

2009

Alexithymia and deliberate self-harm behavior in adolescent females

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ALEXITHYMIA AND DELIBERATE SELF-HARM
BEHAVIOR IN ADOLESCENT FEMALES

Thesis

Submitted to

The College of Arts & Sciences of the
UNIVERSITY OF DAYTON

in Partial Fulfillment of the Requirements for
The Degree

Master of Arts in Clinical Psychology

by


Christine Marie Abbuhl

UNIVERSITY OF DAYTON

Dayton, Ohio

December, 2009

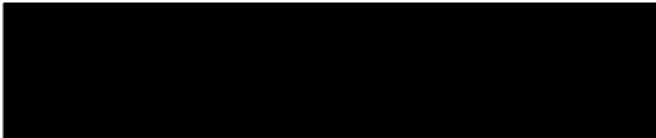
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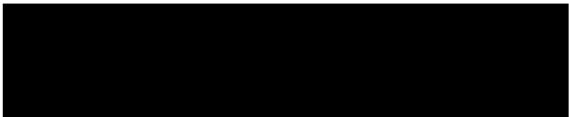

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ABSTRACT

ALEXITHYMIA AND DELIBERATE SELF-HARM BEHAVIOR IN ADOLESCENT FEMALES

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This study serves as a preliminary analysis of the role that difficulty identifying and describing feelings may play in the deliberate self-harm behavior of adolescent females. Deliberate self-harm is defined as the deliberate, direct destruction or alteration of body tissue, without conscious suicidal intent, but resulting in injury severe enough for tissue damage to occur [excluding professional tattooing, body piercing, and gang affiliated word or picture carving]" (Gratz, 2003). Permission was obtained to collect self-report data at residential treatment facilities for adolescent females. The suggested higher prevalence of deliberate self-harm in females and clinical populations led to the focus on this population. In order to assess the relationship between difficulty identifying and expressing emotion and deliberate self-harming behavior in adolescents, participants were asked to complete the *Deliberate Self-Harm Inventory* (DSHI) and the *Twenty-Item Toronto Alexithymia Scale* (TAS-20). The *Beck Depression Inventory – Second Edition* (BDI-II) was included to control for the possibility that depression is a mediating variable in the relationship between self-harm and alexithymia. Based on endorsement of self-

harm on the DSHI, participants were placed into either the self-harm group or the non-self-harm group. Univariate analyses and Pearson correlations were conducted across and between groups for several variables. Analyses indicated no significant difference between groups on the TAS-20, but comparison of means between groups exhibited that, while not significant, differences between groups were in the hypothesized direction for the TAS-20 and its factor scores. In addition, when using a variable of deliberate self-harm severity across all participants, significant correlations were found between severity of self-harm and TAS-20 total, factor one, difficulty identifying feelings, and factor two, difficulty describing feelings, scores. A step-wise regression indicated that severity of deliberate self-harm did not continue to significantly predict variance in TAS-20 score, after controlling for BDI-2 scores.

ACKNOWLEDGEMENTS

The accomplishment of this work would not have been possible without the efforts of a small group of people. First and foremost, Dr. John Korte. From the beginning he supported and fought for this project, truly believing as I did in its potential. Also encouraging this work were my committee members, Dr. David Biers and Dr. Carolyn Roecker-Phelps. Without this team of advocates this work for which I am passionate would not have come to fruition. Finally, a research project cannot be completed without people and facilities who believe in its value enough to support its completion. For this reason I must thank the Eastway Corporation and Jennifer Hochdoerfer in particular. For several long years she continued to take time out of her schedule to support my data collection.

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CHAPTER I

INTRODUCTION

Deliberate self-harm is a prevalent and serious problem affecting society (Evren & Evren, 2005; Gratz, 2006; Laye-Gindu & Schonert-Reichl, 2005; Ross & Heath, 2002; Suyemoto & MacDonald, 1995). However, very few effective models for intervention exist. Our lack of consensus in understanding the etiology of deliberate self-harm and the factors related to it likely contribute to the limited availability of effective treatment options. To date, research literature continues to disagree as to what to call and how to define “deliberate self-harm.” Past and present articles use a plethora of terms including self-mutilation, self-destructive behavior, deliberate self-harm, self-harm, self-injury, parasuicide, self-injurious behavior, self-abuse, and internalized violence. Researchers also differ as to whether behaviors enacted with the intent to die, as well as nondeliberate, but potentially harmful behaviors (e.g., starving oneself, driving recklessly), are included in the definitions of these terms. A better universal understanding and the development of more effective treatments requires a consensus as to what this group of behaviors is called and what it includes. Several articles published by Gratz (2001; 2003; 2006) have already begun to address this need for consistency in the terms and definitions used in research. Gratz (2003) defines the term “deliberate self-harm” as “the deliberate, direct destruction or alteration of body tissue, without conscious suicidal intent, but resulting in

injury severe enough for tissue damage to occur.” This definition, with the addition of the phrase “excluding professional tattooing, body piercing, and gang affiliated word or picture carving” will be used for the purposes of this research.

Adolescents are of specific interest in the self-harm literature, as many studies have determined that this age range is often when deliberate self-harm begins (Favazza & Conterio, 1989; Ghaziuddin, Tsai, Naylor, & Ghaziuddin, 1992; Lewis & Santor, 2008; Muehlenkamp & Gutierrez, 2007; Murray & Fox, 2006; Nock & Prinstein, 2004; Pattison & Kahan, 1983; Ross & Heath, 2002; Suyemoto & MacDonald, 1995). Ross and Heath (2002) found that 84.6% of those who had self-harmed in their sample had done so for the first time in middle school. Furthermore, adolescent onset has been found to be related to more frequent self-harm, longer duration of the behavior, and use of multiple methods (Pattison & Kahan, 1983; Zanarini, Frankenburg, Ridolfi, Jager-Hyman, Hennen, & Gunderson, 2006). Zanarini et al. (2006) indicated more serious self-harming behavior for earlier onset, with childhood onset self-harm being more persistent than adolescent onset and adolescent onset more persistent than adult onset. Unfortunately, research findings also suggest that adolescents are less likely to seek help for their self-harm behavior than adults (Warm, Murray, & Fox, 2002). Understanding deliberate self-harm during these early years may lead to treatment methods that effectively target early deliberate self-harm behavior and either prevent self-harm or decrease the amount of time individuals engage in the behavior.

Suyemoto and MacDonald (1995) made one of the earliest attempts to determine which of the many theories of deliberate self-harm best explains self-harming clients. They reviewed and explored the existing theoretical explanations for deliberate self-harm

and revealed eight common models for self-harm. The first of these included the behavioral model based on learning. The behavioral model presumes that self-harming behavior is maintained by either the social reinforcement received through concern from others or the negative reinforcement received when emotional tension decreases as a result of self-harm. The systemic model of self-harm is based on family and environmental dynamics, wherein the self-harming individual expresses the dysfunction of the family through her self-harm. Thirdly, the suicide model assumes that deliberate self-harm is a substitute for suicidal behavior and allows an individual to cope without the more severe action of suicide. Next, the sexual model assumes that self-harm either provides sexual gratification or serves as punishment for sexual feelings or behavior. The expression model proposes that self-harm serves as a means to express negative feelings such as anger, anxiety, or pain. The expression model suggests that self-harm may be used as a means of communicating feelings because of a failure to master symbolic communication skills. The sixth model described is the control model based on the need to take control of emotions or to punish oneself for having particular feelings. Next, the boundaries model assumes a need to differentiate the self from others and prevent the loss of personal identity. Finally, the depersonalization model indicates that self-harm serves to end a dissociative state created by intense emotion. After summarizing the eight models, the researchers surveyed 500 therapists as to which of the eight theories best explained their most recent patient's self-harming behavior. The largest number of therapists believed their clients' self-harm was related to the need to cope with anger, anxiety, or pain; specifically the control and expression models. Suyemoto and MacDonald conclude that self-harming clients may have difficulty with the mastery of

symbolic communication. Other studies have also suggested that self-harm may be related to difficulties in expressing feelings (Evren & Evren, 2005; Gratz, 2006), therefore, this model may be a promising start to understanding deliberate self-harm. The current study will further explore this possible connection between deficits in identifying and communicating feelings and deliberate self-harm in adolescents.

Deliberate Self-Harm

Pattison and Kahan (1983) proposed a diagnosis that they termed the Deliberate Self-Harm Syndrome. In this seminal work they proposed that deliberate self-harm was not a phenomenon that solely occurred in clients with severe disabilities or borderline personality disorder as had previously been thought. They suggested that the primary problem for some individuals were acts of self-harm. Unfortunately, fifteen years later a separate diagnostic designation for those who engage in deliberate self-harm has not yet been developed. The proposal for deliberate self-harm to be considered a distinct disorder in the *Diagnostic and Statistical Manual of Mental Disorders* was again proposed in 2005 by Muehlenkamp. Although a clear diagnostic category has not yet been created, researchers across the world have begun to explore self-harm as a primary problem rather than as only a symptom of other serious psychiatric diagnoses. This emphasis on deliberate self-harm as a separate entity has led to exploration of its prevalence, etiology, correlates, and treatment. Unfortunately, until recently research in this area has been progressing slowly. A literature review by Jacobson and Gould in 2007 found only 25 existing articles on deliberate self-harm as defined in this article.

