1-1-2010

Gender Differences in the Prevalence Rates of Self-Injury Among Individuals Who Suppress Thoughts

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Among Individuals Who Suppress Thoughts

A Thesis submitted to the Graduate College of Marshall University

In partial fulfillment of the requirements for the degree of Master of Arts in Psychology

Clinical Psychology

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Marshall University
2010

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Abstract

A previous study (Najmi, Wegner, & Nock, 2007) has concluded that thought suppression and self-injury are related. Gender differences have been contradictory among those who self-injure. However, it has been found that females score higher than males on thought suppression scales (Wegner & Zanakos, 1994). Based on these findings, it was hypothesized that females would suppress their thoughts more than males. It was also hypothesized that females who suppress their thoughts would think about and engage in self-injury more than males who suppress their thoughts. Participants completed both the Self-Injurious Thoughts and Behavior Interview (SITBI) and the White Bear Suppression Inventory (WBSI). Data were analyzed by conducting correlations and the crosstabs form of a chi square. No significant correlation between gender and thought suppression was found when using a Pearson's correlation (*r=.07, p=.209)*. Individuals who suppressed their thoughts were more likely to think about self-injury than those who did not (r=.399, $p < .01$). In addition, those same people who suppressed their thoughts were more likely to engage in self-injury than those who did not (*r=.416, p<.01*).

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Overview

In this paper, I will first discuss some of the factors that link self-injurious behaviors and thought suppression. The initial concepts that will be discussed are emotion expression and emotional regulation, which will lead the reader into a review of the concept of thought suppression. Thought suppression will be defined, and then the research on thought suppression will be discussed. The reader will then be shown the link between thought suppression and personal consequences, pain, and interpersonal consequences, such as a variety of psychopathology. Next, the reader will learn what self-injury is and their classifications. The research on self-injury will also be presented. This research will range from prevalence rates among various groups of people and its relationship to a variety of psychopathology. What the reader is going to see is that many of the psychological disorders will be associated with both thought suppression and self-injury. Finally, the relationship between thought suppression and self-injurious behaviors will be discussed.

Emotion Expression

Emotional expressiveness is defined as the extent to which an individual outwardly expresses his or her emotions (Kring, Smith, & Neale, 1994). The emotions can be expressed in various manners, such as verbally, through gestures, and/or facial expressions (Gratz, 2006). Women are found to be more aware of their emotions, more responsive to emotions and express their emotions more than men (Barrett, Sechrest, & Schwartz, 2000; Thayer & Johnsen, 2000; Thayer, Rossy, Ruiz-Padial, & Johnsen, 2003). There have not been any findings as to why this is so.

Lack of emotional expression is termed emotional inexpressivity (Gratz, 2006). Multiple studies (Brown, Comtois, & Lineham, 2002; Gratz, 2006; Virkkunen, 1976) suggest that emotional inexpressivity is often linked to self-injury. Individuals who do not easily express their thoughts or feelings tend to be more likely to engage in self-injury, while those who express their thoughts or feelings are less likely to engage in self-injury. Individuals who do not express their feelings and engage in self-injury are likely to be doing so because of the potentially expressive function of self-injury.

In addition to the relationship between emotional inexpressivity and self-injury, individuals who self-injure also exhibit high levels of affect intensity/reactivity (Lineham, 1993). According to Gratz (2006), individuals who react or have low intensity levels of negative affect are at an increased risk for self-injury. Since expression of emotions or lack there of is associated with whether or not a person engages in self-injurious behaviors, we need to take a glance at the importance of regulating one's emotions.

Emotional Regulation

Considering the link between emotional inexpressivity and self-injury, emotion regulation is needed among those who engage in self-injurious behaviors.

> Emotion regulation may be conceptualized as involving the (a) awareness, understanding, and acceptance of emotions; (b) ability to engage in goal-directed behaviors and inhibit impulsive behaviors when experiencing negative emotions; (c) flexible use of situationally appropriate strategies to modulate the intensity and/or duration of emotional responses rather than to eliminate emotions entirely; and (d) willingness to experience negative emotions as part of pursuing meaningful activities in life (Gratz & Roemer, 2004, p 42).

One appropriate strategy of regulating emotions is a response-focused strategy, such as the suppression of emotion expression, which is different than thought suppression (Gross, 1998; Gross & Levenson, 1993, 1997). Even though suppression of emotion expression and thought suppression have been operationally defined differently, they are often times used interchangeably (Johnston, Ward, & Hudson, 1997; Petrie, Booth, & Pennebaker, 1998). Suppression of emotion expression is when an individual chooses to not express how he or she is feeling, while thought suppression occurs when an individual chooses not to think about something (Gross, 1998; Wegner, n.d.). However, according to Valentiner, Hood, and Hawkins (2006), suppression of emotion expression and thought suppression are distinctly different, but correlated. Therefore, if an individual is unable to engage in one of the previously listed behaviors, he or she may be engaging in an unhealthy method of emotional regulation or emotion dysregulation, which is related to self-injury and is a central feature of borderline personality disorder (Gratz & Roemer, 2004; Gratz & Roemer, 2008). For instance, self-injury may develop as an unhealthy way of regulating emotions for individuals who have not developed a healthier way to regulate their emotions (Linehan, 1993). However, when there is a reduction in emotion dysregulation, then maladaptive behaviors, like self-injury will also decrease because an individual will be able to focus on more adaptive ways of dealing with their distress (Gratz, 2007).

