomenon the “imaginary audience” in which adolescents assume others are as focused on their functioning as they are. This leads them to believe that they are constantly being scrutinized and evaluated by others and so the desire to blend in and conform is heightened. Emotional expression is stifled due to increases in self-consciousness and the power of peer judgment and acceptance, and these forces are more influential for adolescent females than males (Elkind, 1978; Hudson & Gray, 1986).

According to Gilligan and colleagues (Gilligan, 1982; Gilligan et al., 1991), adolescence is a period when females struggle with the ability to verbally express themselves. They desire to have an authentic voice that is a true reflection of their own experiences and beliefs, while both fighting against and maintaining societal expectations of females. Such societal expectations include the pressure to be more reserved with opinions and more feminine and polite when communicating feelings, or risk being called ‘rude’ or ‘manly’ (Gilligan et al., 1991). Similarly, Basow and Rubin (1999) report that developmental changes associated with adolescence impact females differently than males. According to the authors, adolescence is characterized as a time when females are struggling with conflicting desires to satisfy personal needs and satisfy the needs of others. The need to understand and express thoughts and feelings is of primary importance; however, this need competes with the pressure to conform to peer thoughts and beliefs. This leads female adolescents to discount their own feelings and beliefs in favor of adopting the more commonly held beliefs of peers. When adolescents realize
their own views are not supported by peers, self-doubt and negative affect, including depression, can arise (Basow & Rubin, 1999).

Developmental changes associated with adolescence make this age group vulnerable to affective dysregulation, as it is a period of increased mood lability (Grotevant, 1997; Hankin et al., 1998). In general, negative affect increases during adolescence, with females experiencing more instances of depression than males (Larson & Ham, 1993; Richards & Larson, 1993). Larson and colleagues conducted a series of studies examining the relationship between daily emotion states and pubertal changes and life events in adolescents compared to adults and preadolescents. Participants in each developmental group (adults, adolescents, and preadolescents) carried pagers and recorded positive and negative mood states in response to random pages throughout the day. Results indicated that adolescents reported experiencing greater emotional intensity than adults and preadolescents, which was related to pubertal timing and gender. For example, early maturation in females (i.e. changes in physical appearance, breast development, menstruation) was associated with experiencing increased negative affect. Adolescents also reported an increase in stressful life events and an increase in the importance of peer relationships when compared to preadolescents.

In another study examining the emotional expression of nonclinical adolescents, Zeman and Shipman (1997) compared the emotion regulation styles of males and females. Participants included 140 children and adolescents in the 5th (n = 46, M age = 11 years), 8th (n = 48, M age = 14 years, 3 months), and 11th grade (n = 46, M age = 16 years, 10 months). The children attended public schools serving a rural, working class, Caucasian population. Participants were read eight vignettes, each of which depicted a
different emotional response by a protagonist, and then answered questions on a 4-point scale about emotion management and self-efficacy. Participants could receive scores between 4 and 16 for each emotion. Compared to males (M = 18.17, SD = 4.29), females (M = 16.54, SD = 3.51) had less control over negative affect, and were more likely to not express negative affect and feel worse when they did not express negative emotions [(F(1,122) = 14.20, p < .001 (males: M = 16.11, SD = 4.48; girls: M = 14.11, SD = 3.53)]. Zeman and Shipman (2001) replicated this study four years later with a comparable population and found similar results. Participants included 143 children and adolescents in the 5th (n = 48, M age = 10 years, 9 months), 8th (n = 48, M age = 14 years, 4 months), and 11th grade (n = 47, M age = 16 years, 6 months). The authors examined the motivation behind inhibiting emotional expression in children and adolescents. Results indicated a main effect for participants’ motivation in inhibiting emotional expression (F(1,125) = 20.26, p < .001), in which participants reported pro-social reasons (i.e., peer judgment, fitting in) (M = 5.04, SD = 1.39) impacted their decision to inhibit emotions more so than self-protective reasons (i.e., protecting one’s own self-esteem, vulnerability) (M = 4.40, SD = 1.43). In regards to gender, 8th grade females (M = 4.56, SD = 1.52) reported pro-social reasons impacted their decision to inhibit emotions more so than for 8th grade males (M = 3.19, SD = 1.39). The researchers also found that the role of the vignette characters (peer, mother, or father) affected the adolescents’ emotional response. Participants expected significantly more consequences for outwardly expressing their emotions from peers (M = 2.81, SD = 0.96) than from mothers (M = 2.12, SD = 1.17) or fathers (M = 1.58, SD = 0.74). While these studies allowed adolescents to hypothesize how they thought they would respond in emotionally
provoking situations, it did not measure how they would actually respond in such situations. Their responses may or may not have been an accurate reflection of how they would respond if the events were real. Future research should aim to study adolescent emotion expression in real-life situations versus in hypothetical vignettes.

Overall, research indicates that adolescence can be a time of increased vulnerability due to mood disruption, the frequency of stressful life events, the development and management of interpersonal relationships, and an increase in self-consciousness and desire to “fit in” with peers (Basow & Rubin, 1999; Elkind, 1978; Grotevant, 1997; Hankin et al., 1998; Hudson & Gray, 1986; Larson & Ham, 1993; Richards & Larson, 1993). There also appear to be differences in emotion regulation and expression based on gender (Hudson & Gray, 1986; Zeman & Shipman, 1997; 2001). These normative changes are intensified and experienced as more unmanageable in adolescents with psychiatric problems (Delaney, 2006; Cicchetti & Rogosch, 2002). According to Delaney (2006), inpatient adolescents’ feelings can escalate quickly and they have difficulty understanding and explaining these emotions. These adolescents “cannot talk about their emotional responses to situations or connect an emotion to the event that prompted the affect” (Delaney, 2006, p. 175).

Normative developmental changes in adolescence cause females to struggle with the desire to understand and express thoughts and feelings while simultaneously fitting in with peers (Zeman & Shipman, 1997; 2001). As a result, some adolescents inhibit verbal expression due to the perception of peer judgment and influence. Thus, effective interventions for adolescent females need to take these developmental changes into consideration. Journal writing is an appropriate intervention for adolescents as it
provides the opportunity to express thoughts and feelings in a private and safe manner. While the group format of the proposed intervention provides the opportunity for shared experiences and connection with peers, the journal writing component allows for personal reflection and understanding of thoughts and feelings without the pressure of peer conformity and acceptance. According to Gilligan (1982), adolescence is a “paradoxical developmental crossroads for girls where the path to maturity would involve separation, but the path to becoming a woman requires connection” (p. 6). In this study, the group format provides connection, and the journal writing component provides separation for adolescent females. In order to determine if a DBT-based journal-writing intervention is developmentally appropriate for adolescents on inpatient units, it is important to first understand how such units operate.

Adolescent Inpatient Units

History

Adolescent psychiatric inpatient units were first established in the United States in the 1920s and 1930s. During this time period, the initial focus of such units was to provide a place for these children away from the community. As little was known about appropriate interventions, minimal time or effort was afforded to treating the disorders. In the 1970s, society’s view of mental illness began to shift and with this shift came an increase in the number of adolescents admitted to psychiatric hospitals. Instead of solely providing a holding environment for these youths, hospitals began developing comprehensive treatment plans that included both therapeutic and pharmacological evaluation and stabilization (Blanz & Schmidt, 2000).
In the late 1980s to mid 1990s, views began to shift and the prevailing belief was that psychiatric stays should be brief and children should be returned to their communities to receive more long-term care (Pottick, McAlpine, & Andelman, 2000). Discharge rates of adolescents and children began to increase from approximately 7% of the total psychiatric discharges in 1988 to 10% in 1995. Consistently from 1988 to 1995, close to 80% of those discharges were adolescents ages 13-18 (N = 176,525 in 1995) and approximately 20% were children ages 6-12 (N = 38,242 in 1995) (Pottick, McAlpine, & Andelman, 2000). The average length of stay in a psychiatric inpatient unit also began to decrease. During the 1970s, adolescents typically stayed in the hospital for several weeks to several months at a time (Blanz & Schmidt, 2000). However, Pottick et al. (2000) found a 23% decline in total number of days of care provided between the late 1980s and 1990s based on a retrospective record review. Interestingly, these rates were consistent across diagnostic categories, leading the researchers to postulate that the push to minimize overall lengths of stay might be overriding the need for clinical distinction when it comes to more severe diagnoses.

Similarly, Swadi and Bobier (2005) stated that the average lengths of stay for adolescents, like adult populations, were becoming shorter. Unlike Pottick et al. (2000), they defended these brief hospitalizations as being attributable to advances in psychopharmacology and a greater focus on community care versus institutional care. A brief hospital stay refers to a hospitalization that is approximately shorter than one month (Bloom, 2000). Swadi and Bobier (2005) examined 72 adolescents aged 16-18 admitted to Christchurch Youth Inpatient Unit at Princess Margaret Hospital in New Zealand. They found that the greatest amount of clinical change happened within the first three
weeks of admission to the program and thus the philosophy for inpatient units should focus on stabilization, intensive intervention and early discharge. Because demographic information, including diagnoses and severity of symptoms, as well as descriptions of the program model, funding, and discharge criteria were not included, the findings do not necessarily generalize to other inpatient populations.

In a meta-analysis of existing literature, Bloom (2000) indicated that there are some cases where a longer length of stay may be beneficial. Bloom (2000) concluded that extended hospital stays should be used only when shorter stays and outpatient treatment have been ineffective. In order to continue to be able to offer effective hospital care when it is critical, the mental health care system should be stringent on when to avoid inpatient care (Bloom, 2000). Such intense care should be used only in the following circumstances:

For those (1) who are so disturbed that they cannot maintain useful outpatient relationships with therapists; (2) whose impulse control is so poor that they frighten members of their families who must care for them; (3) whose psychopathology has alienated them from family and friends who now refuse to care for them; (4) who are malnourished or who make excessive use of drugs; (5) who need to be protected against self-destructive impulses; (6) from whom regularly available supportive resources in the community need a brief vacation; and (7) who must be removed from a pathological environment (Bloom, 2000, p. 245).

In reflecting on the history of adolescent inpatient units, the average length of stay has decreased over the past three decades. The prevailing belief is that the most efficient
psychiatric hospitalizations are those that are brief and intensive and focus on psychopharmacological evaluation and stabilization. While a limited body of research exists documenting support for short-term inpatient stays, programmatic differences make it difficult to generalize these results across inpatient settings.

*Gender & Diagnoses, Specifically Depressive Disorders*

It is also appropriate to examine gender rates and diagnostic categories on inpatient psychiatric units in order to gain a clearer picture of the typical adolescent inpatient unit. In looking specifically at gender rates on inpatient units, Blanz and Schmidt (2000) reviewed a series of studies between the late 1980s and mid 1990s. Out of the nine studies reviewed, only one found a greater proportion of females than males. However, the percentages of female patients varied considerably, ranging from 19% to 57% across the studies.

In turning to diagnostic categories, depression diagnoses are the most prominent among adolescent inpatient populations. According to the DSM-IV-TR (APA, 2000), criteria for a major depressive episode includes five or more of the following symptoms during the same two-week period that represent a change from prior functioning:

1. depressed mood most of the day, nearly every day, as indicated by either subjective report or observation made by others. Note: In children and adolescents, can be irritable mood.
2. markedly diminished interest or pleasure in all, or almost all, activities most of the day, nearly every day
3. significant weight loss when not dieting or weight gain, or decrease or increase in appetite nearly every day
(4) insomnia or hypersomnia nearly every day

(5) psychomotor agitation or retardation nearly every day

(6) fatigue or loss of energy nearly every day

(7) feelings of worthlessness or excessive or inappropriate guilt nearly every day

(8) diminished ability to think or concentrate, or indecisiveness, nearly every day

(9) recurrent thoughts of death, recurrent suicidal ideation without a specific plan, or a suicide attempt or a specific plan for committing suicide (p. 356).

The symptoms cause clinically significant distress or impairment in functioning and are not due to substance abuse or a general medical condition. Types of depressive disorders include Major Depressive Disorder, Dysthymic Disorder, and Depressive Disorder Not Otherwise Specified.

One study examined the diagnostic presentation of 250 adolescents on an inpatient psychiatric unit during a fiscal year. The authors found that 33% of the total sample was female and 28% had depressive disorder diagnoses, which was the largest percentage of any one type of diagnosis within the sample (Singh, 1994). A similar trend was found by Ehrlich and colleagues (2004), who reported that 25.8% of the total population was female and 31.4% of the adolescents had a diagnosis of major depression. Similarly, Evans and Frank (2004) found that 33% of the 266 adolescents on an inpatient unit had a diagnosis of major depressive disorder, making it the single most common diagnosis of participants.

Pottick et al. (2000) found that the most significant increases in diagnostic categories of adolescents admitted to inpatient units between the late 1980s and mid 1990s were for major depressive disorders, psychoses, and disruptive behavior disorders.
Similarly, Swadi and Bobier (2005) found that the most common diagnostic categories presenting for treatment were mood disorders, anxiety disorder, and major psychosis.

Looking at the connection between depression and anxiety, Osman et al. (2002) concluded that anxiety disorders in adolescents are highly associated with major depressive disorder, especially in females. Young, Mufson, and Davies (2006) found that adolescents with comorbid disorders of anxiety and depression presented with more severe depression than did adolescents without an anxiety diagnosis. The comorbidity rates of anxiety disorders range from 15% to 60% in adolescents with depression. Thus, a greater understanding of the relationship between depression and anxiety in adolescents may be useful when developing treatment interventions.

Depression in adolescence can be a recurrent and pervasive problem. In Mash and Barkley’s meta-analysis (1996), the researchers found that 21% of depressed children and adolescents remained depressed for longer than a one-year period. Even more alarming were the relapse rates indicating that 26% of adolescents had a new depressive episode within one year of recovery, 40% within two years, and 75% within five years of recovery, many of which involved re-hospitalizations. Mash and Barkley (1996) found that depression rates were greater for adolescent females when compared to males with prevalence rates of 7.6% in 14-16-year-old females and 1.6% in 14-16-year-old males. These statistics indicate the common presentation of depression in adolescent inpatients and support the need for developing inpatient treatment interventions that specifically target depressive symptoms.

In summarizing the existing literature on gender and diagnostic rates of adolescent inpatient populations, research indicates that typically, more males than
females require psychiatric hospitalizations. Depression diagnoses tend to be the most prevalent psychiatric diagnoses on adolescent inpatient units, and females are more often diagnosed with depression than males. Depression diagnoses are problematic because they are reoccurring and often require subsequent hospitalizations. The existing literature highlights the need for developing treatment interventions targeted specifically at females with depression.

_Treatment on Inpatient Units_

Unfortunately, there is little empirical research documenting current treatment approaches and interventions on inpatient adolescent units. Blanz and Schmidt’s meta-analysis (2000) found that most practitioners viewed the purpose of psychiatric hospitalizations as solely for crisis intervention and evaluation. Most practitioners also believed that following such intensive, brief hospital care, it is the responsibility of outpatient community-based settings to provide long-term therapeutic treatment. Prevailing beliefs as to the specified purposes of inpatient treatment contributes to the lack of research describing effective inpatient interventions.

_Broad Treatment Models_

In a review of relevant literature examining the goals and outcomes of adolescent inpatient units, Epstein (2004) found that most programs did not provide detailed descriptions of their treatment approach. Overall, he found the goals of most treatment programs to be broad, such as to help resolve intrapsychic and interpersonal conflicts, or to provide for family involvement. Program descriptions of how these goals were achieved were equally as broad, such as to utilize a psychoanalytic or psychodynamic
framework, provide behavior management or group therapy, and to adhere to a milieu treatment model.

In one study examining adolescent perceptions of psychiatric hospitalizations, Grossoehme and Gerbetz (2004) surveyed 105 inpatient adolescents at the time of their discharge from an inpatient unit that followed a milieu treatment model with a focus on crisis stabilization. The adolescents ranked focusing on issues related to the hospitalization and learning coping skills and goal-setting strategies as the most meaningful experiences of their hospital stay. The implications of this study for future research are significant as they identify important treatment areas to target during an acute stay. One drawback of the study was that minimal information was provided about both the sample and the program. More information on the severity of diagnoses and demographics of the sample would be useful for generalizing to other samples. Similarly, a description of program staffing, range of clinical providers, and involvement of the program in establishing and following through with aftercare would be helpful in determining if there are other, similar programs where this type of intervention might be effective.

The results of two different meta-analyses further showcase the need for more extensive research on adolescent inpatient units (Burns, Hoagwood, & Mrzek, 1999; Gowers & Rowlands, 2005). Gowers and Rowlands (2005) compared and contrasted the function and effectiveness of adolescent inpatient psychiatric programs in different countries, specifically examining recent trends, admission criteria, staffing, outcomes, and specific disorders. In regards to recent trends, the authors found that in a review of 1.7 million privately insured United States citizens, there was a 23.7% decrease between
1997 and 2000 in the number of children and adolescents utilizing inpatient services. They found that the admission criteria of inpatient units in the United Kingdom fell into three broad categories: high risk including suicidal and self-harm behaviors, need for intensive assessment, and need for intensive treatment, including medication evaluation. Staffing trends in the United Kingdom pointed to difficulties recruiting and retaining employees, leading agencies to hire unqualified professionals in order to fill positions. In terms of outcome variables, the researchers found that 90% of 125,827 children, adolescents, and their caregivers surveyed by the United Kingdom Healthcare Commission, rated their care as good, very good, or excellent. The authors found similar results in Australia, where a survey was given to inpatient children, adolescents, and their caregivers. Participants reported significant improvements in children’s behavior and parental competency and depressed mood. Lastly, in regards to specific disorders, the researchers found that no recent studies existed in the United Kingdom reviewing inpatient treatment of child and adolescent depression (Gowers & Rowlands, 2005). Overall, the researchers found that reports from inpatient programs showed evidence of positive clinical outcomes and family satisfaction with the treatment. However, they concluded that there still remains uncertainty over whether acute hospitalizations are more beneficial than quality community-based interventions.

In a similar meta-analysis on effective evidenced-based treatment approaches in adolescent inpatient units (Burns, Hoagwood, & Mrzek, 1999), the authors examined traditional forms of treatment, intensive comprehensive community-based interventions, crisis and support services, and treatment for major depressive disorder and attention deficit hyperactivity disorder. Among the literature reviewed, the researchers were
unable to find well-consolidated, effective treatment approaches. They concluded that there needs to be a bridge between evidence-based practice and real world clinical settings and suggested that effective treatment interventions need to first be identified and described, and then implemented on inpatient settings.

In general, the majority of research on adolescent inpatient units focuses on crisis stabilization and evaluation. While broad descriptions provide some insight into the elements of inpatient psychiatric care, there is a need for greater detail on therapeutic interventions, programmatic models, and population characteristics in order to determine best practices and replication of effective models.

*Group Therapy*

One of the most common inpatient interventions studied is group therapy. Irvin Yalom, one of the founders of group therapy, believes the process of group therapy involves the intricate interplay of human experiences. Yalom termed these human experiences “therapeutic factors.” These proposed curative factors include the instillation of hope, or having faith in the treatment mode; universality, or understanding that others share similar difficulties; imparting information, or psychoeducation; and imitative behavior, or modeling (Yalom, 2005). The focus of group therapy is on helping patients to function adaptively in the present moment. Patients develop strong feelings toward each other, the therapist, and the group and those feelings become the major focus of the group. The immediate events of the group meeting are more paramount than each individual’s personal experience outside of the group. The group then incorporates what occurs in the present (the “here-and-now”) into the therapeutic process by acknowledging the events taking place in the group, reflecting on them, and discussing them. The group
experience should teach the members to become immersed in the group experience, generalize from it, identify and alter interpersonal behaviors, and transfer learning from the group to external situations (Yalom, 2005).

In a review, Johnson and colleagues (1998) stated that “group therapy is a proven and successful treatment intervention with child and adolescent populations” (p. 71). The aim of group therapy is to create an environment where peer interactions can help perpetuate normative development and reality testing, and provide the opportunity for correcting maladaptive behaviors and faulty thinking (Johnson et al., 1998).

In a meta-analysis of the outcomes of group therapy treatment, Kosters and colleagues (2006) examined the use of group therapy on inpatient units in Europe, Canada, and the United States. While the authors found that group therapy was an integral component of many psychiatric hospitalizations, they noted that minimal efforts have been made to evaluate the quality and effectiveness of the group therapy. The authors reviewed 24 controlled studies and 46 studies with pre and post measures conducted between 1980 and 2004 and calculated the effect size for each study. The researchers found that nearly 60% of the included inpatient treatment studies were conducted in German hospitals where average lengths of stay were longer than those in Canada and the United States and there was less pressure for evidence-based treatments. Less than one-fifth of the included treatment studies came from the United States, indicating a lack of outcome research on inpatient group therapy in the United States. The authors believe that this lack of research in the United States is due to accessibility issues. Because of changes in managed care in the United States, which have resulted in shorter inpatient lengths of stay, it is less feasible to conduct studies due to the rapid
turnover of patients. Because of the unstable patient populations, it has made it difficult to conduct outcome research on inpatient settings. The authors also found that the majority of included controlled studies used group models based on a cognitive behavioral orientation (95.8%). Results indicated that beneficial effects were found for inpatient group therapy in both the controlled studies and studies with pre and post measurements across geographic samples. Within the controlled studies, there were no significant differences found between those studies with active control groups and those with waitlist control groups. The researchers also found that patients with mood disorders fared better than patients with comorbidities (more than one disorder), psychosomatic complaints, post-traumatic stress disorder, and schizophrenia.

Group therapy with adolescents. Group therapy is thought to be an effective modality for treating adolescents because it supports one of the fundamental developmental needs of adolescence: connection to peers (Tillitski, 1990). Hence, the structure of group therapy aids adolescents in developing autonomy, separating from their immediate families, and bonding and communicating with peers. According to a meta-analysis combining the results of nine studies using 75 outcome measures and 349 participants, Tillitski (1990) found that adolescents got better faster when participating in group therapy as opposed to individual therapy. Group therapy with adolescents has also been found to increase therapeutic involvement in a shorter time than individual therapy (Riley, 1999; Tibbetts & Stone, 1990). Corder and Whiteside (1990) found that imposing structuring techniques in a group setting helped adolescents to improve communication skills, provided group members with a sense of shared experiences, and provided a safe space to give and receive feedback. These structuring techniques included setting goals
and being evaluated on goals by peers, defining group rules, and assigning group homework exercises.

Existing research on the use of group therapy with adolescents holds promising results. Garrick and Ewashen (2001) proposed an integrated group treatment model to be used with adolescents on inpatient units. The authors designed their model based on an acute adolescent psychiatric inpatient unit in a large urban hospital where the average length of stay for clients was four to six weeks, but they have not yet studied it with that population or any other inpatient program. The goal of the group treatment model was to improve interpersonal learning and have group members critically examine their life experiences. This model was designed for adolescents admitted to an inpatient unit of a large urban acute care hospital. Patients’ length of stay was between four and six weeks and diagnoses included schizophrenia, major depression, eating disorders, bipolar disorder, developmental delays, obsessive compulsive disorder, and post-traumatic stress disorder. The authors developed an integrated group therapy model based on interpersonal approaches and feminist theory. Interpersonal approaches included a focus on problem identification from a relational perspective, patients’ feelings about treatment, and the empowerment of members to be actively involved with other members and with their therapy. Feminist theory holds that patients’ own experiences are made more meaningful through the examination of power, privilege, cultural and societal influences and biases. The authors’ model attempts to increase patients’ independence, self-directedness, and empowerment in managing their lives. Possible obstacles to applying this model in practice include the group leader’s knowledge of feminist theory and the comfort of the leader and readiness of the patients in addressing issues of power and
privilege. The researchers also need to identify appropriate quantitative tools for measuring the goals of the group: interpersonal learning and critical examination of life experiences. These instruments should have documented reliability and validity and should be administered pre and post intervention with the treatment group and a control condition.