One of the major foci of the research on deliberate self-harm has been on determining prevalence estimates in order to understand how wide spread the problem of self-harm is. Prevalence rates for self-harm vary greatly across studies and across samples. Ross and Heath (2002) examined prevalence rates in a large community sample of high school adolescents and found that 21.2% of the 231 participants indicated having hurt themselves on purpose at some point in time. Of this group 27.9% engaged in deliberate self-harm several times a week and 13.1% reported self-harming more than once a day. Another study of high school adolescents found similar results with prevalence estimates at 15% (Laye-Gindu & Schonert-Reichl, 2005). In this sample, 14% of girls had hurt themselves over twenty times in the past year. Other studies of self-harm in high school students have found prevalence rates of 16-30% (Yates, Tracy, & Luthar, 2008), 23% (Muehlenkamp & Gutierrez, 2007), 36-40% (Bjarehed & Lundh, 2008), 46% (Lloyd-Richardson, Perrine, Dierker, & Kelley, 2007), and 56% (Hilt, Cha, & Nolen-Hoeksema, 2008). Alarming prevalence rates have also been found in younger children and adolescents with one community sample of 8-14 year olds finding a prevalence rate of 19% (Teufel, Brown, & Birch, 2007). By college, estimates of self-harm have been found to range between 7 and 37% (Gollust, Eisenberg, & Golberstein, 2008; Gratz, 2006; Gratz & Roemer, 2008; Kimball & Diddams, 2007; Lewis & Santor, 2008). Kimball and Diddams (2007) suggest that some of the lower prevalence estimates for deliberate self-harm in college samples may be because individuals learn to use alternative coping methods by college. As a result, they suggest that research on deliberate self-harm may be most useful if focused on adolescents in order to help create prevention and early intervention efforts.

Within psychiatric populations the prevalence estimates of deliberate self-harm rise to 40% or higher, with one study suggesting as high as 82% of adult inpatients engage in self-harm (Darche, 1990; Nijman, Dautzenberg, Merkelbach, Jung, Wessel, & aCampo, 1999; Nock & Prinstein, 2004). Schwartz, Cohen, Hoffman, and Meeks (1989) found that in adolescents receiving outpatient services, rates of self-harm may be as high as 48%. Another study found a prevalence rate of 61% in adolescents receiving clinical services (DiClemente, Ponton, & Hartley, 1991).

Research is inconsistent regarding gender differences in prevalence of deliberate self-harm (Jacobson, & Gould, 2007). The rates of deliberate self-harm in Laye-Gindu & Schonert-Reichl's (2005) high school sample were much higher for girls (20%) than for boys (9%). Several additional studies have also found self-harm rates to be higher in girls (Yates, et al., 2008; Zlotnick, Mattia, & Zimmerman, 1999). However, a number of other studies have found no significant differences in self-harm across genders (Bjarehed & Lundh, 2008; DiClemente, et al., 1991; Lewis & Santor, 2008; Lloyd-Richardson, Perrine, et al., 2007; Nock & Prinstein, 2004).

The most common form of deliberate self-harm behavior is self-cutting (Favazza & Conterio, 1989; Herpertz, 1995; Kamphuis, Ruyling, & Reijntjes, 2007; Laye-Gindu & Schonert-Reichl, 2005; Lewis & Santor, 2008; Ryan, Heath, Fischer, & Young, 2008; Trepal & Wester, 2007; Warm, et al., 2002). Research estimates suggest that between 73 and 98% of individuals who self-harm do so through cutting (Ryan, et al., 2008; Trepal & Wester, 2007). An increased risk with cutting behavior is that 27% of adolescents who self-harm report sharing implements with other self-harmers, increasing the risk for infectious diseases (DiClemente, et al., 1991). Despite the commonality of cutting,

deliberate self-harm is enacted using many other methods as well. Studies of self-harm also reveal the methods of burning, hitting, severe scratching, and preventing previously inflicted wounds from healing (Favazza & Conterio, 1989; Herpertz, 1995; Kamphuis, et al., 2007; Warm, et al., 2002). Many individuals who self-harm (65–71%) commonly use several of these methods (Favazza & Conterio, 1989; Herpertz, 1995). As methods vary by individual, physical location of self-harm also varies. Damage most often occurs on a person's arms (Favazza & Conterio, 1989; Kamphuis, et al., 2007; Schwartz, et al., 1989), although self-harm has also been noted to be inflicted on a person's legs, abdomen, head, and chest (Favazza & Conterio, 1989).

In addition to research that has been conducted on prevalence and methods of deliberate self-harm, investigations have also begun to study its correlates and have found that deliberate self-harm is generally related to higher levels of psychopathology (Darche, 1990), but that it is also related to many more specific problems (Pattison & Kahan, 1983). Individuals who self-harm are more likely to have depression (Darche, 1990; Gollust, et al., 2008; Klonsky, Oltmanns, & Turkheimer, 2003; Lewis & Santor, 2008; Muehlenkamp & Gutierrez, 2007), have lower self-esteem (Laye-Gindu & Schonert-Reichl, 2005), be more antisocial (Laye-Gindu & Schonert-Reichl, 2005), have eating disorders (Bjarehed & Lundh, 2008; Gollust, et al., 2008; Warm, et al., 2002), have experienced past abuse (Briere & Gil, 1998; Brown, Houck, Hadley, & Lescano, 2005; Ellis, Gormley, Ellis, & Sowers, 2002; Warm, et al., 2002), have PTSD (Zlotnick, et al., 1999), abuse substances (Bjarehed & Lundh, 2008; Zlotnick, et al., 1999), and have problems controlling their anger (Laye-Gindu & Schonert-Reichl, 2005). Nock, Joiner, Gordon, Lloyd-Richardson, and Prinstein (2006) found that 87% of their sample of self-

harming adolescents met criteria for at least one Axis I disorder. Suicide is also more common in people who have engaged in multiple forms of self-harming and have done so for long periods of time, with up to 70% of individuals who self-harm reporting past suicide attempts (Evren & Evren, 2005; Muehlenkamp & Gutierrez, 2007; Nock, et al., 2006; Warm, et al., 2002; Zlotnick, Donaldson, Spirito, & Pearlstein, 1997). Gollust et al. (2008), found that 11% of self-harming college students have attempted suicide compared to only 1.6% in their non-self-harming college sample. Suicide appears to be counter to the formal definition of deliberate self-harm; however, the underlying problems that are influencing self-harm and the negative feelings and behaviors associated with self-harm may lead to suicide attempts.

Research has established that people who engage in self-harm are often experiencing many negative thoughts and feelings, and, therefore, social support may be important to foster their resilience. However, family members and peers often react with disgust or confusion to the scars or open wounds that mark the body of the person who self-harms. This often leads to further disturbances in interpersonal relationships, less social support, and perhaps even social isolation (Gratz, 2003; Gratz 2006; Posse, Hallstrom, & Backenroth-Ohsako, 2002). Deliberate self-harm may particularly interrupt an adolescent's relationship with her parents. McDonald, O'Brien, and Jackson (2007) conducted a qualitative study of parents' experiences with children who self-harm. Many mothers reported feeling guilty and ashamed that their children were self-harming and were embarrassed to think about others learning of their children's self-harm. In another study, one parent said, "I think self-mutilation is one of those matters I detest the most. It is nasty" (Rissanen, Kylman, & Laukkanen, 2008, p. 216). While reports indicate that it

is very difficult for parents to cope with a child's self-harm, it may be worse for the behavior to go undetected. Mojtabai and Olfson (2008) found, in a study of general self-harm (including deliberate self-harm and suicide attempts), only 22.9% of parents were aware that their child engaged in self-harming behavior. Other than parents, teachers may be the group of adults with whom school age children spend the most time.

Unfortunately, research suggests that teachers are also ill equipped to respond to deliberate self-harm, and almost half express that encountering a student who self-harms would be horrifying (Heath, Toste, & Beettam, 2006). The extreme reactions of adults and peers and the difficulties that they may have in responding to a loved one's self-harm could create distance or tension in relationships that might otherwise serve as sources of support. Understanding self-harm and reducing the number of acts of deliberate self-harm may be important steps for reinstating strong social relationships in people with a history of deliberate self-harm.

Despite the recent spike in worldwide interest in deliberate self-harm, research remains very limited in regards to effective treatment options for self-harm. Favazza and Conterio (1989) surveyed over 200 self-harming women about treatment they had received. Of those surveyed, 42% percent indicated that they did not find inpatient treatment at all helpful and 24% did not find outpatient treatment at all helpful. Only 14% and 29% of self-harming women felt that their inpatient or outpatient treatment, respectively, helped them significantly in regards to their self-harm behavior. In another study, only 35.6% of the young adults surveyed were satisfied with the treatment they received for self-harm from a psychologist (Warm, et al., 2002). Low satisfaction rates may be attributable to the general insufficient understanding of deliberate self-harm. Studies suggest that while psychologists appear to be the most knowledgeable

professionals in relation to self-harm, they are only approximately 80% accurate on measures of self-harm knowledge (Jeffrey & Warm, 2002; Jones, Beld, & Butts, 2009). Limited understanding and experience with self-harm may further impede a therapist's ability to effectively help clients. Gamble, Pearlman, Lucca, and Allen (as cited in Deiter & Pearlman, 1998) surveyed 117 psychologists and found that deliberate self-harm was the most distressing and traumatizing client behavior encountered.

Perhaps these discouraging satisfaction rates and concerns about not being understood are influencing the number of individuals who seek professional help for deliberate self-harm. In one study only 26.4% of the sample had ever received treatment for their self-harm (Gollust, et al., 2008) and only 43% in two additional samples (Deliberto & Nock, 2008; Warm, et al., 2002). One conclusion that might be drawn from these numbers is that people who self-harm do not feel the behavior is harmful or feel that they do not need help. However, several studies suggest this may not be the case. Deliberto and Nock (2008) found that 78% of their sample identified at least one reason they would like to stop self-harming, with most of them stating that they should stop because they know it is unhealthy for them. In another study, 50% of the participants who self-harmed indicated that they needed professional help (Gollust, et al., 2008). A third study found that 46.6% of individuals often or always wanted to stop their self-harming behavior (Warm, et al., 2002).

