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Examining the Relationship Between Non-Suicidal Self-Injury and Attachment Styles

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EXAMINING THE RELATIONSHIP BETWEEN NON-SUICIDAL SELF-INJURY AND ATTACHMENT STYLES

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ABSTRACT

EXAMINING THE RELATIONSHIP BETWEEN NON-SUICIDAL SELF-INJURY AND ATTACHMENT STYLES

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Non-suicidal self-injury, or NSSI, can be defined as the "intentional, self-inflicted destruction of body tissue performed without suicidal intent using methods that are not socially sanctioned" (Martin et al., 2017, p. 425). Lifetime prevalence has been found to be between 5.9% and 18% (Cassels et al., 2019; Klonsky, 2011), indicating that there is a need to understand NSSI so that individuals can be helped to reduce the frequency of their harming behaviors. There is reason to believe that one's attachment style is associated with the engagement of NSSI (e.g., Wrath & Adams, 2019). Research shows mixed results regarding the types of adult attachment styles (secure, preoccupied, fearful, dismissive) that are and are not associated with NSSI. The current study sought to clarify discrepancies by examining the association between NSSI and adult attachment styles in a sample of 445 young adults, where 196 (44.0%) individuals stated that they have never engaged in NSSI, and 249 (56.0%) who have engaged in NSSI before. Results suggested there was a significant association between fearful and preoccupied attachment styles and NSSI, and that secure attachment was significantly correlated with not engaging in NSSI. Moreover, the fearful attachment style was correlated with scratching, preoccupied attachment was correlated with biting, and lower dismissive attachment scores were correlated with burning and biting. Significant differences in the reasons why someone engaged in NSSI were found regarding attachment styles and specific NSSI behaviors. This research is important because it

helps show justifications for why someone engages in NSSI, that different levels of attachment traits exist, and that even those with secure attachment traits can still engage in NSSI behaviors. This dissertation is available in open access at AURA (https://aura.antioch.edu) and OhioLINK ETD Center (https://etd.ohiolink.edu).

Keywords: non-suicidal self-injury, NSSI, attachment style, self-harm, preoccupied attachment, secure attachment, insecure attachment, adult attachment

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LITERATURE REVIEW

Attachment styles and non-suicidal self-injury (NSSI) are important to consider when working with individuals in a clinical setting. Everyone has an attachment style, whether that be secure or insecure, and it is important to understand the relationship between one's attachment style and their engagement with NSSI. There are several functions that engagement in NSSI may serve (Klonsky, 2009). These functions may vary based on an individual's attachment style. For example, many times those with an anxious attachment will engage in NSSI to help cope with feelings of distress (Wrath & Adams, 2019). However, more research needs to be done on this phenomenon to better understand the functions of all types of attachment styles with NSSI engagement. Additionally, understanding how one's attachment style relates to NSSI can help in the therapy setting. There is a possibility that NSSI may serve different functions, which can be better addressed if the nuances of why one engages in NSSI are known. The following review seeks to further examine the connection between NSSI and attachment styles in adulthood.

Non-Suicidal Self-Injury

NSSI can be defined as the "intentional, self-inflicted destruction of body tissue performed without suicidal intent using methods that are not socially sanctioned" (Martin et al., 2017, p. 425). It is also known as deliberate self-harm, superficial-moderate self-mutilation, self-wounding, and parasuicide (Klonsky, 2009). Common forms of NSSI include scratching oneself, burning oneself, hitting, biting, and interfering with wound healing, with the most common form of self-injury being skin-cutting (Klonsky, 2009, 2011). In 2011, the lifetime prevalence of NSSI varied from 5.9% to 18% in the general community (Cassels et al., 2019; Klonsky, 2011). The 5.9% rate was also supported by Wrath and Adams (2019), who found the prevalence of NSSI in the general community to be between 5% and 6% in a review of 17

studies. Despite the low rate among the general population, the rates of NSSI have been estimated to be as high as 40% in clinical populations (Wrath & Adams, 2019). Conversely, in high school and university students, rates have ranged widely between 4% and 38% (Martin et al., 2017; Wrath & Adams, 2019), with the highest rates occurring during adolescence (Cassels et al., 2019). This is concerning because NSSI has been associated with a greater likelihood of attempting and completing suicide, as well as greater difficulty regulating emotions, compared to those who have never engaged in NSSI (Wrath & Adams, 2019).

Even though NSSI is most commonly seen in adolescence (Cassels et al., 2019), research shows that it can continue into adulthood. Kiekens and colleagues (2016) found that of 7,527 college students, 3–7% engaged in NSSI in a 12-month period. Similarly, in a longitudinal study by Turner and colleagues (2019), young adults (aged 18–35) in a nonclinical sample reported thoughts of NSSI for almost half of the observation days. Hasking and colleagues (2008) found that 76 of their 211 participants between the ages of 18 and 30 (36.02%) self-injured within the past year.

NSSI also has lifelong impacts, such as the physical consequences of self-injury (e.g., scars, pain), as well as long-term consequences (Klonsky, 2009). For those who self-harm, long-term consequences include a higher likelihood of suicide attempts and a greater probability of death by suicide compared to those in the general population who do not self-harm (Wrath & Adams, 2019). Additionally, those who self-injure often have difficulties regulating emotional responses and tolerating intense emotions, which can make any stress that an individual feels a possible trigger for self-injurious behavior (Cassels et al., 2019). Klonsky (2009) found that common consequences of NSSI are feeling of relief, stress reduction, feeling more in control, and anxiety reduction. Taking away their coping mechanism (i.e., by reducing self-injurious

behavior) may further trigger an individual or lead to other maladaptive behaviors. If a clinician wishes to work on reducing self-injury with their patient during treatment, it is important to recognize that the therapist runs the risk of taking away one of the only coping mechanisms that a patient has had to help regulate their emotions.

Emotion Regulation

Emotion regulation is when an individual attempts to regulate their emotions by performing some sort of act after they have become dysregulated or experienced heightened distress (In-Albon et al., 2013). According to Robinson and colleagues (2019), it is "the process by which behaviors, skills, and strategies … modulate, inhibit, and enhance emotional experiences and expressions" (p. 325). Most often these emotions are negative, such as sadness or distress, and the individual experiencing the emotion wishes to feel something other than that particular emotion (In-Albon et al., 2013).

In childhood, emotions are co-regulated by the caregivers of the child (Schore & Schore, 2008). This allows the child to learn how to adaptively and effectively regulate their emotions while still allowing the emotions to be felt. However, if a caregiver is unable to help regulate the child's emotions, the child will likely grow into an adult who is unable to adaptively regulate their emotions (Schore & Schore, 2008). This can then lead to maladaptive coping mechanisms for emotion regulation (e.g., NSSI).

Functions of NSSI

Research has found that individuals engage in NSSI for a variety of reasons, ranging from emotion regulation to suicide prevention (Klonsky, 2009, 2011; Wrath & Adams, 2019). When one engages in NSSI for emotion regulation, common mental states before the engagement include being overwhelmed, sad, frustrated, emotionally hurt, and anxious

(Klonsky, 2009). However, after one self-injures, Klonsky found that the most common mental states were being relieved, angry at oneself, and calm. Other studies (e.g., Wrath & Adams, 2019) have found similar results, where emotion regulation is one of the most common reasons for one to engage in NSSI.

Other reasons for self-injury include perceived relief of bad feelings, punishing oneself, communicating with others, getting out of doing something, combating dissociation, suicide prevention, sensation seeking, and having an interpersonal influence (Klonsky, 2011; Wrath & Adams, 2019). Klonsky (2011) sought to provide data regarding the gaps in the literature surrounding socio-demographics, prevalence, topography, and functions of NSSI. Even though he helped contribute to the understanding of NSSI, he did not include measures to assess for mental disorders (Klonsky, 2011). Future research may wish to more specifically compare the prevalence and functions of NSSI to see if it is different for those with underlying pathology, compared to those without underlying pathology.

NSSI and Psychopathology

NSSI is associated with a wide array of psychological disorders. It has been associated with mood disorders, personality disorders (especially borderline personality disorder), substance abuse, and various eating disorders (Adshead, 2010). NSSI as a disorder has been considered throughout various DSM editions but has yet to be recognized as a distinct disorder; rather, it is seen as a symptom of other disorders (Muehlenkamp & Brausch, 2016). This is likely because it is associated with such a wide variety of disorders, that it is unlikely to be a sole diagnosis for an individual who engages in NSSI and would instead be a comorbid disorder (Muehlenkamp & Brausch, 2016). Additionally, NSSI is associated with suicidality, anxiety, and depression (Klonsky & Glenn, 2009). Because NSSI is associated with emotion regulation, it is

understandable that it is also associated with different psychopathology (Klonsky & Glenn, 2009). Therefore, it is important to understand the underlying psychopathology regarding one's NSSI because that may influence the function of why one engages in the act.

Trauma and NSSI

Research indicates that there is a relationship between traumatic experiences and NSSI (Cheng et al., 2010; Di Pierro et al., 2012; Smith et al., 2014). It has been found that an increase in self-injury occurs when there has been a traumatic experience, both growing up and as a young adult (Cheng et al., 2010; Di Pierro et al., 2012). In particular, the more instances of physical and sexual abuse one experiences, the more likely they are to engage in self-injury (Di Pierro et al., 2012). However, it is crucial to note that not everyone with a trauma history engages in self-injurious behaviors. More than 80% of individuals in the general population have experienced a traumatic event, as of 2008 (Sledjeski et al., 2008), but prevalence rates of NSSI range from 4% to 40% (Martin et al., 2017; Wrath & Adams, 2019). Therefore, while there may be a correlation between having experienced a traumatic event and NSSI, it is clear that not everyone with a trauma history engages in NSSI.