Johnson and colleagues (1998) developed an Activity Group Therapy (AGT) with children and adolescents. The purpose of AGT is to provide patients an outlet for expressing both normal and conflicted feelings through participation in games and activities. The authors created this guide to be used for group therapy in inpatient settings. Participants included 55 patients between the ages of 5 and 17-years-old living in a long-term treatment hospital in Texas for nine to twelve months. Of the total participants, 65% were male and 35% were female. All had a primary psychiatric diagnosis, and a majority had a secondary learning disability. The authors outlined a ten-session guide to group therapy that included choices for different activities each week. The sessions built on skills learned during previous sessions and required greater group cohesiveness, comfort, and trust as the weeks progressed. The study was limited in that the authors simply described the activities but did not use instruments to measure participants’ progress or improvement. Thus, there was no outcome data to determine whether the AGT was effective. There was also no qualitative data gathered indicating level of satisfaction and investment in the therapy by participants. This model was used with children and adolescents in a long-term treatment facility so it is difficult to know if the activities would be effective with those in short-term psychiatric hospital programs.
Group therapy for adolescents with identified problems. Two studies examined the treatment of inpatient adolescents for specific problems. Snyder, Kymissis, and Kessler (1999) examined the use of brief group therapy in addressing anger management with adolescents. Participants included 28 male and 22 female patients in a New York county psychiatric hospital who displayed indicators of angry thoughts and feelings, disruptive behaviors, and inability to control anger, as assessed by the treatment team. The majority of participants were African-American (n = 25), followed by Caucasian (n = 11), Hispanic (n = 8), Mixed (n = 5), and Asian (n = 1). Participants were randomly assigned to the treatment or control group. The treatment group received a condensed four-session anger management program and the control group viewed a series of psycho-educational videotapes on varied topics relevant to adolescents for four sessions. The anger management training program consisted of teaching concepts, skill development and practice, and the integration of these skills into participants’ lives. Pre and post measures including the MMPI-A Anger Content Scale and the Antisocial Behavior scale of the Home and Community Social Behavior Scales behavior ratings completed by nursing staff indicated that patients who completed the anger management program showed significantly improved skills when compared to those in the control group. Specifically, the experimental group’s scores decreased significantly on the MMPI-A Anger Content Scale from pre to posttest and their subjective experiences of anger and anger control improved after treatment. On the Antisocial Behavior scale completed by nursing staff who were blind to group assignment, the experimental group was rated as less disruptive when compared to the control group post-intervention. Confounding factors, such as changes in medication regimen, were not taken under
consideration in the analyses. Further replication of this study should control for such confounding factors. Because psychotropic medications can have a significant effect on behavior, future research should document the types of medication participants are taking. Similarly, medication changes during treatment may impact participants’ display of anger, thus interfering with the intervention.

Esposito-Smythers, McClung, and Fairlie (2006) examined participant satisfaction with a psycho-educational suicide prevention group for 250 adolescents (99 males, 151 females) who were consecutively admitted to an inpatient unit over the course of three years. Participants ranged from 12 to 18 years old and approximately 68% had a history of at least one suicide attempt. Diagnoses included mood, anxiety, conduct, substance use, and personality disorders. The suicide prevention group lasted sixty minutes and met once per week with between two and six members per group. Because the average length of stay was approximately five days, most adolescents attended the group only once. At the completion of the group, all participants were asked to complete a brief anonymous survey asking about their satisfaction with the group and opinions on the group’s efficacy. The goals of the group were to provide psycho-education on adolescent suicide, increase awareness of triggers, and help members develop and practice effective coping strategies. Results indicated that 94% of the 250 participants believed that they learned something from the group that would prevent them from attempting suicide again in the future. Of the total participants, 49% cited the “reasons to live list” as being the most useful strategy they learned. While these initial data are helpful in determining patient satisfaction, empirical data from a controlled clinical trial needs to be generated in order to determine whether the group is effective at reducing
suicidal ideation. In the future, the inclusion of a control group as well as empirically validated assessment instruments would improve the validity of the findings. Using a pre and post-randomized design would help identify whether the intervention is effective when compared to a control condition.

In summary, group therapy is a commonly used inpatient treatment intervention for adolescents. However, there is a need for more research in the United States. The goal of group therapy is to facilitate learning through peer interactions and modeling. While different models have been proposed and preliminary research has been conducted, future researchers need to provide detailed descriptions of group treatment protocols and population characteristics. While existing literature shows the potential benefits of group therapy with adolescents, future researchers need to implement randomized controlled clinical trials and administer valid and reliable quantitative instruments, which measure improvements in functioning, in order to assess the effectiveness of such interventions.

**Psychopharmacological Treatment**

While the research on therapeutic interventions on inpatient units is limited, the major component of treatment across all inpatient psychiatric units is medication management and much of the literature reflects this focus. Many of these studies were conducted through retrospective chart reviews of patients who were admitted to the hospital (Dean, McDermott, & Marshall, 2006; Kelly, Love, Mackowick, McMahon, & Conley, 2004; McLoughlin, West, Phillips, & Holman, 1998).

Dean et al. (2006) took their sample from the Child & Youth Mental Health Service (CYMHS) based in Brisbane, Australia, which provides public outpatient and inpatient services to inner south regions of Brisbane City. Charts were reviewed for 122
inpatients and 126 outpatients who received services between April 2002 and September 2003. The purpose of the study was to review the safety and efficacy of psychotropic drug utilization in children and adolescents in both inpatient and outpatient settings. They found that inpatients received more psychotropic medication than outpatients (71% vs. 25%; p < .01) and that inpatients receiving medication were older and had longer hospital stays and more complex psychological presentations when compared to the outpatient population. The researchers also found that selective serotonin reuptake inhibitors (SSRIs) were the most frequently prescribed drug class.

Kelly et al. (2004) examined the charts of 380 adolescents admitted to an inpatient state hospital setting in Maryland between January 1, 1997 and June 1, 2000. The researchers were interested in how often atypical antipsychotic medications were prescribed to adolescent populations with severe psychopathology, as existing research documented that the drugs were being used increasingly with adolescents based on the success of the drugs with adult populations. Results showed that 23% of the sample (n = 88) were treated with atypical antipsychotic medications including risperidone (68%), olanzapine (27%), and quetiapine (5%). They also found that the same drugs were being used to treat a wide variety of diagnoses including bipolar disorder, major depression, psychotic disorders, oppositional defiant disorder, conduct disorder, and pervasive developmental disorder, and were most commonly used in combination with other concomitant medications, such as mood stabilizers and antidepressants. This research points to the frequent use of atypical antipsychotic medications on adolescent inpatient units for a variety of different diagnoses used in conjunction with other psychopharmacologic interventions.
McLoughlin et al. (1998) reviewed the charts of 66 female and 58 male adolescents in an inpatient unit in Leeds, United Kingdom. The researchers assessed the use of psychotropic medication, gathered demographic information, and documented the diagnoses of their sample. They found that one-third of the total sample had been prescribed regular psychotropic medication. This group had significantly longer episodes of psychosis and maladaptive functioning and were significantly more likely to return to the inpatient unit than those who did not receive regular psychotropic medication.

Overall, psychopharmacological evaluation and management is a common form of intervention on adolescent inpatient units. The research indicates that patients receiving both atypical antipsychotic medications and psychotropic medications typically display more severe psychopathology and tend to have longer lengths of stay when compared to inpatient adolescents who do not receive medication management. Research also highlights the increasing use of psychopharmacological interventions for many different diagnoses and symptoms.

*Limitations of Research on Adolescent Inpatient Treatment Units*

The research on the treatment on adolescent inpatient units has multiple methodological problems. These problems include the lack of a control group, minimal data on the psychometric properties of the instruments used if any instruments are used at all, high attrition rates, minimal descriptions of the sample or treatment program, and small case studies that are interesting but problematic to generalize. While literature documents the frequent use of psychopharmacological intervention with inpatient adolescents, research on non-medication therapeutic interventions is limited. Existing literature broadly describes theoretical approaches to treatment and identifies crisis
stabilization and evaluation as the main purposes of treatment. Studies point to the
efficacy of group-based interventions, yet research lacks detailed descriptions of group
models or programmatic guidelines and procedures and often studies have not been
designed to test the efficacy of the proposed treatment. This is problematic, as it is
difficult to replicate interventions and generalize to other inpatient treatment settings
when population characteristics and specific recommendations are not provided. These
gaps leave the opportunity for future researchers to study the efficacy of interventions in
methodologically-sound studies with adolescent inpatient populations.

This study aims to address that gap by testing the efficacy of a group therapy
intervention to be used on adolescent inpatient units. Specifically, this study examines
the use of a group treatment protocol targeted at the emotion regulation abilities of
psychiatrically hospitalized adolescents.

**Emotion & Affect**

*Emotion Regulation*

The ability to regulate one’s emotions is a process learned in normal development
where individuals come to understand the interchange of positive and negative emotions
and how to manage these transitions in an adaptive way. Regulating emotions is defined
as monitoring one’s internal experience of feelings and making judgments, based on the
situation, as to the extent to which expression of those feelings is permissible (Gross &
Thompson, 2007). Emotions play an important role in helping us make decisions, take
action, remember information, and interact with others (Gross & Thompson, 2007). For
psychiatrically hospitalized adolescents, regulating and modulating emotions can be
difficult, interfering with their ability to function adaptively (Gross & Munoz, 1995).
In order to develop and test an intervention targeted at emotion regulation, it is necessary to first understand the manner by which humans experience and process emotions. According to Gross and Thompson (2007), emotion is made up of three core features referred to as the modal model of emotion. This model describes emotion as “a person-situation transaction that compels attention, has particular meaning to an individual, and gives rise to a coordinated yet flexible multi-system response to the ongoing person-situation transaction” (p. 5). A situation arises that demands an individual’s attention, the individual appraises the situation, and then responds accordingly. An individual’s emotional response then alters the interpersonal situation further changing it into a new situation which may be attended to and appraised differently, leading to a different emotional response. Thus, the modal model of emotion has a cyclical feedback loop, which can create changes to the environment and thus influence the likelihood of future displays of such an emotion. For example, in the case of a parent and child arguing heatedly, imagine that the child begins to cry. Such an emotional response then alters the interpersonal situation, changing it into a new situation, in which the parent has to interact with a crying child. Now the parent may attend to and appraise the situation differently, such as apologizing to or comforting the child, which will further change the situation. Now the child must respond to the apologizing or comforting parent, which may provoke a different response, and so on. Now every time the parent and child have a heated argument, they will both have the memory of their previous emotional interaction and the end result of that interaction, which will influence the way both parent and child interact in the future.
Kennedy-Moore and Watson’s model (1999) provides a more detailed description of the processes involved in the typical expression of emotions. In step one of the model a stimulus is introduced that evokes an emotional response. In this pre-reflective reaction stage, the individual takes in the stimulus and it activates an affective state causing physiological arousal. During step two, the conscious perception of response stage, the individual then recognizes and acknowledges the experience of this affective state. In step three, the labeling and interpretation of the response stage, the person identifies, labels, and understands the emotion. During the fourth step, the individual uses his/her attitudes, values, and concerns about emotional expression to evaluate the response and assess its acceptability. Finally, in the perceived social context for expression stage, the person evaluates the social environment to see if it permits such expression of the emotion. Individuals with deficits in emotion regulation can become arrested in one of the early stages, inhibiting them from expressing their emotions in an appropriate way. For example, imagine an adolescent female who has just found out that her father is having an affair. Following Kennedy-Moore and Watson’s model (1999), an emotional response, such as anger and hatred, is evoked. The girl takes in the stimulus (knowledge of the affair) and it activates an affective state (anger) causing physiological arousal (blood rushes to her head, heart begins to beat quickly, fists clench). Moving into step two, most individuals would recognize and acknowledge the experience of this affective state as feeling hurt and angered by the father’s behavior. However, for an individual with deficits in emotion regulation, she may not be able to recognize and acknowledge this affective experience, causing her to feel overwhelmed and out of control. Thus, she is then unable to appropriately label and interpret the emotion and express it adaptively,
which may lead to the internalizing of those negative emotions (i.e., feeling depressed) or the externalizing of those emotions (i.e., running away).

Affect Regulation

While many researchers use the terms affect and emotion interchangeably, Gross and Thompson (2007) distinguish between the two terms. The authors believe affect is a broader term that includes four specific categories. These four categories represent different affective processes and include general stress responses, emotions, moods, and other impulses; emotion refers to just one of the affective processes. Emotion regulation is defined as the “capacity to differentiate, tolerate, and modulate painful affect states” (Schaffer, 1993, p. 1). Gross and Thompson (2007) describe three components of emotion regulation. One, the authors believe that individuals can regulate both negative and positive emotions, although people tend to regulate negative emotions on a more frequent basis. Two, they view emotion regulation on a continuum from conscious, effortful, and controlled regulation to unconscious, effortless, and automatic regulation. Finally, emotion regulation is not viewed as positive or negative. Instead, emotion regulation can be employed to make situations better or worse in different contexts.

Affect regulation is a broader construct that includes emotion regulation, coping, mood regulation, and psychological defenses (Gross & Thompson, 2007). The authors distinguish these terms from one another. Coping is different from emotion regulation in that its major function is to reduce negative affect over a longer period of time, versus solely in the moment of feeling the emotion. Moods are distinguished from emotions in that they usually last for a longer period of time and tend to be in response to specific objects. Mood regulation also differs from emotion regulation in that mood regulation
typically involves changing how one experiences an emotion versus emotion regulation, which refers to how one reacts to a specific emotion. Psychological defenses are distinct because they are usually unconscious and automatic and they focus on restricting aggressive and sexual impulses and their corresponding negative emotional experience.

In summary, affect regulation is a broader term that includes emotion regulation. The ability to regulate and understand one’s emotions is an integral part of development that leads to effective interpersonal interactions, decision making, and adaptive behaviors. When development is arrested and the ability to regulate emotions is never solidified, individuals may become overwhelmed by their emotions and may not express emotions appropriately (Gross & Thompson, 2007).

**Biological bases.** It is also necessary to examine the biological processes of emotion regulation in order to comprehend how one’s ability to identify and understand emotions is formed. In reviewing the relevant literature on the biological foundations of emotion regulation, Beer and Lombardo (2007) concluded that the frontal lobes, anterior cingulate, temporal lobes, and the amygdala and caudate may all be involved in emotion regulation. These neural networks work by motivating individuals toward reward and away from punishment as well as regulating the expression of emotion. However, these brain systems are intricately interconnected making it difficult to distinguish what is the primary area controlling emotion regulation.

Davidson, Fox, and Kalin (2007) explained that voluntary emotion regulation is a uniquely human ability that separates humans from other species. However, the researchers stated that the study of nonhuman primates provides them with “an important and powerful window to study some of the basic neural substrates of emotion regulation”
The researchers first measured regulation abilities, which they hypothesized to be associated with individual differences in cortisol levels in the brain (Davidson et al., 2007). The researchers introduced negative and neutral stimuli to 17 participants ages 63 to 66. In response to the negative stimuli, subjects were randomly presented with instructions to enhance, suppress, or maintain their emotional response using cognitive reappraisal strategies taught to them during a pre-experimental practice session. When a neutral stimuli was introduced, subjects were instructed to always maintain their emotional response. The researchers measured pupillometry (changes in pupil diameter) in the subjects, which is thought to be an accurate measure of cognitive effort (Davidson et al., 2007). The pupillometry data indicated that both the “enhance” and “suppress” conditions produced comparable and significantly larger changes in pupil diameter when compared with the “maintain” condition, meaning there were not any major differences in effort between the critical emotion regulation conditions. The researchers then examined which areas of the brain were related to down-regulating negative affect (the suppress condition) and found that those who were less able to down-regulate negative affect evidencing poor emotion regulation abilities, as measured by signal change in the amygdala, presented with a flatter cortisol slope, as the researchers originally hypothesized. Thus, the researchers discovered that those with poor emotion regulation abilities, as measured physiologically by less ventromedial prefrontal cortex activation and more amygdala activation, have higher levels of cortisol when attempting to voluntarily minimize negative affect through the use of cognitive strategies. That is, individuals who find it difficult to control the experience of negative emotion tend to
have higher levels of cortisol than individuals who are better able to control the experience of negative emotion.

In studies of non-human primates, Davidson et al. (2007) also found important individual differences in the neurobiological processes of monkeys who had difficulty appropriately regulating emotions based on social situations. The researchers introduced three conditions to a sample of monkeys. In condition one, the monkey is alone. In condition two, a human enters the room and shows himself to the monkey without making eye contact. In condition three, a human enters the room and stares at the monkey. The normative response of monkeys to the alone and stare conditions is to display minimal freezing, or stopping and not moving, and to continue about their business. The normative response to the no eye contact condition is that monkeys freeze for longer periods of time. The researchers injected the monkeys with fluorolabeled deoxyglucose (FDG), a substance that measures brain activity. Results indicated that only three of the 100 monkeys displayed context-inappropriate behavior (i.e., freezing during the stare condition), indicating failure to appropriately regulate emotion. In examining the brain activity of the monkeys, results indicated failure to regulate emotion in a context-appropriate manner was related to significantly greater amygdala metabolism when compared to monkeys who could regulate emotion in a context-appropriate manner. The researchers noted that the study of emotion regulation in non-human primates may provide insight into the emotion regulation processes of humans. But, because non-human primates can be studied in highly controlled, regulated environments, which are conditions that are more difficult to obtain when studying humans, the generalizability to humans may be affected. The authors call for future researchers to examine whether
individual differences in the context-dependent automatic regulation of emotion can be connected to specified brain mechanisms.

*Emotion Regulation on Inpatient Units*

Research has shown that patients on psychiatric inpatient units exhibit lower emotional awareness and poorer abilities regulating affect when compared to individuals without mental health problems, making emotion regulation an area of targeted intervention (Burba et al., 2006; Donges et al., 2005; Stegge & Terwogt, 2007; Subic-Wrana, Bruder, Thomas, Lane, & Kohle, 2005). Donges and colleagues (2005) defined emotional awareness as the ability to recognize and describe emotion in oneself and others, a task that is particularly troublesome for many adolescents with psychiatric problems. Emotional awareness and the expression of emotions are thought to be critical components of adaptive functioning. Conversely, the lack of ability to express emotions has been found to be detrimental to health outcomes (Easterling, L’Abate, Murray, & Pennebaker, 1999). Similarly, affect regulation is defined as the “capacity to differentiate, tolerate, and modulate painful affect states” (Schaffer, 1993, p. 1). The ability to regulate affect contributes to adaptive functioning and good mental health (Gross & Munoz, 1995). The effective modulation of emotions is necessary in order to feel composed as well as to be able to participate in meaningful relationships. Without affective regulation, individuals must depend on others to regulate emotions for them, making social relationships difficult (Gross & Munoz, 1995).

Having the ability to regulate emotions has a strong impact on an individual’s overall ability to self-regulate. Self-regulation refers to all of the psychological processes an individual must manage in order to function adaptively. Such psychological processes
include stress, moods, thoughts, attention, and impulses such as hunger, aggression, and sexual arousal, and emotions influence each of these impulses (Gross & Thompson, 2007). An important feature of being able to regulate emotions is to first be aware of one’s own emotions. Being aware of emotions “helps people to engage in voluntary controlled action and may thus promote adaptive behavior” (Stegge & Terwogt, 2007, p. 271). According to Stegge and Terwogt (2007), there are two levels of emotional awareness. First-order phenomenal awareness of emotions includes being attuned to what a specific emotion is like and how to identify it. Second-order emotional awareness refers to thoughts about how the emotion affects our bodily states, why we feel the way we feel, and what we need to do about it. Second-order emotional awareness is dependent on one’s experience with and knowledge of emotion.

**Externalizing Problems**

In many of the adolescents seen on inpatient units, their internalizing (i.e., depression, anxiety) or externalizing (i.e., aggression, self-harm behaviors) symptoms are thought to be a product of deficits in second-order emotional awareness (Stegge & Terwogt, 2007). Children with externalizing problems, such as anger and aggression, tend to be more focused on the world around them and less aware of internal cues contributing to their feelings (Stegge & Terwogt, 2007). For example, Casey and Schlosser (1994) compared the facial gestures of children with externalizing and internalizing disorders. The researchers found that the children with externalizing disorders were not aware of how their facial gestures reflected anger, whereas children with non-externalizing disorders could accurately report their facial gestures when angry. Similarly, in a study by Troop-Gordon and Asher (2005), the researchers examined 252
aggressive and non-aggressive children between the ages of 9 and 12. Participants were provided with a series of vignettes detailing hypothetical situations in which a child and a peer had a conflict. The children were then asked to provide a strategy for dealing with the conflict. Next, they were told the strategy was ineffective and needed to come up with a new strategy for resolving the conflict. The authors found that the non-aggressive children were able to remain calm and come up with other adaptive and socially accepted strategies, whereas the aggressive children became flustered and were more likely to suggest retaliation against the peer. Overall, children with externalizing problems have difficulty distinguishing how an emotion makes them feel, why they feel that way, and what to do to alleviate those feelings (Stegge & Terwogt, 2007).

Internalizing Problems

The literature on children with depression suggests that depressive symptoms result from failure to regulate temporary negative emotions. According to Stegge and Terwogt (2007), in emotional situations depressed children display self-blaming thoughts, catastrophizing, and rumination. Their conscious thoughts in response to a negative emotion intensify that negative emotion. For example, in one study, researchers exposed 9 to 13-year-old children to an online computer game that simulated an experience of peer rejection (Reijntjes, Stegge, Meerum Terwogt, Telch, & Kamphuis, 2006). Upon being voted out of the game by peers, children high in depressive symptoms displayed the tendency to attribute the rejection to internal reasons, exaggerated the perceived meaning of being rejected, and were more likely to remain passive after being rejected. Peers who were not depressed sought to understand why they were voted out of the game. Overall, it is speculated that because children with
depression attribute depressive symptoms to some internal failure, they may avoid emotionally charged situations altogether or remain passive because they cannot tolerate added distress. Teasdale (1999) explains that “in depression, the person is overwhelmed by negative feelings and easily identifies with them. The presence of negative affect signifies total failure, immediately triggers a wide range of ruminative thoughts, and prevents a reflective stance in which the prevailing feeling state is focused on directly” (p. S56). When factoring in the avoidant behaviors of many depressed individuals, it can be speculated that it is difficult for depressed individuals to fully understand the cause of their negative feelings and, in turn, act on them.

Overall, emotional awareness, and in particular, second-order emotional awareness, is integral to adaptive functioning. Individuals with both externalizing and internalizing problems typically display deficits in emotional awareness (Stegge & Terwogt, 2007).

Existing Research on Inpatient Units

Research shows that psychiatric inpatient populations have lower emotion regulation abilities when compared to non-clinical samples. Studies thus far have examined emotional regulation in inpatient populations with specific disorders, such as depression and somatoform disorders. Most of these studies have been conducted outside of the United States. A study of 22 depressed patients in a German inpatient psychiatric unit and 22 non-depressed, non-patient controls, all between 20 and 46-years-old, were administered the Levels of Emotional Awareness Scale (LEAS) twice, seven weeks apart (Donges et al., 2005). Researchers found that the inpatient group exhibited lower awareness of other peoples’ emotions than the healthy control group at follow-up only,
but they found no differences in the awareness of their own emotions at baseline or follow-up. As the authors note, one possible confounding factor influencing the results was that the treatment the experimental group received during the seven week period between pre and posttest was focused on encouraging patients to become aware of their emotions, without focusing on being aware of others’ emotions. This may have predisposed the experimental group to solely take an interest in personal emotional awareness versus paying attention to the emotional needs of others.

Burba and colleagues (2006) examined emotion regulation in 120 inpatient adolescents with somatoform pain disorders and 60 healthy controls in Lithuania. Emotional awareness was measured using the Lithuanian translation of the 20-item Toronto Alexithymia Scale (TAS-20). Researchers found that adolescents with somatoform disorders had significantly higher rates of alexithymia when compared to the control group (1%, p < .001). The authors concluded that these findings might be explained by the fact that individuals with somatoform disorders tend to focus on physical pain as a means for avoiding emotional pain. A major limitation of this study was that the authors did not control for comorbid diagnoses, such as depression and anxiety, which may have impacted participants’ levels of emotional awareness. Previous research indicates that internalizing disorders, such as depression and anxiety, can impact emotion regulation abilities (Reijntjes et al., 2006; Stegge & Terwogt, 2007). In future studies, consideration of such potential confounding factors will be important.