When individuals do follow through in seeking treatment for self-harm, they are the most likely to be treated using cognitive-behavioral approaches or dialectical behavior therapy (DBT) (Trepal & Wester, 2007). Research on general cognitive behavioral approaches for deliberate self-harm is limited. One 2003 study (Tyrer, et al.)

indicated that a manual assisted cognitive behavioral approach significantly reduced incidences of self-harm, but did not significantly reduce deliberate self-harm more than treatment as usual at the clinic (e.g., problem solving approaches, dynamic psychotherapy). Findings on the effectiveness of other cognitive behavioral approaches continue to be mixed (Muehlenkamp, 2006). Fortunately, research on the use of DBT for reducing self-harming behavior is beginning to accumulate. In one study of 10 young adult women, a significant reduction ($p < .05$) in self-harming incidences was found between baseline and the end of treatment 12 months later (Low, Jones, Duggan, Power, & MacLeod, 2001). This decrease continued to be significant ($p < .01$) at 6 months post treatment. DBT has also been supported for use with self-harming adolescents. James, Taylor, Winmill, and Alfoadari (2008) reported a significant decrease ($p < .001$) in episodes of deliberate self-harm in 16 females (M age = 16.4) between baseline, end of treatment, and follow-up (an average of 268 days after treatment cessation). Importantly, a large component of DBT specifically addresses the development of emotion regulation skills, indirectly supporting the model that deficits in emotion regulation contribute to the development and persistence of self-harming behavior.

Alexithymia

The term alexithymia was first suggested in 1972 and is a Greek word that can be translated as “lack of words for feelings” (Sifneos, 1996). Initially, alexithymia was identified in and thought to be restricted to clients with psychosomatic disorders. Today it is still viewed as a common trait in psychosomatic disorders but has also been identified in other diagnostic groups (Taylor & Bagby, 2004). Alexithymia is generally considered to involve a disturbance in a person’s cognitive-affective processing abilities (Taylor,

1984). It is believed to contain four characteristics. The first characteristic of alexithymia is a difficulty in identifying and describing feelings. Second, is a difficulty in distinguishing emotions from the bodily sensations often associated with emotional arousal. Third, is a restricted imagination. Finally, the fourth characteristic often identified in alexithymia is an externally oriented thinking style. Externally oriented thinking refers to a tendency to base decisions on environmental cues and reasoning rather than on one's internal feelings regarding the decision. Based on these four characteristics, the original Toronto Alexithymia Scale was developed (Bagby, Taylor, Quilty, & Parker, 2007). However, problems with reliability and validity of the items pertaining to restricted imagination led to their elimination from the measure. Analyses also suggested a simpler three factor format and this common set of three components now serves as the basis for the most widely used and accepted measure of alexithymia, the Twenty-Item Toronto Alexithymia Scale (TAS-20) (Bagby, Parker, Taylor, 1994; Bagby, et al., 2007). The three main components of alexithymia used in the TAS-20 are then 1) difficulty identifying ones own emotions, 2) difficulty in describing personal feelings to others, and 3) externally oriented thinking.

Research suggests that the deficits depicted in classic alexithymia may be related to problems with the development of affect in childhood (Taylor, 2000) and failed mastery of symbolic communication (Suyemoto & MacDonald, 1995). Consequently, people with alexithymia are often not able to effectively communicate their emotional distress to others (Taylor, 2000).

While alexithymia is often discussed and used in prevalence research in such a way that it appears to be a categorical disorder, i.e., that an individual either does or does

not possess it, recent research appears to indicate that alexithymia may be best conceptualized as a dimensional trait in which people have more or less difficulty with the processing of emotional information (Mason, Tyson, Jones, & Potts, 2005; Parker, Keefer, Taylor, & Bagby, 2008). Lane, Sechrest, Reidel, Weldon, Kaszniak, and Schwartz (1996) suggest that the difficulty putting emotion into words experienced by individuals with higher alexithymia scores may actually be indicative of a more overarching problem with the ability to process emotional information both verbally and nonverbally. In line with Lane et al.'s (1996) suggestion that the characteristics of alexithymia are indicative of general emotional processing deficits, Parker, Taylor, and Bagby (1993) found that students with alexithymia took significantly longer to process words meant to be emotionally evocative than a control group. This general difficulty in being able to evaluate, understand, and express emotion through typical verbal and nonverbal means may contribute to difficulty managing intense emotional states (Luminet, Vermeulen, Demaret, Taylor, & Bagby, 2006). An impaired ability to regulate strong affect in healthy ways may lead to the use of unhealthy methods to cope with negative affect.

Similar to deliberate self-harm, a clear etiology of alexithymia continues to elude researchers. In approximately the last thirty years, researchers have developed several theories about neurobiological components within the brain that may be related to the development of alexithymia, but experimental research is still limited. There are currently two dominate theories. The first is the intrahemispheric model. Research has implicated the right hemisphere in perception, evaluation, and expression of emotion and thus the intrahemispheric model suggests that alexithymia may be related to deficits in

functioning of the right hemisphere (Gundel, et al., 2004; Lumley & Sielky, 2000; Ovie, 1998). On the other hand, the second dominate theory, the interhemispheric model, suggests that the deficit is in the brain's ability to pass information from one hemisphere to the other (Lumley & Sielky, 2000; Ovie, 1998; Parker, Keightley, Smith, & Taylor, 1999). Research has suggested that alexithymia may result from physiological deficits that interfere specifically with right to left hemisphere transfer (Dewaraja & Sasaki, 1990). Another limited line of research has begun to explore the relationship between a lack of expression of emotion in an individual's family of origin and alexithymia (Kench & Irwin, 2000).

Regardless of the etiology of alexithymia, its presence can have adverse effects on therapeutic progress (Kennedy & Franklin, 2002). In general, a lack of emotional awareness may affect an individual's ability to form meaningful relationships, including one with the therapist. Often the relationships that are established by people with alexithymia remain superficial (Vanheule, Desmet, Meganck, & Bogaerts, 2007). Also, many types of therapy assume clients have access to their emotions and, therefore, address emotions in relation to the disorders or symptoms for which the client is seeking therapy. This is clearly problematic for an alexithymic client who has difficulty both identifying and expressing emotions. These clients may use feeling words but when questioned, cannot describe what they are experiencing that indicates that emotion (Krystal, 1979). Taylor (1984) expressed concern that psychodynamic approaches to therapy may not be effective for clients with high levels of alexithymia, and therapists should instead consider more supportive, educational, and behavioral approaches that require less emotionally based components while still allowing psychological progress.

Even the common technique of journaling may prove ineffective for clients with high alexithymia scores (Horneffer & Chan, 2009).

Depression as an Interacting Variable with Alexithymia

Although most researchers agree on the existence of alexithymia, some researchers have suggested that it is a state dependent characteristic related to levels of depression rather than a stable trait in itself (Hintikka, Honkalampi, Lehtonen, & Viinamaki, 2001; Honkalampi, Hintikka, Laukkanen, Lehtonen, & Viinamaki, 2001; Honkalampi, Hintikka, Saarinen, Lehtonen, & Viinamaki, 2000). Depression has in fact frequently been found to be associated with alexithymia (Honkalampi, et al., 2001; Ross & Heath, 2002; Taylor, Bagby, & Parker, 2003) and the Toronto Alexithymia Scale has sometimes been found to be significantly correlated with the Beck Depression Inventory (Hintikka, et al., 2001; Honkalampi, Tolmunen, Hintikka, Rissanen, Kylma, & Laukkanen, 2009). Some research suggests that this relationship with depression may only exist for the two feelings factors of the TAS and not to the externally oriented thinking factor (Hendryx, Haviland, & Shaw, 1991). This correlation between depression and at least some factors of alexithymia often lead to the assumption that alexithymia may be state dependent on depression (Luminet, Bagby, & Taylor, 2001).

On the other hand, several research articles have found that, although alexithymia scores do tend to decrease as depression scores decrease, alexithymia scores prior to treatment continue to be predictive of alexithymia scores after treatment (Luminet, et al., 2001; Stingl, Bausch, Walter, Kagerer, Leichsenring, & Leweke, 2008). These findings suggest that alexithymia displays relative stability. Relative stability indicates that, although an individual's actual score may fluctuate over time, a person with a high

alexithymia score at time one will likely continue to have an elevated score at time two. Stingl et al. (2008) found a significant correlation in patients' TAS-20 scores before and after treatment ($r = .58, p < .001$). In regards to absolute stability, Stingl et al. (2008) also found that the decrease in alexithymia scores with treatment was no longer significant after depression and psychological distress were controlled. In addition, Salminen, Saarijarvi, Aarela, and Tamminen (1994) and Saarijarvi, Salminen, Tikka, and Toikka (2000) both found no significant changes in alexithymia scores over a one year period despite significant changes in psychological distress ratings. A study conducted by Parker, Bagby, and Taylor (1991) used factor analysis to assess the factors measured by the *Beck Depression Inventory* and the original *Toronto Alexithymia Scale*. Their results did not find any significant overlap in the factors of the two scales, and the authors concluded that depression and alexithymia are in fact two distinct constructs. This collection of mixed findings suggests that future studies need to continue to explore the relationship between alexithymia and depression.

Research on the Relationship Between Affect and Deliberate Self-Harm

As reviewed previously, many theories have been suggested to explain the etiology of deliberate self-harm. Although the research conducted by Suyemoto and MacDonald (1995) supporting affect related etiologies was based solely on practitioner opinion, additional articles also support the theory that emotion regulation, control, or expression plays a significant role in self-harm behavior. In a review of the literature on self-harm theories, Klonsky (2007) found that the affect regulation theory had the strongest support across the 18 articles reviewed. Personal responses in qualitative studies also appear to support this theory and describe deliberate self-harm as, "a way of trying to

get emotions out” (Crouch & Wright, 2004, p. 192) and, “a way of communicating the pain within” (Harris, 2000, p. 167). In a study by Moyer and Nelson (2007), an adolescent described self-harm as, “a way to allow feelings out” (p. 44). In other studies 73% of self-harming participants indicated that they often cannot find words to express their feelings (Favazza & Conterio, 1989), and 53% reported that they self-harm to stop negative feelings (Nock & Prinstein, 2004). Research also supports the role of self-harm in modifying emotion. For example, Warm et al. (2002) found that 86.6% of self-harming participants reported feeling depressed before self-harming and only 39.3% felt depressed after they self-harmed.