NSSI as a Communication Style

NSSI can also be utilized as a communication style, where those that self-injure are communicating with others that they are in pain, but may not know how to express that pain in other, more adaptive, means. Although it may be an abstract way of examining one's language, one of the primary known functions of NSSI is emotion regulation (Klonsky, 2009). It may be that NSSI is how one expresses their emotionality, too. Alexithymia is when an individual has difficulty identifying or describing different emotions (Adshead, 2010). Research has shown that individuals who engage in NSSI may show signs of alexithymia (Adshead, 2010). However,

there is reason to believe that an individual who engages in NSSI may use their self-injurious behaviors to speak for themselves. Therefore, individuals who engage in NSSI may use it due to potentially having alexithymia, or because they do not know the purpose of their NSSI.

Risk Factors

There are also various risk factors present for the probability of engaging in non-suicidal self-injury. These factors include early childhood trauma, high negative emotionality, tendencies to ruminate, dysregulated emotional processes, being younger, and being unmarried (Cassels et al., 2019; Klonsky, 2011; Martin et al., 2017; Wrath & Adams, 2019). Even though the research supports that deficits in emotion regulation are a risk factor for NSSI (e.g., Martin et al., 2017; Wrath & Adams, 2019), Cassels and colleagues (2019) found that emotional regulation deficits were not associated with NSSI. It is likely that studies that have found that deficits in emotion regulation were a risk factor for NSSI measured emotion regulation with multiple questions, therefore capturing a range of emotions. However, Cassels and colleagues (2019) only measured emotion regulation by five items (e.g., "I am often impatient, down, or in tears," and "I worry a lot") which may have not been sufficient to successfully capture the full range of emotional difficulties in those who engage in NSSI. Their results may also have been limited by the relatively low rates of NSSI found by Cassels and colleagues (2019) in the year of their data collection, resulting in insufficient data to show a significant relationship between NSSI and emotional difficulties. Furthermore, Hasking and colleagues (2008) found that those who engaged in NSSI were more likely to partake in risky drinking behaviors and have higher rates of psychological distress compared with those who did not engage in NSSI. Due to the lifelong impact of NSSI, there is a need to explore potential factors that influence one's risk of engaging in NSSI, such as an individual's attachment style.

Attachment Styles

John Bowlby first described attachment theory in 1969 (Bowlby, 1982a). He posited that the way an infant engages with a caregiver will predict their interaction patterns throughout the rest of the individual's life (Ainsworth et al., 1978, 1984; Bowlby, 1982a, 1982b; Kimball, 2003; Wrath & Adams, 2019). Since the development of attachment theory, various psychologists, such as Mary Ainsworth, have proceeded to enhance Bowlby's original idea (Wrath & Adams, 2019). Research has supported Bowlby's original hypothesis—that early attachment is correlated with future attachment—with few counterarguments (Ainsworth et al., 1978, 1984; Kimball, 2003; Wrath & Adams, 2019). It is generally accepted that attachment style remains stable throughout one's lifespan, as well as in a variety of contexts (Ainsworth et al., 1978, 1984; Bowlby, 1982a, 1982b; Kimball, 2003). Research shows that individuals with a preoccupied attachment style are more likely to engage in NSSI compared with those who have a different type of attachment style, such as dismissive or secure attachment (Cassels et al., 2019; Wrath & Adams, 2019).

Attachment in Childhood

In childhood, there are two overarching categories of attachment: secure and insecure (Ainsworth et al., 1978; Bretherton, 1992; Kimball, 2003). When a child is securely attached, they can positively view both themselves and others and can utilize healthy coping mechanisms in times of distress (Wrath & Adams, 2019). As securely-attached children age, they can view their caregiver as imperfect, but mostly good (Kimball, 2003). There are three main characteristics of a securely attached child: interpersonal flexibility, the ability to empathize, and the ability to have adequate coping skills (Kimball, 2003).

Insecure attachment can be subdivided into avoidant attachment and anxious attachment (Ainsworth et al., 1978; Bretherton, 1992; Stevens, 2014; Wrath & Adams, 2019). When an individual has an avoidant attachment style, they have both a high sense of self and a low sense of others, meaning that they are highly self-reliant (Wrath & Adams, 2019). These individuals shy away from intimacy and are highly independent (Kimball, 2003; Wrath & Adams, 2019). To cope with life's demands, they engage in deactivating their emotions, often by repressing or dissociating their emotions from their experience (Stevens, 2014; Wrath & Adams, 2019). Ultimately, individuals with avoidant attachment patterns are less focused on their own emotions and are more focused on what is occurring outside of them (Stevens, 2014).

On the other hand, those with anxious attachment patterns are more aware of their emotions than those with avoidant attachment patterns but are unable to figure out how to express their emotions in a socially sanctioned manner (Stevens, 2014). The main characteristics of children with anxious attachment are engagement in attention-seeking behavior and devaluing their ability to successfully cope with life's demands (Stevens, 2014; Wrath & Adams, 2019). These individuals are more likely to allow their emotions to interfere with their goals, as well as engage in more impulsive behaviors than if they had secure or avoidant attachment (Stevens, 2014). Both secure and insecure attachment can carry forward into adulthood, which can influence how one copes with life stressors.

Attachment in Adulthood

There are several attachment styles that emerge amongst adults: secure, dismissive, fearful, and preoccupied (Kimball, 2003; Martin et al., 2017; Tatnell et al., 2018; Wrath & Adams, 2019). When an adult is securely attached, they can acknowledge when negative emotions arise, and then cope with those emotions in a healthy manner such as by seeking out

help from others (Kimball, 2003; Wrath & Adams, 2019). Dismissive attachment is similar to avoidant attachment in childhood (Kimball, 2003). These individuals try not to acknowledge that negative emotions exist, and when confronted with them, may act emotionally without full knowledge of why they are doing so (Kimball, 2003). Fearful attachment is similar to avoidant attachment and occurs when an individual has a negative view of both themselves and others (Haaga et al., 2002). It is different from dismissive attachment in that dismissive attachment focuses on avoiding negative emotions, whereas fearful attachment focuses on avoiding intimacy with others due to fear of rejection (Haaga et al., 2002; Reis & Grenyer, 2004). Murphy (2000) found that fearful attachment was associated with higher levels of depression compared to other attachment styles. Preoccupied attachment is correlated with anxious attachment in childhood (Kimball, 2003; Martin et al., 2017). Individuals with a preoccupied attachment style are very emotionally expressive, often being unable to regulate their emotions to what may be appropriate in a given situation (Kimball, 2003). Preoccupied attachment is associated with emotional dysregulation, heightened affect, identification with more negative self-views, and more self-reported distress compared to those with dismissive or secure attachment patterns (Martin et al., 2017). Thus, a preoccupied attachment may be associated with NSSI because emotion regulation has been demonstrated to be one of the primary reasons for engaging in NSSI.

Earned Security

In attachment theory, it is hypothesized that early attachment caregivers and experiences are crucial to how one develops their attachment style later on in life (Moller et al., 2002). However, there is a phenomenon—earned security—that is counterintuitive to this hypothesis. Earned security is when an individual can recall early attachment relationships with caregivers who were uncaring, in an open manner, similar to how a securely attached individual can talk

about positive childhood caregiving experiences (Moller et al., 2002; Venta et al., 2015). This is separate from continuous security, where individuals are securely attached and describe positive early childhood caregiving memories (Venta et al., 2015). Earned security is important because it suggests that, despite growing up a certain way, attachment can be viewed as a dynamic process that is subject to change, depending on the individual.

It should be noted that earned security does not come from simply building one's repertoire of coping skills. Rather, earned security is a relational process (Saunders et al., 2011), meaning that as someone develops a relationship with another human being, they can develop earned security through the use of corrective emotional experiences or reflective functioning. This relational process can be achieved through interaction with a spouse, therapist, or another close relationship (Saunders et al., 2011).

Earned security should be considered when discussing NSSI and attachment style. It is possible for an individual to grow up with greater levels of insecure attachment but develop earned security as they age. Therefore, when the insecure attachment was greater, there may have been a greater likelihood of using NSSI as a coping mechanism; however, as they develop earned security they may find less need for NSSI because they have more secure relationships. The research for this project focuses on young adults, but it is important to recognize that there may be participants who used to engage in NSSI but have developed more adaptive coping mechanisms so they no longer rely on NSSI. This is crucial to understand because the Self-Injury Questionnaire-Treatment Related (SIQ-TR), which is utilized in this study, asks about self-injury that occurred more than one year ago, but does not ask follow-up questions for self-injury that occurred more than one month ago. Therefore, there may be further research (e.g., a longitudinal

study) examining whether earned security helps individuals move from using NSSI as a protective mechanism, to a more adaptive coping mechanism.