Thought Suppression

Associated with emotional reactivity is thought suppression (Wegner & Zanakos, 1994). Individuals who are highly emotionally reactive experience many aversive thoughts and emotions and high rates of suppression of negative thoughts (Najmi, et al., 2007).

Thought suppression is a form of experiential avoidance (Chapman, Specht, & Cellucci, 2005). Experiential avoidance refers to when an individual refuses to accept unpleasant experiences (Lavender, Jardin, & Anderson, 2009). Thought suppression occurs when an individual chooses not to think about something (Wegner, n.d.). However, when Wegner, Schneider, Carter, and White (1987) instructed individuals to not think (suppress their thoughts) about a white bear, the individuals thought about it more. Therefore, it may have the reverse effects of what individuals mean for it to. This is especially true for individuals who are low disinhibitors, meaning that they are not very good at suppressing thoughts in the first place. However, high disinhibitors were able to suppress their thoughts, but they experienced negative consequences, such as anxiety (Oliver & Huon, 2001).

Thought suppression is a mental control strategy that is attempted by using distracters (Wegner, n.d.). Features from the environment are often times used as a distracter, but this is not always the case (Wegner, Schneider, Knutson, & McMahon, 1991). Distracters can either be unfocused or focused (Najmi et al., 2007). In the instance of thought suppression, a focused distracter, such as self-injury, is maladaptive and counterproductive (Najmi, et al., 2007; Wenzlaff & Wegner, 2000).

Personal Consequences

Emotional Reactions and Memory

Individuals who suppressed a target thought actually experienced the mood associated with the thought more (Wenzlaff & Wegner, 2000). In addition, Wenzlaff, Wegner, and Klein (1991) found that individuals who suppressed their thoughts re-experienced the mood that was present during suppression. In regards to memory, thought suppression increases individual's memory for specific material (Macrae, Bodenhausen, Milne, & Ford, 1997). For example, when

told to suppress stereotypes, Sherman, Stroessner, Loftus, and Deguzman (1997) found that individuals who suppressed the stereotypes remembered the stereotypical behaviors more.

Pain and Psycho-physiological Reactions

Attempting to suppress the thought of the pain seems to cause the pain to linger (Cioffi & Holloway, 1993). Also, thinking about an upcoming painful event makes an individual experience more pain (Sullivan, Rouse, Bishop, & Johnston, 1997). Therefore, trying to suppress thoughts about pain increases discomfort, but does thought suppression have other physiological effects (Wenzlaff & Wegner, 2000)? It appears that it does. According to Gross (1998), the arousal of the autonomic nervous system seems to occur in response to thought suppression. Additionally, it has been found that the immune system can be impaired by thought suppression (Petrie, Booth, & Pennebaker, 1998).

Interpersonal Consequences

Interpersonal consequences of thought suppression include impression formation, stereotyping, and prejudice. According to Newman, Duff, and Baumeister (1997), individuals who engaged in though suppression accessed unwanted personal characteristics when interpreting others' behaviors. Finally, Wyer, Sherman, and Stroessner (1997) found that individuals formed more stereotypical judgments when they were presented with stereotypical thoughts that they tried to suppress than individuals who did not engage in thought suppression.

Thought suppression has been found to play a role in psychopathology. Included in the list of disorders that involve thought suppression are posttraumatic stress disorder, anxiety, depression, and borderline personality disorder (Wenzlaff & Wegner, 2000). In addition, thought suppression has been found to correlate with eating disorders, such as bulimia nervosa (Lavender, Jardin, & Anderson, 2009).

According to Ehlers, Mayou, and Bryant (1998), accident victims who suppressed their thoughts about the accident were more likely to have posttraumatic stress disorder. Also, children who suppressed their thoughts about being victims of physical trauma developed posttraumatic stress disorder later on in life (Aaron, Zaglul, & Emery, 1999).

Thought suppression and anxiety are correlated. When Wegner and Zanakos (1994) tested the validity of the White Bear Suppression Inventory (WBSI), they found that thought suppression was correlated, $r(133)=.49$, $p < .01$, with anxiety sensitivity. The WBSI was also correlated, $r(199)=.53$, $p< .01$, with trait anxiety (Wegner & Zanakos, 1994).

Depressive symptoms worsen with increased thought suppression (Wenzlaff & Bates, 1998). Wegner and Zanakos (1994) found a correlation of $r=.47$ between thought suppression and depression. Therefore, individuals who suppress their thoughts are more likely to be depressed than individuals who do not suppress their thoughts (Wenzlaff, 1993).

Individuals with borderline personality disorder use a wide range of avoidance techniques. One avoidance technique is thought suppression (Chapman, et al., 2005). Chapman and others (2005) found that borderline personality disorder was positively correlated with thought suppression ($r = .50$, $p< .01$).

Thought suppression has been found in individuals with eating disorders, such as bulimia nervosa (Lavender, Jardin, & Anderson, 2009). Individuals who are dieting, which often leads to disordered eating, are often told not to weigh themselves. In a study done by Harnden, McNally, and Jimerson (1997), they found that individuals who were told not to weight themselves did. Therefore, this constant weight checking can lead to disordered eating like bulimia nervosa. Finally, trying not to think about binging and purging may actually increase the likelihood of an

individual engaging in this ritual known as bulimia nervosa (Herman & Polivy, 1993; Wegner, 1994; Wegner & Eber, 1992).