A recent study of 106 female members of a self-harm support group asked participants to complete the Self-Injury Motivation Scale (Kamphuis, et al., 2007). The scale included 37 items that addressed six reasons for self-harm found through factor analyses of a separate inpatient sample. The six reasons include affect modulation, loneliness, self-punishment, to influence others, control, and self-stimulation. Paired *t* tests indicated that affect regulation was endorsed significantly more than the other five reasons for deliberate self-harm.

Gratz (2006) investigated the role of risk factors in the development of deliberate self-harm in female college students. This study empirically evaluated the presence of three risk factors that are commonly suggested in the literature: childhood maltreatment, emotional inexpressivity, and affect intensity. Of specific interest was the relationship found between deliberate self-harm and levels of emotional expressivity. Gratz concluded that higher levels of emotional inexpressivity were significantly correlated with greater frequency of self-harm behaviors ($r = .32, p < .01$). This finding supports the hypothesis

that deliberate self-harm may serve to express emotion that the individual is unable to express in other ways. A more recent Gratz (2008) study also found self-harming participants to have higher levels of emotion dysregulation. Difficulties were particularly noted in the areas of emotional awareness and emotional clarity.

Despite a more substantial body of literature supporting the role of affect regulation difficulties in deliberate self-harm, only a few articles have begun to look beyond this general idea to a more specific affect related etiology through the exploration of the connection between deliberate self-harm and alexithymia (Evren & Evren, 2005; Paivio, & McCulloch, 2004; Polk, & Liss, 2007; Zlotnick, et al., 1996).

Evren and Evren (2005) explored this connection in substance-dependent adult men. The relationship between alexithymia, other personality traits, and deliberate self-harm was explored in order to gain a better understanding of individuals who self-harm and thereby develop effective treatment options. The participants included a group of 47 men who had a history of self-harm and 89 men who reported no history of such behavior. The prevalence of alexithymia was evaluated using the Turkish translation of the Twenty-Item Toronto Alexithymia Scale (TAS-20). Findings indicated that the self-harm group of men was significantly more alexithymic than the control group of men. Two of the three TAS-20 factors, difficulty identifying feelings and difficulty describing feelings, were found to be significantly related to the presence of self-harm behavior. Scores on the third factor of the TAS-20, externally oriented thinking, were not found to be significantly different between the two groups. Based on these results, Evren and Evren suggest that self-harm may be related to difficulty identifying and verbalizing feelings. However, they indicated that this relationship may have been related to higher

levels of depression in self-harming clients. Another limitation of this study is that only a clinical sample of Turkish males was used, possibly limiting the generalizability of the study's results. Finally, a psychometrically sound measure of self-harm was not used.

Polk and Liss (2007) used a different approach to studying deliberate self-harm and alexithymia. In this study discriminant function analyses were used to determine what factors would play a significant role in distinguishing two groups of self-harming individual from a control group without a history of deliberate self-harm. The three sample groups included a non-self-harming college group ($n = 155$, M age = 18.79), a self-harming college group ($n = 39$, M age = 19.18), and a group of self-harming individuals recruited from a self-help website for self-harm ($n = 220$, M age = 22.59). All groups included male and female participants, but substantially more participants were female. Participants completed the Dissociative Experiences Questionnaire, Twenty Item Toronto Alexithymia Scale, Childhood Trauma Questionnaire, and the Trauma Symptoms Checklist. The two groups of self-harming participants also completed an informal questionnaire developed for the study that asked for information about methods of self-harm, frequency of self-harm, and the experience of pain during self-harming acts. A discriminant function analysis indicated a significant function for differentiating the non-self-harm group from the self-harming sample of individuals recruited from a self-help website ($\chi^2 = 446.72$, $p < 0.001$). Depression and emotional neglect most substantially contributed to the differentiation between the two groups, with anxiety, sexual abuse, emotional abuse, and two subscales of the TAS-20 also being strongly related to the discriminant function. Specifically, the Difficulty Identifying Feelings factor of the TAS and the Difficulty Describing Emotions factor both obtained

correlations above 0.50 with the discriminant function. The factors included in this study could not significantly distinguish the college self-harming group from the other two groups ($\chi^2 = 16.30, p = 0.295$). The authors propose that the college self-harming sample could not be significantly distinguished from the other two groups because they reported less frequent and severe self-harm and thus were on a continuum between the other two groups in relation to psychological characteristics. The significant limitation of this study is the failure to use a standard, psychometrically sound measure of deliberate self-harm.

Further support for a relationship between deliberate self-harm and alexithymia is found in a study conducted by Zlotnick et al. (1996). Zlotnick and colleagues explored the relationship between several factors proposed to be related to self-harm (sexual abuse, dissociation, and alexithymia) and actual self-harm behavior in a sample of adult women. The final sample included 103 patients from a women's psychiatric unit who reported engaging in self-harm in the three months prior to the study and 45 patients who had not engaged in self-harm in at least 3 months. The average age for the subjects was 33 years. Self-harm behavior was assessed using a questionnaire developed by the authors, the Self-Injury Inventory. The measure included a number of items that the authors determined to be indicative of self-harm behaviors, including indirect methods of self-harm, such as driving recklessly and taking large amounts of drugs. Alexithymia was assessed using the original 26-item Toronto Alexithymia Scale (TAS). The TAS consists of four factors: ability to identify feelings, externally oriented thinking, ability to communicate feelings, and ability to daydream. Analyses explored differences between the women who had recently engaged in self-harm and those who had not done so in three months. A significant correlation was found between scores on the TAS and self-

harm behavior ($r = .33, P < .001$). Subjects who had recently self-harmed had significantly higher overall scores for alexithymia than the group who had not recently self-harmed. Despite these significant findings, there were several limitations to this study. First, the control group was only a group of patients with no recent history of self-harm. The control group had significantly fewer incidences of self-harm in their lifetime than the self-harm group, but they still had completed, on average, 5.73 acts of self-harm. Second, the definition of self-harm used in the study included non direct forms of self-harm such as driving recklessly. Factors related to engaging in these indirect behaviors may be different than the etiology related to directly causing bodily harm. Finally, the measure of self-harming behavior used was developed by the authors for the study and was not assessed for reliability and validity prior to its use.

Another study directly examined the relationship between deliberate self-harm and alexithymia (Paivio & McCulloch, 2002). Using a sample of 100 female undergraduate students (M age = 21), the researchers examined alexithymia as a mediator between childhood trauma and self-harm. Participants completed the Childhood Trauma Questionnaire, the Twenty-Item Toronto Alexithymia Scale, and the Self-Injurious Behaviors Questionnaire. The Self-Injurious Behaviors questionnaire was developed for use in this study. Of the participants, 41% reported at least one act of deliberate self-harm in their lifetime. Correlational analyses found a significant relationship between TAS-20 scores and scores of the Self-Injurious Behaviors Questionnaire ($r = .45, p = .01$). Also, alexithymia scores mediated the relationship between childhood maltreatment and deliberate self-harm for all types of abuse and neglect except sexual abuse. Despite finding a significant relationship between self-harm and alexithymia, the measure used to

assess self-harm behavior is a limitation for the study. The authors calculated an alpha coefficient of .84 for the Self-Injurious Behaviors Questionnaire with this sample, but no additional psychometric data was collected on the measure.

The Present Study

The purpose of the present study was to expand previous research on deliberate self-harm and alexithymia to adolescents, as well as address some of the limitations of previous studies. To address limitations, first the study employed only those measures that have been empirically demonstrated to be psychometrically sound. Furthermore, the BDI-II was given in order to explore the potential confounding influence that depression may have on the relationship between alexithymia and deliberate self-harm.

This research attempted to offer further insight into the variables that are related to the development and persistence of deliberate self-harm behavior. Alexithymia likely hinders progress in typical therapies and by determining the relationship between deliberate self-harm and alexithymia, therapists and other professionals may be able to develop more effective treatments for their self-harming clients. The clinical persistence of deliberate self-harm may be related to its roots in alexithymia, which in itself has been traditionally difficult to treat. A connection between alexithymia and deliberate self-harm may suggest treatment approaches that focus more on the improvement of emotion identification and expression skills, as well as use of less affect based methods such as supportive, educational, and behavioral methods until emotion expression abilities have been further developed.

It is hypothesized that a significant relationship will be found between alexithymia and deliberate self-harm behavior. More specifically, the deliberate self-harm

group is expected to obtain higher total TAS-20 scores than the non-self-harm group.

Also, a significant positive relationship is expected to be found between the severity of deliberate self-harm behavior and total scores on the TAS-20. Analyses of individual factors of the TAS-20 are expected to find a significant positive relationship between DSHI scores and factors one and two of the TAS-20, but not for factor three (externally oriented thinking). The differences between groups are expected to remain after controlling for depression.

CHAPTER II

METHOD

Participants

A total of 30 participants completed all measures of the study. The participants were divided into two groups, with 13 (43.3%) participants in the group that indicated a life-time prevalence of deliberate self-harm and 17 (56.7%) in the group indicating no past instances of self-harm. The group size was determined based on reported self-harm behavior of available participants. Research is conflicting in regards to gender differences in self-harm, but some research suggests that it may be more prevalent in females. Therefore, the study of self-harm in females may be more broadly applicable and access to self-harming participants may be greater for female samples. For these reasons, study participants were all female. The two groups were from inpatient treatment facilities because of the availability of direct supervision and resources in the event that participation in the study triggered the desire to self-harm. All participants were between the ages of 13 and 18 ($M = 15.5$, $SD = 1.17$). The racial composition of participants across samples was 14 (46.7%) African American, 11 (36.7%) Caucasian, and 5 (16.7%) biracial. The average participant grade level was 9.53 ($SD = 1.08$). Frequency and

percentages for endorsement of self-harm, age, race, and grade are provided in Table 1. No significant differences were found between the self-harm and no self-harm groups in relation to age, $t(1,28) = -1.80$, $p = .08$, or grade, $t(1,28) = -1.99$, $p = .06$. Eight participants were aided in reading all or some of the words by the program director or researcher. Help in reading was provided upon participant request.