Attachment as a Trait

Attachment can be viewed in at least two different ways: as categories or dimensions (Martin et al., 2017; Venta et al., 2015). Categorical measures of attachment place individuals into different categories, including secure and insecure measures of attachment (e.g., preoccupied, dismissive, fearful). On the other hand, dimensional measures of attachment view attachment as a continuum of attachment. For example, someone can be high in preoccupied attachment with a moderate level of fearful attachment. This is crucial to understand, as the Relationship Scales Questionnaire (RSQ), which will be utilized in this study, views attachment as a dimensional trait, rather than a category. In understanding attachment as a trait, one can then understand that earned security can be achieved over time—not because someone transitioned from one category of attachment to another, but because one increased their level of secure attachment when compared with the other attachment traits.

Interplay Between Attachment and Non-Suicidal Self-Injury

Research has demonstrated a relationship between emotion regulation and attachment styles in both adolescents and adults (Braga & Gonçalves, 2014; Kimball, 2003). Regarding childhood and adolescent attachment, it has been found that insecurely attached individuals may be more likely to have emotional problems and engage in non-suicidal self-injury more often than their securely attached counterparts (Braga & Gonçalves, 2014; Cassels et al., 2019). Specifically, there is evidence that those with anxious attachment are more likely to engage in self-injurious behaviors to cope with distress compared to individuals with other attachment styles (Wrath & Adams, 2019).

Categorical Attachment and NSSI

Research suggests that there is a relationship between attachment category (e.g., insecure) and NSSI (Critchfield et al., 2008; Martin et al., 2017; Wrath & Adams, 2019). There is evidence that preoccupied attachment, in particular, is associated with NSSI (Martin et al., 2017). This may be because of the dysregulated emotional experiences that accompany preoccupied attachment and the fact that NSSI is often used as a form of emotion regulation (Klonsky, 2011).

Additionally, it has been found that there is a relationship between the frequency and severity of self-harm and general attachment insecurity in adults (Critchfield et al., 2008; Martin et al., 2017). Specifically, Martin and colleagues (2017) found that the preoccupied attachment style in adulthood was associated with more frequent and severe NSSI. Critchfield and colleagues (2008) found that attachment avoidance was significantly correlated with all measures of self-harm examined (i.e., assault against self, parasuicide, history of parasuicide). Further, it was found that greater attachment avoidance was associated with a higher frequency of self-injurious behaviors (Critchfield et al., 2008). Prior research has established many connections between various attachment dimensions and NSSI and it is important to fully understand the role that attachment plays in contributing to NSSI. This is especially true for understanding insecure attachment in adults since multiple studies have found an association between insecure attachment styles and an increased rate of NSSI.

Wrath and Adams' (2019) review of the literature found a correlation similar to Martin and colleagues' (2017) findings that, in both clinical and non-clinical samples, there was a correlation between preoccupied attachment and engagement with NSSI. This is interesting because anxious attachment in childhood is associated with having an awareness of emotions but being unaware of how to successfully convey those emotions (Stevens, 2014). Childhood

anxious attachment often translates to preoccupied attachment in adulthood (Stevens, 2014). Therefore, individuals with preoccupied attachment in adulthood may resort to self-injurious behaviors because they are uncertain of how else to convey their emotions. Although much of the literature on NSSI concerning attachment has focused on attachment styles, there is also some evidence that viewing attachment more dimensionally, that is, as a trait, may also shed light on patterns of NSSI behavior.

Attachment Traits and NSSI

The concept of earned security implies that attachment can be seen as a trait that can be developed, rather than simply as a fixed style (Venta et al., 2015). This is an important distinction for the design of the current research, as the Relationship Scales Questionnaire (RSQ) that will be used in the present study utilizes attachment theory by conceptualizing attachment as a trait (dimension), rather than a style (category; Guédeney et al., 2010). This means that attachment can be seen as a dynamic process and placed on a continuum where an individual can have traits of more than one attachment style simultaneously (Guédeney et al., 2010; Venta et al., 2015).

It has been found that those with preoccupied attachment traits are more likely to engage in NSSI compared to those with dismissive (associated with avoidant attachment in childhood) and secure attachment (Kimball, 2003). This is not to say that those with a dismissive attachment style do not ever engage in self-injury; rather, there are fewer individuals who do so compared to those with a preoccupied attachment style (Kimball, 2003). Additionally, the fearful attachment trait has been shown to be associated with NSSI (Tatnell et al., 2018). However, results may depend on whether the sample is drawn from a clinical or non-clinical population. For example, in a clinical sample, Wrath and Adams (2019) found a correlation between self-harm and

dismissive attachment. In contrast, the same study found no relationship in a non-clinical sample (Wrath & Adams, 2019).

In 2014, Braga and Gonçalves conducted a study examining the relationship between NSSI and attachment insecurity in adults. They found that those who engaged in NSSI behaviors held greater anxiety and were less comfortable with intimacy compared to those who did not engage in NSSI. This may indicate a relationship between preoccupied attachment and NSSI because preoccupied attachment is associated with greater levels of anxiety around others. Further, one of the subscales on the SIQ-TR relates to the degree one trusts in others, and Braga and Gonçalves (2014) found that those who engaged in self-injury over one year prior were more likely to trust others than those who currently engaged in self-injury.

There is also a relationship between attachment and emotion regulation (Schore & Schore, 2008). Research shows that emotion regulation is first directed by an adult caregiver during one's childhood until one can regulate their emotions by themselves (Schore & Schore, 2008). Because emotion regulation is closely tied to NSSI behaviors (Klonsky, 2009), it is possible that the emotion regulation that children either did or did not feel in their childhood, from their caregivers, can tie into their future behaviors. Without a caregiver being an effective regulator of emotions for a child, it is likely that that child grows into an individual who also is unable to adaptively regulate their emotions (Schore & Schore, 2008).

Limitations in Existing Research

Understanding the current body of literature on NSSI is complicated by several factors including low rates of NSSI and mixed findings. Low prevalence rates of NSSI and attrition may help account for some of the contradictions that have appeared in the research to date. For example, although Wrath and Adams' (2019) study demonstrated a relationship between anxious

attachment and NSSI, Cassels and colleagues (2019) did not have a similar finding. This may have been due to the low rates of NSSI that were reported in the Cassels study, or that 32% of the sample chose to not provide follow-up data for the study (Cassels et al., 2019).

Small sample sizes and third variable effects may also contribute to some of the disparities in the current literature. Cassels and colleagues' (2019) results showed no direct effect of avoidant attachment on NSSI but they did find an indirect relationship through behavioral difficulties, including trouble following rules and getting into fights with others. The authors note there may have been methodological concerns that brought about these findings, including small sample size. However, in a larger-scale study that reviewed 17 studies, Wrath and Adams (2019) found a significant correlation between avoidant attachment and NSSI. Thus, it is important to secure sufficient sample sizes in future research on the relationship between NSSI and attachment styles.

Kharsati and Bhola (2016) found that in college students in India, levels of anxious attachment were associated with self-injurious behaviors. They also found that self-injurious behavior was associated with a preoccupation with relationships and a need for approval in relationships (Kharsati & Bhola, 2016). This is similar to what is expected to be found in this study, where a preoccupied attachment is related to high levels of anxiety and low levels of avoidance (e.g., they rely on others to help them through difficult times), which is expected to be correlated with non-suicidal self-injury.

It has also been found that there is a significant correlation between general insecure attachment and NSSI (Kao, 2021). Specifically, prior research demonstrated that anxious attachment is significantly correlated with engagement in general NSSI behaviors (Braga & Gonçalves, 2014; Critchfield et al., 2008; Kao, 2021). However, there is limited research

examining specific attachment profiles and what types of NSSI are endorsed. Therefore, this gap in the literature is being examined in this research study.

The Current Study

Due to the mixed results of research on engagement with NSSI and attachment traits in adulthood, it is important to further explore this possible relationship. Even though Wrath and Adams (2019) published their study recently, in their literature review only 17 studies were examined, and of those 17 studies, the most recent one analyzed was from 2016. While there have been some studies conducted since 2016, few have focused on the relationship between adult attachment and NSSI. The current study hopes to support existing research showing that preoccupied (anxious) attachment is correlated with a higher incidence of NSSI in adults compared to those with dismissive and secure attachment traits. Further, this study will examine the types of attachment associated with specific NSSI behaviors, as well as the functions NSSI may serve for individuals with different attachment traits.

Additionally, it is important to understand if different types of NSSI are more likely to be associated with particular attachment characteristics. Although research has examined the relationship between attachment and general NSSI, no published research explored whether specific types of NSSI behaviors are associated with attachment traits. The current study will thus address an important gap in the literature. The knowledge will help allow professionals in the mental health industry better treat their patients who engage in NSSI, since it may shed light on the reasons individuals engage in different types of NSSI.

Research Questions and Hypotheses

1. Is there an association between adult attachment traits and the presence of NSSI? Specifically, do adults with higher scores on a measure of preoccupied (anxious)

attachment have a stronger correlation with NSSI compared to those with high scores on dismissive, fearful, or secure attachment?

   a. Hypothesis: Those with preoccupied attachment characteristics will report higher rates of NSSI compared to those with dismissive, fearful, or secure attachment.

2. Are different types of NSSI (e.g., cutting, burning, scratching) associated with any of the various attachment traits?

   a. Hypothesis: Different types of NSSI will be associated with each attachment characteristic. For example, higher scores on preoccupied attachment will be associated with more severe types of NSSI (e.g., types more likely to cause accidental suicide), whereas higher scores on secure attachment will be associated with less severe types of NSSI (e.g., biting).