Gender

Little research was found on gender differences in thought suppression. However, Wegner and Zanakos (1994) found that females score higher on thought suppression scales than males meaning that females suppress their thoughts more than males. Wegner and Zanakos (1994) found this difference to be significant. Contradictory to Wegner and Zanakos (1994), Thayer, Rossey, Ruiz-Padial, and Johnsen (2003) found that females process emotional information more than males, which means that they are less likely to suppress their thoughts.

Self-Injury

Self-injury can be used to describe any behavior that is not good for the human body (Taylor, 2003). For this paper, self-injury will refer to "the deliberate, direct destruction or alteration of body tissue without conscious suicide intent, but resulting in injury severe enough for tissue damage to occur" (Favazza, 1998, p. 259). Some examples of self-injury are cutting, burning, and interfering with wound healing (Connors, 1996).

Self-injury can be organized into a four-category classification. The classifications are stereotypic, major, compulsive, and impulsive (Simeon & Favazza, 2001 as cited in Kress, 2003).

Classification of Self-Injury

Stereotypic self-injury includes head banging, face slapping, and self-biting (Kress, 2003). These behaviors are found most often among individuals with mental retardation and developmental delay (Kress, 2003). In this type of self-injury, the behaviors are biologically driven and repetitive (Kress, 2003). However, another view of these behaviors suggests that they

are learned because the behaviors can be reduced using different forms of reinforcement (Favell, McFimsey, & Jones, 1978; Horner, Day, Sprague, O'Brien, & Heathfield, 1991; Repp & Deitz, 1974). According to Gedye (1992), another explanation for stereotypic self-injury is involuntary muscle contractions.

The second classification of self-injury are major self-injuries, which includes behaviors that are extremely intrusive and are usually only seen when a person is suffering from a severe psychosis, intoxication, or a severe character disorder (Kress, 2003). Such examples of major self-injury are castration and limb amputation.

Third, compulsive self-injury examples include hair pulling, skin picking, and nail biting. These repetitive behaviors range from mild to moderate in severity. Individuals who self-injure are driven to self-injure even though they may want to resist the urge to self-injure (Kress, 2003).

The wish to resist the self-injurious behavior is consistent with Nock and Prinstein (2005) findings that self-injurious behaviors are impulsively engaged in, which is the last category of self-injury that will be discussed. It is also the type of self-injury that will be the focus of the research. Impulsive self-injury can be in the form of cutting, burning, or hitting and be mild to moderate in severity (Kress, 2003).

Impulsive self-injurious behaviors usually begin in adolescence. Often times, if continued for any amount of time, self-injury becomes a chronic behavior, which is pathological (Kress, 2003). However, even though it is seen as pathological, self-injury also serves as a self-help tool (Kress, 2003).

Prevalence

Most past research that has been conducted on self-injury has been done on the clinical rather than the normative populations, but in recent years, more research has been done to

examine the prevalence of self-injury among the normative population. Favazza, DeRosear, and Conterio (1989) found that fourteen percent of university psychology students self-injure. Recent studies give prevalence rates of self-injury among university students that range from seventeen percent (Whitlock, Eckenrode, & Silverman, 2006) to thirty-eight percent (Gratz, 2006). However, lower prevalence rates have been found among university students. For instance, Gollust, Eisenberg, and Goberstein (2008) only found that seven percent self-injured. In addition to college students, studies have been completed using high school students. These studies report prevalence rates between fourteen (Ross & Heath, 2002) and twenty-one percent (Zoroglu et al., 2003). The highest prevalence rate, which was forty-six percent, was found among a group of community adolescents (Lloyd-Richardson, Perrine, Dierker, & Kelley, 2007). Finally, Klonsky, Oltmanns, and Turkheimer (2003) found that four percent of military recruits self-injure.

In addition to the prevalence rates listed above, which all were done in the United States, the prevalence rates of self-injurious behaviors have also been studied in other countries, such as Sweden and Canada. The frequency of self-injurious behaviors in fourteen-year-old Swedish adolescents is quite considerable. The actual prevalence rate was between 36.5 and 40.2 percent (Bjarehed & Lundh, 2008). A Canadian study found that 16.9% of youth reported engaging in self-injurious behaviors (Nixon, Cloutier, & Jansson, 2008).

Reasons for Self-Injury

Considering the percentage of individuals who self-injure, recent research has focused on reasons why an individual self-injures and the function that it serves. According to Taylor (2003), a few explanations as to why an individual self-injures includes punishing oneself, relieving frustration, and escaping from emotional pain. Additionally, self-injury is a way of

communicating pain (Kam-shing, 2006). These reasons indicate that self-injury functions as a coping mechanism (Taylor, 2003), which is consistent with the findings of Andover, Pepper, and Gibb (2007) who found that individuals who self-injure used avoidance coping strategies more than those who did not self-injure. In addition, Andover, et al., (2007) also found that individuals who self-injure use less adaptive coping strategies than those who do not self-injure. Finally, Klonsky and Muehlenkamp (2007) found that individuals self-injure for the following reasons: affect regulation, self-punishment, interpersonal influence, anti-dissociation, anti-suicide, sensation seeking and interpersonal boundaries.

All of the above explanations as to why an individual self-injures has a specific function. The habit of self-injury is maintained by these functions. The functions of self-injury are as followed: intrapersonal negative reinforcement, intrapersonal positive reinforcement, interpersonal positive reinforcement and interpersonal negative reinforcement (Nock, 2009).