Subic-Wrana and colleagues (2005) examined emotion regulation in individuals with psychosomatic disorders. Three hundred and eighty four inpatients from a German psychosomatic unit participated in a multimodal treatment program consisting of
individual and group psychotherapy and medication for a period of eight to 12 weeks. Both the TAS-20 and the LEAS were administered at the onset (N = 384) and at the end of treatment (N = 266). Participants were divided into six diagnostic groups that included depression, anxiety and obsessive-compulsive disorders, adjustment disorders, eating disorders, somatoform disorders, and psychological factors in somatic disorders to determine if there were differences in emotion regulation abilities among psychiatric diagnoses. At baseline, participants’ responses to the LEAS showed low levels of emotional awareness and responses to the TAS-20 showed high levels of negative affect. Emotional awareness increased and negative affect decreased post-treatment intervention in all six diagnostic groups, with no significant differences between groups. Surprisingly, there was no mention of participants’ age or description of demographic variables outside of diagnostic categories, making it difficult to generalize results to other populations.

Another research study from Germany examined 254 inpatient and outpatient participants with an array of diagnoses including depression, anxiety, obsessive-compulsive disorder, schizophrenia, personality disorders, and somatization disorders (Grabe, Spitzer, & Freyberger, 2004). Across diagnoses, participants displayed difficulties identifying feelings as measured by the German translation of the TAS-20. The authors concluded that “preexisting difficulties in identifying and differentiating feelings predispose someone to emotional dysregulation in stressful situations or relationships, thus creating emotional confusion followed by inadequate behavioral responses,” (Grabe et al., 2004, p. 1300). While a significant relationship was found between lack of emotional awareness and the presence of psychological disorders, it is difficult to say whether the lack of emotional awareness is what predisposes individuals
to psychopathology or vice versa. It is also possible that other variables exist, such as biological functions or environmental variables that explain the relationship.

In summary, research indicates that psychiatric inpatient populations have lower emotion regulation abilities than non-clinical samples. However, previous studies are fraught with methodological limitations, such as built-in treatment bias, not controlling for internalizing disorders, no mention of participant characteristics, and lack of clarity as to whether the relationship between emotion regulation abilities and psychopathology is causal or correlational. This makes it difficult to determine whether the findings are attributable to the variable being studied or a confounding variable that was not controlled. It is also difficult to generalize results to other samples. Future research must take into consideration these limitations and investigate emotion regulation in inpatient populations in a way that allows for comparisons to patients in similar settings.

Measuring Emotion Regulation, Depression, & Suicidal Ideation

Alexithymia & the Toronto Alexithymia Scale (TAS-20)

In most cases, studies conducted thus far have examined participants’ levels of alexithymia, or difficulties identifying and describing feelings and distinguishing between feelings and bodily sensations (Lundh, Johnsson, Sundqvist, & Olsson, 2002). When individuals have alexithymic deficits they typically display a greater focus on experiences and facts and less of a focus on feelings. In referring specifically to Kennedy-Moore and Watson’s model (1999), such individuals cannot move beyond stage three as they are unable to identify, label, and understand the emotion. This can be problematic because the individual is less capable of creating internal representations of emotions. Internal representations of emotions refer to the mental models we develop that help us recognize
when an emotion is felt (Taylor, Bagby, & Parker, 1997). These internal representations are necessary for processing emotional experiences and verbally expressing those experiences (Taylor et al., 1997). It is speculated that helping patients to connect emotions and feelings to problematic experiences would be an effective approach to treatment because it would teach patients how to accurately identify and understand their emotions, moving them beyond stage three in Kennedy-Moore and Watson’s model (1999).

The research thus far on alexithymia has been carried out primarily in countries outside of the United States. In particular, the 20-item Toronto Alexithymia Scale is one of the most widely used instruments to measure this construct. The original English version has been used with samples of students and psychiatric populations in North America and it has been translated and cross-validated in normal adult populations in numerous other countries. According to Lundh, Johnsson, Sundqvist, and Olsson (2002), the TAS-20 is “generally acknowledged to be the best-validated measure of alexithymia today” (p. 362). It is made up of a three-factor structure that measures three related areas of alexithymia including difficulty identifying feelings, difficulty describing feelings to others, and an externally oriented style of thinking. The TAS-20 has documented reliability and validity (Bagby, Parker, & Taylor, 1994; Parker, Taylor, & Bagby, 2003).

**Emotion Regulation & the Difficulties in Emotion Regulation Scale (DERS)**

Emotion dysregulation can also be measured using the DERS. This quantitative 36-item instrument is used to measure individuals’ typical levels of emotion dysregulation across six separate domains. These domains include nonacceptance of negative emotions, inability to engage in goal-directed behaviors when experiencing
negative emotions, difficulties controlling impulsive behaviors when experiencing negative emotions, limited access to emotion regulation strategies perceived as effective, lack of emotional awareness, and lack of emotional clarity. Participants indicate their agreement (almost never to almost always) with the 36 statements on a 1-5 scale related to emotion dysregulation. The higher the score on the scale, the greater the emotion dysregulation (Whiteside, Chen, Neighbors, Hunter, Lo, & Larimer, 2007). While still considered to be a relatively new instrument, the DERS is becoming a preferred instrument for effectively measuring an individual’s ability to regulate emotion (Gratz & Roemer, 2004).

*Depression & the Beck Depression Inventory (BDI)*

The literature has shown that depressive symptoms are associated with deficits in emotion regulation. The BDI was constructed by Beck (1961) for use with both clinical and nonclinical samples. A shorter form of the instrument was developed to facilitate faster administration across clinical and research settings. The BDI short form has 13 items describing different depressive symptoms. Adequate reliability and validity have been determined through scores that correlate 0.61 with clinicians’ ratings of severity and 0.96 with the longer version of the BDI. On this instrument, patients rate (from 0 to 3) the severity of each symptom over a seven-day period and the results are summed. If the patient scores above four, this is considered indicative of depressive symptoms.

*Suicidal Ideation & the Suicidal Probability Scale (SPS)*

Psychiatrically hospitalized adolescents also display increased suicidal ideation when compared to non-hospitalized adolescents (Huth-Bocks, Kerr, Ivey, Kramer, & King, 2007). According to the authors, adolescent females consider and attempt suicide
more often than adolescent males, although these attempts are less fatal than those of male peers. In particular, depressive symptoms in adolescence correlate highly with suicide behaviors and ideation, suicide attempts, and future ideation (Huth-Bocks et al., 2007). The SPS was constructed to provide an efficient and clear way to measure suicidality in at-risk populations. The 36-item self-report instrument assesses suicide risk in individuals aged 14 and older. The SPS provides a total suicide risk score and four clinical subscale scores including Hopelessness, Suicide Ideation, Negative Self-Evaluation, and Hostility. The instrument has evidenced solid psychometric properties including documented reliability and validity.

_Treating Emotion Dysregulation: Dialectical Behavior Therapy_

**Defining Dialectical Behavior Therapy (DBT)**

DBT has been shown to help individuals with affect regulation problems improve their ability to identify and describe emotions as well as moderate them adaptively. DBT is a cognitive-behavioral therapy developed by Linehan and colleagues (1993) originally designed as treatment for individuals with Borderline Personality Disorder (BPD), although components of DBT are now being used with a variety of psychiatric diagnoses. Because BPD is primarily conceptualized as a dysfunction of the emotion regulation system, DBT attempts to address this dysfunction by teaching individuals to become less reactive and more in control of their emotions. Individuals with BPD tend to be what Linehan (1993) termed emotionally vulnerable. That is, they have increased emotional sensitivity, emotional intensity, and tenacity of negative emotional responses. Emotional vulnerability in conjunction with invalidating environments exacerbates emotional disinhibition. Invalidating environments refer to the communities and families within...
which individuals live that perpetuate individuals’ sense of vulnerability. According to Linehan (1993), through rejection, punishment, and dismissal, these invalidating environments do not respond appropriately to individuals’ experiences, causing individuals to not fully comprehend or control their emotions. Typically, invalidating environments control the expression of emotions, oversimplify problem solving, and have a low tolerance of negative affect. Being raised in such an environment can interfere with the tasks of learning to appropriately label and regulate emotions, tolerate negative emotions, or trust emotional responses as valid responses to an event. Often times, individuals with BPD resort to extreme behaviors in attempts to regulate emotions, using maladaptive techniques to minimize distressing affect (Linehan, 1993).

In order to facilitate change in patients, DBT emphasizes a balance between change and acceptance through four strategies: dialectical strategies, core strategies (validation and problem solving), communication strategies (irreverent and reciprocal communication), and case management strategies (Linehan, 1993). Dialectical strategies refer to the “paradoxical notion that therapeutic change can only occur in the context of acceptance of what is; however, ‘acceptance of what is’ is itself change” (Linehan, 1993, p. 99). Thus, change and acceptance must be balanced, with the therapist at times challenging the patient and at other times approving of them. Second, it is necessary to apply problem solving strategies (a.k.a., change strategies) balanced by validation strategies (a.k.a., acceptance strategies). Problem solving strategies include targeting and changing maladaptive behaviors. Irreverent communication refers to a style where the therapist is not obviously responsive and challenges the patient by being direct and confrontational. This style is balanced by reciprocal communication, which is acting
warm, empathic, and responsive to the patient’s needs. Finally, case management strategies include scheduled therapist calls between sessions, consultation teams for therapists, and interventions aimed at helping clients manage their environments independently.

**Skills training & emotion regulation.** Skills training is one of the most important and replicated components of DBT (Telch, Agras, & Linehan, 2001). Skills training is used to target identified areas of dysfunction that are typical in BPD patients. Such areas of dysfunction are apparent in other psychiatric populations, and thus, the use of the skills training modules has been replicated with other psychiatric populations (Miller, Rathus, & Leigh, 1996; Telch et al., 2001). Linehan (1993) developed four areas of targeted intervention: emotion regulation, distress tolerance, interpersonal effectiveness, and reduction of identity confusion via mindfulness. Because the proposed study addresses emotion regulation in hospitalized adolescents, only the emotion regulation module will be described.

The emotion regulation module focuses on teaching patients how to appropriately regulate their emotions through the process of observing and describing current emotional responses (Linehan, 1993). The specific emotion regulation skills taught in DBT include identifying and labeling emotions, identifying obstacles to changing emotions, reducing vulnerability to “emotion mind,” increasing positive emotional events, increasing mindfulness to current emotions, taking opposite action, and applying distress tolerance techniques. Corresponding lesson plans, which include worksheets and homework activities, exist for each topic. The intervention in the proposed study was based on components of the DBT emotion regulation lesson plans and worksheets.
DBT & borderline personality disorder (BPD). The efficacy of DBT has been researched since its inception, both with BPD individuals and individuals with other psychiatric illnesses (Linehan, 1993; Miller et al., 1996; Telch et al., 2001). The first controlled clinical trial comparing DBT with treatment as usual (TAU) was published by Linehan and colleagues in 1991 (Linehan, Armstrong, Suarez, Allmon, & Heard, 1991). Participants included 47 chronically parasuicidal women. Parasuicidal refers to individuals who exhibit self-harm behaviors and suicidal ideation (Linehan et al., 1991). These women met DSM-IIIR criteria for BPD and were divided into one DBT group (N = 24) and one TAU group (N = 23). Both groups received treatment for one year while being assessed every four months. Results indicated that post-treatment, DBT individuals reported significantly fewer parasuicidal episodes, less medically severe episodes, fewer inpatient days, and a lower treatment dropout rate that TAU participants. When the study was repeated with a second cohort, results indicated that DBT patients reported significantly less anger, greater social adjustment, better work performance, and less anxious rumination than TAU patients (Linehan, Tutek, Heard, & Armstrong, 1994).

Additional studies followed examining the efficacy of DBT with BPD individuals. In a pilot study, Koons et al. (2001) compared the 6-month outcomes of DBT against the typical Cognitive Behavioral Therapy (CBT) for female veterans with BPD. The researchers found that the DBT participants had greater reductions in suicidal ideation, depression, hopelessness, and expression of anger when compared to the treatment as usual (TAU) participants. DBT participants also demonstrated significant decreases in the number of parasuicidal acts, anger experienced but not expressed, and fewer hospital admissions and inpatient days. In a similar study, Verheul et al. (2003)
randomly assigned 58 women with BPD to 12 months of DBT or TAU in the community. The DBT group reported significantly greater reductions in self-injury and impulsive behaviors in comparison with TAU participants. The DBT participants also had a greater retention rate (63%) when compared with the TAU participants (23%).

In 1999, Linehan and colleagues moved into the realm of dual diagnoses as they compared DBT with TAU for women with both BPD and substance abuse disorders. Both DBT (N = 12) and TAU (N = 16) subjects participated in treatment for one year with assessments every four months. The researchers found that the DBT group had significantly greater reduction in drug use throughout the treatment year and at follow-up when compared to the TAU group. The DBT group also showed higher retention rates, and greater increases in anger-management abilities and in global and social adjustment when compared to the TAU group.

Additional studies, which applied DBT to inpatient populations, also found significant results. Barley and colleagues (1993) examined a sample of 130 personality-disordered inpatients (79% women) who had been discharged after approximately 100 days. The study involved three-phases of integrating DBT into the inpatient treatment: no DBT, phasing in DBT, and full DBT. The researchers found that parasuicidal attempts were lower while DBT was fully implemented than when there was no DBT or when DBT had only partially been introduced to the unit. In a similar study, personality-disordered inpatients received either a creative coping group treatment that was based on DBT or a TAU treatment based on lifestyles and wellness discussion groups (Springer, Lohr, Buchtel, & Sickl, 1996). All participants received an average of six sessions and showed improvements during their hospitalizations. Individuals in the DBT-based group
were more likely to believe that they would be able to apply what they learned after discharge. However, the DBT individuals were also more likely to display behavioral problems during their stay, which researchers attributed to the discussion of parasuicidal behaviors. Linehan’s skills training manual (1993) states that parasuicidal behaviors should not be discussed in group treatment and should be reserved for individual therapy in order to prevent behavioral outbursts.

**DBT with adolescents.** Research on DBT with adolescents is just beginning to develop. Recent studies show promise for the efficacy of DBT with adolescent populations; however, given the relatively early stage of the research, only a handful of studies have found empirically significant findings. Miller and colleagues (1996) first attempted to modify Linehan’s (1993) DBT protocol to meet the developmental needs of adolescents. These modifications were based on administering DBT in an inner-city outpatient clinic for suicidal adolescents and included:

1. shortening the first phase of treatment from one year to twelve weeks;
2. including parents in the skills-training groups;
3. including parents or other family members in individual therapy sessions when familial issues seem paramount;
4. reducing the number of skills taught in order to facilitate learning the content in 12 weeks;
5. simplifying the language on the skills handouts to make them developmentally appropriate for adolescents; and
6. offering an optional 12- to 24-week follow-up consultation group to patients who graduated from the first phase of treatment (Miller, 1999, p. 1142).

In studying depressed and suicidal adolescents, Miller et al. (1996) examined the efficacy of this modified version of DBT. In this nonrandomized, controlled pilot study,
111 participants were divided into either a DBT group or TAU group in which participants attended 12 weeks of individual and family sessions that met two times per week. Due to the nonrandom assignment, participants in the DBT group fell into a lower socioeconomic status, were more ethnically diverse, and were more severely impaired than the TAU group. After controlling for these differences, results indicated that the DBT patients had significantly higher treatment completion rates and fewer psychiatric hospitalizations when compared to the TAU participants. Hence, even though the DBT patients had greater dysfunction before treatment they were no more suicidal than the TAU patients after treatment.

Rathus and Miller (2002) replicated this study using the modified version of DBT with 111 suicidal adolescents (ages 12-19) with borderline personality traits. The researchers hypothesized that DBT would be more effective than TAU at reducing inpatient hospitalizations, increasing treatment adherence and completion rates, and reducing suicide attempts with intent to die. The TAU condition consisted of 12 weeks of individual and family therapy, twice per week. Results indicated that 13% of participants in the TAU group were psychiatrically hospitalized during treatment compared to 0% of DBT participants. Similarly, only 40% of TAU participants completed treatment compared to 62% of DBT participants. While results were not significant for the instances of suicide attempts, participants in the DBT group were identified initially as having a higher risk for suicidality when compared to TAU participants. Thus, while the difference was not significant, a difference was found with 9% of TAU participants attempting suicide compared to 3% of DBT participants, indicating that DBT participants were at least no more suicidal than TAU participants.
Initial data from these studies supports the use of DBT with suicidal adolescents. The authors call for future researchers to implement randomized controlled trials of DBT with adolescents across psychiatric settings in order to determine if the intervention is efficacious with different multi-problem adolescent populations.

Another study examined the use of a modified version of DBT with adolescent patients with binge eating disorder. Telch et al. (2001) hypothesized that teaching adaptive emotion regulation skills to binge eaters would help to reduce binge episodes, as binge/purge behaviors can be a maladaptive form of emotion regulation. The researchers developed a 20-session group based on the skills training components of DBT. Forty-four females meeting criteria for binge eating disorder were assigned to either the DBT group or to 20 weeks of a wait-list comparison group. Results indicated that DBT participants had significant decreases in the frequency of binge days and episodes and the degree of concern regarding weight, shape, and eating compared to those in the wait-list group. At the completion of treatment, 89% of DBT participants reported no binge episodes compared to 12.5% of controls. At the three-month follow-up, 67% of DBT participants reported no binge episodes and at the six-month follow-up, 56% of DBT participants reported no binge episodes. The researchers concluded that DBT was more effective at reducing binge episodes when compared to no treatment.

In 2005, Nelson-Gray and colleagues implemented a modified version of DBT with non-suicidal outpatient adolescents with oppositional defiant disorder (ODD). In this study, the researchers chose to only replicate the skills training portion of DBT in a group format. Participants included 32 adolescents with ODD (85% male) who attended one of seven 5 to 9 member groups meeting for 16 weekly, 2 hour group therapy
sessions. In regards to racial identity, 43.2% of participants were African American, 40.5% were Caucasian, and 2.7% were Hispanic. The majority of participants had co-morbid diagnoses, with 31.3% having ADHD, 34.4% having conduct disorder, and 8.1% having major depressive disorder. Participants were administered the Youth Self-Report, the Behavioral and Emotional Rating Scale, and the Child Depression Inventory pre and post intervention. Their caregivers were administered the Diagnostic Interview Schedule for Children, Parent Version and the Child Behavior Checklist. Modifications to the original DBT protocol included simplifying the language, using examples that were more age-appropriate, and using more illustrative activities than didactic training. Results indicated significant increases in interpersonal strength (p < .0001) and reductions in ODD symptoms (p < .0075) and externalizing behaviors (p < .0004) based on caregiver reports. Participant reports indicated significant reductions in depressive symptoms (p < .0093) and internalizing behaviors (p < .0015). While treatment outcomes show promising results as to the possible efficacy of a modified DBT protocol for adolescents, the use of a treatment comparison group or a wait-list control group is necessary to draw firm conclusions. The authors call for future researchers to continue to test different components of the skills training protocol with adolescent populations with a wide range of diagnoses beyond BPD (Nelson-Gray et al., 2005).

DBT has been implemented in residential facilities as well. Sunseri (2004) examined the efficacy of DBT in a high-level residential facility specializing in the treatment of adolescent females with comorbid diagnoses who exhibit severely dysfunctional behavior. Common presenting symptoms include self-injurious cutting and burning, suicidal ideation and attempts, physical aggression, running away, substance
abuse, and eating disorders. DBT was implemented with modifications including the use of more visual aids and discussion and less didactic information during the skills training sessions. The length of the skills training sessions was also shortened to accommodate the developmental needs of the adolescent population. Participants included 68 females between the ages of 12 and 18. The TAU group consisted of 42 female adolescents and data were collected through a retrospective chart review. Staff was then trained in administering DBT and the next 26 individuals to be admitted to the program participated in the DBT treatment group. Both groups were balanced on ethnicity (76% Caucasian in control group and 88% Caucasian in DBT group) and participants in the control group were slightly younger (M age = 14) than those in the experimental group (M age = 15.2). While both groups were diagnosed with similar incidences of disruptive behavior disorders, anxiety disorders, eating disorders, and substance abuse disorders, the control group was diagnosed with more mood disorders when compared to the experimental group and more participants in the experimental group were diagnosed with borderline personality disorder than those in the control group.

Results indicated that there was a significant reduction in the premature termination rates in the experimental group compared to the control group ($X^2 = 4.9$, $p = 0.04$). There was also a significant reduction in the number of psychiatric inpatient days in the experimental group compared to the control group ($X^2 = 43.5$, $p < 0.001$). The researchers reported that due to the non-randomized nature of the sample, potential covariates needed to be analyzed to adjust for the imbalances in the sample. After controlling for age, ethnicity, referring agency (social services versus mental health), mood disorder, and length of stay, the DBT group still had significantly fewer
hospitalizations than the TAU group (Wald’s $X^2 = 10.3$, $p = 0.001$). Lastly, the median restraint times for the TAU and DBT groups were 20 minutes and 11 minutes respectively. Results indicated a significant reduction in the duration of physical restraints and seclusions from the TAU to DBT periods ($z = 12.1$, $p < 0.001$). The researchers hypothesized that the skills training modules provided DBT participants with an effective means of coping with stress, leading to reductions in the number of inpatient days. The lack of true control group and randomization were two limitations in this study. Future research should include a control group and randomization in order to determine the efficacy of DBT with adolescents.

Similarly, a community-based residential facility implemented a modified version of DBT with adolescents ages 13 to 21 using a natural setting to collect data (2004). The Grove Street Adolescent Residence of The Bridge of Central Massachusetts, Inc. (2004) houses adolescents who have significant difficulties controlling their emotions and who display impulsive and self-destructive behaviors. Data has been collected for the first 20 adolescents participating in the program (14 females, 6 males). Participants’ average age was 16.6 years, with an average length of stay of 10.3 months, and an average of 2.3 Axis I diagnoses. The DBT program included individual therapy, group skills training, coaching in crisis, family therapy, and a staff consultation team. While the sample is small, initial results indicate that 12 of the 20 participants had completed the program. Six months after discharge, of those 12 participants, 8 were living in the community, 3 were in a group residence, and 1 was hospitalized. Prior to participation in the program, 10 of the 20 participants had multiple psychiatric hospitalizations. Nine of the 20 participants had a history of self-injurious behaviors, including 23 reported incidents in
the six months before beginning the program. Within the first six months of the program, 12 self-injury incidents were reported, one was reported in the second six months of the program, and no incidents were reported for the adolescents who remained in the program longer than 12 months. No self-injurious incidents were reported in the six month follow-up period (Grove Street Adolescent Residence of The Bridge of Central Massachusetts, Inc., 2004). Again, while initial results are promising, future research needs to employ quantitative instruments to measure changes in symptomology as well as control groups to determine the efficacy of this treatment.

Limitations

Linehan and colleagues have demonstrated the efficacy of DBT with adult psychiatric populations. Currently, researchers are attempting to modify the DBT program for use with adolescents with psychiatric problems. Initial findings show promise; however, future research needs to include the use of control or treatment as usual groups, the use of reliable and valid quantitative instruments, and descriptions of the diverse psychiatric adolescent populations being studied, including diagnoses and demographic variables.

As the research indicates, DBT is a widely used form of treatment across psychiatric disorders. DBT has been shown to decrease suicidal and parasuicidal behavior, the number of psychiatric hospitalizations, treatment dropout rates, depression and hopelessness, binge episodes, and ODD symptoms and increase interpersonal strength. The central premise of DBT is that emotion regulation must be targeted as the primary mechanism for change. Given that adolescents with psychiatric problems show deficits in emotion regulation, it is speculated that adapting the emotion regulation skills
module of DBT to use with inpatient female adolescents will lead to improvements in their ability to regulate affect.

Journal Writing

In conjunction with DBT, journal writing is a developmentally appropriate intervention for increasing emotion regulation and decreasing depressive symptoms and suicidal ideation of inpatient female adolescents. In a survey of 108 inpatient adolescents, 77 adolescents indicated that art-based strategies were the primary method of coping with their struggles. Of those 77 adolescents, 35% (n = 27) indicated that written expression, including journal-writing, was their “first strength” and preferred method of coping (Tyson & Baffour, 2004). Normative developmental changes experienced by adolescents, specifically the struggle between wanting to express personal feelings and wanting to fit in with peers (Zeman & Shipman, 1997; 2001), may inhibit adolescents’ participation in the group-based DBT skills training programs. Because research on the use of DBT with adolescents is in its infancy, it is speculated that an additional intervention, specifically journal-writing, may help to alleviate this struggle by providing adolescent patients with both connection to peers (group-based DBT) and the safety to explore thoughts and feelings (journal-writing).