Table 1

Frequency and Percentages for Self-Harm Endorsement, Age, Race, and Grade

Variable	Frequency	Percent
Self-Harm Endorsement		
Self-Harm	13	43.3
No Self-Harm	17	56.7
Age		
13	1	3.3
14	6	20.0
15	7	23.3
16	9	30.0
17	7	23.3
Race		
African American	14	46.7
Caucasian	11	36.7
Biracial	5	16.7
Grade		
8	6	20.0
9	8	26.7
9.5	1	3.3
10	9	30.0
10.5	1	3.3
11	4	13.3
12	1	3.3

$N = 30$

Measures

Demographics Questionnaire. A brief demographic questionnaire was given to each participant. The form asked for information about age, gender, race/ethnicity, current grade level, and past therapy attendance (See Appendix A). As the age, grade, and

reading level of participants was expected to vary, an item was included on the demographic form for participants to indicate if someone helped them to read the questions on one or more measures included in the study.

Deliberate Self-Harm Inventory. The Deliberate Self-Harm Inventory (DSHI) is a 17-item self-report questionnaire that assesses deliberate self-harm behavior (Gratz, 2001) (See Appendix B). The items of the DSHI were written based on a comprehensive definition of deliberate self-harm, clinical observations, client reports of their behavior, and common behaviors described in the literature. Example items include: "Have you ever intentionally cut your wrist, arms, or others areas of your body without intending to kill yourself?", "Have you ever intentionally burned yourself with a cigarette?", and "Have you ever intentionally severely scratched yourself to the extent that scarring or bleeding occurred?" Participants respond with a "yes" or "no" and, if "yes", are then asked to elaborate regarding characteristics of the behavior, such as, when the first and last incident occurred, how often the behavior occurs, and for how long the behavior has been occurring. Total frequency of deliberate self-harm is calculated by summing the subjects frequency responses for each of the items. Item 17, which asks about other self-harm behaviors not included in the DSHI, is only included in the total if the behavior described is judged to be an act of deliberate self-harm based on the provided definition. The criterion definition for deliberate self-harm is the "direct destruction or alteration of body tissue without conscious suicidal intent, but resulting in injury severe enough for tissue damage to occur" with the exclusion of professional piercing, tattooing, and gang affiliated word or picture carving (Gratz, 2001, p.255). The lowest frequency score possible is 0, however, as individuals are asked to report all acts of self-harm they have

engaged in for each of the types of self-harm questioned, there is no upper limit for the measure of self-harm frequency. Related to frequency, researchers could determine from the “yes” or “no” response for each item, the number of methods of self-harm used by each respondent. If no items are endorsed, 0 methods would be used. If all items were endorsed, the total number of methods could exceed 17 if individuals indicated more than one method for the open ended item. Additionally, subjects can be classified as either having engaged or not engaged in deliberate self-harm based on whether the subject responded “yes” to any of the 17 items. The criterion for determining inclusion of Item 17 again applies. Thus, each subject receives a “1” if she has circled yes for any items or a “0” if all items received a “no” response. Responding “yes” to one or more items resulted in the participant being included in the self-harm group of this study.

The psychometric properties of the DSHI were evaluated with a group of 150 undergraduate psychology students (Gratz, 2001). Internal consistency was found to be high ($\alpha = 0.82$), as was test-retest reliability after a mean retest interval of 3.3 weeks ($\phi = 0.68$). A modified version of the DSHI created by Bjarehed and Lundh (2008) supports test retest reliability after 6 weeks ($r = .85$). In order to assess construct validity, discriminant validity, and convergent validity, the DSHI was compared to other measures of self-harm, as well as measures assumed not to be related to deliberate self-harm such as age, and average number of hours worked (Gratz, 2001). As expected the DSHI was significantly correlated with other measures of self-harm (ϕ 's ranging from 0.35 to 0.49). DSHI scores were not significantly related to the variables of age ($\phi = -0.11$) or number of hours worked ($\phi = -0.10$), which continues to support the initial validity of the measure. A more recent study evaluated the DSHI in German (Fliege, et al., 2006).

Results indicate good internal consistency ($\alpha = .81$, split-half $r = .78$) and high test retest reliability for the frequency calculation of self-harming behavior ($r = .91$). Data analyses also suggested adequate test retest reliability for the dichotomous measurement of deliberate self harm, but to a less substantial degree ($\phi = .49$).

It has been suggested that the DSHI may result in inflated prevalence scores because of the broad range of types of deliberate self-harm included in the measure (Bjarehed & Lundh, 2008). Bjarehed and Lundh (2008) assessed the possibility that the DSHI may be too inclusive and thus contain items that may not be related to psychopathology as deliberate self-harm often is. Their findings indicated that all items on the DSHI were sufficiently correlated with a measure of psychopathology. These results suggest that the DSHI is not overly inclusive, but includes a comprehensive assessment of types of self-harm related to psychopathology.

Twenty-Item Toronto Alexithymia Scale. The Twenty-Item Toronto Alexithymia Scale (TAS-20) (See Appendix C) is a 20-item self-report measure for assessing alexithymia, including difficulty in identifying feelings, difficulty expressing emotion, and externally oriented thinking (Bagby, Parker, et al., 1994). The original Toronto Alexithymia Scale was developed by Taylor, Ryan, and Bagby in 1985 and it was revised in order to create a measure that would have increased reliability and validity while continuing to fit the construct of alexithymia as based on factor analyses. Research has supported alexithymia as a multidimensional construct as it is measured by the TAS-20 (Hendryx, et al., 1991). The resulting TAS-20 is currently the most commonly used measure of alexithymia in both research and clinical settings (Parker, Taylor, & Bagby, 2003). Subjects respond to each item based on a five-point Likert scale that ranges from 1

(*strongly disagree*) to 5 (*strongly agree*). Items 4, 5, 10, 18, and 19 are reverse scored (i.e., 1 = 5, 2 = 4, etc.). A total score and three factor scores are derived. The total score has a minimum of 20 and the maximum total score possible is 100. Factor 1 (F1) assesses the individual's ability to identify feelings as well as distinguish between bodily sensations and emotions and includes 7 items. The second factor (F2) examines the ability to communicate feelings to other people and includes 5 items. Finally, Factor 3 (F3) includes 8 items and is a measure of externally oriented cognitive style. Externally oriented thinking includes using external cues and reasoning for decision making as opposed to internal cues. Table 2 indicates each factor and its corresponding items. The maximum scores for factors one, two, and three are 35, 25, and 40 respectively.

This three factor model has been supported in both clinical and nonclinical populations (Loas, et al., 2001; Parker, Bagby, Taylor, Endler, & Scmitz, 1993). Parker et al. (1993) tested the three factor structure of the TAS-20 in three samples of individuals from the United States, Germany, and Canada. The three factor structure was replicable in all three countries. The interrelationships between the three factors of the TAS-20 have also been found significant (Loas, et al., 2001; Parker, Bagby, et al., 1993). The parameter estimates for the relationship between factors one and two has consistently been found to be .71. The relationship between factors two and three has also been consistent at .39. The relationship between factor one and factor three has been less consistent with parameter estimates of .28 and .35; however the relationship was significant in both instances.

The overall TAS-20 score is viewed on a continuum, but benchmark scores are suggested and are often used for the purpose of determining prevalence rates. Scores ≥ 61

are considered to represent subjects with alexithymia and scores ≤ 51 are stated to represent “nonalexithymic” individuals. Scores between 51 and 61 are not labeled. Internal reliability for the overall score appears to be high with reported alphas ranging from 0.79 to 0.86 (Bagby, Parker, et al., 1994; Parker, et al., 1993; Parker, et al., 2003). The factor scores are also reliable with alpha values of 0.78, 0.75, and 0.66 for F1, F2, and F3, respectively, in one study (Bagby, Parker, et al., 1994) and 0.78, 0.73, and 0.64, respectively, in a second study (Parker et al., 1993).

Taylor, Bagby, and Parker (2003) conducted a literature review to examine the internal reliability of the TAS-20 across languages and cultures. Their review revealed studies of the TAS-20 in 19 different languages across 22 countries and found alpha values greater than .70 (recommended standard level to demonstrate reliability) for all countries and languages, except for one study in Poland that obtained an alpha coefficient of only .68. Test-retest reliability after three weeks appears to be adequate as well ($\phi = 0.77$). Support has also been found for construct validity (Lumley, Gustavson, Partridge, & Labouvie, 2005), as well as concurrent and convergent validity (Bagby, Taylor, & Parker, 1994). While the pilot sample for the TAS-20 only included adults, research precedence suggests its potential for use with adolescents as well (Honkalampi, et al., 2009; Horton, Gewirtz, & Kreutter, 1992; Kemal, Kose, Grabe, & Topbas, 2005; Zimmerman, 2006). In the present study, total TAS-20 scores and scores for each factor were evaluated in relation to deliberate self-harm.