Self-injury is usually linked to another way in which individuals cope with the trauma. For instance, Sutton (2004) found that trauma victims who self-injure experience a dissociate state just before they self-injured. One type of trauma, in particular, sexual abuse, is associated with self-injury (Weierich & Nock, 2008). In addition, substance abusers who have experienced trauma reported self-injury more than those who did not experience the trauma (Zlotnick, Shea, Recupero, Bidadi, Pearlstein, & Brown, 1997). Trauma victims self-injure for different reasons. One reason is to reenact the original trauma, which allows for the expression of emotion, organization of the self, and management of the dissociative process (Connors, 1996).

Self-injury is seen among many individuals with psychological disorders. Included in these disorders are anxiety and depression (Klonsky, et al., 2003; Ross & Heath, 2002). In

addition, self-injury has been seen among individuals with borderline personality disorder (Andover, et al., 2005; Chapman, et al., 2005; Klonsky, et al., 2003).

Individuals who self-injure are often experiencing anxiety. In a community sample of adolescents, individuals who self-injured experienced more anxiety symptoms than those who did not self-injure (Ross & Heath, 2002). These results were consistent with a sample of military recruits (Klonsky et al., 2003).

Self-injury is often seen in depressed individuals. Lambert and Man (2007) found that individuals who self-injure score significantly higher on depression scales than those who do not self-injure. Another study also found that adolescents who self-injure report having more depressive symptoms than adolescents who do not self-injure (Ross & Heath, 2002). Finally, among military recruits, depressive symptoms were reported more often among those who self-injured than those who did not (Klonsky et al., 2003).

Much research has been done on the relationship between individuals who have borderline personality disorder and who self-injure. Chapman et al., (2005) found a correlation, $r=.41$, $p< .01$, between self-injury and borderline personality disorder. Sansone, Wiederman, and Sansone (1998) also found that self-injury was related to borderline personality disorder. In addition, self-injurers were found to report more borderline symptoms than those who do not self-injure (Andover et al., 2005). Finally, Klonsky et al., (2003) found higher levels of borderline personality disorder among military recruits that self-injured than those who did not.

Self-injury has been seen in individuals with eating disorders (Svirko & Hawton, 2007). Individuals who self-injure have significantly more eating pathology (eating disorders) than individuals who do not self-injure (Ross, Heath, & Toste, 2009). There are many reasons as to why self-injurious behaviors and eating disorders are associated. These reasons include

impulsivity, obsessive compulsiveness, problems with affect, dissociation, self-criticizing cognitive style, need for control, trauma, and early family environment (Svirko & Hawton, 2007). Another reason that eating disorders, especially bulimia nervosa, and self-injurious behaviors are related is because they both function as maladaptive emotion regulation strategies (Muehlenkamp, et al., 2009).

Gender

Much research has been done on gender differences in self-injury. However, this research is rather contradictory. According to Laye-Gindhu and Schonert-Reichl (2005), girls were more likely than boys to self-injure. They also found that self-injury ideation is higher among girls than boys. However, no gender differences were found in four other studies (Croyle & Waltz, 2007; Gratz, Conrad, & Roemer, 2002; Heath, Toste, Nedecheva, & Charlebois, 2008; Nock & Prinstein, 2004). The previous stated gender differences in self-injury were in the United States. Consistent with Laye-Gindhu and Schonert-Reichl (2005) study in the United States, Jarvis, Ferrence, Johnson, and Whitehead (1976) found that in London, Canada females were more likely to engage in self-injury than males.

Thought Suppression and Self-Injury

Since thought suppression and self-injury are both related to several of the same factors, it can be predicted that the two are related (Nami, et al., 2007). This association has since led me to do further research.

Since there are ambiguities among the gender differences in self-injury and limited knowledge regarding gender among thought suppression, this study is going to examine the prevalence of both thought suppression and self-injury among males and females. It was hypothesized that females who suppress their thoughts would think about self-injury

significantly more than males who suppress their thoughts. Furthermore, it was hypothesized that females who suppress their thoughts will engage in self-injurious behaviors more than males who suppress their thoughts.

Method

Participants

One hundred thirty-one (seventy-six female and fifty-five male) undergraduate psychology students who ranged from the age of eighteen to forty-two were given one credit hour of extra credit in exchange for participating.

Measurements

Demographics

A five-item questionnaire was given to the participants that asked age, gender, ethnicity, sexual orientation, and whether or not the participant had ever experienced any type of trauma.

White Bear Suppression Inventory (WBSI)

Wegner and Zanakos (1994) developed the WBSI, which is a self-report measure of thought suppression. It measures the thoughts that a person intentionally suppresses (Wegner & Zanakos, 1994). The WBSI was used because of its convergent validity with both depression ($r = .47$) and anxiety ($r = .49$) scales, which were correlated with thought suppression and self-injury (Wegner & Zanakos, 1994). Finally, the WBSI has been found to be temporally stable ($r = .92$), which indicates that this scale is reliable.

Self-Injurious Thoughts and Behaviors Interview (SITBI)

The SITBI assesses the presence, frequency, and characteristics of non-suicidal self-injurious thoughts and behaviors (Nock, Holmberg, Photos, & Michel, 2007). According to Nock, et al. (2007), the SITBI has a strong inter-rater reliability ($K = .90$ to 1.0), as well as a

moderate test-retest reliability (ICC = .71). Finally, it has been shown to have moderate concurrent validity (K = .74).