Journal-Writing with Different Populations

Nonclinical populations and the Pennebaker paradigm

It is necessary first to review the relevant literature on the efficacy of journal writing with nonclinical samples. James Pennebaker has contributed significantly to this area of research from the early 1980s. In 1997, Pennebaker reviewed the research on the therapeutic benefits of writing about emotional experiences for undergraduate students.
Overall, he found that “writing about upsetting experiences, although painful in the days of writing, produces long-term improvements in mood and indicators of well-being compared with writing about control topics” (p. 162). In summarizing the results, Pennebaker noted a number of behavioral changes in those who had participated in therapeutic writing interventions. These included improvements in grades, reduction in the number of doctor’s visits, shorter time to finding a new job, fewer work absences, and a reduction in alcohol intake. He also noted a number of physiological changes including improvements in long-term immune system functioning, immediate changes in autonomic and muscular activity, and in the self-report of certain physical symptoms. Mental health improvements including decreases in depression, distress, and negative affect were found (Pennebaker, 1997).

Pennebaker and his colleagues conducted a number of studies using the ‘basic writing paradigm’ as an intervention (Pennebaker, 1999). This paradigm consists of the random assignment of participants to one of two or more groups, one of which is the control group. Participants in the writing groups are asked to come to the lab and write about certain topics for a period of three to five days for 15 to 30 minutes per day. Participants in the control group are asked to write about benign, superficial topics for the same period of time. Typical instructions given to participants are:

For the next (three) days, I would like for you to write about your very deepest thoughts and feelings about an extremely important emotional issue that has affected you and your life. In your writing, I’d like you to really let go and explore your very deepest emotions and thoughts. You might tie your topic to your relationships with others, including parents, lovers, friends, or relatives; to
your past, your present, or your future; to who you have been, who you would like to be, or who you are now. You may write about the same general issues or experiences on all days of writing or on different topics each day. All of your writing will be completely confidential. Don’t worry about spelling, sentence structure, or grammar. The only rule is that once you begin writing, continue to do so until your time is up (Pennebaker, 1999, p. 13).

When Pennebaker first conducted this study in 1986, the majority of participants reported that the writing was meaningful and valuable to them. Pennebaker continued to follow the students through the year and found that those in the emotionally intensive writing group had fewer doctor’s visits when compared to the control group (Pennebaker, 1999). Researchers replicated this writing intervention study with different populations including college students, the elderly, prisoners, medical students, crime-victims, chronic pain sufferers, men laid off from jobs, and women who recently gave birth (Dominguez et al., 1995; Petrie, Booth, Pennebaker, Davison, & Thomas, 1995; Richards, Pennebaker, & Beal, 1995; Rime, 1995; Schoutrop, Lange, Brosschot, & Everaerd, 1996; Spera, Bhrfeind, & Pennebaker, 1994). The most common themes that emerged in the writing across studies included lost loves, death, sexual and physical abuse, and tragic failures (Pennebaker, 1999). In replicating this study with different populations, Pennebaker and colleagues (1999; Petrie, Booth, Pennebaker, Davison, & Thomas, 1995; Richards, Pennebaker, & Beal, 1995; Rime, 1995; Spera, Bhrfeind, & Pennebaker, 1994) found participants in the journal writing groups displayed increased immune functioning as shown through blood markers, lower pain and medication use, and lower levels of depression over the course of one year. Pennebaker (1999) also
found that while mood tended to decrease during the writing process, when questionnaires were administered two weeks after the study, participants reported feeling happier than those in the control groups. It should be noted that Pennebaker was involved in the majority of the studies involving the health benefits of journal writing. These studies did not identify what measures were taken to prevent experimenter bias in data collection and interpretation of the results. One should be cautious when interpreting the findings until further studies are completed independently of the Pennebaker lab. It will also be important for future researchers to identify the demographic characteristics of the populations being studied in order to better generalize results across samples.

Pennebaker (1999) hypothesized that the beneficial effects of writing could best be attributed to the process of integrating thoughts and feelings in order to create a cohesive narrative. The process of converting emotions and ideas into words transforms the way individuals organize and think about the emotional experience they just wrote about (Pennebaker, 1999). In essence, journal writing provides an outlet for an individual to make sense of overwhelming emotions and experiences. It is speculated that once these emotions and experiences are identified and processed, they can be mentally stored away, providing some closure for the individual. According to Graybeal, Sexton, and Pennebaker (2002), writing facilitates the individual’s ability to make meaningful stories out of life events, and the process of forming these stories is what leads to positive health benefits.

In summary, the use of therapeutic writing with nonclinical populations has been studied most intently by Pennebaker. Pennebaker developed the basic writing paradigm
in order to assess the mental and physical health benefits of writing. Along with his colleagues (Petrie et al., 1995; Richards et al., 1995; Rime, 1995; Spera et al., 1994), Pennebaker (1993; 1997) found that not only did writing decrease depression, distress, and negative affect, but it could also contribute to improvements in immune functioning, decreases in the number of doctor’s visits, shorter time to finding a new job, fewer work absences, better grades, and a reduction in alcohol intake.

*Clinical populations*

While Pennebaker studied nonclinical populations, a host of researchers have examined the effects of journal writing with clinical samples, particularly patients with eating disorders. A handful of case studies and small qualitative studies have examined the effects of journal writing both on inpatient psychiatric units as well as in outpatient settings (Frayne & Wade, 2006; Rabinor, 1991; Schmidt, Bone, & Hems, 2002; Zeiger, 1994).

Frayne and Wade (2006) examined 98 female college students with eating disorder symptoms. Participants were randomly divided into a control and experimental group, although sampling procedures were not described in the study. Both groups participated in three writing sessions on three different days within one week. The control group wrote about their plans for the upcoming day, week, and month respectively and the experimental group wrote about a traumatic experience or a difficult emotional event. After each writing session, all participants completed the depression-dejection subscale on the Profile of Mood States. Participants were also asked to fill out the denial subscale of the Coping Operations Preference Enquiry scales, the Eating Disorder Examination Questionnaire, the Interoceptive Awareness and Ineffectiveness
subscales of the Eating Disorders Inventory, and the Externalized Self-Perception subscale of the Silencing the Self scale. The researchers found that immediately upon post-test, the experimental group reported significantly decreased levels of distress when compared to baseline levels. When researchers administered the same post-test measures at follow-up again three weeks later, both groups showed significant decreases in distress over time. This suggests that both writing tasks were equally effective in decreasing distress; however, the control group took longer to achieve the same results as the experimental group. It is important to consider that the intervention was conducted with a student population who was screened for eating disorder symptoms. Had the design been conducted with diagnosed eating disorder patients, results may have varied.

Schmidt et al. (2002) conducted a study of the Pennebaker writing paradigm with 28 outpatient females with eating disorders. However, only two of the original 28 participants recruited followed through on completing the writing exercises, making the results hard to interpret. Both participants reported the writing to be helpful, but no pre and post measures were administered, making it difficult to determine the efficacy of the intervention. The researchers attributed the high attrition rates to the fact that patients with eating disorders are typically avoidant and reluctant to engage in therapy. The researchers speculated that future research will be successful if researchers first form therapeutic alliances with the patients before attempting journal-writing interventions in order to decrease the likelihood of attrition.

*Journal-writing with Adolescents*

Recently, researchers have also begun to implement journal-writing interventions with adolescent populations. In particular, writing interventions have been used to
decrease negative affect in adolescents. In one study, Soliday and colleagues (2004) examined the effects of the Pennebaker paradigm (1993) on adolescents’ somatic symptoms, distress, and positive psychological functioning. Participants included 106 eighth-grade students from a suburban middle school, of which approximately half were females. Twenty percent of participants identified themselves as ethnic minorities. Participants were randomly divided into the experimental and control condition with the experimental group writing about emotional events and the control group writing about neutral events both over a period of three consecutive days. Data was collected pre and post intervention, at two-week follow-up, and again at six-week follow up. A variety of measures were administered, including the Children’s Somatization Inventory, the somatization scale of the Youth Self-Report Inventory, the Center for Epidemiological Studies Depression Scale, the Negative Affect subscale and the Positive Affect subscale of the Positive and Negative Affect Schedule for Children, the Children’s Hope Scale, and the Life Orientation Test-Revised. At baseline and at the six-week follow up, participants were asked to report the number of doctor visits they had in the previous six weeks. Results indicated that scores on psychological distress decreased (F(1, 105) = 5.00, p = 0.03, n² = 0.05) and positive disposition scores increased (F(1, 105) = 5.39, p = 0.02, n² = 0.05) for adolescents writing about emotional topics compared to those writing about neutral topics. These results were consistent with previous research using the Pennebaker paradigm (1993). As the researchers stated, these results should be interpreted with caution due to the low reliability of the Life Orientation Test-Revised (alpha = 0.60), which measures positive affect. Future research should use measures with better reliability. The authors also noted that no significant changes were found
regarding somatization symptoms in participants. This is likely due to the relatively low baseline somatization scores and the authors recommend future researchers to study clinical samples with greater baseline symptoms.

Stice, Burton, Bearman, and Rohde (2006) used a clinical sample of adolescents to study the effects of multiple alternative interventions. Participants included 225 high-risk adolescents with elevated depressive symptoms (M age = 18, 70% female). Participants identified themselves as 55% Caucasian, 17% Asian, 15% Hispanic, 6% Black, and 7% other. The participants were randomly divided into one of six groups including brief cognitive-behavioral (CBT) (n = 50), supportive-expressive (SE) (non-directive; establish rapport, provide support, and help participants express feelings; n = 19), bibliotherapy (B) (read books to alleviate symptoms; n = 28), expressive writing (EW) (Pennebaker paradigm (1993); n = 27), journaling (J) (helps clients with reflection and contemplation; construct new stories of their lives; n = 34), or waitlist (n = 67) conditions. The CBT and supportive-expressive conditions met in a group format for 1 hour per week, for four consecutive weeks. In the bibliotherapy condition, participants were given a book with a CBT approach to resolving depression and were told to read it. In the expressive writing condition, participants were asked to write about emotional experiences once a week for three weeks in a lab setting. In the journaling intervention, participants were given a blank journal and pen and asked to write during their free time, and at least once per week. Finally, in the waitlist condition, participants were told that it was necessary to observe changes in mood among individuals who did not receive an intervention. Participants were administered the 21-item Beck Depression Inventory pre and post intervention, and at 1- and 6-month follow up. Results indicated that there were
significant differences among all of the intervention conditions and the waitlist condition from pre to post intervention (CBT: \( p < 0.001, r = 0.48 \); SE: \( p < 0.001, r = 0.52 \); B: \( p < 0.001, r = 0.37 \); EW: \( p < 0.001, r = 0.40 \); J: \( p < 0.003, r = 0.29 \)). Limitations to the study include the varying number of participants per condition and the use of only one self-report measure of depression. Future research can be strengthened by using a uniform number of participants across conditions and multiple valid and reliable quantitative instruments. The researchers concluded that multiple interventions may be effective at decreasing depressive symptoms in adolescents and future researchers should continue to test the efficacy of such interventions with larger samples. It is also possible that combining different types of interventions may lead to greater decreases in depressive symptoms. Similarly, in a small qualitative study by Banister and Begoray (2004), the authors concluded that journal writing in conjunction with group discussion can lead to increases in self-awareness of group members.

**Single-case studies**

Rabinor (1991) conducted a single-case study where she used journal writing with a 15-year-old female, “Lizzy,” struggling with anorexia nervosa. In this study, the researcher focused on creating a strong therapeutic relationship before beginning the intervention. Rabinor (1991) selected the journal-writing intervention because of the tendency for individuals with anorexia nervosa to experience therapy as intrusive. The researcher hypothesized that journal writing would provide her patient with control over the progression of therapy. Over the course of therapy, Lizzy used the journal to record her feelings, especially feelings that were too difficult to verbalize. Rabinor (1991) reported that Lizzy’s self-awareness increased, as assessed by her ability to objectively
examine her journals and understand how she managed stress and negative affect. After each session, Rabinor (1991) reviewed Lizzy’s journal and used the content of the journal in the next session. Rabinor’s account of Lizzy is helpful in understanding her progress in therapy; however, the addition of quantitative instruments to measure changes in functioning would have provided empirical support for the use of journal writing. A single-case study with no pre and post data does not have enough statistical power to translate results to other settings.

In another single-case study, Zeiger (1994) employed a journal-writing intervention with a 15-year-old male admitted to an inpatient unit. Zeiger (1994) had “Nick” record his thoughts, feelings, and experiences in his journal and then review his journal with Zeiger during therapy. According to Zeiger, through the journals, Nick was able to externalize his problems and approach them from a more objective position. He was able to identify his strengths and discuss emotionally difficult situations. Over the course of a year, Nick developed a more integrated view of himself and a deeper awareness of how his emotions affected his behavior (Zeiger, 1994).

While helpful in describing the process of journal writing in therapy, these single-case studies are difficult to generalize to larger clinical samples as a control group or single-case control was not used. It is necessary to replicate such studies with larger numbers of participants in shorter-term therapy settings. Overall, the use of journal writing with clinical populations is just beginning to be explored. While initial results are promising, prior research lacks adequate sample sizes, description of demographic participant characteristics, and the use of valid and reliable quantitative instruments that accurately measure changes in functioning. While journal writing is a qualitative
intervention, future research on journal writing interventions with clinical populations must include larger, more diverse samples and multiple quantitative instruments documenting effectiveness, and the inclusion of a control condition.

**Journal Writing & Emotion Regulation**

As the literature has shown, journal writing has been used as a means for helping individuals access and process emotions. Lumely, Tojek, and Macklem (2002) studied how journal writing could help individuals better regulate emotions. The authors performed a meta-analysis of studies that examined the effects of written emotional disclosure among people with alexithymic deficits. According to the authors, “beneficial disclosure outcomes occur when people recognize and acknowledge personally stressful experiences, access and activate emotional memories of those experiences, identify and put into words their emotions, and eventually think differently about the experience” (p. 75). In their review of relevant literature, the authors found mixed results as to whether alexithymic individuals benefited from emotional disclosure. In some studies, the authors found that alexithymic deficits prevented participants from benefiting from emotional disclosure because they did not understand their emotions enough to disclose them (Kelley, Lumley, & Leisen, 1997; Lumley, Naoum, & Kelley, 2001). In contrast, Paez, Velasco, and Gonzalez (1999) reported that participants with difficulty describing feelings had a significant decrease in negative affect after completing two months of an intensive written intervention aimed at disclosing emotions. In this study, undergraduate students in the experimental group wrote about traumatic experiences over the course of three days and the control group completed a brief three minute writing intervention about a neutral topic, such as their daily schedule, on one day. Using the TAS-20 as a
measurement tool, researchers found that alexithymic individuals had improvements in mood after the expressive writing intervention.

Previous research shows promise as to the efficacy of journal writing as an intervention to improve emotion regulation. The majority of studies have included nonclinical samples, used the Pennebaker paradigm (Pennebaker, 1999) and showed that journal-writing leads to decreases in negative affect, although there has been minimal information regarding participant characteristics. Studies have begun to emerge using journal-writing with patients with eating disorders and depressive symptoms. Future studies need to include larger samples, control groups, the use of valid and reliable instruments administered pre and post intervention, and demographic characteristics of participants.

L’Abate (1991) stated that “writing has not often been used as a medium for therapeutic or preventative interventions. Most often it has been used as a single shot, ad hoc purpose or to log behavior” (p. 100). According to L’Abate (1991), journal writing has the potential to be an effective component of the therapeutic process, yet its use as such an intervention remains unexplored. This study aims to explore the therapeutic value of journal writing by assessing its effectiveness at increasing emotion regulation with inpatient adolescent females.

Theoretical Orientation

According to Hays (1988) writing and psychotherapy can serve similar functions in that they both involve catharsis, increasing awareness, uncovering historical patterns, and providing insight. Therefore, used in conjunction, they can provide further understanding of the self. Hymer (1991) agreed, proclaiming that journal writing can
lead to catharsis and introspection; however, therapy is necessary for the patient to discuss this process and arrive at new understandings.

_Narrative Psychology_

Much of the work done on journal writing is rooted in narrative psychology. Narrative psychology holds that “constructing stories is a natural human process that helps individuals to understand their experiences and themselves” (Pennebaker & Seagal, 1999, p. 1243). The premise of narrative psychology is that externalizing a problem (i.e., talking about it in an objective way that separates the individual from the problem) allows individuals to shift the focus away from personal blame and self-doubt to a tangible problem that can be thought of constructively. It allows the individual to think about experiences in a way that feels more objective and safe (Freedman & Combs, 1996). It is theorized that once an individual is able to provide structure to a problem, she is better able to manage the emotions of the experience (Pennebaker & Seagal, 1999). One goal of narrative therapy is to guide individuals in the process of understanding their constructed reality. A constructed reality refers to the way individuals understand the world and their place in the world and it is based on personal experiences and values (Freedman & Combs, 1996). Once they have verbalized their constructed reality, it is necessary to collaboratively evaluate the accuracy of the reality, and if it appears distorted or influenced by societal expectations, the next step is to challenge and deconstruct this reality.

_Founding fathers of narrative psychology: Michel Foucault._ French philosopher, Michel Foucault, provided much of the early groundwork for the development of narrative psychology. As one of the initial contributors to the development of post-
structuralism in France in the 1960s, Foucault’s philosophical beliefs were that humans are rational, autonomous, and self-transparent and that unconscious processes control individuals’ behavior (Besley & Edwards, 2005). Post-structuralism contributed to narrative psychology in that it introduced the idea that individuals’ experiences and the narratives they create are based on unique perspectives and interpretations of events in their lives.

Central to Foucault’s beliefs were the connections between power and knowledge. According to Besley (2002), Foucault’s understanding of power was that it was “not only repressive or negative, but also as positive, not in the sense of being good or benign or something to aspire to, but in the sense of being constitutive as it shapes peoples’ lives and ideas” (p. 133). Besley (2002) argued that these notions informed narrative therapy, as narrative therapy emphasizes the idea that power and knowledge are inseparable. Individuals are simultaneously being affected by power and exercising power over others (Besley, 2002). According to Combs and Freedman (2004), knowledge, or what is considered to be known or worth knowing, changes throughout time, and power shifts as a function of these shifts in knowledge. Foucault differentiated between two types of power: traditional and modern power. Traditional power refers to power that is based on a system of social control through the rule of a central authority figure. Modern power refers to the power that develops over time based on norms and is enforced through the judgements of peers. It is this type of power that is particularly interesting to narrative psychologists, as modern power is embedded in individual’s constructed realities and based on norms that have been internalized (Combs & Freedman, 2004).
Foucault studied the concept of ‘truth’ and concluded that ‘truths’ were not necessarily intrinsic, objective facts about people. Instead ‘truths’ were impacted by personal experiences and values (Combs & Freedman, 2004). Narrative therapy’s practice of externalizing the problem is a way of helping individuals examine the ‘truths’ they have defined and challenging them. Another component of narrative therapy, deconstructing existing dominant stories and creating alternative stories, can also be traced to Foucault’s post-structuralism. Foucault believed that individuals have a genealogy in which they look to the past and analyze how it was historically constructed. This genealogy becomes the dominant way in which individuals view the events of their lives and use it to understand future interactions (Besley, 2002).

*Founding fathers of narrative psychology: Michael White.* Using Foucault’s work as a foundation, Michael White modernized the study and clinical practice of narrative psychology. White viewed the client as a unique individual. While he believed psychiatric disorders existed and medication was useful in some circumstances, he chose not to focus on diagnoses. Instead, he looked at the ways in which patients created meaning from their surroundings and focused on how to help patients create a healthier way of viewing the world (Seligman, 2006).

The narrative framework holds that problems arise from faulty narratives that maintain and control a person’s life (Carr, 1998). These narratives are not just reflections of individuals’ identities and lives, rather these narratives compose individuals’ identities. “People’s perceptions determine their realities…(and) loosening and changing people’s perceptions are the best routes to facilitating their positive development” (Seligman, 2006, p. 246). If an individual internalizes a problematic narrative, narrative psychology
calls for the re-authoring of this narrative in order to alleviate problems. Re-authoring is defined as the process of challenging and re-writing one’s internal story, which facilitates taking control over one’s life (Seligman, 2006).

According to White and Epston (1990), narrative psychology includes a series of crucial components. It is theorized that in order for the problematic narrative to change, therapists must adopt a collaborative co-authoring stance in which they aid clients in the process of externalization, or viewing themselves as distinct from their problems (Carr, 1998). As Carr (1998) reviews, therapists must help clients locate periods in their lives when they were not controlled by their problems. With a focus on the outcomes of these positive time periods, client and therapist begin to ask landscape of action and consciousness questions, which refer to questions that push clients to think about the events, sequences, time, and plot details, as well as the meaning, effects, evaluation, and justification of the positive time period. For example, a landscape of action and consciousness question might be, “What specifically did I say to my best friend that allowed her to hear me instead of arguing with me?” The next step involves using these positive outcomes as a model for other negative events in clients’ lives and re-authoring these negative events based on what happened in more positive time periods. In the above example, if the patient remembered that she said to her friend, “I am so sorry that happened to you. What can I do to support you through this difficult time?” she might use similar language the next time she feels attacked by her friend with the hope of evoking a positive outcome. In her traditional narrative, she would have become defensive and argued with her friend. Clients have now created an alternative narrative to their traditional, maladaptive narrative. This alternate narrative makes clients feel more
powerful than the actual problem that was previously dictating their lives. Asking significant individuals in clients’ lives to support them as they adopt this new narrative helps to solidify the narrative and hold clients accountable. Literary practices, including written accounts of the new narrative, are implemented at this stage to cement the new narrative and help others learn from their experiences (Carr, 1998).

The narrative perspective frames the basis of journal writing. Narrative psychology allows for individuals to externalize their problems (Seligman, 2006), and journal writing is the vehicle that provides the necessary structure for individuals to access emotionally charged topics, making them easier to manage. For adolescents, it is important for them to feel as if they have some control of the therapeutic process and narrative therapy emphasizes the fact that their “voice” is what is most important in determining the course of their lives (White & Murray, 2002). Narrative psychology facilitates therapeutic discovery by helping individuals to challenge ingrained constructed realities and take new perspectives on their problems.

Present Study

In reviewing the relevant literature, an argument has been made for the necessity of conducting an empirically-based study targeting the emotion regulation abilities of adolescent inpatient females. Prior research identifies the efficacy of group therapy, and particularly DBT, with adolescent inpatients, as well as the promise of journal writing as an appropriate intervention for targeting emotion regulation. However, methodological limitations including the lack of reliable and valid quantitative instruments, small and uniform samples, and broad descriptions of interventions, highlight the need for more methodologically sound research with the goal of documenting efficacy.
This study aims to directly address these concerns by conducting a quantitative study that examines the efficacy of a DBT-based journal-writing group with adolescent inpatient females aimed at improving emotion regulation. The study will include a large enough sample and will obtain information regarding participant characteristics and demographics allowing the detection of significant differences and the generalization of results to other similar populations.
CHAPTER THREE: METHODS

Participants

Permission to access study participants was obtained from Ralph Buonopane, Ph.D., Director of the McLean – Franciscan Child and Adolescent Inpatient Mental Health Program at Franciscan Hospital for Children. Next, the Institutional Review Boards (IRB) at both Northeastern University and Franciscan Hospital for Children reviewed and approved the proposed study. Once the study was approved, consent forms were included in every new patient’s admission packet providing a description of the study. Upon admission to the unit, patients meet with a nurse manager and their designated case manager. The nurse managers were trained on how to administer consent procedures. The case managers were trained by the researcher on how to inform patients about the study and answer questions they may have. Upon admission, the nurse managers explained this information to patients and their guardians and had them sign consent forms if interested. Once a patient and her legal guardian gave consent to participate, the researcher and graduate research assistants reviewed her medical record.