Table 2

TAS-20 Factors with Item Loadings

Factors	Item Text
Factor 1	
<i>Difficulty Identifying Feelings</i>	
Item 1	I am often confused about what emotion I am feeling
Item 3	I have physical sensations that even doctors don't understand
Item 6	When I am upset, I don't know if I'm sad frightened or angry
Item 7	I am often puzzled by sensations in my body
Item 9	I have feelings I can't quite identify
Item 13	I don't know what's going on inside me
Item 14	I often don't know why I am angry
Factor 2	
<i>Difficulty Describing Feelings</i>	
Item 2	It is difficult for me to find the right words for my feelings
Item 4 reverse scored	I am able to describe my feelings easily
Item 11	I find it hard to describe how I feel about people
Item 12	People tell me to describe my feelings more
Item 17	It is difficult for me to reveal my innermost feelings, even to close friends
Factor 3	
<i>Externally-Oriented Thinking</i>	
Item 5 reverse scored	I prefer to analyze problems rather than just describe them
Item 8	I prefer to just let things happen rather than understand why they turned out that way
Item 10 reverse scored	Being in touch with emotions is essential
Item 15	I prefer talking to people about their daily activities rather than their feelings
Item 16	I prefer to watch "light" entertainment shows rather than psychological dramas
Item 18 reverse scored	I can feel close to someone, even in moments of silence
Item 19 reverse scored	I find examination of my feelings useful in solving personal problems
Item 20	Looking for hidden meanings in movies or plays distracts from their enjoyment

© (Taylor, Bagby & Parker, 1992)

Beck Depression Inventory-II. The Beck Depression Inventory – Second Edition (BDI-II) is a measure of depression that was revised from its original form in 1996 to better fit the diagnostic criteria of the *Diagnostic and Statistical Manual of Mental*

Disorders – Fourth Edition (DSM-IV). The BDI-II is a 21-item self-report measure in which participants rate themselves from 0 to 3 on each item, with higher scores suggesting greater severity of depression. Each item relates to a specific symptom. For example, item 1 assesses feelings of sadness and asks the informant to indicate which response best describes how they have felt during the past two weeks from the options of “0 = I do not feel sad, 1 = I feel sad much of the time, 2 = I am sad all the time, or 3 = I am so sad or unhappy that I can’t stand it.” Item responses are totaled to get an overall score, which can then be labeled as minimal, mild, moderate, or severe depression. An initial psychometric evaluation has been conducted for the BDI-II (Beck, Steer, Brown, 1996). The sample for this evaluation included a group of 500 outpatients and 120 college students. Statistical analysis revealed strong internal consistency ($\alpha = .92 - .93$) and a significant test-retest correlation of .93. High internal consistency has also been found in additional studies ($\alpha = .90$) (Whisman, Perez, & Ramel, 2000). The items on the BDI-II are related directly to DSM-IV criteria for depressive disorders and scores on the BDI-II are positively correlated with an existing measure of depression. The BDI-II includes two factors, somatic-affective and cognitive. This two-factor structure has been supported by research (Storch, Roberti, & Roth, 2004). These characteristics suggest validity for the BDI-II.

Procedure

Participants were clients from approved residential and day treatment programs. Data were collected from participants by the author in small groups of 3-6 at the residential facility in the presence of the clinical director after consent forms were received. Data were collected individually at the day treatment program when consents

were received. All participants were provided with the same general information about the study and the four questionnaires were presented in an envelope with the demographic form first, the *Beck Depression Inventory* (BDI-II) last, and the *Deliberate Self-Harm Inventory* (DSHI) and *Twenty-Item Toronto Alexithymia Scale* (TAS-20) counterbalanced in the second and third positions.

Consent for participation was obtained from each client's legal guardian (See Appendix D). If consent was given, clients were encouraged to participate for the benefits that information about depression, alexithymia, and self-harm behavior might have on treatment planning. Therefore, the results of the TAS-20, the BDI-II, and the DSHI were summarized and provided to each participants' assigned therapist and the program director. Assent was also sought from clients in order to inform them of the purpose, procedure, and confidentiality limits of this study (See Appendix E). The study and the limits of confidentiality were explained to potential participants verbally after consent was obtained from their guardian. At the meeting to introduce the study and seek assent, clients were told the following:

I am here because I am interested in learning about self-harm. Self-harm is when a person purposely hurts themselves by doing something to their bodies that leaves marks such as bruises or scars. I am not talking about suicide attempts, but only causing damage to hurt yourself, but not to die. Examples include: someone who cuts his/her arm with a razor blade, or bangs his/her head against hard objects, or burns him/herself with lighters. Some of the questions you will be answering may ask about things related to self-harm, such as your feelings. Please take your time to answer each question as honestly as you can. The information you give will help us better understand self-harm and then hopefully doctors and psychologists will be better able to help people who do self-harm. Some of the questions I'll be asking are about things that your therapist already knows about you or might want to know about you, like how you're feeling and things about self-harm. So, after you fill out the forms your therapist will be able to see them to help make decisions about how to best help you. Please fill

out the forms in the order that they are in your packets and turn them in to me when you are finished. Each person will have a number on their forms instead of a name and only the program director will know what your number is. Your name will not be on anything except the consent and assent forms which will be kept here at [facility's name]. None of the information will leave this building with your name on it. If you would like to talk about anything that you are thinking or feeling as a result of filling out your forms, please talk to a staff member or your therapist. If you choose to participate you are allowed to leave any questions blank that you do not want to answer and if you become uncomfortable at any time after you start you are allowed to quit and go back to your daily activities with no negative consequences. Any questions?

Clients were asked to review and sign an assent form if they agreed to participate.

Those who chose not to participate returned to the facility's planned activity and those who assented remained in the meeting room to complete the questionnaires. They were reminded to take their time and that their therapist would be available to talk to them at their request after completing the measures if questions or uncomfortable feelings arose. Participants were permitted to ask the researcher or the clinical director questions if they did not understand an item and those who could not read the forms independently were permitted to fill out the forms as the clinical director read them aloud. If the client had assistance in reading or filling out the forms, it was indicated on the demographics form.

After the participant completed their questionnaires, debriefing information was given verbally (See Appendix F). This was done individually at the day program and to small groups at the residential program.

CHAPTER III

RESULTS

Mean and standard deviation on the TAS-20 and BDI-II across all participants, as well as between the self-harm and non-self-harm groups, are summarized in Table 3.

Table 3

Means, Standard Deviations, Effect Size, Power, and Differences Between Groups for TAS-20 and BDI-II Scores

Variable	Overall Mean (SD)	Self-Harm Non-Self-Harm		$M_1 - M_2$	Effect Size	Power
		M_1	M_2			
TAS-20	50.97 (13.21)	53.85	48.76	5.09	.04	.17
Factor 1	15.07 (7.32)	17.23	13.41	3.82	.07	.29
Factor 2	13.37 (5.00)	15.08	12.06	3.02	.09	.37
Factor 3	22.80 (3.71)	22.15	23.29	-1.14	.02	.13
BDI-II	15.30 (11.27)	21.85	10.29	11.56	.27	.87

Note: $N = 13$ for self-harm group, $N = 17$ for non-self-harm group; Effect Size = Partial Eta Squared

Deliberate Self-Harm and Alexithymia

Univariate analyses of variance did not find significant differences between the self-harm and non-self-harm groups for the TAS-20 total score, $F(1,28) = 1.09$, $p = .31$, TAS-20 Factor 1, Difficulty Identifying Feelings, $F(1,28) = 2.08$, $p = .16$, TAS-20 Factor 2, Difficulty Describing Feelings, $F(1,28) = 2.86$, $p = .10$, or TAS-20 Factor 3, Externally Oriented Thinking, $F(1,28) = .69$, $p = .41$. However, analyses indicated that mean differences between groups for each of these factors were in the hypothesized

direction with TAS-20, TAS-20 Factor one, and TAS-20 Factor two scores being higher in the group of individuals who self-harm and less difference occurring in the between group mean for TAS-20 Factor 3. Although the mean differences were in the expected direction, the effect sizes were small (all less than .10) and the observed power to detect such small effects (if present) was at best .379 (see Table 3).

Prior to calculating correlation coefficients between severity, as measured by frequency of self-harm behavior in the self-harm group, and TAS-20 factors, frequency counts were adjusted. Three participants indicated having self-harmed more times than they were able to track, resulting in missing values for self-harm frequency for these individuals. Therefore, the mean frequency of self-harm was calculated for the self-harm group ($M = 53.20$) and this value was used for the three missing data points. Pearson correlational analyses between adjusted deliberate self-harm frequency and TAS-20 Total ($r = -.06, p = .86$), TAS-20 Factor 1 ($r = -.10, p = .76$), TAS-20 Factor 2 ($r = .04, p = .91$), and TAS-20 Factor 3 ($r = -.19, p = .54$) were not significant.

The number of self-harm methods participants engaged in was used as an additional indicator of severity and was correlated with TAS-20 scores. The number of self-harm methods used by participants may be a more reliable indicator because self-reported values were available for all participants and no adjustments were required as with the self-harm frequency variable. Pearson correlations between number of self-harm methods and TAS-20 scores within the self-harm group revealed a significant relationship between TAS-20 Factor 1 and methods ($r = .56, p = .05$), but nonsignificant relationships were found between number of self-harm methods and TAS-20 Total ($r = .45, p = .13$), TAS-20 Factor 2 ($r = .38, p = .20$), and TAS-20 Factor 3 ($r = .04, p = .91$).

In order to include an increased range in self-harm methods, related correlational analyses assessed the relationship between number of methods of self-harm and TAS-20 scores across all participants. Results indicated significant correlations between number of self-harm methods used and TAS-20 Total ($r = .37, p = .04$), TAS-20 Factor 1 ($r = .46, p = .01$), and TAS-20 Factor 2 ($r = .43, p = .02$) scores. The relationship between self-harm methods and TAS-20 Factor 3 was not significant ($r = -.10, p = .57$).

Controlling for Depression

A univariate analysis of variance indicated that there was a significant difference in BDI-II scores between the self-harm ($M = 21.85$) and non-self-harm groups ($M = 10.29$), $F(1, 28) = 10.20, p = .003$.

An analysis of covariance was conducted to determine if the relationship between the self-harm and non-self-harm groups would be altered by factoring out the impact of depression. The data indicate that the relationship between self-harm and alexithymia scores continues to be non-significant after controlling for depression, $F(1,28) = .177, p = .68$.

A Pearson correlation indicated a significant relationship between the BDI-II and the TAS-20, $r = .49, p = .006$.

CHAPTER IV

DISCUSSION

This study is the first to assess the role that emotion identification and expression abilities play in deliberate self-harming behavior for adolescent females in clinical settings. Understanding the role of emotion identification and expression in self-harm may improve upon the current limited ability to create effective treatment options for this population. Previous studies have examined the relationship between deliberate self-harm and emotion expression, as measured by an alexithymia measure, in adult populations. However, this study is the first to use a measure of self-harm with established reliability and validity in a comparison of self-harm and alexithymia.