3. Are there different reasons why individuals with different attachment traits engage in NSSI? For example, do individuals with higher preoccupied attachment scores tend to engage in NSSI for reasons associated with emotion regulation?

   a. Hypothesis: Based on prior research there is no clear picture of differences in how differences in scores will relate to NSSI. As a result, this will be an exploratory question without a specific hypothesis.

METHOD

Participants

Participants were recruited via email and social media. An email was sent out to individuals in psychology programs. No compensation was provided for participation in this study. No names were used in data collection to preserve anonymity. To be eligible for this study, participants had to indicate they were between the ages of 18 and 29, and that they were fluent in English. It was not required that the participant had previously engaged in NSSI behaviors.

Measures

Non-Suicidal Self-Injury

A single yes/no question regarding if an individual has ever engaged in NSSI was asked, a common approach in NSSI research (Cassels et al., 2019). It has been found that single-item measures of NSSI consistently provide accurate estimates of prevalence (Cassels et al., 2019). The item was used to assess the overall prevalence of NSSI in the current study, while also acting as a criterion question to see if participants continued to the SIQ-TR.

Self-Injury Questionnaire Treatment Related (SIQ-TR)

The SIQ-TR is a 54-item self-report questionnaire that was created in 1997 (Mina et al., 2006) to assess the motivation and type of NSSI. It poses questions in both a Likert scale fashion focusing on the justifications for self-harming, as well as multiple-choice questions with a focus on the type of self-injury an individual performed. When Mina et al. (2006) examined the internal consistency of the SIQ-TR, they found that there was strong reliability for the total SIQ scale.

Relationship Scales Questionnaire

The Relationship Scales Questionnaire (RSQ), developed by Griffin and Bartholomew in 1994, is the most widely used self-report measure for adult attachment styles (Guédeney et al., 2010). It is based on three previously developed scales: Hazan and Shaver's attachment measure (1987), Bartholomew and Horowitz's Relationship Questionnaire (1991), and Collins and Read's Adult Attachment Scale (1990; Bartholomew & Horowitz, 1991; Collins & Read, 1990; Hazan & Shaver, 1987; Scharfe & Bartholomew, 1994). It is composed of 30 items and four attachment styles are represented: secure, fearful, preoccupied, and dismissive (Scharfe & Bartholomew, 1994). The psychometric properties of the RSQ are solid (Guédeney et al., 2010). Guédeney and colleagues (2010) found that the intraclass correlations (ICC) were modest for the four prototypical scales, and the ICC was good in relation to scales designed from a factor analysis. Guédeney et al. (2010) also found that there was good construct validity (Cronbach & Meehl, 1955). Cronbach's alpha for the secure attachment scale in this dissertation was .358 and for the fearful attachment scale, Cronbach's alpha was .729. Cronbach's alpha for the preoccupied attachment scale was .480, and for dismissive attachment, it was .566. It should be noted that although there are different categories of attachment styles utilized in the RSQ, the RSQ does not place participants into one category or another; rather, participants are scored on a continuum of what type of attachment is more or less like them (Guédeney et al., 2010).

Procedure

In completing this study, participants were recruited via various listserv email lists, as well as through social media platforms such as Instagram and Facebook. Data was collected via an anonymous online survey. The survey provided to participants began with the single-item non-suicidal self-injury question. If the participant responded in the affirmative to the NSSI

question, they were directed to the Self-Injury Questionnaire Treatment Related. If the participant responded negatively to the NSSI question, they were directed to the Relationship Scales Questionnaire. This was done to ensure that those who do not engage in self-injurious behaviors were not burdened by answering repetitive questions. To ensure that those who engage in self-injurious behaviors would not fatigue throughout the process, they were only directed to certain questions on the Self-Injury Questionnaire Treatment Related if they answered in the affirmative to the first question for each type of self-injurious behavior. This helped ensure that participants were only answering questions that were relevant to them.

RESULTS

The total number of participants was 468, with 1 participant declining the informed consent question, resulting in an N = 467. After the age screening question, which required participants to be over the age of 18 and under age 30, the total number of respondents was narrowed down to N = 445. There were n = 196 (44.0%) individuals who stated that they have never engaged in non-suicidal self-injury (NSSI), and n = 249 (56.0%) who have engaged in NSSI before.

Demographics

The minimum age was 18, with the maximum age being 29. The mean age was 25.43, with a standard deviation of 2.55. There were eight different educational levels represented: less than high school (n = 1), high school diploma or GED (n = 5), some college (n = 14), associate degree (n = 3), bachelor degree (n = 98), some graduate school (n = 56), master's degree (n = 205), and doctoral degree (n = 63).

Ethnicity

There were 21 ethnicities that were endorsed and participants were able to choose more than one: American Indian/Alaska Native (1.4%), East Asian (6.2%), Black or African American (3.5%), Hispanic or Latinx (7.9%), Native Hawaiian or other Pacific Islander (1.6%), White/European Descent (62.5%), Middle Eastern/North Africa (5.7%), Biracial (2.5%), Multiracial (3.2%), Southeast Asian (1.4%), Indian (0.9%), Caucasian (0.2%), NZ European (0.2%), Filipinx/Filipino (0.2%), Southeast Asia (Philippines; 0.2%), Turkish (0.2%), Indian (0.2%), Azerbaijani (0.2%), Mauritian (0.2%), Balkan (0.2%), and Australian (0.2%). There was also one individual (0.2%) who wrote that their ethnicity was "Jewish."

There were several different gender identities represented in the sample. Females made up 80.7% (n = 377) of the sample, and males made up 8.4% (n = 39) of the sample. One individual identified as both female and genderfluid (0.2%), 1.5% were gender non-conforming (n = 7). Meanwhile 0.9% (n = 4) were genderfluid, 1.9% (n = 9) were genderqueer, 0.8% (n = 6) were non-binary, and 0.6% (n = 3) identified as transgender.

Income

There were several options available to choose from concerning income. Sixty-one participants had $0 in income. Meanwhile, 101 participants fell in the $1–$9,999 range, 36 were in the $10,000–$14,999 range, and 37 were in the $15,000–$19,999 range. In the $20,000–$29,999 range there were 79 participants, and in the $30,000–$39,999 range, 46 participants. In the $40,000–$49,999 range were 26 participants, in the $50,000–$59,999 range were 23 participants, the $60,000–$69,999 range had 14 participants, and there were 22 participants in the $70,000 or more range.

Living Situation

Concerning living situation, 253 lived independently, 27 lived on campus, and 12 lived with roommates. Meanwhile, 124 participants lived with parents, and 1 participant stated they lived as a "Greek House Director." There were various answers provided with regard to relationship status. This included "Complicated" (n = 2), "Divorced" (n = 1), "Engaged" (n = 1), "Friends with Benefits" (n = 1), "In a Relationship" (n = 232), "Married" (n = 10), "Relationship Break" (n = 1), and "Single" (n = 194).

School Background

Many participants stated they were in school at the time of the survey, however, 83 indicated that they were not in school. Of those that were in school, several majors were chosen.

There were 29 different majors selected, including business, psychology, literature/language, science, social science, and technology majors (see Table 2 for a complete list of education majors).

Religion and Spirituality

Participants' religion and spirituality were also asked. For this question, participants were allowed to select more than one religion or spirituality, as well as write in their religion if theirs was not present on the list provided. There were several religions and spiritual backgrounds that were selected, including forms of Agnosticism, forms of Atheism, forms of Catholicism, and forms of Hinduism. For a complete list of religions and spiritual backgrounds, please see Table 3.

Mental Health Histories

Of the 445 participants, 121 have not received mental health treatment in the past, whereas 324 have received mental health treatment. With regard to prior mental health, 42 participants have been hospitalized, with 403 individuals not being hospitalized in the past. Three hundred thirty-nine individuals experienced suicidal thoughts in the past, with 106 participants not experiencing a history of suicidal thoughts. Further, 93 participants had attempted suicide, with 352 participants who had not attempted suicide. At the time of the survey, 190 participants were actively engaged in mental health treatment with 254 participants not actively engaged in mental health treatment.

Trauma Histories

It is important to recognize that there were several questions asked regarding different types of traumatic events. Before the age of 18, the following frequencies were found. The first regards witnessing or experiencing a violent act toward oneself or another individual, where 201

answered “No” and 244 answered “Yes.” For experiencing or witnessing a non-consensual sexual act toward oneself or another individual, 249 for “No” and 194 for “Yes.” Regarding a life-altering event that was not described, there were 293 who answered “No” and 151 who responded “Yes.” Lastly, there was a question regarding emotional abuse. One hundred forty-nine answered “No” and 295 participants answered “Yes” to experiencing emotional abuse in some capacity before the age of 18.

The same questions were asked of participants again, except they were noted to be following the age of 18. Witnessing or experiencing sexual abuse had the following frequencies: 235 for “No” and 209 for “Yes.” Two hundred and forty participants had not experienced or witnessed a violent act toward themselves or another individual since the age of 18, whereas 202 for those who have experienced or witnessed a violent act toward themselves or another individual. For those who experienced a life-altering event not described since turning 18, 174 participants answered “Yes” and 269 participants answered “No.” Finally, regarding emotional abuse since the age of 18, 195 reported “No” and 250 participants reported “Yes.”