To be eligible for inclusion in the study, patients needed to be female and between the ages of 14 and 18. In order to limit the possibility of confounding factors, it was also necessary to make restrictions based on patient diagnoses. Comorbid diagnoses are common on inpatient units and thus patients with multiple diagnoses were eligible for inclusion. The study was limited to patients with Axis I disorders including mood, anxiety, and/or somatoform disorders and did not include patients with learning disorders. This precaution was taken because learning disorders could interfere with participants’ understanding of and/or ability to complete the DBT group exercises and/or
the journal-writing tasks. Each patient is given a diagnosis upon admission to the inpatient unit by the admitting psychiatrist based on the patient’s psychiatric history and current presentation, which is recorded in their medical record. The admitting diagnosis was used for the purposes of this study to determine whether a patient was eligible for participation.

In order to determine how many participants to include, a power analysis was conducted using the G*Power software (Faul, Erdfelder, Lang, & Buchner, 2007). Independent sample T-Tests were used to directly test whether there is a significant difference within and between the experimental groups and the control groups on each of the four dependent measures. Setting the effect size at 0.35, the alpha at 0.05, and the power at 0.85, the total sample needs to include approximately 42 participants in order for the results to be statistically significant.

Setting

The McLean – Franciscan Child and Adolescent Inpatient Mental Health Program housed at Franciscan Hospital for Children operates as a short-term inpatient locked unit that treats children and adolescents ages 3 to 19. Typically, these children require comprehensive psychiatric and psychosocial evaluation and brief intensive treatment in order to stabilize functioning. Because of its location in Franciscan Hospital for Children, which is an institution that specializes in medical and rehabilitation services for children, the program has the ability to manage co-morbid medical conditions and has a track for children with developmental disabilities in need of psychiatric crisis care. All children and adolescents admitted to the inpatient acute care unit receive a diagnostic evaluation and assessment in order to determine the severity of symptoms, presenting
problems, and cognitive functioning. The treatment approach integrates case management services with family, school, and other outside support systems (McLean Hospital, 2007).

The milieu uses a cognitive behavioral treatment model and provides patients with individual, group, and family therapy, as well as school and psycho-educational services, such as life skills training. Children ages 3 to 12 reside in the latency section of the unit where they receive their own programming and staffing. The older adolescents (ages 13-19) reside in a separate area and receive their own programming and staffing on the opposite side of the unit. The schedule is quite structured for both children and adolescents. A typical day for adolescents involves school and life skills training in the morning, a series of different group therapies in the afternoon, followed by quiet alone time in their rooms, and then more evening groups before bed. Breakfast, lunch, snack, and dinner are served to all residents at scheduled times throughout the day and nutrition consultations are available for all children and adolescents, particularly those struggling with eating disorder symptoms. Group therapy includes discussion groups, expressive therapies, mind and body, sensorimotor, and relaxation groups. These groups are lead by case managers, mental health staff, and/or psychology graduate interns. The patients also have meetings throughout the day with their psychiatrist, case manager, family, and individual therapist (graduate psychology intern) (McLean Hospital, 2007).

Materials

Dr. Buonopane granted permission for the researcher to use a small conference room within the inpatient unit as a space to run the study and collect data. The conference room has a white board, large table, and comfortable chairs for both the
participants and the researcher to use during each meeting. The researcher provided all group materials including pens, pencils, and paper necessary to complete each task within the DBT-based journal-writing group intervention.

Measures

Demographic Information

Demographic information was taken from participants’ admission form, which asks questions about race, age, diagnoses, and number of psychiatric admissions, for example. This information was tracked for all participants and was used to identify if any confounding factors existed in the sample.

Dependent Variables

Toronto Alexithymia Scale – 20 (TAS-20)

The 20-item Toronto Alexithymia Scale is one of the most widely used instruments to measure the construct of emotional awareness. The TAS-20 requires participants to indicate their agreement (strongly disagree to strongly agree) with 20 statements on a 1-5 scale related to emotional awareness. Examples of such statements are “I am often confused about what emotion I am feeling” and “I am able to describe my feelings easily” (Bagby, Parker, & Taylor, 1994). The instrument generally takes five to ten minutes for participants to complete and is considered to be a relatively low-stress measure (Bagby et al., 1994).

Although it has been translated and cross-validated in normal adult populations in numerous other countries, the original English version of the TAS-20 has only been used with small samples of students and psychiatric patients in North America. According to Lundh, Johnsson, Sundqvist, and Olsson (2002), the TAS-20 is “generally acknowledged
to be the best-validated measure of alexithymia today” (p. 362). It consists of a three-factor structure that measures three related areas of alexithymia, including difficulty identifying feelings, difficulty describing feelings to others, and an externally-oriented style of thinking.

Bagby, Parker, and Taylor (1994) found that the TAS-20 demonstrated acceptable internal consistency (Cronbach’s alpha = 0.81) as did the three factors (F1 = 0.78, F2 = 0.75, F3 = 0.66) in a large sample of undergraduate students (N = 965). A slight, but statistically significant difference existed between mean scores on the TAS-20 for men and women (Men: mean = 51.14, SD = 10.40; Women: mean = 48.99, SD = 11.48; t(964) = 2.96, p < 0.01). The researchers also tested the test-retest reliability among a smaller sample of 72 undergraduate students who completed the scale three weeks apart and found it to be sound (0.77, p < 0.01).

In a second study, Bagby and colleagues (1994) administered the TAS-20 to a sample of 401 undergraduate students (159 males, 242 females) and 218 psychiatric outpatient participants (94 males, 124 females). The chi-square goodness-of-fit was significant in the student sample [x2(167, N = 401) = 502.85, p < 0.001] and in the psychiatric outpatient sample [x2(167, N = 218) = 358.07, p < 0.001]. The internal reliability coefficient of the TAS-20 for the entire sample was 0.81 and there were no significant gender differences on the measures.

According to Parker, Taylor, and Bagby (2003), there is strong support for the reliability and factorial validity of the TAS-20. In a study with 1,933 English-speaking Canadian adults (880 males, 1052 females), the TAS-20 was found to be an accurate measure of alexithymia across clinical and non-clinical populations and the internal
reliability and homogeneity of the full scale and three factors met the recommended standards. The researchers found the internal reliability coefficient for the entire sample to be significant at 0.80.

The TAS-20 was correlated with multiple self-report measures of traits related to alexithymia in order to determine convergent validity and it was not correlated with multiple self-report measures of traits unrelated to alexithymia in order to determine discriminant validity. Pearson Product-Moment correlations determined that the three factors of the TAS-20 are strongly and negatively related to the Psychological Mindedness Scale and the Need for Cognition Scale (Bagby et al. 1994). Costa and McRae (1985) used Pearson Product-Moment correlations between the Neuroticism-Extroversion-Openness Personality Inventory (NEO-PI) and the TAS-20 to determine that the TAS-20 is negatively related to the “openness to experience” personality domain. A significant positive correlation between the TAS-20 and the “neuroticism” domain on the NEO-PI was also found, specifically in reference to the tendency to experience the negative affects of anxiety, depression, and self-consciousness. These findings are consistent with existing research, which identifies that alexithymic individuals have coping deficits when dealing with stress (Parker, et al., 1993).

In a study of adult psychiatric outpatients, researchers administered both the TAS-20 and the Affect Regulation Scale (ARS) to participants. Results indicated that alexithymia was positively associated with maladaptive ways of regulating emotion, including excessive food bingeing or getting headaches, and negatively associated with adaptive behaviors, such as thinking about and trying to understand upsetting feelings or talking to a supportive person (Schaffer, 1993). Similarly, in a study of male parolees,
the researcher administered both the TAS-20 and the ARS to participants and found alexithymia to be associated with maladaptive emotional coping styles. Strongest correlations were found between alexithymia and the use of sexual and aggressive fantasies and behaviors (Beckendam, 1977).

**Difficulties in Emotion Regulation Scale (DERS)**

The DERS is a 36-item instrument used to measure individuals’ typical levels of emotion dysregulation across six separate domains. These domains include non-acceptance of negative emotions, inability to engage in goal-directed behaviors when experiencing negative emotions, difficulties controlling impulsive behaviors when experiencing negative emotions, limited access to emotion regulation strategies perceived as effective, lack of emotional awareness, and lack of emotional clarity. The DERS requires participants to indicate their agreement (almost never to almost always) with the 36 statements on a 1-5 scale related to emotion regulation. Examples of these statements include, “I am clear about my feelings,” “When I’m upset, I become out of control,” and “When I’m upset, my emotions feel overwhelming.” The higher the score on the scale, the greater the emotion dysregulation (Whiteside, Chen, Neighbors, Hunter, Lo, & Larimer, 2007).

According to Gratz and Roemer (2004), the DERS has been found to have high internal consistency (Cronbach’s alpha = 0.93), good test-retest reliability, and adequate construct and predictive validity. The researchers conducted two studies in an attempt to identify the psychometric properties of the instrument. In the first study, 357 undergraduate students of which 73% were female (n = 260) ranging in age from 18 to 55 (Mean age = 23.10 years) completed a variety of instruments aimed at measuring emotion
regulation. Of the sample, 65% identified as White, 17% as Asian, 8% as Black/African-American, 4% as Hispanic, and 6% as other. In regards to marital status and sexuality, 89% identified themselves as single and 90% identified themselves as heterosexual.

Along with the DERS, participants completed a packet of questionnaires, some of which measured emotion regulation and some of which measured unrelated constructs.

The researchers conducted a factor analysis, which indicated that a six-factor solution was most interpretable (Gratz & Roemer, 2004). Factor loadings needed to have values of 0.40 or higher to be considered meaningful, and thus 36 items achieved these statistical values. In comparing responses based on gender, the only differences were found on the lack of emotional awareness factor. On this factor, men had higher scores indicating that men reported lower emotional awareness than women (t = 3.5, p < 0.01).

In terms of internal consistency, Cronbach’s alpha was calculated and indicated high internal consistency (0.93) (Gratz & Roemer, 2004). Item-total correlations ranged from r = 0.16 to r = 0.69 with 34 of the 36 items having item-total correlations above r = 0.30. Each of the subscales also showed adequate internal consistency (Cronbach’s alpha > 0.80). To identify construct validity, the DERS was compared with a commonly used measure of emotion regulation, the Generalized Expectancy for Negative Mood Regulation Scale (NMR) as well as measures of experiential avoidance and emotional expressivity. Researchers (Gratz & Roemer, 2004) found that each of the DERS subscales was significantly correlated with the NMR as well as the experiential avoidance instrument. However, only three of the DERS subscales (awareness, clarity, and nonacceptance) were correlated with the emotional expressivity measure. In terms of predictive validity, correlations between the DERS scores and two clinically important
behavioral outcomes linked to emotion dysregulation were computed. These behavioral outcomes included frequency of deliberate self-harm and frequency of intimate partner abuse. Rates of self-harm and partner abuse did not differ significantly across gender, indicating that both males and females demonstrated relatively equal display of behavioral outcomes in response to emotion dysregulation ($x^2 = 2.62$ for self-harm and $x^2 = 2.10$ for partner abuse; $p$’s > 0.10). The correlations between the DERS score and self-harm were significant for both men and women. The overall DERS score was more highly correlated with partner abuse for men than women ($z = 2.26$, $p < 0.05$), suggesting that while a relationship between emotion disregulation and partner abuse exists for men, for women this relationship may only exist for the specific dimension of difficulty with behavioral control when distressed (Gratz & Roemer, 2004).

The researchers conducted a second study aimed at assessing the test-retest reliability of the DERS (Gratz & Roemer, 2004). The sample included 194 undergraduate students who completed the DERS; 21 individuals of this sample agreed to complete the DERS again four to eight weeks later in exchange for monetary compensation. Of this sub-sample, 62% were female and all participants ranged in age from 18 to 48 years old (Mean = 25.95, SD = 8.94). Of the participants, 67% identified as White, 24% as Black/African American, 5% as Asian/Pacific Islander, and 5% as unspecified. Results indicated that the overall DERS score had good test-retest reliability over a period of four to eight weeks ($p = 0.88$, $p < 0.01$). The test-retest reliability for the DERS subscales was adequate ranging from 0.57 to 0.89 (all $p$’s < 0.01).

Beck Depression Inventory - Short Form (BDI)
The short form of the BDI will be used to measure participants’ manifestations of depression. This 13-item version is shown to have alternate form reliability with correlations between the long and short form ranging from 0.89 to 0.97. These correlations indicate that the short form is an acceptable substitute for the long form (Beck, Rial, & Rickels, 1974). Internal consistency for the short form of the BDI ranges from 0.73 to 0.92 with a mean of 0.86 (Groth-Marnat, 1990). The BDI short form demonstrates high internal consistency, with alpha coefficients of 0.86 and 0.81 for both psychiatric and non-psychiatric populations (Beck et al., 1988).

The test-retest reliability of the BDI short form is also supported. Beck and colleagues (1961) found that independent of whether the BDI was reissued at two or six weeks intervals, participants’ scores on the inventory reflected clinical changes in the course of their depression. However, Groth-Marnat (1990) reported that test-retest reliabilities were dependent on the time period between testing and re-testing and the severity of depression in the patients, ranging from 0.48 to 0.86.

The BDI short form has also been examined in terms of validity and factor analysis. Richter and colleagues (1998) conducted a meta-analysis of studies on the psychometric properties of the BDI. They found the BDI short form to have high content validity and validity in differentiating between depressed and non-depressed people. Beck, Steer and Garbin (1988) reported that the BDI includes between three to seven factors, depending on the method of factor extraction. These factors include the reflection of negative attitudes towards the self, performance impairment and somatic disturbances, and a general factor of depression (Brown, Schulberg, & Madonia 1995).
In terms of specific types of validity, the BDI short form has shown criterion or predictive validity by discriminating the level of adjustment in seventh-graders (Albert & Beck, 1975 as cited in Groth-Marnat, 1990). Content validity was shown through a surveying of clinicians and their consensus regarding symptoms of depressed patients (Beck et al., 1961). The BDI items are consistent with six of the nine DSM-IV-TR categories for the diagnosis of major depression (Groth-Marnat, 1990). Correlations with clinician ratings of depression using the BDI range from 0.62 to 0.66 showing acceptable concurrent validity (Foa, Riggs, Dancu, & Rothbaum, 1993). Groth-Marnat (1990) reported moderate correlations between the BDI and other scales measuring depression such as the Hamilton Psychiatric Rating Scale for Depression (0.73), the Zung Self Reported Depression Scale (0.76), and the MMPI Depression Scale (0.76). In terms of convergent and discriminant validity, Groth-Marnat (1990) reported that the BDI discriminates psychiatric patients from non-psychiatric patients. Patients with major depressive disorder had relatively higher scores on the BDI when compared to patients with dysthymic disorders. The BDI has also been used to discriminate loneliness, stress, and self-reported anxiety, even when individuals’ scores are not high enough to indicate clinical depression (Groth-Marnat, 1990).

Suicide Probability Scale (SPS)

The SPS is a 36-item self-report instrument designed to assess suicide risk in individuals 14 years-old and older. Using a 4-point Likert scale (from none or a little of the time to most or all of the time), respondents are asked to rate the “frequency of their subjective experience and past behaviors” (Cull & Gill, 1988, p. 2). The instrument is then scored to evaluate general and specific suicide risk along various dimensions. An
overall suicide risk score is calculated along with four clinical subscale scores. These subscales include Hopelessness, Suicide Ideation, Negative Self-Evaluation, and Hostility. A high score on a particular subscale indicates a high level of assessed risk on the particular dimension. According to the authors (1988), it is appropriate to administer the SPS in a group setting and it is typically used in psychiatric inpatient settings. In addition to assessing suicidality, the SPS can provide information regarding the respondent’s typical coping strategies and defense mechanisms (Cull & Gill, 1988).

Thus far, the SPS has been used with a variety of adolescent samples. These samples include high school students (Osman, Downs, & Kopper, 1998; Tatman, Greene, & Karr, 1993), adolescents visiting a health clinic (Cappelli, Clulow, & Goodman, 1995), adolescents who had been physically abused (Kaplan, Pelcovitz, & Salzinger, 1998), adolescents living in group homes (Larzelere, Smith, Batenhorst, & Kelly, 1996), and psychiatrically hospitalized adolescents (Osman, Kopper, & Barrios, 1996).

In regards to reliability, the test-retest reliability of the SPS for two mixed age groups was high ($r = 0.92$ and 0.94; $p < 0.001$) (Cull & Gill, 1988). However, somewhat lower test-retest reliability was found for specific subgroups (i.e., $r = 0.84$ for Hispanic males) suggesting that the SPS is not subject to situational variability. Internal consistency calculations were made separately for even and odd items for the total scale (alpha = 0.93 and 0.93) and for each subscale (Hopelessness: alpha = 0.85 and 0.86; Suicidal Ideation: alpha = 0.89 and 0.89; Negative Self-evaluation: alpha = 0.68 and 0.62; Hostility: alpha = 0.76 and 0.75) (Cull & Gill, 1988). Internal consistency calculations in a high school sample indicated relatively similar findings (total scale: alpha = 0.90;
Hopelessness: alpha = 0.78; Suicidal Ideation: alpha = 0.86; Negative Self-evaluation: alpha = 0.59; Hostility: alpha = 0.66).

In terms of validity, the SPS has demonstrated construct validity. Concurrent validity was assessed in an adolescent inpatient sample. When compared to the BRFL-Adolescent version (Osman et al., 1996), the SPS correlated negatively with the Survival and Coping Beliefs, Responsibility to Family, and Moral Objections subscales and the total score. SPS scores were found to be negatively correlated with all of the Reasons For Living Inventory -Adolescent version scales in a high school student sample (Osman et al., 1998). In other student samples, researchers have found SPS scores to be related to decreased social support and death anxiety (D’Attilio & Campbell, 1990; D’Attilio et al., 1992). Predictive validity was assessed in a sample of adolescents living in a group home. The researchers determined the SPS scores were predictive of future suicide attempts, suicidal verbalizations, and some self-destructive behaviors (Larzelere et al., 1996).

Content validity was assessed by examining item-subscale and item-total correlations. For the subscales, the average item-scale correlations ranged from 0.51 for Negative Self-evaluation to 0.75 for Suicide Ideation. Correlations were highest between an item and the subscale to which the item belonged. However, most items also correlated significantly with the other subscales as well, suggesting that the items for the total SPS score are highly correlated.

Most recently, Huth-Bocks, Kerr, Ivey, Kramer and King (2007) examined the validity and clinical utility of the SPS among other suicide assessment instruments longitudinally with a sample of inpatient adolescents. Between 1998 and 2000, the
researchers administered self-report measures of suicidality to 289 psychiatrically hospitalized youths between the ages of 12 and 17. Results indicated that all of the measures predicted follow-up suicidality and suicide attempts. However, the SPS was found to be the most highly sensitive predictor of subsequent suicide attempts (p < 0.001).

**Independent Variable**

The independent variable was the DBT-based journal-writing group intervention. This intervention consisted of four one-hour group therapy sessions over the course of four consecutive days. The psychoeducation component of the group intervention is based on the major principles of the DBT emotion regulation skills module. While DBT was originally designed as a modality for treating individuals with Borderline Personality Disorder, the treatment has been used with many different populations and has demonstrated effectiveness with inpatient populations (Barley et al., 1993; Springer, Lohr, Buchtel, & Sickl, 1996). Parts of the DBT emotion regulation skills module have been borrowed and adapted according to the best fit for the adolescent female inpatient population in this study. The researcher developed original discussion questions and journal writing exercises to accompany the DBT skills training protocol (See Appendix A). It is believed that together, the DBT principles of emotion regulation and the accompanying journal writing exercises will assist participants in the process of learning to better regulate their emotions during their brief hospital stay.

**Procedures**

Data collection lasted from March 2008 until March 2009. On the day of admission, every new patient received a consent letter in her admission packet providing
a description of the study. Nurse case managers explained the study and consent procedures to patients and their guardians and had them sign the consent forms if interested. Case managers, who were trained by the researcher, were then available to answer any questions participants had regarding the study. If the patient and her legal guardian gave consent to participate by signing both the consent and assent letters, the researcher or a graduate research assistant then conducted a screening of her file. If patients met the inclusion criteria (sex, age, diagnoses) and were deemed eligible to participate, they were then assigned a number and were entered into the experimental group. The experimental groups were run first over a four-month period. Their number was used on all materials included in the study, aside from their consent/assent forms. This was to ensure that the confidentiality of all participants was protected. During the collection of the experimental data, the researcher recruited three to seven eligible participants all arriving within five days of one another by visiting the unit daily until enough participants had been recruited. The aim was to recruit participants who were still relatively new to the inpatient unit, so as to minimize the influence of other variables on their performance in the group. Once enough participants were recruited, the intervention began. The intervention group met for one hour per day over the course of four consecutive days. The participants were told of the group schedule with the designated meeting times on day one of the intervention. The first experimental group recruited served as a pilot condition and data from this group was not included in the final analysis. This was done to identify and fix any logistical and procedural issues that arose during the first intervention trial.
At the start of the first experimental group meeting, the researcher introduced herself and briefly reviewed the information in the participants’ consent/assent letters. Participants were reminded that they could choose to drop out of the study at any time without having to provide an explanation. Next, all participants completed the four quantitative measures (DERS, BDI, TAS-20, SPS). These scores served as their pretest measures of emotion regulation abilities, depressive symptoms, and suicidal ideation. Then, the experimental intervention began. At the end of the four day group intervention (See Appendix A), all participants again completed the four quantitative measures (DERS, BDI, TAS-20, SPS). These scores served as their posttest measures of emotion regulation abilities, depressive symptoms, and suicidal ideation. Participants’ numbers were written on the pre and posttest measures in order to protect confidentiality. Participant names appeared only on the consent/assent forms.

After the experimental data was complete, the control groups began. While the control groups were originally intended to be attentional, video control groups, after considerable delays and difficulty getting participants to stay for the duration of the video control groups, the decision was made to use treatment as usual (TAU) groups instead. The TAU groups consisted of participants attending their regularly scheduled morning Life-Skills group for four consecutive days. The four measures were administered to participants at the beginning of the Life-Skills group on Day 1 of the group during their first full week on the unit, and served as their pre-test measures. After the completion of Day 4 of the Life-Skills group, the four measures were administered again to participants and served as their post-test measures. After the considerable delay and making the decision to change from attentional control groups to TAU control groups, data
completion for the TAU groups took approximately four months. Four graduate student research assistants, trained by the researcher, administered all of the pre and post-test measures to the TAU groups and recorded participants’ demographic information.

Over the course of the stay in the inpatient unit, all participants engaged in the typical hospital program treatment. This treatment included individual therapy with a psychiatrist and graduate level psychology intern, case management and family work with a licensed social worker, daily group therapy on the milieu, attendance at school, and participation in life skills programming. This was in order to ensure that all participants received the same type of treatment during their hospital stay.

At the completion of the group, all participants received a letter debriefing them as to the aim of the study and how their participation contributed to the research. Any further questions or comments regarding their participation in the study were welcomed. Participants were told they could contact the inpatient program director, Ralph Buonopane, Ph.D., if they needed assistance with any immediate questions or concerns. It was never necessary, but Dr. Buonopane would have then immediately contacted the researcher and passed on these questions or concerns.

Study Design

Participants were part of an intervention and were assigned to the group based on the identified inclusion criteria in an experimental design. The aim of the study was to assess the main effects of the independent variable, the DBT-based journal-writing group, on the outcome measures, the BDI, TAS-20, SPS, and DERS, between the experimental and TAU control groups. In this design, the researcher measured any changes in participants’ depressive symptoms, suicidal ideation, and emotion regulation abilities.
after participating in the treatment. The researcher also measured any differences between changes in depressive symptoms, suicidal ideation, and emotion regulation abilities of the experimental groups and the TAU control groups. This was done by analyzing the pre- and post assessment data.