Basic comparison of mean TAS-20 scores across groups supports the directionality of the hypotheses, indicating that the TAS-20 total, factor one (difficulty identifying feelings), and factor two (difficulty describing feelings) scores are higher in participants who self-harm than those who do not. However, statistical analyses revealed that the mean differences represented small effects and were not significant. Given the directionality of the findings and given that this study did not have sufficient power to detect the significance of such small effects, future research with larger sample sizes is needed before the original hypotheses are totally rejected.

Although significant results were not obtained between groups for the dichotomous variable of self-harm, findings do indicate a significant correlational relationship between TAS-20 total, factor one, and factor two scores across all participants and the number of self-harming methods used by participants. This finding lends support to the hypothesis that severity of self-harm may be related to difficulty identifying and expressing feelings. Also as hypothesized, factor three of the TAS-20, externally oriented thinking, was found not to be significantly related to self-harm severity. The other measure of self-harm severity, frequency, was not found to be significant in relation to TAS-20 scores within the self-harm group as hypothesized. This result was likely related to a small sample size and perhaps influenced by the missing and, therefore, adjusted data. Three participants indicated that they had self-harmed too many times to count. To replace the missing frequency variable for those participants, mean frequency of self-harm for those in the self-harm group was calculated.

As discussed in the introduction, the most supported etiological explanation for self-harm is that self-harm behaviors serve to manage negative emotion. While data analyses do not support the hypothesis that a significant relationship exists between alexithymia and deliberate self-harm, mean differences in the hypothesized direction suggest that in a study with more power, findings may have been significant. The mean differences on factors one and two of the TAS-20 between participants who self-harm and those who do not indicate some support for past research that has implicated emotion management in etiology and perpetuation of self-harm. This study also adds to the existing research to suggest that in clinic based adolescents self-harm may be specifically related to difficulties with identifying and describing feelings.

An additional goal of this study was to determine if differences between groups would remain after controlling for depression. As a significant relationship was not found between deliberate self-harm groups and alexithymia, non-significant findings would also be expected when depression is factored out. An analysis of covariance indicated that the relationship between self-harm and alexithymia continues to be non-significant after factoring out the influence of depression. Therefore, the findings of this study make it difficult to determine if alexithymia appears to be a state dependent trait related to depression.

The largest limitation of this study is sample size. The task of asking adolescents about self-harm behavior remains a controversial topic and limited the number of participants that could be recruited. Unfortunately, it is difficult to make definitive conclusions about what findings would result if a larger sample, and, therefore, greater statistical power, had been available.

Another important note and limitation of this study is that all participants were adolescent girls in residential or day treatment programs. Comorbid diagnoses of mental illnesses such as Major Depressive Disorder, Post Traumatic Stress Disorder (PTSD), and Conduct Disorder may have impacted the findings in several ways. First, PTSD has been found to increase the presence of alexithymia in individuals. For this reason, the diagnosis of PTSD may have been a confounding variable in the analyses of the relationships between alexithymia scores and deliberate self-harm. Second, the presence of major depressive symptoms or conduct disorder symptoms may have impacted the participants' ability to understand and respond appropriately to some of the emotionally laden items on the self-report measures. Finally, the general severity of self-harm,

depression, and alexithymia scores, particularly in the residential participants, may have restricted the range of scores and affected data outcomes.

To address generalizability, future studies need to apply this research to community samples of adolescents. The psychological characteristics between typical high school adolescents and adolescents in residential treatment may vary substantially and thus limit the application of this study to more typical teens. As research has indicated, self-harm is no longer considered only a symptom of other mental health illnesses. This suggests that adolescents who are not in treatment for mental illness will engage in deliberate self-harm and need effective treatments as well.

Despite sample size and generalizability limitations, this study may serve as a good preliminary analysis of the role emotion identification and expression may play in the self-harm behavior of adolescents.

APPENDIX A
DEMOGRAPHICS QUESTIONNAIRE

1. How old are you? _____
2. Are you MALE or FEMALE? (circle one)
3. What is your race/ethnicity?
 - a. Caucasian (white)
 - b. African-American
 - c. Hispanic
 - d. Asian
 - e. Native American
 - f. Other _____
4. What grade are you currently in? _____
5. Are you currently or have you in the past been in psychological therapy or counseling?
(circle one) YES or NO
6. Is someone helping you read and/or fill out these forms? (circle one) YES or NO

APPENDIX B

THE DELIBERATE SELF-HARM INVENTORY

This questionnaire asks about a number of different things that people sometimes do to hurt themselves. Please be sure to read each question carefully and respond honestly. Often, people who do these kinds of things to themselves keep it a secret, for a variety of reasons. However, honest responses to these questions will provide us with greater understanding and knowledge about these behaviors and the best way to help people. Please answer yes to a question only if you did the behavior intentionally, or on purpose, to hurt yourself. Do not respond yes if you did something accidentally (e.g., you tripped and banged your head on accident). Also, please be assured that your responses will be kept completely confidential.

1. Have you ever intentionally (i.e., on purpose) cut your wrist, arms, or other area(s) of your body (without intending to kill yourself)? (circle one)

1. Yes 2. No

If yes,

How old were you when you first did this? _____

How many times have you done this? _____

When was the last time you did this? _____

How many years have you been doing this? (if you are no longer doing this, how many years did you do this before you stopped?) _____

Has this behavior ever resulted in hospitalization or injury severe enough to require medical treatment? _____

2. Have you ever intentionally (i.e., on purpose) burned yourself with a cigarette? (circle one):

1. Yes 2. No

If yes,

How old were you when you first did this? _____

How many times have you done this? _____

When was the last time you did this? _____

How many years have you been doing this? (if you are no longer doing

this, how many years did you do this before you stopped?) _____
Has this behavior ever resulted in hospitalization or injury severe enough
to require medical treatment? _____

3. Have you ever intentionally (i.e., on purpose) burned yourself with a lighter or match? (circle one)

1. Yes 2. No

If yes,

How old were you when you first did this? _____
How many times have you done this? _____
When was the last time you did this? _____
How many years have you been doing this? (if you are no longer doing
this, how many years did you do this before you stopped?) _____
Has this behavior ever resulted in hospitalization or injury severe enough
to require medical treatment? _____

4. Have you ever intentionally (i.e., on purpose) carved words into your skin? (circle one)

1. Yes 2. No

If yes,

How old were you when you first did this? _____
How many times have you done this? _____
When was the last time you did this? _____
How many years have you been doing this? (if you are no longer doing
this, how many years did you do this before you stopped?) _____
Has this behavior ever resulted in hospitalization or injury severe enough
to require medical treatment? _____

5. Have you ever intentionally (i.e., on purpose) carved pictures, designs, or other marks into your skin? (circle one)

1. Yes 2. No

If yes,

How old were you when you first did this? _____
How many times have you done this? _____
When was the last time you did this? _____
How many years have you been doing this? (if you are no longer doing
this, how many years did you do this before you stopped?) _____
Has this behavior ever resulted in hospitalization or injury severe enough
to require medical treatment? _____

6. Have you ever intentionally (i.e., on purpose) severely scratched yourself to the extent that scarring or bleeding occurred? (circle one)

1. Yes 2. No

If yes,

How old were you when you first did this? _____

How many times have you done this? _____

When was the last time you did this? _____

How many years have you been doing this? (if you are no longer doing this, how many years did you do this before you stopped?) _____

Has this behavior ever resulted in hospitalization or injury severe enough to require medical treatment? _____

7. Have you ever intentionally (i.e., on purpose) bit yourself, to the extent that you broke the skin? (circle one)

1. Yes 2. No

If yes,

How old were you when you first did this? _____

How many times have you done this? _____

When was the last time you did this? _____

How many years have you been doing this? (if you are no longer doing this, how many years did you do this before you stopped?) _____

Has this behavior ever resulted in hospitalization or injury severe enough to require medical treatment? _____

8. Have you ever intentionally (i.e. on purpose) rubbed sandpaper on your body? (circle one)

1. Yes 2. No

If yes,

How old were you when you first did this? _____

How many times have you done this? _____

When was the last time you did this? _____

How many years have you been doing this? (if you are no longer doing this, how many years did you do this before you stopped?) _____

Has this behavior ever resulted in hospitalization or injury severe enough to require medical treatment? _____

9. Have you ever intentionally (i.e., on purpose) dripped acid onto your skin? (circle one)

1. Yes 2. No

If yes,

How old were you when you first did this? _____
How many times have you done this? _____
When was the last time you did this? _____
How many years have you been doing this? (if you are no longer doing this, how many years did you do this before you stopped?) _____
Has this behavior ever resulted in hospitalization or injury severe enough to require medical treatment? _____

10. Have you ever intentionally (i.e., on purpose) used bleach, comet, or oven cleaner to scrub your skin? (circle one)

1. Yes 2. No

If yes,

How old were you when you first did this? _____
How many times have you done this? _____
When was the last time you did this? _____
How many years have you been doing this? (if you are no longer doing this, how many years did you do this before you stopped?) _____
Has this behavior ever resulted in hospitalization or injury severe enough to require medical treatment? _____

11. Have you ever intentionally (i.e., on purpose) stuck sharp objects such as needles, pins, staples, etc. into your skin, not including tattoos, ear piercing, needles used for drug use, or body piercing? (circle one)

1. Yes 2. No

If yes,

How old were you when you first did this? _____
How many times have you done this? _____
When was the last time you did this? _____
How many years have you been doing this? (if you are no longer doing this, how many years did you do this before you stopped?) _____
Has this behavior ever resulted in hospitalization or injury severe enough to require medical treatment? _____

12. Have you ever intentionally (i.e., on purpose) rubbed glass into your skin? (circle one)

1. Yes 2. No

If yes,

How old were you when you first did this? _____

How many times have you done this? _____

When was the last time you did this? _____

How many years have you been doing this? (if you are no longer doing this, how many years did you do this before you stopped?) _____

Has this behavior ever resulted in hospitalization or injury severe enough to require medical treatment? _____