Procedure

Upon arrival, participants were given an informed consent form that included a statement that some questions may bring up very strong emotions and they were given appropriate referral information. Participants were also informed that they did not have to answer any questions that they did not want to and that they could discontinue participation in the study at any point without penalty. If consent was given, then participants completed a five-item demographic questionnaire, the WBSI, and the SITBI, which took approximately one hour. Data were analyzed using correlations.

Results

Of the 131 subjects, fifty-one (31 female, 20 male) suppressed their thoughts. Furthermore, forty-two subjects (30 female, 12 male) had thought about self-injury. Finally, twenty-nine (19 female, 10 male) of the subjects had engaged in self-injurious behavior.

It was hypothesized that females would suppress their thoughts more than males. This however was not the case. No significant correlation between gender and thought suppression was found when using a Pearson correlation (*r=.07, p=.209).*

It was also hypothesized that females who suppress their thoughts would think about, and engage in, self-injurious behaviors more than males who suppressed their thoughts. However, when running a Pearson correlation there was no significant correlation between gender and thought suppression (*r=.071, p=.209).*

Since it was hypothesized that females who suppress their thoughts would think about and engage in self-injury more than males who suppressed their thoughts, a general hypothesis

was made that individuals who suppress their thoughts would be more likely to think about and engage in self-injurious thoughts. However, as previously stated, there were no significant correlation between gender and thought suppression, but when running a Pearson correlation, individuals who suppressed their thoughts were more likely to think about self-injury than those who did not (r=.399, p < .01). In addition, those same people who suppressed their thoughts were more likely to engage in self-injury than those who did not (*r=.416, p<.01*). Furthermore, when running a crosstabs chi square, it was found that females do think about self injury significantly more than males x^2(1, *n=131)=4.383, p=.036,* but there was no significant difference between females and males who engage in self-injurious behaviors x^2(1,*n=131)=.779, p=.377.*

Discussion

It was hypothesized that females who suppress their thoughts would think about and engage in self-injurious behaviors more than males who suppressed their thoughts. However, there was no significant correlation between gender and thought suppression. Therefore, a correlation between males and females and self-injury was not seen, but it was found that individuals who suppress their thoughts were more likely to think about and engage in self-injury than those who did not (*r=.399,p<.01; r=.416,p<.01*) respectively. Furthermore, it was found that females do think about self-injury significantly more than males x^2(1, *N=131)=4.383, p=.036,* but there was no significant difference between females and males who engage in self-injurious behaviors x^2(1,*N=131)=.779, p=.377.* The results regarding an individual's thoughts of self-injury were consistent with those of Laye-Gindhu and Schonert-Reichl (2005), who found that self-injury ideation is higher among girls than boys. However, finding no significant difference between which gender engages in self-injurious behaviors was consistent with three

other studies (Croyle & Waltz, 2007; Gratz, Conrad, & Roemer, 2002; Nock & Prinstein, 2004). Females probably thought about self-injury more than males because females think more emotionally than males (Thayer, Rossey, Ruiz-Padial, & Johnsen, 2003). However, it is surprising that even though females thought about self-injury significantly more than males that they did not engage in self-injurious behaviors significantly more than males. This could be the case because of a number of factors. The females may have been comfortable enough in the testing environment to admit to thoughts but not to the action itself.

The results of not finding a significant correlation between gender and thought suppression are not consistent with those of Wegner and Zanakos (1994) who found that females score significantly higher on thought suppression scales than males. It is speculated that since all of the subjects were upwardly mobile college students that a difference would have been found if the sample had included subjects from all areas of life, such as middle school, high school, employed and unemployed in addition to the introductory psychology students because they may have learned healthier coping strategies than what the general population would know. Furthermore, since all subjects were introductory psychology students and the individual collecting the data was a graduate student in psychology, there may have been some fear in the subjects as to what would happen if they admitted to thinking about and engaging in self-injury even though all the subjects were told that all information was confidential. Finally, even though reasons as to why there was no difference between males and females who suppress their thoughts were speculated, it very well could just be that there was no difference between these males and females, which is most likely the case.

The way the questions were delivered could have affected the prevalence rate of thought suppression and self-injury in both males and females. For instance, had the questions been

asked through an online survey, the subjects may have been more comfortable. However, the survey itself could have been a flaw to the study. It may have been better to interview each subject so that it would have been known if each subject completely understood each question being asked. Finally, this data may not be correct due to humans being involved and the chance of them not being completely open and honest in regards to the questions.

This study was important because of the applications it can have with therapy patients. The first change that clinicians could do when working with patients who self-injure is to find out what this behavior does for him or her. Once the clinician finds out what this behavior does for the person, he or she can replace the self-injurious behaviors with another, more healthy behavior that serves the same purpose. Then, the clinician can work with the patient on identifying his or her emotions and expressing them. This should lead not only in a decrease of self-injurious behaviors but a decrease in the patient feeling as if he or she needs to self-injure.

Further research that could be done on this topic is to compare success rates in therapy with those who self-injure. One group would undergo normal therapy (either CBT, REBT, or Behavioral Therapy), while the other group would undergo therapy that solely focused on the clients expressing their thoughts rather than suppressing them or another therapy, such as Dialectical Behavior Therapy (DBT), which is an effective treatment for treating self-injury (Nock, Teper, & Hollander, 2007). It would be hypothesized that the clients who receive the therapy focused on expressing their thoughts or DBT would decrease their prevalence rates of self-injury.