Data Analysis

Data analyses consisted of testing whether there were significant differences between the experimental and TAU control group participant responses on the BDI, SPS, TAS-20, and DERS at pre- and post-intervention. To analyze the data, the researcher used a paired sample t-test to evaluate the scores that satisfied the parametric assumptions (BDI, TAS-20, DERS) while a non-parametric Wilcoxon signed rank test was used to evaluate the scores that violated the parametric assumptions (SPS). T-tests are a widely used parametric statistical test for examining differences between groups when there is homogeneity of variance in the groups, independence of observations, and a normal distribution (Cone & Foster, 2006). The Wilcoxon signed rank test is a non-parametric test that looks for differences between two related samples (Field, 2005). All participants were relatively similar in terms of diagnoses, age, and gender (all female), meeting the assumption for homogeneity of variance across participants.

The changes in the scores from pre- to post-treatment between the groups where then compared. The changes in scores were computed by subtracting the post-treatment scores from the pre-treatment scores. These change scores were then tested for parametric assumptions. The change scores for the BDI and DERS satisfied parametric assumptions while the change scores for the TAS-20 and SPS violated normality in the distribution. An independent t-test was used to evaluate if there was a significant
difference between the BDI and DERS change scores of the experimental and the control group. The non parametric Mann Whitney t-test was used to evaluate the pre- and post-treatment scores that violated parametric assumptions. The Mann Whitney t-test is a non-parametric test that looks for differences between two independent samples (Field, 2005).

The mean, standard deviations, t scores and the $p$ values were reported for the scores that satisfied the parametric requirements. The median, range, $z$ score and the $p$ values were reported for the scores that violated the parametric assumptions. Statistical significance was reported at $p<.05$. 

CHAPTER FOUR: RESULTS

Results

Description of the Sample

Participants in the study were adolescent females admitted to the psychiatric inpatient unit (McLean – Franciscan Child and Adolescent Inpatient Mental Health Program at Franciscan Hospital for Children) over the course of one year (March 2008-March 2009). Forty-seven participants consented to participate and enrolled in the study. Of those forty-seven, forty participants completed the study protocol and were included in this analysis. Of the seven who were not included in the analysis, five were discharged from the unit prior to the completion of data collection and two opted out of completing the final post-test measures. Of the forty total participants, nineteen were in the control group and twenty-one were in the experimental group.

Descriptive Statistics

The descriptive statistics of the participants included in the analysis are summarized in Table 1. Participants were between the ages of 14 and 18 with a mean age of 15.63 years old in the control group (SD = 1.38) and a mean age of 15.86 in the experimental group (SD = 1.46). The overall median age for the entire sample was 16 years. In terms of race/ethnicity, the sample was composed of primarily Caucasian females (n = 31, 78%). The remainder of participants were African-American (n = 5, 13%) and Hispanic/Latina (n = 4, 10%). The mean number of prior psychiatric admissions, including the current admission, for the control group was 2.47 (SD = 1.87) and the mean number of prior psychiatric admissions, including the current admission,
for the experimental group was 2.62 (SD = 2.52). The overall median number of prior psychiatric admissions for the entire sample was 1.5.

Next, the means at pre-test of the control and experimental groups on each of the four measures and each of the descriptive variables were analyzed. These pre-test variables were tested for parametric assumptions. Specifically, the Kolmogorov-Smirnov test was used to determine if the distribution of the variables deviated significantly from a normal distribution. The Kolmogorov-Smirnov test is used to determine whether two groups differ significantly and it has the advantage of making no assumption about the distribution of data (Field, 2005). After examining the distribution, Levene’s test was then used to test for homogeneity of variance, testing the hypothesis that all standard deviations (or equivalent variances) are equal against the alternative that the standard deviations are not all equal (Field, 2005). After conducting the tests of normality and homogeneity, results indicated that participants’ age and the number of admissions were not normally distributed. In addition, all pre-test scores satisfied the parametric assumptions except for the Suicide Probability Scale (SPS) measure, which violated the assumption of normality and homogeneity. Hence, non-parametric tests were required for analysis of this variable.

Preliminary analyses were conducted in order to determine if there were differences in the descriptive variables discussed above (i.e., age, race/ethnicity, number of prior admissions) between the control and experimental groups at pre-test. The race/ethnicity variable satisfied the normal distribution and hence, a chi-square test was used. Results indicated that there were no significant differences between the two groups for race (Caucasian: \(X^2 = .088, \text{df} = 1, p < .05\), African-American: \(X^2 = .204, \text{df} = 1, p < .05\).
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.05, Latino: $X^2 = .342, df = 1, p < .05$). The Mann-Whitney test was used to evaluate if there were differences between the control and experimental group in age and number of prior admissions because these variables did not satisfy the normal distribution. Results indicated that there were no significant differences between the two groups for age ($X^2 = .649, df = 1, p < .05$) and prior admissions ($X^2 = .649, df = 1, p < .05$).

The analyses indicated that there were no significant differences between the control and experimental groups in terms of descriptive statistics.

Initial Analyses

The pre-test scores on the outcome variables were compared to determine whether there were statistically significant differences in scores between the groups at pre-test. These pre-test scores are summarized in Table 2. The results showed slightly higher means for the BDI and TAS-20 and a higher median for the SPS in the experimental group; however, these differences were not statistically significant (BDI: control M = 16.6, exp. M = 17.9, TAS-20: control M = 56.0, exp. M = 61.1, SPS: control Median = 71.0, exp. Median = 72.0). Thus, the control group and experimental group had similar scores on the four instruments at pre-test. In summary, the results in Tables 1 and 2 suggest that the two groups are comparable on both demographic and pre-test variables.

Comparison of Pre- to Post-Test Data

Within Groups

Table 3 summarizes the results of the comparison of pre- to post-test data within the control group. Paired-sample t-tests were used to compare the scores from pre- to post-test on the three measures that satisfied the tests of normality and homogeneity (i.e.,
BDI, TAS-20, and DERS). There were no significant changes in the scores from pre- to post-test on each of these three measures (BDI: t = 1.3, p = .198, TAS-20: t = 0.5, p = .649, DERS: t = 1.4, p = .187). The Wilcoxon Signed Ranks Test was used to compare the scores from pre- to post-test on the SPS, which did not satisfy the tests of normality and homogeneity. There were no significant changes in the scores from pre- to post-test on the SPS (z = -.1, p = .887). Thus, no significant differences were found from pre- to post-test on any outcome variable in the control group.

Table 4 summarizes the results of the comparison of pre- to post-test data within the experimental group. Paired-sample t-tests were used to compare the scores from pre- to post-test on the three measures that satisfied the tests of normality and homogeneity (i.e., BDI, TAS-20, & DERS). There were significant changes in the scores from pre- to post-test on two of these three measures (BDI: t = 4.3, p = .000, DERS: t = 2.9, p = .009) and a trend level difference on the third measure (TAS-20: t = 2.0, p = .058). The Wilcoxon Signed Ranks Test was used to compare the scores from pre- to post-test on the SPS, which did not satisfy the tests of normality and homogeneity. There was a trend-level change in the scores from pre- to post-test on the SPS as well (z = -1.9, p = .053). The results from the pre- to post-test comparison in the experimental group showed improvements in all four outcome measures. In sum, there were statistically significant differences between the mean scores of the BDI and DERS from pre- to post-treatment at p<.05. The TAS-20 and SPS showed borderline significance at p = .058 and p = .053, respectively.
**Between Groups**

Table 5 summarizes the results of the comparison of pre- to post-test data between the control and experimental group. Both the BDI and DERS satisfied the tests of normality and homogeneity and hence, independent sample t-tests were used. A significant change relative to the control group was found for the BDI ($t = -2.5, p = .019$). No significant change was found from pre- to post-test on the DERS ($t = -1.5, p = .133$). Neither the TAS-20 nor the SPS satisfied the tests of normality and homogeneity and hence, the Mann-Whitney Test was used. No significant changes were found from pre- to post-test on either measure (TAS-20: $z = -.9, p = .390$, SPS: $z = -1.5, p = .145$).

**Hypotheses**

Hypothesis 1, which stated, “relative to typically functioning adolescent females, inpatient adolescent females’ emotion regulation abilities will be low and depressive symptoms and suicidal ideation will be high as measured by the Toronto Alexithymia Scale – 20, Difficulties in Emotion Regulation Scale, Beck Depression Inventory, and Suicide Probability Scale upon admission to a psychiatric inpatient unit,” was partially confirmed. Results indicated that participants in the study on average exhibited high scores at pre-test on three of the four measures across groups (BDI: control $M = 16.63$, exp. $M = 17.90$; DERS: control $M = 120.58$, exp. $M = 116.86$; SPS: control $M = 67.37$, exp. $M = 69.74$). On each of these three measures, participant pre-test scores fell above the expected norms for participants in this age range. The one exception was on the TAS-20. Participant scores at pre-test on the measure fell within the moderate range rather than the high range as predicted by Hypothesis 1 (TAS-20: control $M = 56.00$, exp. $M = 61.14$).
Hypothesis 2 stated, “inpatient adolescent females’ ability to regulate emotions will increase to a greater extent and depressive symptoms and suicidal ideation will decrease to a greater extent after participating in a DBT-based journal-writing group intervention when compared to adolescent females who do not participate in the intervention.” This hypothesis was also partially confirmed. As discussed above, changes from pre- to post-test scores within the experimental group were significant for all four measures, whereas these changes were not significant from pre- to post-test on any of the measures in the control group. This suggests that adolescents in the experimental group experienced benefits from the intervention whereas scores on these measures did not change for adolescents in the control group. However, this hypothesis was only partially confirmed because when comparing the pre- to post-test scores between groups, significant differences were only found on the BDI. While scores on the other three measures decreased from pre- to post-test, the differences between the experimental and control group did not reach statistical significance. This was likely due to a lack of power to detect significant differences, based on the small sample size. This point will be discussed in more detail later in the discussion. Thus, it appears that the DBT-based journal-writing intervention was effective at minimizing depressive and suicidal symptoms and increasing emotional regulation abilities in adolescent females on an inpatient unit, although additional research with larger samples will be necessary in order to adequately test this hypothesis with sufficient power.
CHAPTER FIVE: DISCUSSION

Summary

The present study indicated that a DBT-based journal-writing group was more effective at decreasing depressive symptoms and suicidal ideation and increasing emotion regulation abilities than not participating in such a group for adolescent females on a psychiatric inpatient unit. In analyzing the demographic characteristics of the control and experimental groups, it was determined that there were no significant differences between the two groups in terms of age, race, and number of prior psychiatric admissions. This was important as it made possible the comparison of the groups on the pre- and post-test measures. As reported, results indicated significant differences from pre- to post-test on each of the four measures within the experimental group and no significant differences from pre- to post-test on the four measures within the control group. That is, participants in the experimental group experienced significant decreases in suicidal ideation and depressive symptoms and significant increases in emotion regulation abilities, whereas participants in the control group did not experience significant change. When changes in pre- to post-test scores were compared between the control group and the experimental group, significant results were found only for the BDI. That is, BDI scores in the experimental group decreased from pre- to post-test, whereas BDI scores in the control group remained the same.

Although statistical significance was only found on one measure, pre- to post-test scores on all outcome measures increased in the expected direction in the experimental group. It is likely that the small sample size, although large enough to detect differences according to the power analysis conducted prior to data collection, was actually not large
enough to detect differences between the control and experimental group. While the pre-
to post-test scores increased in the expected direction, the power or level of sensitivity of
the intervention was not great enough for the increases in scores to achieve statistical
significance between groups. However, finding significance within the experimental
group from pre- to post-test on all four measures highlights the clinical utility of using a
DBT-based journal-writing group with this population. These findings add to the
literature by providing quantitative evidence to an area of research that has been mostly
dominated by small case studies and limited statistically significant findings.

Previous Research

The present findings are consistent with those of studies indicating that DBT is an
effective intervention for treating adolescents with mental health problems, including
depression and suicidal tendencies (Miller et al., 1996; Nelson-Gray et al., 2005; Rathus
& Miller, 2002; Sunseri, 2004; Telch et al., 2001). They are also consistent with studies
indicating that journal writing is a useful technique to treat adolescents struggling with
depression and other mental health problems (Frayne & Wade, 2006; Pennebaker, 1997;
Schmidt, Bone, & Hems, 2002; Soliday et al., 2004; Stice, Burton, Bearman, & Rohde
2006). They add to the literature by bridging these two areas of previously separately
studied interventions together and by providing quantitative evidence for the
effectiveness of such groups.

In regards to the effectiveness of DBT with adolescents, research is in its early
stages. Results thus far demonstrate that making developmentally appropriate
modifications to the traditional DBT protocol originally designed to be used with adults
can help to decrease suicidal and parasuicidal behavior, the number of psychiatric
hospitalizations, treatment dropout rates, binge episodes, and Oppositional defiant disorder (ODD) symptoms, and increase interpersonal effectiveness in adolescent populations (Miller et al., 1996; Nelson-Gray et al., 2005; Rathus & Miller, 2002; Sunseri, 2004; Telch et al., 2001). In looking specifically at previous studies that measure similar constructs as tested in this study, consistent findings emerge. Specifically, in Miller and colleagues’ (1996) study of the efficacy of a modified, adolescent version of DBT with depressed and suicidal adolescents, the researchers found that when compared to participants in the treatment as usual (TAU) group, the DBT participants had significantly higher treatment completion rates and fewer psychiatric hospitalizations, indicating that DBT participants experienced greater benefits than being in a TAU group. Additionally, in comparing levels of suicidality (measured by tracking suicidal attempts and suicidal statements post-treatment for a brief period of time) between groups, the researchers found that even though the DBT participants had greater dysfunction before treatment, they were no more suicidal than the TAU patients after treatment.

Similar results were found when Rathus and Miller (2002) replicated this study. They found that when compared to participants in the TAU group, the DBT participants had significantly higher treatment completion rates and fewer psychiatric hospitalizations. While results were not significant for the instances of suicide attempts, participants in the DBT group were identified initially as having a higher risk for suicidality when compared to TAU participants. Results showed that DBT participants were at least no more suicidal than TAU participants at post-test.
While initial data from these studies supports the use of DBT with suicidal adolescents, the present study expands on these findings by showing that participants in a modified DBT group actually experienced decreases in suicidality as measured by the SPS, whereas participants in a TAU group did not experience any significant changes in suicidality. In hypothesizing why the present study led to actual decreases in suicidality, it is speculated that the supplemental journal writing exercises provided participants with an additional outlet for processing the skills learned in the DBT portion of the group and applying these skills to their own lives. It is believed that the combination of teaching didactic emotion regulation skills through DBT and then offering opportunities to process these skills on a more personal level in a private and safe way through journal writing may make the connections between learned skills and real life more apparent for these adolescents. In looking specifically at the link between suicidality and journal writing, suicidal ideation and depression can be shameful and difficult topics for adolescents to discuss (Rathus & Miller, 2002). Thus, it is believed that the journal entries allowed for participants to explore personal thoughts and experiences with suicidality in a non-public way. That exploration may have led to a decrease in suicidal thinking, at least as measured by the Suicide Probability Scale.

Research on the efficacy of journal writing as a form of treatment for adolescents with mental health difficulties is also in its early stages. Results from studies thus far indicate that journal writing can lead to decreases in depression, distress, and negative affect, decreases in the level of distress in eating-disordered populations, and increases in positive disposition in high-risk adolescents (Frayne & Wade, 2006; Pennebaker, 1997; Schmidt, Bone, & Hems, 2002; Soliday et al., 2004; Stice, Burton, Bearman, & Rohde
It is speculated that the private forum of journal writing provides individuals the opportunity to think about the DBT skills learned and apply them to their own personal experiences. As discussed, because suicidality and depression can be experienced as shameful and challenging to explore openly, journaling allows individuals to process and reflect on feelings of depression and suicidality on their own terms. It is this opportunity for private reflection and processing that is believed to contribute to decreases in depression and suicidality. Thus, these findings add further support for using journal writing as an adjunct to DBT.

In looking specifically at the studies that measure similar constructs as the present study, consistent findings emerge. Specifically, in Pennebaker’s (1997) study of the effects of journal writing on college students, results indicated that participants in the journal writing groups displayed increased immune functioning and lower levels of depression over the course of one year. While participants’ mood tended to decrease during the writing process, when questionnaires were administered two weeks after the study, participants in the experimental group reported feeling happier than those in the control group. Pennebaker found that individuals who wrote about deep emotional thoughts and feelings experienced greater decreases in depression, as measured by the BDI, than those who wrote about superficial and benign subject matters. In relating these findings to the present study, similar patterns were observed. After reviewing participants’ journals, it was observed that participants in the experimental group used the journal writing exercises to explore deep thoughts and feelings related to the subject matter discussed in the DBT portion of the group. Not only did the journal entries discuss past experiences and how these experiences contributed to participants’ emotional
responses, they also explored how participants could use the newly learned DBT skills to respond differently to similar events in the future. For example, one participant, “Jane” wrote about a recent event where her mother promised to bring her food when she visited her at the hospital. Jane’s mother forgot the food, and she became angry and explosive towards her mother, telling her to leave and that she did not want her to visit. In reflecting back on this incident in her journal entry, Jane was able to employ the DBT concept of secondary emotions, which she learned in the group that day. Jane realized that her anger was actually connected to feeling helpless and worthless, and as though she did not matter to her family. When she explored these feelings in her journal, Jane came to understand that it was underlying feelings of sadness that really drove her outward expression of anger. Jane vowed to try and identify how she is feeling if a similar event should arise in the future, so that she can hopefully not be so reactive. Thus, while the journals contained an exploration of difficult feelings, there was also a hopeful quality to the entries in that participants now had new ways of managing these difficult feelings should they arise again.

Soliday and colleagues (Soliday, Garofalo, & Rogers, 2004) found similar results when they examined the effects of the Pennebaker paradigm (1997) on suburban middle school students’ somatic symptoms, distress, and positive psychological functioning. Results indicated that scores on psychological distress decreased and positive disposition scores increased for adolescents writing about emotional topics compared to those writing about neutral topics. Even though the samples differed in terms of age and setting, taken together, these findings are consistent with findings from the present study that showed that participants in the experimental group who wrote about their emotions
experienced greater decreases in depressive symptoms, as measured by the BDI, when compared to those in the control group who did not engage in journal writing exercises. These findings suggest that journal writing can be an effective intervention across different populations and settings.

Stice, Burton, Bearman, and Rohde (2006) studied the effects of interventions to decrease depressive symptoms in high-risk adolescents and found that a variety of intervention strategies were effective at decreasing depressive symptoms. Participants were divided into four different treatment groups including a CBT group, process group, bibliotherapy group, and an expressive writing/journaling group. At post-treatment, individuals in all groups experienced decreases in depressive symptoms, leading researchers to conclude that there are multiple intervention strategies that are useful for decreasing depressive symptoms in adolescents. Researchers speculated that finding a way to combine intervention strategies may lead to even greater decreases in depressive symptoms in adolescent participants. Such speculation served as the impetus for the present study. Stice and colleagues (2006) explored how multiple approaches versus a single approach may lead to greater improvements in depressive symptoms. The present study expanded on this idea by researching the efficacy of two interventions (DBT and journal writing) typically used on their own to treat depressive symptoms. Previous research on both of these interventions showed promising results. In looking more closely at the ways in which these interventions achieved beneficial results, DBT and journal writing appeared to address depressive symptoms from different angles. As discussed, DBT uses a didactic, skills-based approach to teach individuals better ways to understand, tolerate, and manage their negative emotions. Journal writing uses a more
qualitative means for exploring the causes and triggers of negative emotions and how these emotions lead to negative behaviors. Journal writing provides the individual with the opportunity to examine their typical patterns of responding to negative emotions and explore alternative ways to respond in the future. It was believed that combining these two approaches would allow for a more comprehensive approach to targeting depressive symptoms: a skills-based approach combined with a qualitative approach that allows individuals to connect the skills learned to personal experiences. It is this combination of learning skills and applying skills to one’s own experience that is believed to have led to greater decreases in depressive symptoms in the experimental group than the control group.

Clinical Implications

The clinical implications of the present study add further support to a growing area of research. As discussed above, prior research has begun to document the efficacy of both DBT and journal-writing interventions as a means to improve the symptoms of adolescents struggling with mental health difficulties. The current study is the first of its kind to combine both interventions into one treatment protocol. Results indicated that a modified DBT curriculum in conjunction with journal-writing exercises produced decreases in suicidal ideation and depressive symptoms and increases in emotion regulation abilities in inpatient adolescent females. These findings point to the clinical utility of such an intervention in a setting which is brief in length but critical to patients’ stabilization and wellness.

Typically, many adolescents who require inpatient treatment have demonstrated suicidal ideation and/or depressive symptoms (Ehrlich et al., 2004; Evans & Frank, 2004;
Mash & Barkley, 1996; Pottick et al., 2000; Singh, 1994). They are admitted to inpatient units as a means of stabilizing their functioning as efficiently as possible so they can be returned to the care of their outpatient team. Research shows that the major focus of treatment on inpatient units is medication management (Blanz & Schmidt, 2000). The present study demonstrates that therapeutic gains, in addition to psychopharmacological treatment, are possible in a short-term stay. Adding DBT-based journal-writing groups to the existing treatment on inpatient units is one way to maximize treatment benefits while adolescents are hospitalized. In addition, it is speculated that the skills learned during such a DBT-based intervention are carried with patients when they transition back to their home lives, and potentially may contribute to their continued recovery.

In thinking about the feasibility of adding such groups to current inpatient protocols, few difficulties are anticipated. Presently, the majority of adolescent inpatient programs consist of scheduled therapy groups throughout the day. Setting aside time to run a DBT-based journal-writing group would likely fit into the typical flow of the program and not feel drastically out of the ordinary for patients. Given that this study showed significant decreases in depressive symptoms and suicidal ideation and increases in emotion regulation abilities, such groups have direct clinical implications for potentially maximizing patients’ time spent in inpatient hospitalizations. A primary goal of inpatient hospitalizations for adolescents is to stabilize functioning through decreasing depressive symptoms and suicidal ideation; hence, the results of the present DBT-based journal-writing group, coincides directly with the purpose of inpatient hospitalizations.
Study Limitations & Future Directions

The primary limitation of this study is a possible lack of power to detect between-groups differences due to small sample sizes. Having collected data from a larger sample would have likely increased the power of the study, which may have resulted in finding significant differences between the experimental and control group on additional measures. Additional limitations impacting data collection included the sampling technique used to assign participants to groups, the lack of an attentional-control group, and dealing with premature discharges. Participants were placed into experimental or control groups based on the date of admission to the unit; hence, those admitted towards the beginning of data collection automatically joined the experimental group and those admitted towards the end of data collection automatically joined the control group. Employing a more randomized approach to selecting participants for each group (i.e., alternating the running of control and experimental groups or simultaneously running experimental and control groups) would have accounted for any possible differences in the type of treatment provided on the unit during a given time period. The use of an attentional-control group in addition to the TAU control group would have provided another means for identifying whether any treatment gains can be observed simply by meeting with patients for a specified amount of time during their inpatient admission. While this was the original intention of the present study, logistically, it was more expedient to run TAU groups instead. Finally, premature discharges (i.e., participants who were discharged from the hospital earlier than expected) led to incomplete data sets and potential changes in group dynamics. Having such participants complete post-test data upon discharge may have been useful in identifying whether any participation in a
DBT-based journal-writing group, even if it was not for the designated four days, was helpful at decreasing depressive and suicidal symptoms and increasing emotion regulation abilities.

Future research should expand on the present study by replicating the methodology with a larger sample size. Given that the scores for the experimental group showed greater changes from pre- to post-test than the scores for the control group from pre- to post-test, it is speculated that significant changes between the control and experimental group on all of the measures, not just the BDI, would have been observed had the size of the groups been slightly larger. Sample size is critical because of design sensitivity, which “refers to the likelihood that an effect, if present, will be detected,” (Mertens, 1998, p. 272). The ability to detect statistically significant differences is related to the amount of variability on the dependent measures (BDI, TAS-20, DERS, SPS); the smaller the variability, the greater the sensitivity of the intervention and the larger the sample size, the less variability there will be. Thus, in determining the sample size it is important to assess what is the smallest sample size that can be used that will take into account the variability in the dependent measures and still be sensitive enough to detect a statistically significant difference, if one exists (Mertens, 1998). To determine the level of sensitivity, a power calculation is performed. Power is defined as “the probability that statistical significance will be attained given that there really is a treatment effect.” (Mertens, 1998, p. 273). Increasing the size of the sample in future research will increase the power or sensitivity of the intervention, allowing for the detection of small, but significant effects that were not recognized as significant with a sample size of 40 participants.
Having a large enough sample is particularly important to have the necessary power to detect small effect sizes, find significance between groups, and allow these findings to be generalized to other settings. A sufficient sample size is critical because when measuring a group of individuals, the group needs to be large enough that it is representative of other individuals with similar characteristics. In examining further the issue of generalizability, it may also be useful to recruit participants from a variety of adolescent inpatient units in order to ensure that the success of the intervention was not primarily due to the specific site where the study was conducted. It would be important to assess whether the characteristics of multiple samples are consistent across sites. In addition, having a larger pool to recruit from would allow researchers to simultaneously conduct experimental and control groups on each unit, which would ensure that participants were experiencing the exact same treatment on the milieu with the exception of their assignment in either group.