With regard to having engaged in NSSI and having an association with traumatic experiences, the following data was found. For traumatic events that occurred before the age of 18, sexual abuse ($r = .161$, $p = .001$), physical abuse ($r = .138$, $p = .004$), and emotional abuse ($r = .118$, $p = .013$) were all found to be significantly positively correlated with engagement with NSSI. Meanwhile, there was not a significant correlation between those that had experienced a life-altering event not mentioned and NSSI behaviors. Furthermore, there were two significant correlations for traumatic events that have occurred since someone turned 18. These were sexual abuse ($r = .123$, $p = .009$) and emotional abuse ($r = .163$, $p = .001$). Neither physical abuse nor traumatic events not listed were correlated with NSSI behaviors.

Attachment Styles

Each attachment style was a continuous variable, in accordance with the design of the Relationships Scale Questionnaire. The minimum (lower levels of attachment) of each attachment style was 1, with the maximum level of a given attachment style being 5. The mean of secure attachment was 2.87 with the standard deviation being .65. The mean of fearful attachment was 3.53, with a standard deviation of .88. The mean of preoccupied attachment was 3.27 with a standard deviation of .79, and the mean of dismissive attachment was 3.65 with a standard deviation of .65 (see Table 1).

Of the respondents who indicated that they engaged in NSSI, where more than one type of NSSI could be endorsed, 46 engaged in burning, 53 engaged in biting, 84 bruised themselves, 85 engaged in "another" form of NSSI, 122 engaged in scratching, and 148 cut (see Figure 1). When asked what type of NSSI a respondent engaged in that fell under the "Another" category, responses included trichotillomania (hair pulling), extreme exercise, substance abuse, overdosing on laxative medications, choking oneself, disordered eating (bulimia and anorexia), and banging one's head on a wall, among others.

Association Between Adult Attachment Traits and NSSI

The first research question sought to explore if there was an association between certain adult attachment patterns and NSSI. It should be noted that higher scores indicate that participants were less likely to endorse NSSI, and lower scores indicate that participants were more likely to endorse NSSI. Specifically, it was found that higher scores on both fearful and preoccupied attachment were significantly associated with engaging in NSSI compared to not engaging in NSSI ($r = -.18$, $R^2 = .03$ $p < .01$; $r = -0.92$, $R^2 = .85$, $p = .054$, respectively). Additionally, higher values of secure attachment were significantly correlated with not engaging

in NSSI ($r = .22$, $R^2 = .05$, $p < .01$). Scores for dismissive attachment were not significantly correlated with NSSI either way ($r = .02$, $p = .663$).

Types of NSSI and Attachment Traits

The second research question sought to explore whether different types of NSSI (e.g., cutting, burning, scratching) are associated with different attachment traits. It was hypothesized that different types of NSSI would be associated with each attachment characteristic. For example, it was hypothesized that higher scores on preoccupied attachment would be associated with types of NSSI that can be seen as more "severe" (e.g., burning) whereas higher scores on secure attachment will be associated with "less severe" types of NSSI (e.g., biting).

Individuals who did not engage in NSSI were not included in the analyses for this research question. Among people who did engage in any type of NSSI, a secure attachment was not significantly correlated with any specific type of non-suicidal self-injury behavior. Higher fearful attachment scores were significantly correlated with scratching behavior ($r = .18$, $R^2 = .03$, $p = .005$). Higher preoccupied attachment scores were significantly correlated with biting ($r = .14$, $R^2 = .02$ $p = .034$). Surprisingly, higher dismissive attachment scores were significantly correlated with *lower* rates of certain behaviors including burning ($r = -.15$, $R^2 = .02$, $p = .016$) and biting ($r = -.13$, $R^2 = .02$, $p = .044$; see Table 5).

Justification for NSSI by Attachment Characteristics

The third research question sought to explore whether there are different reasons why individuals with different attachment traits engage in NSSI, which was asked with a Likert scale on the SIQ-TR. There was no clear hypothesis, as this was an exploratory question. Several reasons came up as significant, including reasons related to emotion regulation, avoidance, and "another" reason.

A series of point-biserial correlations were used, as one of the variables was dichotomous, with higher scores indicating that that reason was selected. Correlations are reported by type of NSSI behavior (see Table 5). Of respondents who indicated that they scratch (n = 122), there was a correlation between those with higher fearful attachment scores and the following reasons why someone engaged in scratching: to "avoid or suppress negative feelings" (r = .47, p = .017) and to "feel pleasure" (r = .45, p = .024). Those with lower fearful attachment scores were more likely to engage in scratching for "another" reason compared to those with higher fearful attachment scores (r = .62, p = .003). For preoccupied attachment, there was a correlation between higher preoccupied attachment scores and engagement with scratching to "avoid something unpleasant the individual does not want to do" (r = .47, p = .017). Concerning secure attachment, there was a significant correlation between higher secure attachment scores and "another" reason (r = .569, p = .009) for why someone engaged in scratching behaviors.

With regard to bruising oneself (n = 84), there was only one significant correlation. It was found that those with higher preoccupied attachment scores were more likely to engage in bruising behaviors to "avoid or suppress negative feelings" (r = .59, p = .011). When someone burns themselves (n = 46) and has a lower score for dismissive attachment, they are more likely to do it to "avoid or suppress suicidal thoughts" (r = -.88, p = .049).

In terms of cutting behaviors (n = 148), there were significant correlations for reasons associated with cutting and both higher preoccupied and dismissive attachment scores. For preoccupied attachment, participants indicated that they cut in order to "feel some pleasure" (r = .55, p = .019). However, lower scores on preoccupied attachment were associated with being more likely to cut in order to "avoid school, work, or other activities" (r = -.51, p = .031) as well

as to “avoid being with people” ($r = -.53$, $p = .025$). Higher scores for dismissive attachment were significantly correlated with “avoiding school, work, or other activities” ($r = .48$, $p = .043$).

Those with lower scores on fearful attachment were more likely to bite themselves ($n = 53$) in order to “get attention from others” ($r = -.69$, $p = .004$) and for “another” reason ($r = -.62$, $p = .044$). Those with higher secure attachment scores were more likely to bite themselves in order to “get attention from others” ($r = .57$, $p = .026$) and for “another” reason ($r = .65$, $p = .030$).

Finally, those with higher fearful attachment scores are more likely to engage in “another” form of NSSI ($n = 85$) in order to “show myself how strong I am” ($r = .32$, $p < .001$). Meanwhile, those with lower dismissive attachment scores are more likely to engage in “another” form of NSSI to “make themselves unattractive” ($r = -.19$, $p = .044$). As the “Another Reason” was assessed, it was found that many people did not fill in the specific reason why they engaged in NSSI. Therefore, results are only discussed in terms of “Another Reason” being selected or not being selected.

DISCUSSION

The current study explored attachment traits, NSSI behaviors, and reasons for engaging in NSSI among 445 young adults between the ages of 18 and 29. It is important to recognize that this study was performed during the COVID-19 pandemic. Therefore, the results may have been impacted, particularly the Relationship Scales Questionnaire results, due to the participant's level of feeling close with others at the time of the survey, as well as the social-emotional responses during the time. It is possible that the feelings of closeness during the time of the survey were, in fact, feelings of isolation resulting from the social distancing associated with the pandemic, which could have impacted how they answered certain questions on the RSQ. Further, data was collected during the summer of 2020, when many young adults could have been impacted by social-political upheaval during that time.

Results indicate that there is an association between adult attachment traits and the presence of NSSI. Those with higher scores of preoccupied and fearful attachment engage with NSSI, whereas higher scores for secure attachment are not associated with engagement with NSSI. This was expected, as those with secure attachment are more likely to be able to adaptively cope with their negative emotions and the stressors of daily life, whereas those with higher insecure attachment traits (e.g., fearful, dismissive, preoccupied) have more difficulty with coping. What was interesting was that dismissive attachment, which often results in using methods to avoid negative emotions (Kimball, 2003), was not related with NSSI in either direction. It is possible that those with higher levels of dismissive attachment, due to their avoidance of negative emotions, utilize other coping mechanisms rather than NSSI because NSSI provides a physical representation of those negative emotions.

Furthermore, different attachment styles (e.g., secure, fearful, dismissive, preoccupied) are more likely to display certain kinds of NSSI behaviors (e.g., preoccupied attachment styles are more likely to bite themselves compared to other types of NSSI behaviors). Results suggest that there are unique reasons linked to various forms of NSSI among different attachment traits.

Each type of attachment pattern could have either high or low scores, indicating that a participant either had a lot of that attachment's characteristics, or few of that attachment's characteristics. Thus, individuals can have more than one type of attachment style, but people are more likely to have the traits of one attachment style over another. It is important to view the results with caution due to the variability in the size of some subgroups. However, there were several significant findings with important implications.

Secure Attachment

Overall, results suggest first and foremost that individuals with higher secure attachment show less engagement with NSSI behaviors compared to other attachment styles. Those who have securely attached traits are able to recognize when negative feelings arise (Kimball, 2003). This is likely why there were only three significant findings for why individuals with high scores on secure attachment engage in different types of NSSI, including for "another reason" and to get attention from others. This may be because those who are higher in secure attachment are more likely to seek out adaptive means of coping rather than avoid or suppress their emotions.