Conclusion

Suppressing one's thoughts can lead to harmful events such as self-injurious behaviors. Individuals who have psychological disorders are at even more risk because many of those

disorders, such as depression, borderline personality disorder and eating disorders, because these disorders, as well as others, are often times associated with thought suppression and self-injurious behaviors. Further research should be done regarding what the behavior does for them and to find alternative methods that do the same thing in a healthier manner. This is important because prevalence rates for self-injury among adolescents through college-aged women have ranged from fourteen percent (Favazza, DeRosear, and Conterio, 1989; Ross & Heath, 2002) to forty-six percent (Lloyd-Richardson, Perrine, Dierker, & Kelley, 2007). This is way too high. Therefore, we must begin to use already effective treatments or develop effective treatments. This would be the direction that future studies on the topic should move toward. The link between thought suppression and self-injurious behaviors is there. We must do something about it.

References

Aaron J.D., Zaglul, H., & Emery, R.E. (1999). Post traumatic stress following acute physical injury. *Journal of Pediatric Psychology, 24,* 335-343.

Andover, M.S., Pepper, C.M., & Gibb, B.E. (2007). Self-mutilation and coping strategies in a college sample. *Suicide and Life Threatening Behavior, 37*(2), 238-243.

Barrett, L.F. Lane, R.D., Sechrest, L., & Schwartz. (200). Sex differences in emotional awareness. *Personality and Social Psychology Bulletin, 26,* 1027-1035.

Bjarehed, J & Lundh, L. (2007). Deliberate self-harm in 14-year-old adolescents: How frequent is it, and how is it associated with psychopathology, relationship variables, and styles of emotional regulation? *Cognitive Behaviour Therapy, 37(1),* 26-37.

Brown, M.Z., Comtois, K.A., & Lineham, M.M. (2002). Reasons for suicide attempts and nonsuicidal self-injury in women with borderline personality disorder. *Journal of Abnormal Psychology, 111,* 198-202.

Chapman, A.L., Specht, M.W., & Cellucci, T. (2005). Borderline personality disorder and deliberate self-harm: Does experiential avoidance play a role? *Suicide and Life Threatening Behavior, 35*(4), 388-399.

Cioffi, D. & Holloway, J. (1993). Delayed costs of suppressed pain. *Journal of Personality and Social Psychology, 64*(2), 274-282.

Connors, R. (1996). Self-injury in trauma survivors: Functions and meanings. *Journal of Orthopsychiatry, 66*(2), 197-207.

Croyle, K.L. & Waltz, J. (2007). Subclinical self-harm: Range of behaviors, extent, and associated characteristics. *American Journal of Orthopsychiatry, 77*(2), 332-342.

Ehlers, A., Mayou, R.A., & Bryant, B. (1998). Psychological predictors of chronic posttraumatic

stress disorder after motor vehicle accidents. *Journal of Abnormal Psychology, 107*(3), 508-519.

Favazza, A.R., DeRosear, L., & Conterio, K. (1989). Self-mutilation and eating disorders. *Suicide and Life Threatening Behavior, 19,* 352-361.

Favazza, A.R. (1998). The coming of age of self-mutilation. *Journal of Nervous and Mental Disease, 186,* 259-268.

Favell, J.E., McGimsey, J.F., & Jones, M.L. (1978). The use of physical restraint in the treatment of self-injury and as positive reinforcement. *Journal of Applied Behavior Analysis, 11(*2*),* 225-241.

Gedye, A. (1992). Anatomy of self-injurious, stereotypic, and aggressive movements: Evidence for involuntary explanation. *Journal of Clinical Psychology, 48*(6), 765-778.

Gollust, S.E., Eisenberg, D, & Golberstein, E. (2008). Prevalence and correlates of self-injury among university students. *Journal Of American College Health, 56(*5*),* 491-498.

Gratz, K.L. (2006). Risk factors for deliberate self-harm among female college students: The role and interaction of childhood maltreatment, emotional inexpressivity, and affect intensity/reactivity. *American Journal of Orthopsychiatry, 76*(2), 238-250.

Gratz, K.L. (2007). Targeting emotion dysregulation in the treatment of self-injury. *Journal of Clinical Psychology, 63(*11*),* 1091-1103.

Gratz, K.L. & Roemer, L. (2004). Multidimensional assessment of emotion regulation and dysregulation: Development, factor structure, and initial validation of the difficulties in emotion regulation scale. *Journal of Psychopathology and Behavioral Assessment, 26(*1*),* 41-54.

Gratz, K.L. & Roemer, L. (2002). Risk factors for deliberate self-harm among college students.

American Journal of Orthopsychiatry, 72(1), 128-148.

Gratz, K.L. & Roemer, L. (2008). The relationship between emotion dysregulation and deliberate self-harm among female undergraduate students at an urban commuter university. *Cognitive Behaviour Therapy, 37(*1*),* 14-25.

Gross, J.J. (1998). Antecedent and response-focused emotion regulation: divergent consequences for experience, expression, and physiology. *Journal of Personality and Social Psychology, 74,* 224-237.

Gross, J.J. (1998). The emerging field of emotion regulation: An integrative review. *Review of General Psychology, 2*(3), 271-299.

Gross, J.J. & Levenson, R.W. (1993). Emotional suppression: Physiology, self-report, and expressive behavior. *Journal of Personality and Social Psychology, 64,* 970-986.