Conducting a longitudinal study where participants are tracked after their discharge from the inpatient unit and administered the same measures at three, six, and twelve months post-discharge, would also likely add value to the findings. Such follow-up measures would enable researchers to assess whether gains made from the treatment intervention during their admission were maintained after discharge. This would require researchers to stay in contact with participants and could be difficult due to logistical constraints (i.e., participants moving, no longer being interested, finding a way to administer measures in a controlled setting); however, if the sample were large enough, any follow-up responses gained could provide insight into participants’ long-term recovery.
The addition of multiple intervention group facilitators may be important in future research to reduce the effect of potential bias. In the present study, only the primary researcher conducted all of the experimental groups. Having multiple facilitators all trained to deliver the DBT-based journal-writing group in the same way would eliminate the possibility that participants improved on the measures simply due to the fact that they liked their particular facilitator. It would also ensure that it is the content of the intervention that accounts for improvement in participants’ scores and not the style of the facilitator.

Finally, the clinical utility of the content of participants’ journals deserves further attention. The content of the journals in the present study showed that participants were able to explore their emotions and past experiences and use the DBT material they learned during the lessons to problem solve about better ways to respond in the future. While this was not a qualitative study, it is important to explore how such qualitative data can be useful in the future. As suggested earlier, the journal-writing portion of this intervention can be used as a bridge to connect the work done in the hospital with the continued long-term work done in outpatient services. Journal entries could be used by participants with their outpatient therapists as a spring board to discuss deep-rooted issues related to their emotions. Future research might focus on facilitating the link between patients’ inpatient and outpatient services and explore the utility of having participants process further the content of their journals with their therapists upon discharge from the hospital.

The present study has shown that a DBT-based journal-writing group with adolescent females on an inpatient unit is an effective way to decrease depressive
symptoms and suicidal ideation and increase emotion regulation abilities. As discussed, the study has a number of limitations, including the small sample size and only one research site. The results of this intervention have potential implications for changes to intervention protocols that could maximize treatment gains for adolescents on inpatient units.
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## Table 1. Descriptive Statistics

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<tr>
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<td>(n = 19)</td>
<td>(n = 21)</td>
<td></td>
</tr>
<tr>
<td>Mean [Min-Max]</td>
<td>Mean [Min-Max]</td>
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<td></td>
</tr>
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<td>Age</td>
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<td>15.86 [14-18]</td>
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<td>2.62 [1-8]</td>
<td>.649</td>
</tr>
<tr>
<td>admissions</td>
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<td></td>
<td></td>
</tr>
<tr>
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<td></td>
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</tr>
<tr>
<td>White</td>
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<td>Black</td>
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<td>4 (19.0)</td>
<td>.204</td>
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<td>Latino</td>
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<td>3 (14.3)</td>
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Table 2. Comparing Outcome Variables at Baseline

<table>
<thead>
<tr>
<th>Pre-Test Measures</th>
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<th>Experimental (n = 21)</th>
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<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>BDI</td>
<td>16.6 (9.3)</td>
<td>17.9 (9.7)</td>
<td>-0.4</td>
<td>.674</td>
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<td>TAS-20</td>
<td>56.0 (10.8)</td>
<td>61.1 (13.4)</td>
<td>-1.3</td>
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<tr>
<td>DERS</td>
<td>120.6 (23.2)</td>
<td>116.9 (27.7)</td>
<td>0.5</td>
<td>.649</td>
</tr>
<tr>
<td>SPS</td>
<td>71.0 [23-76]</td>
<td>72.0 [42-86]</td>
<td>-1.0</td>
<td>.320</td>
</tr>
</tbody>
</table>

BDI: Beck Depression Inventory
TAS-20: Toronto Alexithymia Scale
DERS: Difficulties in Emotion Regulation Scale
SPS: Suicide Probability Scale
Table 3. Pre-Post Test Comparison for the Control Group (n=19)

<table>
<thead>
<tr>
<th>Outcome Variables</th>
<th>Pre-treatment M (SD)</th>
<th>Post-treatment M (SD)</th>
<th>T</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>BDI</td>
<td>16.6 (9.3)</td>
<td>14.8 (8.9)</td>
<td>1.3</td>
<td>.198</td>
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<tr>
<td>TAS-20</td>
<td>56.0 (10.8)</td>
<td>55.2 (12.3)</td>
<td>0.5</td>
<td>.649</td>
</tr>
<tr>
<td>DERS</td>
<td>120.6 (23.2)</td>
<td>115.3 (26.8)</td>
<td>1.4</td>
<td>.187</td>
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</table>

<table>
<thead>
<tr>
<th></th>
<th>Median [Min-Max]</th>
<th>Median [Min-Max]</th>
<th>Z</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPS</td>
<td>71.0 [23-76]</td>
<td>71.0 [64-76]</td>
<td>-0.1</td>
<td>.887</td>
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</table>

BDI: Beck Depression Inventory
TAS-20: Toronto Alexithymia Scale
DERS: Difficulties in Emotion Regulation Scale
SPS: Suicide Probability Scale
Table 4. Pre-Post Test Comparison for the Experimental Group (n=21)

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Pre-treatment</th>
<th>Post-treatment</th>
<th>T</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variables</td>
<td>M (SD)</td>
<td>M (SD)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BDI</td>
<td>17.9 (9.7)</td>
<td>10.7 (6.8)</td>
<td>4.3</td>
<td>.000</td>
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<tr>
<td>TAS-20</td>
<td>61.1 (13.4)</td>
<td>56.5 (14.1)</td>
<td>2.0</td>
<td>.058</td>
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<tr>
<td>DERS</td>
<td>116.9 (27.7)</td>
<td>101.3 (24.9)</td>
<td>2.9</td>
<td>.009</td>
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</table>

Median [Min-Max] Median [Min-Max]

<table>
<thead>
<tr>
<th></th>
<th>Z</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPS</td>
<td>-1.9</td>
<td>.053</td>
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</table>

BDI: Beck Depression Inventory
TAS-20: Toronto Alexithymia Scale
DERS: Difficulties in Emotion Regulation Scale
SPS: Suicide Probability Scale
Table 5. Comparison of Changes in Scores from Pre- to Post Test between Control Group and Experimental Group

<table>
<thead>
<tr>
<th>Change in Outcome</th>
<th>Control Group</th>
<th>Experimental Group</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variables from pre-to post test</td>
<td>(n =19)</td>
<td>(n = 21)</td>
<td>M (SD)</td>
<td>M (SD)</td>
</tr>
<tr>
<td>Δ BDI</td>
<td>1.8 (6.0)</td>
<td>7.2 (7.7)</td>
<td>-2.5</td>
<td>.019</td>
</tr>
<tr>
<td>Δ DERS</td>
<td>5.3 (16.7)</td>
<td>15.5 (24.4)</td>
<td>-1.5</td>
<td>.133</td>
</tr>
</tbody>
</table>

Median [Min-Max] Median [Min-Max]

| Δ TAS-20 | 0.0 [-14.0 – 15.0] | 3.0 [-9.0 – 30.0] | -.9 | .390 |
| Δ SPS    | 1.0 [-52.0 – 8.0]  | 3.0 [-21.0 – 32.0] | -1.5 | .145 |

BDI: Beck Depression Inventory

TAS-20: Toronto Alexithymia Scale

DERS: Difficulties in Emotion Regulation Scale

SPS: Suicide Probability Scale
Appendix 1

Toronto Alexithymia Scale – 20

Using the scale provided as a guide, indicate how much you agree or disagree with each of the following statements by circling the corresponding number. Give only one answer for each statement.

<table>
<thead>
<tr>
<th>Sex: M / F</th>
<th>Age:</th>
<th>Date:</th>
<th>ID #:</th>
</tr>
</thead>
</table>

T A S – 20

<table>
<thead>
<tr>
<th>Statement</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I am often confused about what emotion I am feeling.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. It is difficult for me to find the right words for my feelings.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. I have physical sensations that even doctors don’t understand.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. I am able to describe my feelings easily.</td>
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<tr>
<td>5. I prefer to analyze problems rather than just describe them.</td>
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<tr>
<td>6. When I am upset, I don’t know if I am sad, frightened, or angry.</td>
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<tr>
<td>7. I am often puzzled by sensations in my body.</td>
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<tr>
<td>8. I prefer to just let things happen rather than to understand why they turned out that way.</td>
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<tr>
<td>9. I have feelings that I can’t quite identify.</td>
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<tr>
<td>10. Being in touch with emotions is essential.</td>
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</tbody>
</table>

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T A S – 20

<table>
<thead>
<tr>
<th>Moderately</th>
<th>Strongly</th>
<th>Agree</th>
<th>Strongly</th>
<th>Moderately</th>
<th>Neither</th>
<th>Disagree</th>
<th>Disagree</th>
<th>Nor Agree</th>
<th>Agree</th>
</tr>
</thead>
<tbody>
<tr>
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<tr>
<td>11. I find it hard to describe how I feel about people.</td>
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<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
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</tr>
<tr>
<td>12. People tell me to describe my feelings more.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
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</tr>
<tr>
<td>13. I don’t know what’s going on inside me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
<td></td>
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<tr>
<td>14. I often don’t know why I am angry.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
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<tr>
<td>15. I prefer talking to people about their daily activities rather than their feelings.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
<td></td>
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<tr>
<td>16. I prefer to watch “light” entertainment shows rather than psychological dramas</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
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</tr>
<tr>
<td>17. It is difficult for me to reveal my innermost feelings, even to close friends.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>18. I can feel close to someone, even in moments of silence.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>19. I find examination of my feelings useful in solving personal problems.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>20. Looking for hidden meanings in movies or plays distracts from their enjoyment.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

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Page 2
Appendix 2

Difficulties in Emotion Regulation Scale (DERS)

Please indicate how often the following statements apply to you by writing the appropriate number from the scale below on the line beside each item:

________________________________________________________________________

1--------------------------2--------------------------3--------------------------4----------------------5
almost never                 sometimes                    about half the time               most of the time            almost always
(0-10%)                         (11-35%)                            (36-65%)                           (66-90%)                (91-100%)

____ 1) I am clear about my feelings.
____ 2) I pay attention to how I feel.
____ 3) I experience my emotions as overwhelming and out of control.
____ 4) I have no idea how I am feeling.
____ 5) I have difficulty making sense out of my feelings.
____ 6) I am attentive to my feelings.
____ 7) I know exactly how I am feeling.
____ 8) I care about what I am feeling.
____ 9) I am confused about how I feel.
____ 10) When I’m upset, I acknowledge my emotions.
____ 11) When I’m upset, I become angry with myself for feeling that way.
____ 12) When I’m upset, I become embarrassed for feeling that way.
____ 13) When I’m upset, I have difficulty getting work done.
____ 14) When I’m upset, I become out of control.
____ 15) When I’m upset, I believe that I will remain that way for a long time.
____ 16) When I’m upset, I believe that I’ll end up feeling very depressed.
____ 17) When I’m upset, I believe that my feelings are valid and important.
____ 18) When I’m upset, I have difficulty focusing on other things.
____ 19) When I’m upset, I feel out of control.
____ 20) When I’m upset, I can still get things done.
21) When I’m upset, I feel ashamed with myself for feeling that way.
22) When I’m upset, I know that I can find a way to eventually feel better.
23) When I’m upset, I feel like I am weak.
24) When I’m upset, I feel like I can remain in control of my behaviors.
25) When I’m upset, I feel guilty for feeling that way.
26) When I’m upset, I have difficulty concentrating.
27) When I’m upset, I have difficulty controlling my behaviors.
28) When I’m upset, I believe that there is nothing I can do to make myself feel better.
29) When I’m upset, I become irritated with myself for feeling that way.
30) When I’m upset, I start to feel very bad about myself.
31) When I’m upset, I believe that wallowing in it is all I can do.
32) When I’m upset, I lose control over my behaviors.
33) When I’m upset, I have difficulty thinking about anything else.
34) When I’m upset, I take time to figure out what I’m really feeling.
35) When I’m upset, it takes me a long time to feel better.
36) When I’m upset, my emotions feel overwhelming.
Appendix 3

Beck Depression Inventory – Short Form

13-Item Beck Depression Scale
Beck & Beck, 1972

*Please circle the number (0, 1, 2, or 3) next to the one statement in each group which best describes the way you have been feeling the past week, including today. If several statements apply equally well, circle each one.*

1. 0 I do not feel sad.
   1 I feel sad.
   2 I am sad all the time and I can’t snapout of it.
   3 I am so sad or unhappy that I can’t stand it.

2. 0 I am not particularly discouraged about the future.
   1 I feel discouraged about the future.
   2 I feel I have nothing to look forward to.
   3 I feel that the future is hopeless and that things can’t improve.

3. 0 I do not feel like a failure.
   1 I feel I have failed more than the average person.
   2 As I look back on my life, all I can see is a lot of failures.
   3 I feel I am a complete failure as a person.

4. 0 I get as much satisfaction out of things as I used to.
   1 I don’t enjoy things the way I used to.
   2 I don’t get real satisfaction out of anything anymore.
   3 I am dissatisfied or bored with everything.

5. 0 I don’t feel particularly guilty.
   1 I feel guilty a good part of the time.
   2 I feel quite guilty most of the time.
   3 I feel guilty all of the time.

6. 0 I don’t feel disappointed with myself.
   1 I am disappointed with myself.
   2 I am disgusted with myself.
   3 I hate myself.

7. 0 I don’t have thought of killing myself.
   1 I have thoughts of killing myself, but I would not carry them out.
   2 I would like to kill myself.
   3 I would kill myself if I had the chance.

8. 0 I have not lost interest in other people.
   1 I am less interested in other people than I used to be.
   2 I have lost most of my interest in other people.
   3 I have lost all interest in other people.
9. 0 I make decisions about as well as I ever could.
    1 I put off making decisions more than I used to.
    2 I have more difficulty in making decisions than before.
    3 I can’t make decisions at all anymore.

10. 0 I don’t feel I look any worse than I used to.
    1 I am worried that I am looking old or unattractive.
    2 I feel that there are permanent changes in my appearance that make me look unattractive.
    3 I believe that I look ugly.

11. 0 I can work about as well as before.
    1 It takes an extra effort to get started at doing something.
    2 I have to push myself very hard to do anything.
    3 I can’t do any work at all.

12. 0 I don’t get more tired than usual.
    1 I get tired more easily than I used to.
    2 I get tired from doing almost anything.
    3 I am too tired to do anything.

13. 0 My appetite is not worse than usual.
    1 My appetite is not as good as it used to be.
    2 My appetite is much worse now.
    3 I have no appetite at all anymore.
## Appendix 4

### Suicide Probability Scale (SPS)

<table>
<thead>
<tr>
<th>Item</th>
<th>None or a little of the time</th>
<th>Some of the time</th>
<th>Good part of the time</th>
<th>Most or all of the time</th>
<th>None or a little of the time</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. When I get mad I throw things</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>T</td>
</tr>
<tr>
<td>2. I feel many people care for me deeply.</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>T</td>
</tr>
<tr>
<td>3. I feel I tend to be impulsive.</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>T</td>
</tr>
<tr>
<td>4. I think of things too bad to share with others.</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>T</td>
</tr>
<tr>
<td>5. I think I have too much responsibility.</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>T</td>
</tr>
<tr>
<td>6. I feel there is much I can do which is worthwhile.</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>T</td>
</tr>
<tr>
<td>7. In order to punish others, I think of suicide.</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>T</td>
</tr>
<tr>
<td>8. I feel hostile toward others.</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>T</td>
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</tr>
<tr>
<td>9. I feel isolated from people.</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>T</td>
</tr>
<tr>
<td>10. I feel people appreciate the real me.</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>T</td>
</tr>
<tr>
<td>11. I feel many people will be sorry if I die.</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>T</td>
</tr>
<tr>
<td>12. I feel so lonely I cannot stand it.</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>T</td>
</tr>
<tr>
<td>13. Others feel hostile toward me.</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>T</td>
</tr>
<tr>
<td>14. I feel, if I could start over, I would make many changes in my life.</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>T</td>
</tr>
<tr>
<td>15. I feel I am not able to do many things well.</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>T</td>
</tr>
<tr>
<td>16. I have trouble finding and keeping a job I like.</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>T</td>
</tr>
<tr>
<td>17. I think that no one will miss me when I am gone.</td>
<td>T</td>
<td>T</td>
<td>T</td>
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</tr>
<tr>
<td>18. Things seem to go well for me.</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>T</td>
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<tr>
<td>19. I feel people expect too much of me.</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>T</td>
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</tr>
<tr>
<td>20. I feel I need to punish myself for things I have done and thought.</td>
<td>T</td>
<td>T</td>
<td>T</td>
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<tr>
<td>21. I feel the world is not worth continuing to live in.</td>
<td>T</td>
<td>T</td>
<td>T</td>
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<td>T</td>
</tr>
<tr>
<td>22. I plan for the future very carefully.</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>T</td>
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</tr>
<tr>
<td>23. I feel I don’t have many friends I can count on.</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>T</td>
</tr>
<tr>
<td>24. I feel people would be better off if I were dead.</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>T</td>
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</tr>
<tr>
<td>25. I feel it would be less painful to die than to keep living the way things are.</td>
<td>T</td>
<td>T</td>
<td>T</td>
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</tr>
<tr>
<td>26. I feel/feel close to my mother.</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>T</td>
</tr>
<tr>
<td>27. I feel/feel close to my mate.</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>T</td>
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<tr>
<td>28. I feel hopeless that things will get better.</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>T</td>
</tr>
<tr>
<td>29. I feel people do not approve of me or what I do.</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>T</td>
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<tr>
<td>30. I have thought of how to do myself in.</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>T</td>
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</tr>
<tr>
<td>31. I worry about money.</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>T</td>
</tr>
<tr>
<td>32. I think of suicide.</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>T</td>
</tr>
<tr>
<td>33. I feel tired and listless.</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>T</td>
</tr>
<tr>
<td>34. When I get mad I break things.</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>T</td>
</tr>
<tr>
<td>35. I feel/feel close to my father.</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>T</td>
<td>T</td>
</tr>
<tr>
<td>36. I feel I can’t be happy no matter where I am.</td>
<td>T</td>
<td>T</td>
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</table>
Appendix 5

Signed Informed Assent Document

Franciscan Hospital for Children

Investigator Name: Pamela Wineman, M.A. (doctoral student), Debra Franko, Ph.D (faculty advisor), Ralph Buonopane, Ph.D. (Co-Investigator & Director of Unit 1)

Title of Project: The Efficacy of a DBT-Based Journal-Writing Group with Inpatient Adolescent Females: Improving Emotion Regulation, Depressive Symptoms, and Suicidal Ideation

Informed Assent to Participate in a Research Study
We are inviting you to take part in a research study. This form will tell you about the study, but your case manager at the McLean Franciscan Child & Adolescent Mental Health Program will explain it to you as well. You may ask the case manager any questions that you have, and you can ask to speak to the doctoral student conducting the research, Pamela Wineman, M.A., as well as her faculty advisor, Debra L. Franko, Ph.D. When you are ready to make a decision, you can tell the case manager if you want to participate or not. You do not have to participate if you do not want to. If you decide to participate, the case manager will ask you to sign this statement and will give you a copy to keep.

Why am I being asked to take part in this research study?
We are asking you to participate in this study because you are a female adolescent admitted to this inpatient unit. We want to see if a group we created for girls your age is helpful while you are staying on Unit 1.

In case you don’t already know, in group therapy, all of the individuals in the group and the leader of the group do activities together and talk. One goal of group therapy is to help individuals learn to show their feelings in a healthy way. Group therapy can be a positive experience because it is a way to connect to others. It can also be a scary experience because it asks individuals to share difficult feelings with the group.

Why are you doing this research study?
We want to see if a therapy group we created for girls your age works. The group uses Dialectical Behavior Therapy (DBT) and journal writing, which are both already a part of your treatment. DBT is a type of group therapy used on many inpatient units, including Unit 1.

The research shows that DBT is helpful at teaching people to be better in control of their emotions. While DBT was originally used to help adults, DBT is now being used with all different groups of people, including people your age. The research has shown that when girls your age did DBT, they were more likely to finish treatment and less likely to have to go to an inpatient unit. They were also less likely to become depressed, hurt themselves, and get in trouble.
What will I be asked to do?
If you and your legal guardian decide to give permission for you to take part in this study, you will be assigned to one of two groups, depending on which month you are on Unit 1. You will participate in either an educational video-based group or a DBT-based journal-writing group.

You will be asked to fill out four questionnaires at the beginning and the end of the study. These questionnaires will ask questions about emotions, feelings, and thoughts of suicide or self-harm. If you are assigned to the DBT-based journal-writing group, you will be asked to attend four, one-hour group therapy sessions over the course of four days. These one-hour group therapy sessions will consist of discussion, group activities, and journal writing tasks. If you are assigned to the educational video-based group, you will be asked to attend four, one-hour video-based learning group sessions over the course of four days. If you are in a video-based group, you will watch a different video with other girls over four days. These videos are psycho-educational dramas.

You will only participate in this study once for 4 days even if you stay on Unit 1 long enough to participate more than once.

Where will this take place and how much of my time will it take?
You will fill out the questionnaires and participate in the groups during the course of your hospital stay. The groups will be conducted for one hour per day, over the course of four days. You will complete the four questionnaires at the start of the first group and then again at the end of the last group. It will take you about 15 minutes to complete the questionnaires. All groups will take place on Unit 1 in a small conference room.

Will there be any risk or discomfort to me?
Both groups contain activities that are already used on Unit 1 (watching videos, DBT, and journal writing). The group is different because it combines these activities together. Because the activities will already be somewhat familiar to you, the risks are not that different from the risks involved with being admitted to Unit 1. These risks include the chance that you might feel depressed, or have suicidal thoughts or thoughts of hurting yourself, that you let us know about when you fill out the questionnaires. If your answers to the questionnaires make us feel concerned about your safety, the researcher, Pamela Wineman, M.A., will immediately talk to your treatment team (psychiatrist, case manager, and mental health staff). It is also possible that you may become upset during the group. If this happens, the researcher will talk to your treatment team and the program staff immediately following the group. Extra support from the primary researcher, program director, and your treatment team will be available if needed.
You will be given a number code and this code will be used to keep track of your questionnaires and journal writing tasks. All materials will be locked in a file cabinet in the staff office on Unit 1 at the end of each session. Your name will only be used on this letter. While it most likely will not happen, there is always the chance that someone may break into the file cabinet and get the materials. The number coding system will be used to protect your identity, should this occur. Only the primary researcher, Pamela Wineman, will have access to this file cabinet.
Will I benefit by being in this research?
You may benefit from this study in a therapeutic way. You may learn how to better control and manage your emotions and may feel better or learn new information after participating in the group. In addition, your participation can help other girls like you in the future.

Who will see the information about me?
You will be assigned a number code which will be written on all of the materials you use (questionnaires, journal writing activities). Your part in this study will be confidential, which means that only, Pamela Wineman, will see the information about you. No reports or publications will use information with your name on it. If you tell the primary researcher about feelings of hurting yourself or others, then the primary researcher, Pamela Wineman, must report these statements to your treatment team. As is required by law, if you report that you have been harmed or neglected, then the primary researcher, Pamela Wineman, must report these statements to the Department of Social Services. This study will be monitored by a number of individuals and agencies including the primary researcher’s Northeastern University faculty advisor, Debra L. Franko, Ph.D.; the program director of the McLean Franciscan Child & Adolescent Mental Health Program, Ralph Buonopane, Ph.D.; the Northeastern University Division of Research Integrity; and the Franciscan Hospital for Children Institutional Review Board.