It is difficult to say what drives those with higher secure attachment scores to engage in NSSI. With regard to biting, it was found that those who are more securely attached will bite in order to get attention from others, but other than that, the justification for engagement with NSSI was "another reason." Reasons were not provided by participants, even though there was a box for them to write it in. The failure to write in a "reason" may suggest that participants simply did

not know what drove them to self-injure but knew that it was not for any of the reasons suggested. It should also be noted that there were only two types of NSSI behaviors that were significantly correlated with the secure attachment style when also examining the reasons behind engagement with NSSI: scratching and biting. Because securely attached individuals were not significantly correlated with any single type of NSSI behavior (see Table 2), it may be that participants with secure attachment who *did* engage in NSSI behaviors did so for reasons they could not justify, other than through biting to get attention.

Fearful Attachment

Fearful attachment was significantly correlated with NSSI behaviors. With fearful attachment patterns, individuals have a negative view of self and others, and the focus of this particular pattern involves avoiding negative emotions (Wrath & Adams, 2019). It is uncertain why individuals with lower levels of fearful attachment are more likely to engage in biting compared to scratching, and they are not found to significantly engage in bruising, cutting, or burning. Results further indicate that those with higher scores of fearful attachment are more likely to engage in scratching in order to "Feel pleasure" and "Avoid or suppress negative feelings." In order to avoid feeling negative emotions, these individuals engage in NSSI behaviors.

It may be that individuals with higher levels of fearful attachment are relying on an external source (i.e., scratching) in order to feel some type of "reward" to help them manage negative emotions since they do not believe themselves capable of coping adaptively. NSSI may then become a replacement behavior for other, more adaptive, coping strategies through positive and negative reinforcement. With positive reinforcement, there may be added feelings of calm; whereas with negative reinforcement it is likely allowing an escape from negative emotions or

heightened distress. Because fearful attachment characteristics were significantly correlated with scratching, it is likely that scratching is the go-to method of NSSI. This may be due to the immediacy of scratching; those that scratch can immediately see the result of their behavior, whereas other means of NSSI (e.g., burning, bruising) have a delay in effect.

Preoccupied Attachment

Preoccupied attachment was associated with engagement with NSSI, biting, and avoidance of negative situations. Those with preoccupied attachment traits are emotionally expressive (Wrath & Adams, 2019). They are unable to regulate their emotions appropriately and adaptively, and preoccupied attachment traits are associated with emotional dysregulation, heightened affect, more negative self-views, and more self-reported distress (Wrath & Adams, 2019). Preoccupied attachment characteristics were significantly correlated with biting. Further, in line with previous findings, in the current study, those with higher scores on preoccupied attachment were more likely to endorse engagement with NSSI for reasons associated with avoidance of negative emotions. It is likely that due to their emotional dysregulation and heightened affect that those with preoccupied attachment traits use NSSI as a type of escape from emotional dysregulation, and to keep them grounded. In keeping someone grounded, they are able to emotionally place themselves in the present rather than become emotionally dysregulated by their emotions (Benham, 1995). NSSI can be seen as a grounding technique because it can bring someone back to the present by providing a physical representation of being in the present.

Even though the preoccupied attachment style is associated with emotion regulation, results showed that the justification for engaging in NSSI behaviors was avoidance. It may be the case that because those with preoccupied attachment characteristics are more focused on

achieving emotion regulation, they avoid unpleasant feelings that would dysregulate their emotions. However, it is important to note that those with lower levels of preoccupied attachment engage in NSSI to avoid external situations (e.g., school, work, people). Therefore, it is possible that those with lower levels of preoccupied attachment traits are less concerned about emotional dysregulation and more concerned about external stressors.

Dismissive Attachment

Dismissive attachment styles are associated with not acknowledging their negative emotions, and when confronting negative emotions, they act emotionally (i.e., without thinking of the consequences of their actions, as long as they can feel less distressed; Kimball, 2003; Wrath & Adams, 2019). Results indicate that those with lesser levels of dismissive attachment traits were associated with burning and biting. Therefore, participants with lower levels of dismissive attachment characteristics were more likely to engage in burning and biting behaviors.

When NSSI is utilized by someone with higher scores on dismissive attachment, they are utilizing it to avoid school, work, or other activities. Even though those who are higher in dismissive attachment are likely to utilize coping strategies to avoid negative emotions, these situations may bring about negative feelings. Therefore, with the utilization of non-suicidal self-injury, they are able to avoid the situation that causes negative emotions to arise.

It is probable that those with higher scores on dismissive attachment do not know how to regulate emotions and so they act out emotionally because they do not know how to get their needs met any other way. This fits with why these participants engaged in cutting behaviors—to avoid school, work, or other activities. They likely know an external stressor (e.g., school) is

likely to cause emotional dysregulation. Therefore, rather than acknowledging the negative emotions that occur, they cut to avoid the very thing that will dysregulate them.

"Another" Reason for NSSI

Even though on the SIQ-TR there is an option for "Another Reason," participants rarely filled in their reasons. Therefore, it may be that those who engage in NSSI are unable to recognize the reason why they perform the behaviors. It could be that when someone engages in NSSI, they are so overwhelmed by their emotions that they do not realize why they are engaging in the act. Rather, they simply know that engagement with NSSI makes them feel better emotionally or that it will get them out of responsibilities. It could also be that participants did not want to write a reason, missed filling in the reason, or were simply ready to be done with the survey.

Limitations and Future Directions

Despite several important results, the current study is not without limitations. The first is that the sample for this particular study involved an overrepresentation of females compared to the general population. Previous literature has found that females are more likely to engage in NSSI behaviors when compared to males, which could mean that NSSI was overrepresented among the participants in this study. This leads to further research that could be completed, which would entail having a more male-dominated or gender-matched sample. This may show different reasons for engagement with NSSI or different behaviors that are associated with each type of attachment style, specific to males.

Another limitation of this study is that participants rarely wrote in a reason for why they engaged in NSSI when they chose the option that they performed the act for "another reason." This is a limitation because conclusions cannot be drawn as to why everyone who engaged in

NSSI behaviors did so for certain reasons. Rather, we must rely on the other options for why someone participated in NSSI for the analysis run. Future research should also try and account for the other reasons why someone engages in NSSI. This may be done through a qualitative interview, where participants are directly asked about the reason why they engage in NSSI. If this is done, rather than using an online survey where participants can choose to skip questions, more data will likely be available to understand the underlying functions that NSSI yields.

Furthermore, the current study relied on self-report. There are limitations of self-report questions, including whether someone wants to portray themselves in a positive or negative light and answer questions in that manner. Although there was no external reward for participation in the study, some individuals may have wanted to do just this to show that they have recovered from their NSSI behaviors. Or, on the other hand, it may be that some participants wanted to portray themselves in a more negative light to potentially show how much they were struggling at the time of the survey. To account for self-report questionnaires, it may be useful to directly interview participants. This may help clarify why someone wishes to engage in the study. Interviews can also help aid participants who are struggling, as more resources can be provided at that exact moment, rather than relying on a single hotline that is made available to participants.

Additionally, several questions on the SIQ-TR related to past behavior. Although the SIQ-TR does ask about past self-injurious behaviors, participants only go on to answer related questions about each specific type of NSSI if they endorsed having participated in the act within the past month. By asking about past behaviors, there is a responsibility placed on the participant to differentiate how long ago they participated in the act. Even though the last day of NSSI behaviors may be an important one to those who self-injure, it is possible that the participant

does not accurately remember when they last engaged in the behavior, especially if the behavior is one they have performed for an extended period.

In looking at the SIQ-TR, it is also important to recognize that there may be an aspect of earned security that was present in the sample, but that was unable to be captured due to the limitations of the SIQ-TR. Because the SIQ-TR only asks follow-up questions related to NSSI that has occurred within the past month, it could be that some participants used to engage in NSSI behaviors, but due to gaining earned security, they have since developed more adaptive coping mechanisms. This is important to recognize because earned security can be a crucial aspect of someone's attachment. It may also be why secure attachment traits were not significantly associated with NSSI, but they were significantly correlated with engaging in scratching for "Another reason" and biting for both "Another reason" and "Get attention from others." Due to this, another area of research that should be examined is a longitudinal study of someone's attachment style as a child, versus that individual's attachment style as an adult, and their engagement with NSSI over time. This will help validate the area of earned security, as it is likely that there will be some individuals who have an insecure attachment style as a child but be more secure in their attachment as an adult, and who may have previously engaged in NSSI behaviors but, since becoming an adult, have since stopped.

Another area of future research should examine the link between traumatic events pre- and post-age 18 and the association with NSSI. Although a correlation analysis in this study examined the relationship between different types of traumatic events and their association with NSSI, this association should be explored more in-depth. For example, do those with a history of trauma before the age of 18 engage in NSSI more currently, or in the past? The SIQ-TR, although it acknowledges past NSSI behaviors, only asks follow-up questions if someone has

performed NSSI within the past month. Due to that, those who endorsed living through a traumatic event should also be examined with the function of NSSI. For example, do they perform the act for affect regulation, or something else? In understanding whether individuals with traumatic histories are presently or historically engaged in NSSI, as well as understanding the different functions that NSSI plays in those with traumatic histories, clinicians can more effectively do risk analyses with their clients.

Additionally, this survey was given to participants during the summer of 2020, when COVID-19 was running rampant throughout the United States of America, as well as the sociopolitical turmoil that was raging through the country. Due to this, there may have been reasons for individuals to respond to questions differently than they typically would have, had there not been as much going on in the country.