Gross, J.J. & Levenson, R.W. (1997). Hiding feelings: The acute effects of inhibiting negative and positive emotion. *Journal of Abnormal Psychology, 106,* 95-103.

Heath, N.L., Toste, J.R., Nedecheva, T, & Charlebois, A. (2008). An examination of nonsuicidal self-injury among college students. *Journal of Mental Health Counseling, 30(*2*),* 137-156.

Herman, C.P. & Polivy, J. (1993). Mental control of eating: Excitatory and inhibitory food thoughts. Handbook of mental control. Englewoord Cliffs: New Jersey.

Horner, R.H., Day, M.H., Sprague, J.R., O'Brien, M., & Heathfield, L.T. (1991). Interspersed requests: A nonaversive procedure for reducing aggression and self-injury during instruction. *Journal of Applied Behavior Analysis, 24(*2*),* 265-278.

Jarvis, G.K., Ferrence, R.G., Johnson, F.G., & Whitehead, P.C. (1976). Sex and age patterns in

self-injury. *Journal of Health and Social Behavior, 17,* 146-155.

Johnston, L., Ward, T., & Hudson, S.M. (1997). Deviant sexual thoughts: Mental control and the treatment of sexual offenders. *Journal of Sex Research, 34,* 121-130

Kam-shing. (2006). A strengths perspective in working with an adolescent with self-cutting behaviors. *Child and Adolescent Social Work Journal, 23*(2), 134-146.

Klonsky, D.E. & Muehlenkamp, J.J. (2007). Self-injury: A research review for the practitioner. *Journal of Clinical Psychology, 63(*11*),* 1045-1056,

Klonsky, D.E., Oltmanns, T.F. &Turkheimer, E. (2003). Delierate self-harm in a nonclinical population: Prevalence and psychological correlates. *The American Journal of Psychiatry, 160,* 1501-1508.

Kress, V.E.W. (2003). Self-injurious behaviors: Assessment and diagnosis. *Journal of Counseling and Development, 81,* 490-496.

Kring, A.M., Smith, D.A., & Neale, J.M. (1994). Individual differences in dispositional expressiveness: Development and validation of the emotional expressivity scale. *Journal of Personality and Social Psychology, 66*(5), 934-949.

Lambert, A. & Mann, A.F. (2007). Alexithymia, depression, and self-mutilation in adolescent girls. *North American Journal of Psychology, 9*(3), 555-566.

Lavender, J.M., Jardin, B.F., & Anderson, D.A. (2009). Bulimic symptoms in undergraduate men and women: Contributions of mindfulness and thought suppression. *Eating Behaviors,10,* 228-231.

Laye-Gindhu, A. & Schonert,Reicht, K.A. (2005). Nonsuicidal self-harm among community adolescents: Understanding the "whats" and "whys" of self-harm. *Journal of Youth and Adolescence, 34*(5), 447-457.

Lineham, M.M. (1993). *Cognitive-behavioral treatment of borderline personality disorder.* New York: The Guilford Press.

Lloyd-Richardson, E.E., Perrine, N., Dierker, L., & Kelley, M.L. (2007). Characteristics and functions of non-suicidal self-injury in a community sample of adolescents. *Psychological Medicine, 37,* 1183-1192.

Macrae, C.N., Bodenhausen, G.V., Milne, A.B., & Ford, R.L. (1997). On regulation of recollection: The intentional forgetting of stereotypical memories. *Journal of Personality and Social Psychology, 72*(4), 709-719.

Muehlenkamp, J.J., Engel, S.G., Wadeson, A., Crosby, R.D., Wonderlich, S.A., Simonich, H., & Mitchell, J.E. (2009). Emotional states preceding and following acts of non-suicidal self-injury in bulimia nervosa patients. *Behaviour Research and Therapy 47,* 83-87.

Najmi, S., Wegner, D.M., & Nock, M.K. (2007). Thought suppression and self-injurious thoughts and behaviors. *Behaviour Research and Therapy, 45*(8), 1957-1965.

Newman, L.S., Duff, K.J., & Baumeister, R.F. (1997). A new look at defensive projection: Thought suppression, accessibility, and biased person perception. *Journal of Personality and Social Psychology, 72*(5), 980-1001.

Nixon, M.K., Cloutier, P. & Jansson, M. (2008). Nonsuicidal self-harm in youth: A population. *Canadian Medical Association Journal, 178(*3*),* 306-312.

Nock, M.K. (2009). Why do people hurt themselves? New insights into the nature and functions of self-injury. *Current Directions in Psychological Science, 18(*2*),* 78-83.

Nock, M.K.., Holmberg, E.B., Photos, V.I., & Michel, B.D. (2007). Self-injurious thoughts and behaviors interview: Development, reliability, and validity in an adolescent sample. *Psychological Assessment, 19*(3), 309-317.

Nock, M.K. & Prinstein, M.J. (2004). A functional approach to the assessment of self-mutilative behavior. *Journal of Counseling and Clinical Psychology, 72*(5), 885-890.

Nock, M.K., Teper, R., & Hollander,M. (2007). Psychological treatment of self-injury among adolescents. *Journal of Clinical Psychology, 63(*11*),* 1081-1089.

Oliver, K.G. & Huon, G.F. (2001). Eating-related thought suppression in high and low disinhibitors. *International Journal of Eating Disorders, 30,* 329-337.