If I do not want to take part in the study, what choices do I have?
If you do not want to take part in the study, you will continue to receive your treatment as usual on Unit 1. If you choose to participate, you will still be receiving your usual treatment on Unit 1 in addition to your participation in the study.

What will happen if I suffer any harm from this research?
If you should become distressed in any way as a result of your participation in this study, you will be given additional counseling support by your treatment team and program staff, including your psychiatrist, case manager, nursing staff, and/or mental health counselors.

Can I stop my participation in this study?
Your participation in this research is completely voluntary, meaning you do not have to participate if you do not want to. Even if you begin the study, you may quit at any time. If you do not participate or if you decide to quit, you will not lose any rights, benefits, or services that you would otherwise have as a patient.

Who can I contact if I have questions or problems?
You can contact the primary researcher, Pamela Wineman, at (781)893-0453; the academic advisor to the study, Debra Franko, Ph.D., at (617)373-5454; and/or the program director, Ralph Buonopane, Ph.D., at (617)779-1689. Ralph Buonopane, Ph.D., will be available on the unit should you request an immediate response.

Who can I contact about my rights as a participant?
If you have any questions about your rights as a participant, you may contact the Franciscan Hospital for Children Institutional Review Board Chair, Dr. Joseph McCarty, 617-254-3800, ext 4580. You may call anonymously if you wish.

Will I be paid for my participation?
You will not be paid for your participation in this study.

**Will it cost me anything to participate?**
There will be no costs for participating in the study.

**Is there anything else I need to know?**
You must be female and between the ages of 14 and 18 to participate in this study. You must sign the assent form AND your legal guardian must sign the consent form in order for you to be allowed to participate.

**I agree to take part in this research.**

_________________________                      __________
Signature of participant agreeing to take part            Date
_________________________
Printed name of person above                          Date
_________________________
Signature of person who explained the study to the participant above and obtained consent       Date
_________________________
Printed name of person above

----------------------------------------------------------------------------------------------------
Appendix 6

Signed Informed Consent Document

Franciscan Hospital for Children

Investigators Name: Pamela Wineman, M.A. (doctoral student), Debra Franko, Ph.D (faculty advisor), Ralph Buonopane, Ph.D. (Co-Investigator & Director of Unit 1)

Title of Project: The Efficacy of a DBT-Based Journal-Writing Group with Inpatient Adolescent Females: Improving Emotion Regulation, Depressive Symptoms, and Suicidal Ideation

Informed Consent to Participate in a Research Study
We are inviting your child to take part in a research study. This form will tell you about the study, but your child’s case manager at the McLean Franciscan Child & Adolescent Mental Health Program will explain it to you as well. You and your child may ask the case manager any questions that you have, and you may request to speak to the doctoral student conducting the research, Pamela Wineman, M.A., as well as her faculty advisor, Debra L. Franko, Ph.D. When you and your child are ready to make a decision, you and your child may tell the case manager if your child wants to participate or not. Your child does not have to participate if she does not want to. If she decides to participate, the case manager will ask you and your child to sign this statement and an assent statement and will give you both a copy to keep.

Why is my child being asked to take part in this research study?
We are asking your child to participate in this study because she is a female adolescent admitted to this inpatient unit. The aim of the study is to test the effectiveness of a group therapy intervention for girls her age admitted to this inpatient unit.

In group therapy, individuals interact with other group members and the group leader while doing activities and having discussions. One goal of group therapy is to help individuals learn to express and manage their emotions in a healthy way. Group therapy can be a positive experience because it can provide the opportunity for individuals to connect to others in a meaningful way. It can also be a scary experience because it encourages individuals to share difficult feelings with the group.

Why are you doing this research study?
The purpose of this research is to evaluate the effectiveness of a group intervention for adolescent inpatient females. The group intervention combines the use of Dialectical Behavior Therapy (DBT) and journal writing, which are both a common part of inpatient adolescent treatment. DBT is a type of group therapy used on many inpatient units, including Unit 1.

The research shows that DBT is helpful at teaching individuals to be better in control of their emotions. While DBT was originally used to help adults with Borderline Personality Disorder, DBT is currently being used with all different groups of people, including adolescents. The research so far has shown that when adolescent patients participated in DBT, they were more likely to complete treatment and less likely to have to be hospitalized on an inpatient unit, and they were also less likely to experience a number of symptoms, such
as depression, self-harm behaviors, and acting out behaviors. Other adolescents in DBT
treatment showed improvements in their overall functioning.

**What will my child be asked to do?**
If you and your child decide to take part in this study, she will be randomly assigned to one
of two groups: an educational video-based group or a DBT-based journal-writing group. The
two groups will run during alternating months and your child will be assigned to a group
based on when she is admitted to the hospital.

Your child will be asked to fill out four questionnaires at the beginning and the end of the
study. These questionnaires will ask questions about emotions, feelings, and thoughts of
suicide or self-harm. If your child is assigned to the DBT-based journal-writing group, she
will be asked to attend four, one-hour group therapy sessions over the course of four days.
These one-hour group therapy sessions will consist of discussion, group activities, and
journal writing tasks. If your child is assigned to the educational video-based group, she will
be asked to attend four, one-hour video-based learning group sessions over the course of four
days. If your child is in a video-based group, she will watch a different video with other girls
over four days. These videos are psycho-educational dramas.

Your child will only participate in this study once for 4 days even if your child stays on Unit 1
long enough to participate more than once.

**Where will this take place and how much of her time will it take?**
Your child will fill out the questionnaires and participate in the groups during the course of
her hospital stay. The groups will be conducted for one hour per day, over the course of four
consecutive days. Your child will complete the four questionnaires at the start of the first
group and then again after the completion of the last group. Completion of the questionnaires
will take approximately 15 minutes. All groups will take place on the inpatient unit in a small
conference room.

**Will there be any risk or discomfort to my child?**
Both groups contain activities that are already used on the inpatient unit (watching videos,
DBT, and journal writing). The group is different because it provides a structured format for
participating in these activities. Because the activities will already be somewhat familiar to
your child, the risks do not differ dramatically from the risks involved with being admitted to
the inpatient unit. Such risks may include the potential for your child to endorse depressive
symptoms or suicidal ideation on the questionnaires. If it is determined that there may be
cause for concern based on your child’s responses to the questionnaires, the researcher,
Pamela Wineman, M.A., will immediately pass on these concerns to your child’s treatment
team. It is also possible that your child may become upset by participating in the activities in
the group. The researcher will be anticipating and watching for any signs of distress and will
again, immediately pass on all observations to your child’s treatment team and the program
staff immediately following the group. It is routine practice to provide updates of patients’
mental health status to their treatment team after meeting with them for a group therapy
session. Extra support from the primary researcher, program director, and your child’s
treatment team will be provided when necessary.

Your child will be given a number code and this code will be used to keep track of her
questionnaires and journal writing tasks. All materials will be locked in a file cabinet in the
staff office at the inpatient unit at the completion of each session. Your child’s name will only appear on the assent form that she signs if she agrees to participate in this study. Neither her name nor your name will appear on any of the questionnaires that will be completed as part of this study. While not intended or likely, there is always the possibility that someone may break into the file cabinet and access the materials. The number coding system will be used to protect your child’s identity, should this occur. Only the primary researcher, Pamela Wineman, will have access to this file cabinet.

**Will my child benefit by being in this research?**
There is the potential for your child to benefit from this study in a therapeutic way. Your child may learn how to better regulate her emotions and may feel better or learn new information after participating in the group. In addition, your child’s participation has the potential to benefit others by providing support for the use of the intervention with girls similar to her.

**Who will see the information about my child?**
She will be assigned a number code, which will be written on all of the materials she uses (questionnaires, journal writing activities). Your child’s part in this study will be confidential. Only the primary researcher on this study, Pamela Wineman, will see the information about your child. No reports or publications will use information that can identify your child in any way. If your child discloses any information regarding feelings of hurting herself or others, it is the obligation of the primary researcher, Pamela Wineman, to report these statements to your child’s treatment team. As is required by law, if your child reports that she has been harmed or neglected, it is the obligation of the primary researcher, Pamela Wineman, to report these statements to the Department of Social Services. This study will be monitored by a number of individuals and agencies including the primary researcher’s Northeastern University faculty advisor, Debra L. Franko, Ph.D.; the program director of the McLean Franciscan Child & Adolescent Mental Health Program, Ralph Buonopane, Ph.D.; the Northeastern University Division of Research Integrity; and the Franciscan Hospital for Children Institutional Review Board.

**If my child does not want to take part in the study, what choices does she have?**
If your child does not want to participate in the study, she will continue to receive her treatment as usual on the inpatient unit. If she chooses to participate, she will still be receiving her usual treatment on the inpatient unit in addition to her participation in the study.

**What will happen if she suffers any harm from this research?**
If your child should become distressed in any way as a result of her participation in this study, she will be provided additional counseling support by her treatment team and program staff, including her psychiatrist, case manager, nursing staff, and/or mental health counselors.

**Can my child stop her participation in this study?**
Your child’s participation in this research is completely voluntary. Your child does not have to participate if she does not want to. Even if she begins the study, she may quit at any time. If she does not participate or if she decides to quit, she will not lose any rights, benefits, or services that she would otherwise have as a patient.

**Who can my child or I contact if we have questions or problems?**
You and your child can contact the primary researcher, Pamela Wineman, at (781)893-0453; the academic advisor to the study, Debra Franko, Ph.D., at (617)373-5454; and/or the program director, Ralph Buonopane, Ph.D., at (617)779-1689. Ralph Buonopane, Ph.D., will be available on the unit should you request an immediate response.

Who can my child or I contact about her rights as a participant?
If you or your child have any questions about her rights as a participant, you or your child may contact the Franciscan Hospital for Children Institutional Review Board Chair, Dr. Joseph McCarty, 617-254-3800, ext 4580. You or your child may call anonymously if you wish.

Will my child be paid for her participation?
Your child will not be paid for her participation in this study.

Will it cost me or my child anything to participate?
No costs will be incurred by you or your child for participating in the study.

Is there anything else my child or I need to know?
Your child must be female and between the ages of 14 and 18 to participate in this study. Your child must sign the assent form AND her legal guardian must sign the consent form in order for her to be allowed to participate.

I agree to have my child take part in this research.

<table>
<thead>
<tr>
<th>Signature of legal guardian agreeing for her/his child to take part</th>
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Appendix 7

DBT-Based Journal-Writing Group Protocol

DAY ONE

Introduction: Briefly review information in consent letter; thank them for their participation; remind them they can choose to drop out at any time without having to answer any questions.

Before getting started, have all S’s complete four measures (DERS, BDI, TAS-20, SPS) independently.

Welcome/Explanation: Over the next four days, we are going to be talking about emotions; how to identify and label them, and the functions they serve in our everyday life. This is an interactive group, so whenever you have questions or comments, feel free to speak up. No questions or comments are stupid! The major group rule is to respect yourself and respect each other. That means listening to other group members and being sensitive to each others’ experiences. You guys are the first young women to participate in this research project and the information I gather from you will be used to develop treatment programs for other girls in situations similar to yours. And, hopefully, you’ll get something out of it too.

I like to begin by getting to know each of you, as we are going to be spending four hours together over the next four days. I would like everyone to introduce themselves; tell me your name and some interesting things about you. (Sample: I’ll start. My name is Pam, I have a dog and two cats, I have a terrible sense of direction, and this summer, I broke my leg playing in a coed soccer league.)
Starting Activity: Great, now we are going to get started. The way we are going to begin every session, is to go around and let the group know what your overall feeling is at the moment and how you know you are feeling that way. That will help to give me a sense of the general mood of the group. So, right now I’m feeling pretty excited, and I know I’m excited because my heart is beating a little bit faster and I have some nervous energy in my body.

Discussion Q: Who can tell me, what are emotions? Can anyone describe what an emotion is or what the word means?

*Activity/Brainstorm exercise: feeling, effects you both physically and mentally, hard to control/just happens, impacts the way we behave, can be overwhelming, there are both positive and negative emotions

We are going to think about two kinds of emotional experiences. There are the experiences that are primarily reactions to events in our environment, for example, when we get angry at someone for criticizing us. There are also emotional experiences that are primarily reactions to our own thoughts, feelings, and actions, such as when we may feel guilty for getting angry at our sibling or mother.

Emotions play a significant role in our day to day lives. Can anyone think of an example (either that happened to them or could happen) of a time when an emotion has been useful or helpful? What about a time when an emotion led to destructive behavior? Which emotions give you guys the hardest time (anger, guilt, sadness, etc.)? I know sometimes I wish I didn’t ever have to feel these tough emotions; however, these types of emotions actually help to keep us in balance. I mean, can you imagine a world where everyone was happy all of the time? That would get old quick. Everybody has negative
emotions it is just a question of learning how to regulate them so they don’t get us
overwhelmed or into trouble.

*Activity: Myths about Emotions

As a group on a large piece of paper or white board, go through some of the
myths and come up with challenges together (*Handout 2*). If group is having trouble
doing it together, ask everyone to pick one, and do it individually.

Example:

Myth: Letting others know that I am feeling bad is a weakness.

Challenge: If I let my mom know that I am upset about a fight I had with my best
friend, she might be more apt to understand why I just want to be alone in my room
instead of with the family.

*Activity: Journal Writing Wind-down

Present participants with individual journals. Explain that you are going to collect
them at the end of each session, but once the group is over, the journal is theirs to keep.
Reiterate how you will be the only one reading the journals, and the content will not be
shared unless I believe they or someone else is in danger. Explain that I will be making
copies of their writing, yet there will be no name attached to their work, just a number
code. Dim lights and play soft music.

End every session with this exercise. Ask participants to take ten minutes and
think about what we talked about today. Explain that the writing time can be for whatever
they choose and in whatever format they prefer (poems, raps, songs, stories, diaries). Use
this time to reflect on what emotions mean to them, the role emotions have played in their
lives and the role they want them to play in their future. They can write about specific examples of events that have happened…whatever they wish.

**DAY TWO**

*Warm Up:* Okay, let’s go around and let the group know how we are feeling today and how we know we are feeling that way.

Today we are going to talk about the Theory of Emotions. Researchers have determined that there are really about eight primary or basic emotions: anger, sorrow, joy, surprise, fear, disgust, guilt/shame, interest. These researchers believe that all people are born ready to feel these emotions naturally. All other emotions are learned through our experiences and relationships and are usually a combination of the basic emotions. Emotions are patterned reactions to events; that is things happen, and we feel and then react a certain way that can be predictable. An important function of emotions is to prompt behavior, which is called action urges.

Our emotions are transient; that is, they come and go fairly quickly. However, they are also cyclical. Once we feel something, we are likely to feel it over and over again. When a certain emotion seems to stick around for a while, we call it a mood. The concept of recognizing, describing, and naming emotions is one that is complex, but research also shows that people who are able to do this, are also better able to control their own emotions. To do this, one must describe:

1. Prompting events and situation.
2. Interpretation of the event or situation (thoughts, assumptions, beliefs).
3. Body responses that are sensed.
4. Body language (face and posture).
5. Verbal communication of the emotion.
6. Action urges and actions taken.
7. Aftereffects of emotions.

Example: Anger (p. 143-145)

By learning to observe your emotions more objectively, you can literally separate yourself from your emotions while simultaneously understanding your emotions better. By observing your emotions and separating yourself from feeling them so intently, you are better able to think about them and access your coping strategies. It’s like a horse and rider: the rider must be one with the horse and work with it, yet at the same time know that she is in control of the horse and the horse is not in control of her.

*Activity: Observing and Describing Emotions (homework sheet 1); Have the exercise written out on a large piece of paper.

We are going to do another exercise together. I want everyone to close their eyes, and think about a recent emotional reaction you had to something in your life, good or bad. Does anyone have one they feel comfortable sharing?

Okay, ______, what was the prompting event for that emotion? That is, what happened to make you feel that way?

Okay, ______, what was the prompting event for that emotion? That is, what happened to make you feel that way?

Go through homework sheet one using the volunteer’s example, but getting everyone to give their input on the different sections of how she may have felt/reacted.

*Point out how different group members had different interpretations of the same event and may have felt and therefore acted differently. Thus, it is each person’s individual interpretation of the event that leads to a particular emotion and behavior. If
we interpret events differently, it becomes easy to understand why people have different emotions about the event and thus different behavioral reactions.

*Question:* Does anybody find it hard to read other peoples’ emotions? Have you ever misread someone’s emotion and it led to a conflict or misunderstanding? Has anyone ever misread your emotion and it pissed you off?

*Activity: Journal Writing Wind-down*

Dim lights and play soft music. Present today’s JW assignment and give directions to each of them.

Ask participants to take ten minutes and think about what we talked about today. Use this time to think about how learning to observe and describe your emotions will help you to better manage your emotions. Does this make sense? Why may it work? What will be hard about it? Think about a time when you had an emotional reaction to something. What happened? What was the prompting event, interpretation, body response, body language, verbal communication, action urges, aftereffects? Would you have done anything differently if you understood the process of your emotional reaction better, like you do now?

**DAY THREE**

*Warm Up: Okay, let’s go around and let the group know how we are feeling today and how we know we are feeling that way.*

For today’s group, we are going to think about the purpose of our emotions. *Emotion Regulation Handout 5: What Good Are Emotions? Discuss and give examples of different talking points; make sure participants understand concepts.* (Blow up
handout and have S’s follow along; organize three boxes as A, B, and C showing clearly
the functions emotions can have).

Look at these functions one at a time:

A.) Emotions communicate to (and influence) others

1. Facial expressions are hard-wired and communicate our emotions faster
than our words. Thus, we have both verbal and nonverbal ways of communicating
our emotions that can both be effective. Research shows that if the verbal and
nonverbal expression of emotions doesn’t match (i.e. a person says she’s fine, but
she’s crying), individuals tend to believe the nonverbal expressions over the
verbal ones (i.e. you would assume the girl is not fine). Has this ever happened to
anyone? You felt one way and your body language expressed one emotion, yet
you told others you felt a different way?

2. When you really want to get a message across and communicate to
others, it is very hard to change emotions. For example, if Sally wants Amy to
know that Amy is wrong, then Sally may want to remain angry until Amy gets the
message. If Sally stops being angry, Amy may not take her seriously or may not
realize that she is indeed in the wrong.

3. Communicating emotions influences others, whether one intends it or
not. For example, when a child feels worthless, depressed, or hopeless, this may
influence the parent to try and take away that child’s pain. Has anyone ever
influenced someone else by expressing an emotion, or has anyone ever been
influenced by someone else’s expression of an emotion?

B.) Emotions organize and prepare for action
1. Emotions prepare for and motivate behavior. The action urge connected to specific emotions is hard-wired.

2. This can save time in getting people to act in important situations. They don’t have to think everything through. For example, when you have a big test coming up, being a little bit anxious about it may motivate you to study more. Without any anxiety, you may not study and could fail.

3. Can anyone think of a time when their emotions motivated them to do something and they didn’t really have to stop and think about it?

C.) Emotions also function to communicate to ourselves. Emotions can be self-validating.

1. People rely on their emotional reactions to others and to events to provide them with information about the situation; sort of like a signal or alarm. Have you heard the sayings, “Listen to your gut,” or “I have a good feeling about this.”

2. Examples of when your “feel” for a situation proved to be correct? Often we ignore these gut feelings because we can’t give good, logical reasons or because others disagree.

3. People use their emotions to tell themselves that what they believe is correct. For example, “I’m never going to pass that science test, so I don’t even have to bother studying,”…basically, “If I feel right about something, it is right.”

*Activity: I want everyone to think about an emotion they experienced today. What happened to prompt that emotion? What function did that emotion serve? Did it a.)
communicate to (and influence) others, b.) organize and motivate action, or c.) was it self-validating?

*Activity: Journal Writing Wind-down

Dim lights and play soft music. Present today’s JW assignment and give directions to each of them.

Ask participants to take ten minutes and think about what we talked about today. Does it make sense that your emotions serve a purpose? What does this say about the power of emotions? Is it possible to determine the function of your emotional response before you respond? Why or why not? Are there other functions of emotions that we did not cover?

**DAY FOUR**

**Warm Up:** Okay, let’s go around and let the group know how we are feeling today and how we know we are feeling that way.

For today’s topic, we are going to think about being mindful of our current emotions. Mindfulness of emotions means observing and describing them just as they are, without judging them. This is one of the hardest things I will ask you to do, so don’t expect to get it right away. It takes practice and patience.

This allows you to gain distance from your emotions, which helps you figure out what to do next and how to problem solve. By taking a step back and observing your emotions without immediately acting on them, you may find that they are not so catastrophic or intense. It can help you be less afraid of these feelings, and once you are less afraid, all of those other secondary emotions that you are used to being flooded with, such as fear, anxiety, and anger, will become less intense.
The best way to get rid of negative and painful emotions is to just let them go…which is easier said than done! Learning to do this is the real challenge. Letting go of emotions is not the same as pushing them away or fighting them. Instead, it means acknowledging them, honoring them, and then letting them go. It is a form of accepting the negative and painful emotions as a part of life and not letting them paralyze you.

*Activity: Okay, so now we are going to go through the basic steps in letting go of negative emotions. I am going to explain the different steps and then we are going to practice letting go of a negative emotion.


2. Try to experience your emotion as a wave, coming and going. Try not to block or suppress the emotion. Open yourself to the flow of the emotion. Do not try to get rid of the emotion. Don’t push it away. Don’t judge or reject it. Do not try to keep the emotion around. Don’t cling to it. Don’t rehearse it. Don’t hold on to it. Don’t amplify it.

3. Note that you are not your emotion. Do not necessarily act on the emotion.

4. Trying to build a wall to keep emotions out always has the effect of keeping emotions in. Instead, practice loving your emotions. Be willing to have them. This will be more realistic for you if you each think about a recent negative emotional experience. I want everyone to take a minute, close your eyes, and think about an event or situation that caused you to feel badly. Take your time, picture the event, and think about how you were feeling afterwards. Everyone have theirs?

Walk them through the exercise (1-4).
Okay, everyone can open their eyes. What was that experience like? The point of this exercise is for you to understand that fighting a negative emotion does not make it go away. Instead, accept it and give yourself permission to feel pain, and then let it go. The hope is that this will allow you to act in a way that is more thought out and not as impulsive.

*Activity: Read “dandelion” story to group. Moral: can’t fight your negative feelings, they are just a part of life. Need to learn to accept them and appreciate them for what they are.

Does anyone have any final thoughts/comments/questions before we wrap up?

*Activity: Journal Writing Wind-down

Dim lights and play soft music. Present today’s JW assignment and give directions to each of them.

Ask participants to take ten minutes and think about what we talked about today. What do you think of the concept of being mindful of your emotions? Is this something that you can learn to do? Can you think of a situation when being accepting of painful emotions could help you make better decisions? What have you learned about yourself and the role emotions play in your life? How can you use this information to better manage your emotions in the future?

* Have all S’s complete the four measures (DERS, BDI, TAS-20, SPS).

Thank everyone for their participation. Collect all journals and make copies of content assigning number code to each journal. Tell S’s all journals will be left for them to keep at end of the day. Distribute debriefing letters to all participants.
Debriefing Letter

Dear Participant:

Thank you for your involvement in this research study! Your participation will teach us how to best help other girls in similar circumstances. In this study, we were specifically looking at what types of interventions help young women learn to better regulate their emotions and feel less depressed and hopeless. Those of you in the DBT-based journal-writing groups helped us determine if instruction combined with discussion and activities is effective at helping girls feel better about themselves when hospitalized. Those of you involved in the treatment as usual control groups helped us determine if any structured group format is beneficial, or if the DBT groups are more beneficial. Because of your efforts, we will be able to make more informed decisions about the type of treatment used in inpatient settings in the future.

Again, thank you for taking the time to participate in this study and help the field of psychology support you in your efforts to heal and grow. Any further comments or questions can be directed to the primary researcher, Pamela Wineman, and/or the Unit 1 program director, Ralph Buonopane.

Sincerely,

Pamela Wineman, the research team, & the entire staff on Unit 1