It should also be noted that Cronbach's alpha, a reliability measure, was low for several of the scales of the RSQ. This may indicate that what was being asked may not have reflected the construct that was supposed to be measured, particularly for secure, dismissive, and preoccupied attachment. However, there were minimal findings with regard to secure attachment, which was the lowest Cronbach's alpha. This may indicate that the definition of secure attachment has changed. For example, one of the questions on the RSQ, with regard to secure attachment, is "I feel comfortable depending on others." This may have had a different meaning to different people during the time of the survey because, as stated previously, it was given during the height of the COVID-19 pandemic when social isolation may have been more normative and even "safer."

Implications and Clinical Relevance

This research is important because it can be utilized to help understand why someone engaged in NSSI within the past month. Clinicians must understand that different justifications for NSSI were connected with different means of NSSI. In other words, different self-harming behaviors served different functions. In working with clients, it is important to understand underlying mental states, such as engaging in something to get out of going or doing something versus emotion regulation. Even though both of these may be reasons for engagement with NSSI, they are very different in nature. It would likely be an ineffective intervention to suggest a client avoid a certain place if the function of the NSSI is to provide emotion regulation; meanwhile, if someone were to engage in NSSI to avoid a certain place, a clinician would not work as heavily on adaptive emotion regulation strategies.

Additionally, this research demonstrates that even those with secure attachment traits can engage in NSSI for different reasons. Even though secure attachment traits were not significantly correlated with NSSI behaviors in-and-of itself, there were significant reasons why someone with higher secure attachment traits engaged in NSSI (i.e., to get attention from others, another reason). However, it is also important to note that those with higher secure attachment traits did not often identify a reason under the category “Another reason” for why they engaged in NSSI. Therefore, clinicians can work with their more securely attached clients who are engaging in NSSI to better understand the purpose.

This research also indicates that, although each attachment style has its relational ways of being, there are different underlying reasons for why someone engages in NSSI. For example, although dismissive and fearful attachment styles are similar to each other in that they both seek avoidance (Haaga et al., 2002; Kimball, 2003), higher dismissive attachment traits were

significantly correlated with the avoidance of external activities (e.g., school) whereas higher fearful attachment styles were significantly correlated with the avoidance of negative emotions. Even though, in general, those with dismissive attachment avoid negative emotions (Kimball, 2003; Wrath & Adams, 2019), knowing whether external activities bring about these negative emotions is crucial. In knowing this, individuals can avoid certain activities that bring about negative emotions. Or, if the activities are required, learning how to implement distress tolerance skills while participating in those activities is important. That way, individuals with higher levels of dismissive attachment can build a repertoire of skills rather than avoiding an external activity or engaging in NSSI. Meanwhile, those with higher traits of fearful attachment fear intimacy due to a fear of rejection (Haaga et al., 2002; Reis & Grenyer, 2004); therefore, an even greater underlying reason for engagement with NSSI could be that they do not want to admit that negative emotions exist because they fear that others will reject them for not being positive all of the time.

Lastly, this research demonstrates that there are different levels of each type of attachment with important implications for other areas of functioning. The RSQ places individuals on a continuum of attachment traits, which is different from how various individuals view attachment. Rather, other individuals view attachment as a style (e.g., either securely attached *or* insecurely attached). This helps clinicians understand that, in certain situations, someone may be able to adaptively cope. However, in other situations, that same individual may have difficulty coping and rely on NSSI behaviors to help them get through a difficult time. In understanding that there are different levels of attachment traits, clinicians can assist clients to increase their level of secure attachment throughout different situations by broadening the individual's coping mechanisms (Parrigon et al., 2015; Rauf & Sarwar, 2021). It is important to

recognize that simply building up regulation strategies is not enough; rather, there needs to be relational work that is done at the same time to help individuals transition from an insecure attachment style to a more secure attachment style. For example, if a client has fearful attachment, they may be engaging in NSSI for emotion regulation. Therefore, their clinician should help that client develop more adaptive coping mechanisms that support distress tolerance. Additionally, to help them become more securely attached in different situations, the clinician should work with the client to help them understand their relationship with others who may trigger them to engage in NSSI. In understanding the relational aspect of both one's overall level of attachment security, as well as one's feelings toward NSSI behaviors, there can be work toward helping change one's more insecure attachment traits to more secure attachment traits.

Conclusion

Overall, NSSI was found to be associated with different levels of each adult attachment trait (secure, fearful, preoccupied, and dismissive). Although secure attachment was found to be significantly correlated with not engaging in NSSI, there were still significant reasons why someone with high levels of secure attachment may have engaged in NSSI. Specific types of NSSI were associated with each insecure attachment style (fearful, preoccupied, dismissive), but were not significantly associated with secure attachment. Meanwhile, there were different reasons why individuals engaged in NSSI, which varied based on the type of attachment traits examined compared with the type of NSSI endorsed.

It is clear that attachment can be seen to be a big part of NSSI. Where there was a great deal of significance with the insecure attachment traits and NSSI, there was also some significance with the more securely attached participants. This both goes along with, as well as contradicts, previous research, since prior research has found that those with insecure attachment

are more likely to engage in NSSI (Critchfield et al., 2008; Martin et al., 2017; Wrath & Adams, 2019), but there is no research found that indicates secure attachment is related to NSSI. Even though this research found that general NSSI is not often linked to secure attachment, which is in line with past research (Braga & Gonçalves, 2014; Cassels et al., 2019), this research also found that there was still "Another reason" why someone who is more securely attached engaged in NSSI. Overall, it is difficult to say what drives more securely attached individuals to engage in NSSI, as participants often put "Another reason" for why they engaged in the act, without stating what that reason was. However, it is clear that NSSI is used as a coping mechanism for those who are more insecurely attached. With fearful attachment, individuals feel as though they are unable to effectively cope with things themselves, but they are also unable to rely on others (Haaga et al., 2002). Therefore, it is likely that NSSI provides them with an external reward that can physically show them that they are coping, albeit in a potentially maladaptive manner.

With preoccupied attachment, individuals feel as though they can rely on others, but not themselves. Due to this, those with higher preoccupied attachment scores are more likely to engage in NSSI to avoid negative emotions; they do not believe themselves capable of avoiding negative emotions themselves, so they use NSSI as a type of "other" to help them avoid negative emotions. Meanwhile, with higher dismissive attachment scores, individuals are able to rely on themselves but not others (Kimball, 2003; Wrath & Adams, 2019). Therefore, these individuals can rely on themselves to avoid certain activities that bring about negative feelings—something they would not be able to rely on someone else to provide.

Current research has mixed findings on whether attachment traits are related to engagement with NSSI (e.g., Cassels et al., 2019; Wrath & Adams, 2019). However, this research supports the association between each type of adult attachment trait and NSSI. Future

research will be intriguing to see, as there may be more underlying connections between attachment traits and NSSI that were unexplored in this research study.

Ultimately, the relationship between attachment traits and NSSI can aid clinicians in their work with clients. Understanding this relationship helps clinicians reduce the risks and prevalence associated with this harmful behavior as well as better understand their clients. Based on the results, it is likely that attachment can be either a risk factor or a protective factor for engagement with NSSI.

Clinicians should begin to incorporate questions related to their client's attachment style to better understand the risk of future NSSI. Obtaining more information on their attachment style and NSSI may also help the client understand their desire or purpose in engaging in NSSI. For example, does the client have cognitive dissonance when they engage in NSSI, or do they not see it as a problem? In understanding this, clinicians can tie in one's attachment traits to their sessions to help the client better understand why they do or do not wish to continue engaging in NSSI.

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APPENDIX A: DEMOGRAPHICS

1. What is your age?
    a. 18-20
    b. 21-23
    c. 24-26
    d. 27-29
    e. My age is not listed
2. What is your ethnicity?
    a. Caucasian
    b. African American
    c. Black
    d. Asian American
    e. Asian
    f. Latinx
    g. Other
3. What is your gender identity?
    a. Male
    b. Female
    c. Transgender
    d. Genderqueer
    e. Gender non-conforming
    f. Gender fluid
    g. Other
4. What is your highest level of education?
    a. Less than high school
    b. High school diploma
    c. Some college
    d. Associate's degree
    e. Bachelor's degree
    f. Some graduate school
    g. Master's degree
    h. Doctoral degree
5. Do you have a past history of mental health treatment (e.g., have you seen a therapist or a counselor)?
    a. Yes
    b. No
    c. If yes, please answer the following questions:
        i. Have you ever been hospitalized for psychiatric reasons?
        ii. Have you ever experienced suicidal thoughts?
        iii. Have you ever attempted suicide?
        iv. Are you currently utilizing mental health treatment?
6. What is your current level of income?

   a. $0
   b. $1-$9,999
   c. $10,000-$14,999
   d. $15,000-$19,999
   e. $20,000-$29,000
   f. $30,000-$39,000
   g. $40,000-$49,999
   h. $50,000-$59,999
   i. $60,000-$69,999
   j. ≥$70,000
7. What is your household living situation? (With parents, on campus, independently, etc)
   a. With parents
   b. On campus
   c. Independently
   d. Other
8. What is your relationship status?
   a. Single
   b. In a relationship
   c. Separated
   d. Divorced
   e. Other
9. If you are in school, what are you studying?
   a. Psychology
   b. Biology
   c. Sociology
   d. Engineering
   e. Geology
   f. English
   g. Philosophy
   h. Theater
   i. Other
10. Before the age of 18, did you ever experience or witness a violent act toward yourself or another individual?
   a. Yes
   b. No
11. Before the age of 18, did you ever experience or witness a non-consensual sexual act toward yourself or another individual?
   a. Yes
   b. No
12. Before the age of 18, did you ever experience a life-altering event (e.g., natural disaster)?
   a. Yes
   b. No