Petrie, K.J., Booth, R.J., & Pennebaker, J.W. (1998). The immunological effects of thought suppression. *Journal of Personality and Social Psychology, 75*(5), 1264-1272.

Repp, A.C. & Deitz, S.M. (1974). Reducing aggressive and self-injurious behavior of institutionalized retarded children through reinforcement of other behaviors. *Journal of Applied Behavior Analysis, 7(*2*),* 313-325.

Ross, S. & Heath, N. (2002). A study of the frequency of self-mutilation in a community sample of adolescents. *Journal of Youth and Adolescence, 31*(1), 67-77.

Ross, S, Heath, N.L., & Toste, J.R. (2009). Non-suicidal self-injury and eating pathology in high school students. *American Journal of Orthopsychiatry, 79(*1*),* 83-92.

Sansone, R.A., Wiederman, M.W., & Sansone, L.A. (1998). The self-harm inventory (SHI): Development of a scale for identifying self-destructive behaviors and borderline personality disorder. *Journal of Clinical Psychology, 54(*7*),* 973-983.

Sherman, J.W., Stroessner, S.J., Loftus, S.T., & Deguzman, G. (1997). Stereotype suppression and recognition memory for stereotypical and nonstereotypical information. *Social Cognition 15,* 205-215.

Simeon, D. & Favazza, A.R. (2001). *Self-injurious behaviors: Phenomenology and assessment.* Washington, DC: American Psychiatric Press.

Sullivan, M.J.L., Rouse, D., Bishop, S., & Johnston, S. (1997). Thought suppression, catastrophizing, and pain. *Cognitive Therapy and Research, 21*(5), 555-568.

Sutton, J. (2004). Understanding dissociation and its relationship to self-injury and childhood trauma. *Counseling and Psychotherapy Journal, 15*(3), 24-27.

Svirko, E. & Hawton, K. (2007). Self-injurious behavior and eating disorders: The extent and nature of the association. *Suicide and Life-Threatening Behavior, 37*(4), 409-421.

Taylor, B. (2003). Exploring the perspectives of men who self-harm. *Learning in Health and Social Care, 2*(2), 83-91.

Thayer, J.F. & Johnsen, B.H. (200). Sex differences in judgment of facial affect: A multivariate analysis of recognition errors. *Scandinavian Journal of Psychology, 41,* 243-246.

Thayer, J.F., Rossy, L.A., Ruiz-Padial, E., & Johnsen, B.H. (2003). Gender differences in the relationship between emotional regulation and depressive symptoms. *Cognitive Therapy and Research, 27(*3*),* 349-364.

Valentiner, D.P., Hood, J.T., & Hawkins, A. (2006). Differentiating thought suppression and the suppression of emotional expression. *Cognition and Emotion, 20(5),* 729-735.

Virkkunen, M. (1976). Self-mutilation in antisocial personality (disorder). *Acta Psychiatrica Scandinavica, 54,* 347-352.

Wegner, D.M. (1994). Ironic processes of mental control. *Psychological Review, 101,* 34-52.

Wegner, D. (n.d.) Thought suppression and mental control. *Encyclopedia of Cognitive Science,* 395-397.

Wegner, D.M. & Erber, R. (1992). The hyperaccessibility of suppressed thoughts. *Journal of Personality and Social Psychology, 63(*6*),* 903-912.

Wegner, D.M., Schneider, D.J., Carter III, S.R. & White, T.L. (1987). Paradoxical effects of

thought suppression. *Journal of Personality and Social Psychology, 53(*1*),* 5-13.

Wegner, D.M., Schneider, D.J., Knutson, B, & McMahon, S.R. (1991). Polluting the stream consciousness: The effect of thought suppression on the mind's environment. *Cognitive Therapy and Research, 15(*2*),* 141-152.

Wegner, D.M. & Zanakos, S. (1994). Chronic thought suppression. *Journal of Personality, 62*(4), 615-640.

Weierich, M.R. & Nock, M.K. (2008). Posttraumatic stress symptoms mediate the relation between childhood sexual abuse and nonsuicidal self-injury. *Journal of Consulting and Clinical Psychology, 76*(1), 39-44.

Wenzlaff, R.M. & Bates, D.E. (1998). Unmasking a cognitive vulnerability to depression: How lapses in mental control reveal depressive thinking. *Journal of Personality and Social Psychology, 75*(6), 1559-1571.

Wenzlaff, R.M. & Wegner, D.M. (2000). Thought suppression. *Annual Revies of Psychology, 51*, 59-91.

Wenzlaff, R.M, Wegner, D.M., & Klein, S.B. (1991). The role of thought suppression in the bonding of thought and mood. *Journal of Personality and Social Psychology, 60*, 500-508.

Whitlock, J., Eckenrode, J., & Silverman, D. (2006). Self-injurious behaviors in a college population. *Pediatrics, 117*(6), 1939-1948.

Zoroglu, S.S. Tuzun, U., Sar, V., Tutken, H., Savas, H.A., Ozturk, M., Alyanak, B., & Kora, M.E. (2003). Suicide attempt and self-mutilation among Turkish high school students in relation with abuse, neglect, and dissociation. *Psychiatry and Clinical Neurosciences, 57*, 119-126.

Zlotnick, C., Shea, T.M., Recupero, P., Bidadi, K., Pearlstein, T., & Brown, P. (1997). Trauma, dissociation, impulsivity, and self-mutilation among substance abuse patients. *American Journal of Orthopsychiatry, 67*(4), 650-654.