13. Have you ever intentionally (i.e. on purpose) broken your own bones? (circle one)

1. Yes 2. No

If yes,

How old were you when you first did this? _____

How many times have you done this? _____

When was the last time you did this? _____

How many years have you been doing this? (if you are no longer doing this, how many years did you do this before you stopped?) _____

Has this behavior ever resulted in hospitalization or injury severe enough to require medical treatment? _____

14. Have you ever intentionally (i.e., on purpose) banged your head against something, to the extent that you caused a bruise to appear? (circle one)

1. Yes 2. No

If yes,

How old were you when you first did this? _____

How many times have you done this? _____

When was the last time you did this? _____

How many years have you been doing this? (if you are no longer doing this, how many years did you do this before you stopped?) _____

Has this behavior ever resulted in hospitalization or injury severe enough to require medical treatment? _____

15. Have you ever intentionally (i.e., on purpose) punched yourself, to the extent that you cause a bruise to appear? (circle one)

1. Yes 2. No

If yes,

How old were you when you first did this? _____

How many times have you done this? _____

When was the last time you did this? _____

How many years have you been doing this? (if you are no longer doing this, how many years did you do this before you stopped?) _____
Has this behavior ever resulted in hospitalization or injury severe enough to require medical treatment? _____

16. Have you ever intentionally (i.e., on purpose) prevented wounds from healing?
(circle one)

1. Yes 2. No

If yes,

How old were you when you first did this? _____

How many times have you done this? _____

When was the last time you did this? _____

How many years have you been doing this? (if you are no longer doing this, how many years did you do this before you stopped?) _____

Has this behavior ever resulted in hospitalization or injury severe enough to require medical treatment? _____

17. Have you ever intentionally (i.e., on purpose) done anything to hurt yourself that was not asked about in the questionnaire? If yes, what did you do to hurt yourself?

APPENDIX C

THE TWENTY-ITEM TORONTO ALEXITHYMIA SCALE

Sex: M / F **Age:** _____ **Date:** _____ **ID #:** _____

T A S – 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.

Circle 1 if you **STRONGLY DISAGREE**
 Circle 2 if you **MODERATELY DISAGREE**
 Circle 3 if you **NEITHER DISAGREE NOR AGREE**
 Circle 4 if you **MODERATELY AGREE**
 Circle 5 if you **STRONGLY AGREE**

	Strongly Disagree	Moderately Disagree	Neither Disagree Nor Agree	Moderately Agree	Strongly Agree
1. I am often confused about what emotion I am feeling.	1	2	3	4	5
2. It is difficult for me to find the right words for my feelings.	1	2	3	4	5
3. I have physical sensations that even doctors don't understand.	1	2	3	4	5
4. I am able to describe my feelings easily.	1	2	3	4	5
5. I prefer to analyze problems rather than just describe them.	1	2	3	4	5
6. When I am upset, I don't know if I am sad, frightened, or angry.	1	2	3	4	5
7. I am often puzzled by sensations in my body.	1	2	3	4	5
8. I prefer to just let things happen rather than to understand why they turned out that way.	1	2	3	4	5
9. I have feelings that I can't quite identify.	1	2	3	4	5
10. Being in touch with emotions is essential.	1	2	3	4	5

Date:

ID #:

T A S – 20

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

APPENDIX D

INFORMED CONSENT

Title of Research: Alexithymia and Self-Harm Behavior in Adolescent Females

Researcher: Christine M. Abbuhl

Research Purpose: The objective of this research is to gain a better understanding of deliberate self-harm by determining if a relationship exists between certain attitudes, emotions, and deliberate self-harm behavior in adolescents. This project also intends to determine if this relationship exists across different groups of adolescents. Further understanding the factors contributing to deliberate self-harm behavior in adolescents may facilitate the development of more effective treatments for this behavior. The successful treatment of deliberate self-harm behavior may also prevent or reduce many of the other negative consequences associated with self-harm, such as depression and suicide.

Research Procedure: Clients will be given an envelope containing four questionnaires that they will be asked to read and fill out. One questionnaire requests information about age, gender, and race/ethnicity. A second questionnaire asks questions about any engagement in deliberate self-harm. The third and fourth forms ask questions about attitudes and feelings. Times will be arranged for small groups of clients to fill out these forms in a room at [name of facility]. Clients will be provided with help in reading questions or responses if it is needed. After completing the forms, they will place them back in the envelope and turn them in.

Time Commitment: It should take less than one hour for clients to complete this information.

Potential Risks or Discomforts: The topic of self-harm can be a sensitive subject for some individuals and may make clients feel uncomfortable. For clients with a history of self-harm, it is possible that exposure to some of the information may lead to a desire to self-harm. Clients can stop participating at any time they feel uncomfortable, and there will be no negative consequences for stopping; however, because this information will be used to develop treatment he/she may be encouraged to complete the questionnaires at another point. If the information brings up feelings or questions for the client, a staff member or their therapist will be available to meet with them individually. All clients will be informed of how to set up this time.

Benefits: Information gathered from clients regarding their feelings of depression, engagement in self-harm, and difficulties with identifying and expressing feelings will be shared with their therapist in order to ensure that treatment is provided in needed areas. Overall, client participation will help professionals to better understand self-harm and develop effective treatments for individuals who are struggling with self-harm.

Alternative Procedures: There are no alternative procedures available for this research.

Confidentiality: Prior to beginning research, the researcher will complete a background check. Each client will be assigned a number by the Clinical Manager at [name of facility] and the corresponding number will be written on each questionnaire clients complete. No names will appear on the questionnaires. Only the Clinical Manager will have access to the names corresponding to the assigned numbers. The information gathered will be shared with each client's therapist to inform treatment. All information used for the purpose of the research study will be used in a confidential manner. This consent form, containing names, will be kept at [name of facility] and will never leave the premises. The consent forms will be kept in a safe location for the length of time they are required to be kept and then destroyed.

Contact Person(s) for Questions or Concerns: If you have questions or concerns regarding this research you may contact Christine Abbuhl at (330) 432-2980 or [name and phone number of clinical manager].

Consent to Participate: I have voluntarily decided to allow _____ to participate in this research study. The researcher has clearly informed me about this research, the procedures, the potential risks, and the expected benefits. I understand that if I have questions I may contact Christine Abbuhl at (330) 432-2980, her immediate supervisor Dr. John Korte at the University of Dayton at (937) 229-2713, or [name and phone number of clinical manager]. I understand that responses will be kept confidential, except for when they are shared with the therapist.

Client Name (printed)

Legal Guardian (printed)

Legal Guardian Signature

Date

APPENDIX E

INFORMED ASSENT

Title of Research: Alexithymia and Self-Harm Behavior in Adolescent Females

Researcher: Christine M. Abbuhl

Research Purpose: The purpose of this research is to gain a better understanding of deliberate self-harm in teenagers by seeing what factors are related to it. This project will also see if the relationships are the same in different groups of teenagers. By better understanding the things related to deliberate self-harm, better treatments can be developed for this behavior. Successfully treating self-harm behavior might also prevent or reduce many of the other negative things related to self-harm, such as depression and suicide.

Research Procedure: You will be given an envelope containing four questionnaires that you will read and fill out. One questionnaire asks for information about your age, gender, race/ethnicity. A second questionnaire asks questions about any deliberate self-harm you have done. The third and fourth forms ask questions about attitudes and feelings. Times will be set up for you to fill out these forms in small groups. You will be given help in reading questions or answers if you need it. After finishing the forms, you will put them back in the envelope and turn them in.

Time Commitment: It should take less than one hour for you to complete this information.

Potential Risks or Discomforts: The topic of self-harm can be a sensitive topic for people and may make you feel uncomfortable. It is possible that some of the information may make you feel like self-harming. You can stop participating at any time if you feel uncomfortable, and there will be no negative consequences for stopping; however, because this information will be used to develop your treatment, you may be encouraged to complete the questionnaires at another point. If the information brings up feelings or questions you would like to talk about, a staff member or your therapist will be available to talk to you.

Benefits: The information you give will be given to your therapist and will help him/her to figure out what things to work on in therapy to best help you. Your participation will also help therapists and other people to better understand self-harm and develop better treatments for people who are struggling with self-harm.

Alternative Procedures: There are no alternative procedures available for this research.

Confidentiality: The information you give will be shared with your therapist. You will be assigned a number by [name of clinical manager] so that your name is not written on any of the questionnaires. None of the information you give will leave [facility name] with your name in it. When the answers you gave are used for research they will not have your name on them. Your name will never be given to anyone outside of [facility name]. This form you sign will be kept at [facility name] and will never leave the building. It will be kept in a safe place for the length of time it is required to be kept and then it will be destroyed.

Contact Person(s) for Questions or Concerns: If you have questions about this research or what you just read you can ask Christine Abbuhl or [name of clinical manager] questions at any time. If any questions or concerns come up later you can talk to staff or to your therapist.

Consent to Participate: I understand what I have been told about this research and what I will be doing. The researcher clearly told me about this research, the procedures, the possible risks, and the expected benefits. I understand that if I have questions during this research I can ask Christine Abbuhl. If I have questions or things I need to talk about after I fill out these forms I understand that I can talk to staff or to my therapist about them. I understand that what I say will be shared with my therapist and then my name will be taken off and not given to anyone else. If you have questions about your legal rights as a participant in this research you may call Jon Nieberding, Chair, University of Dayton IRB at (937) 229-4053.

Client Name (printed)

Client Signature

Date

APPENDIX F

DEBRIEFING SCRIPT

Now that you have completed your questionnaires, I can tell you a little more about this research. I am trying to see if self-harm is related to problems with identifying or expressing feelings. So, one of the forms asked questions about how well you can name the emotions you experience and how well you can explain your feelings to other people. Research done in the past suggests that depression also might be related to self-harm. So you also had a form asking you questions about things related to depression such as feeling sad, crying, changes in how you eat and sleep, or losing interest in things. After I get all the information from you and other teenagers, I am going to see how problems with feelings are related to self-harm. If I find out that they are related, then maybe helping people identify and express their feelings will help decrease their self-harm. Do you have any questions?

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