13. Before the age of 18, did you ever experience someone who insulted, humiliated, and generally instilled fear in you in order to control you?
    a. Yes
    b. No
14. Since the age of 18, did you ever experience or witness experienced or witnessed a non-consensual sexual act toward yourself or another individual?
    a. Yes
    b. No
15. Since the age of 18, did you ever experience or witness a violent act toward yourself or another individual?
    a. Yes
    b. No
16. Since the age of 18, did you ever experience a life-altering event (e.g., natural disaster)?
    a. Yes
    b. No
17. Since the age of 18, did you ever experience someone who insulted, humiliated, and generally instilled fear in you in order to control you?
    a. Yes
    b. No
18. Do you have any spiritual or religious beliefs?
    a. Agnostic
    b. Atheist
    c. Buddhist
    d. Catholic
    e. Hindu
    f. Jehovah's Witness
    g. Jewish
    h. Mormon
    i. Muslim
    j. Orthodox
    k. Paganism
    l. Protestant
    m. Wiccan
    n. Other

APPENDIX B: SELF-HARM YES/NO QUESTION

Non-suicidal self-injury can be described as intentional, self-inflicted destruction of body tissue performed without suicidal intent using methods that are not socially sanctioned. This often includes performing acts such as cutting, burning, or self-bruising, but can also include acts such as interfering with wound healing. This does not include acts such as getting a tattoo or getting a piercing.

Have you ***ever*** engaged in self-injurious behaviors ***without*** suicidal intent (e.g., cutting, burning, bruising)?

APPENDIX C: TABLES

Table 1

Means and Standard Deviations for Attachment Style

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
SecureUpdated	444	1.00	5.00	2.87	.66
FearfulUpdated	441	1.00	5.00	3.53	.88
PreoccupiedUpdated	443	1.00	5.00	3.27	.79
DismissiveUpdated	442	1.60	5.00	3.65	.65
NSSIQuestionUpdated	445	.00	1.00	.56	.50
Valid N (listwise)	438				

Table 2

Frequencies of School Majors

SchoolMajor

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		32	6.9	6.9	6.9
	Nutrition	1	.2	.2	7.1
	Agriculture	1	.2	.2	7.3
	Architecture	1	.2	.2	7.5
	Art History	1	.2	.2	7.7
	Artificial intelligence	1	.2	.2	7.9
	Arts	22	4.7	4.7	12.6
	Business	7	1.5	1.5	14.1
	Clinical psychology	1	.2	.2	14.3
	Counseling	1	.2	.2	14.6
	Counseling and Education	1	.2	.2	14.8
	education	1	.2	.2	15.0
	Education	7	1.5	1.5	16.5
	Education, bachelor's and masters	1	.2	.2	16.7
	Engineering	14	3.0	3.0	19.7
	Environment	6	1.3	1.3	21.0
	Health	1	.2	.2	21.2
	Health sciences	1	.2	.2	21.4
	Health Sciences	1	.2	.2	21.6
	History	1	.2	.2	21.8

	I'm not in school	83	17.8	17.8	39.6
	Language and anthropology	1	.2	.2	39.8
	Law	5	1.1	1.1	40.9
	Literature/Language	29	6.2	6.2	47.1
	Management	1	.2	.2	47.3
	Math	2	.4	.4	47.8
	Medicine	1	.2	.2	48.0
	Music, Literature, and Religion	1	.2	.2	48.2
	Nursing	2	.4	.4	48.6
	PhD psychology	1	.2	.2	48.8
	Psychology	4	.9	.9	49.7
	Public health	1	.2	.2	49.9
	Science	96	20.6	20.6	70.4
	Science and social science	1	.2	.2	70.7
	Social Science	129	27.6	27.6	98.3
	Social Work	1	.2	.2	98.5
	Technology	5	1.1	1.1	99.6
	The Humanities (History)	1	.2	.2	99.8
	Tourism	1	.2	.2	100.0
	Total	467	100.0	100.0	

Table 3

Frequencies of Religion and Spirituality

Religion

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		54	11.6	11.6	11.6
	Agnostic	89	19.1	19.1	30.6
	Agnostic;Atheist	11	2.4	2.4	33.0
	Agnostic;Atheist;Catholic	1	.2	.2	33.2
	Agnostic;Atheist;Officially, I am a Muslim. But personally, I have never identified with the religion and do not practice it.	1	.2	.2	33.4
	Agnostic;Atheist;Raised Jewish	1	.2	.2	33.6
	Agnostic;Buddhist	1	.2	.2	33.8
	Agnostic;Buddhist;Wiccan	1	.2	.2	34.0
	Agnostic;Catholic	2	.4	.4	34.5
	Agnostic;Hindu	5	1.1	1.1	35.5
	Agnostic;Jewish	2	.4	.4	36.0
	Agnostic;Jewish;Paganism	1	.2	.2	36.2
	Agnostic;Muslim	2	.4	.4	36.6
	Agnostic;Orthodox;I practice eastern orthodoxy since it is part of my culture but I do not believe in the theoretical teachings.	1	.2	.2	36.8
	Agnostic;Paganism	3	.6	.6	37.5

	Agnostic;Spiritual	1	.2	.2	37.7
	Atheist	88	18.8	18.8	56.5
	Atheist;Hindu	2	.4	.4	57.0
	Atheist;Jewish	1	.2	.2	57.2
	Atheist;Protestant	1	.2	.2	57.4
	Born Again Christian	1	.2	.2	57.6
	Buddhist	2	.4	.4	58.0
	Buddhist;Hindu	1	.2	.2	58.2
	Buddhist;Protestant	1	.2	.2	58.5
	Catholic	45	9.6	9.6	68.1
	Catholic;Jewish;Orthodox	1	.2	.2	68.3
	Catholic;Paganism	1	.2	.2	68.5
	Catholic;Paganism;Wiccan	1	.2	.2	68.7
	Catholic;Spiritual	1	.2	.2	69.0
	Catholic;Traditional indigenous culture	1	.2	.2	69.2
	Christian	4	.9	.9	70.0
	Cultural catholic: no longer religious	1	.2	.2	70.2
	Follower of Christ (not associated with any church or denomination)	1	.2	.2	70.4
	Hindu	22	4.7	4.7	75.2
	Hindu;Paganism	1	.2	.2	75.4
	I am a neo-platonicaly inspired animist with polytheist sympathies.	1	.2	.2	75.6

	I have my own type of spirituality	1	.2	.2	75.8
	Jewish	8	1.7	1.7	77.5
	Jewish;Lutheran	1	.2	.2	77.7
	lutheran	1	.2	.2	77.9
	Methodist	1	.2	.2	78.2
	Mormon	3	.6	.6	78.8
	Muslim	33	7.1	7.1	85.9
	my own trust in God and higher intelligence	1	.2	.2	86.1
	Native Hawaiian belief systems	1	.2	.2	86.3
	no	1	.2	.2	86.5
	Non believer	1	.2	.2	86.7
	Nondenominational Christian	1	.2	.2	86.9
	None	2	.4	.4	87.4
	Orthodox	2	.4	.4	87.8
	Paganism	1	.2	.2	88.0
	Paganism;Wiccan	1	.2	.2	88.2
	Protestant	42	9.0	9.0	97.2
	Protestant;Non-denominational Christian	1	.2	.2	97.4
	Satanism	1	.2	.2	97.6
	Sikh	1	.2	.2	97.9
	Spiritual	3	.6	.6	98.5
	Spiritual and believes in God but no organized religion	1	.2	.2	98.7

	Spiritual mix of a few listed	1	.2	.2	98.9
	Spiritual- belief in an unknown higher power, without ties to formal religion.	1	.2	.2	99.1
	Spiritual, not religious	1	.2	.2	99.4
	Unitarian Universalist	1	.2	.2	99.6
	Wiccan	2	.4	.4	100.0
	Total	467	100.0	100.0	

Table 4

Correlates of NSSI Behaviors and Attachment Scores

Type of NSSI	Secure	Fearful	Preoccupied	Dismissive	
				Higher	Lower
Cut		**.18****			
Scratch					
Bite			**.14***		**.13***
Bruise					
Burn					**.15***

* = Significant at the .05 p-value, ** = Significant at the .01 p-value

Table 5

Correlates of NSSI Behaviors, Attachment Scores and Reasons for Engaging in the Behavior

Type of NSSI	Reason	Secure	Fearful		Preoccupied		Dismissive	
			Lower	Higher	Lower	Higher	Lower	Higher
Scratch	Feel Pleasure			.45*				
	Avoid or Suppress Negative Feelings			.47*				
	Avoid Something Unpleasant You Don't Want to Do					.47*		
	Another Reason	.57***	.62**					
Bruise	Avoid or Suppress Negative Feelings					.59**		
Cut	Avoid School, Work, or Other Activities				.51*			.48*
	Avoid Being with People				.53*			
	Feel Some Pleasure					.55*		
Burn	Avoid or Suppress Suicidal Thoughts						.88*	
Bite	Get Attention from Others	.57*	.69**					
	Another Reason	.65*	.61*					

* = Significant at the .05 p-value, ** = Significant at the .01 p-value, *** = Significant at the .001 p-value

APPENDIX D: FIGURES

Figure 1

Frequency of Non-Suicidal Self-Injury by Type