

The Influence of Romantic Attachment and Intimate Partner Violence on Non-Suicidal Self-Injury in Young Adults

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Abstract Several theoretical models for non-suicidal self-injury (NSSI) have been proposed. Despite an abundance of theoretical speculation, few empirical studies have examined the impact of intimate relationship functioning on NSSI. The present study examines the influence of romantic attachment and received intimate partner violence (physical, psychological and sexual) on recent reports of NSSI behaviors and thoughts. The sample was composed of 537 (79.9% female) primarily Caucasian university students between the ages of 18 and 25 years and currently involved in a romantic relationship. The results reveal that anxiety over abandonment was a significant predictor of NSSI thoughts and behaviors in women and a significant predictor of NSSI thoughts in men. Moreover, the experience of intimate partner violence emerged as a significant predictor of NSSI behaviors in both men and women. Continued empirical investigations into the influence of intimate relationship functioning on NSSI will

facilitate the development of psychological interventions for young adults dealing with self-harm.

Keywords Couple · Intimate partner violence · Romantic attachment · Non-suicidal self-injury · Young adults

Introduction

Healthcare professionals cite non-suicidal self-injury (NSSI) as one of the most complex and difficult psychological problems encountered in patients (Rayner and Warner 2003). NSSI can be defined as direct destruction or alteration of body tissue performed without conscious suicidal intent and for non-socially approved purposes (Favazza 1998). The elevated prevalence rate within the general population in adolescents (15–20%; for a review, see Heath et al. 2009), young adults (12–17%; Favazza et al. 1989; Whitlock et al. 2006), and adults (approximately 4%; Briere and Gil 1998; Klonsky et al. 2003) and the potentially severe consequences of NSSI have created a significant interest in research about this problem. A greater understanding of this phenomenon will allow professionals to intervene competently and effectively with individuals who engage in NSSI.

Several theoretical models for NSSI have been proposed (for a review, see Nock 2009). Among these, both interpersonal and developmental models of NSSI examine relationship variables and attachment. Interpersonal models propose that NSSI behaviors are associated with an individual's past relationship history, as well as variables within his or her present relationship. Theorists in this area agree that early relationship disturbances (e.g., physical, sexual, or emotional maltreatment; and inconsistent or poor

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caregiving) can elicit NSSI. Moreover, they suggest that current interpersonal stressors (e.g., rejection or loss, and conflict with a family member or romantic partner) can provoke NSSI. Developmental models relate NSSI to adverse childhood experiences, such as maltreatment and parental deprivation. The present study draws from developmental models but subscribes to the interpersonal models in examining the role of romantic attachment and the experience of intimate partner violence (physical, psychological, and sexual) on NSSI in young adults. Despite an abundance of theories that emphasize the role of interpersonal relationships in NSSI, the importance of romantic relationships in young adulthood (Collins 2003), and the determining impact of romantic relationships on psychological wellbeing (Berscheid and Reis 1998), the influence of intimate relationship functioning in NSSI has received relatively little attention.

Attachment and NSSI

Bowlby (1969/1982) conceptualized attachment as a behavioral system that organizes human behaviors so as to increase the likelihood of survival and adaptation. The attachment system is subject to activation and deactivation by diverse factors and the health of this system plays a critical role in individuals' global, interpersonal, and mental wellbeing (Hazan and Shaver 1987). Repeated behavioral activation in an individual's environment allows him or her to memorize the functioning of the attachment system; this accumulation of information promotes the development of mental representations of the self and others (working models). These working models persist throughout the lifespan and guide expectations, perceptions, and behaviors in future relationships, including romantic relationships (Collin and Read 1994).

Bowlby (1969/1982) proposed that the attachment system is activated when an individual finds him or herself in a situation that threatens survival. The activated system's primary strategy is to seek proximity to an attachment figure (Bowlby 1969/1982). If attachment figures (e.g., parents and romantic partners) respond consistently to the individual's attachment needs, he or she will develop a secure attachment, including the feeling of being deserving of others' love (working models of self) and confidence that others will provide support in times of need (working models of others; Bartholomew, 1997). These mental representations of self and others can also be described in terms of two dimensions, namely anxiety over abandonment and avoidance of intimacy, respectively (Brennan et al. 1998). Anxiety over abandonment is defined as the anxiety an individual feels about perceived threat of abandonment or rejection from his or her attachment figure. Avoidance of intimacy is defined as reluctance for intimacy

or discomfort with dependence on attachment figures. Given that these two attachment dimensions are related in theoretically predictable ways with psychological wellbeing (Mukulincer and Shaver 2007), it is plausible to hypothesize a link between insecure attachment and NSSI.

Attachment theorists acknowledge that individuals may simultaneously hold multiple mental representations and that the representations may differ in level of specificity (Collins and Read 1994). For instance, an individual's general attachment style or attachment with a parent may not necessarily predict his or her attachment style with romantic partners (Bloom and Djik 2007). Although original attachment representations can be remarkably stable, subsequent important relationships can alter them (Bloom and Djik 2007). Given that attachment constitutes accurate representations of experiences in close relationships, it is subject to revision based on new experiences with close others (Bowlby 1969/1982; Mukulincer and Shaver 2007). This theory has been supported by research that demonstrated that differences exist between relationships with different attachment figures (Bloom and Djik 2007). Further, key attachment figures change as the objects of primary attachments transition from parents to romantic partners during young adulthood (Hazan and Shaver 1987). Provided that general and romantic attachment may differ and that romantic attachment has been demonstrated to be the most important attachment model in young adulthood (Hazan and Shaver 1987), this study will focus on the role of romantic attachment in relation to NSSI thoughts and behaviors. Additionally, specific mental models have demonstrated more associations and stronger associations with outcome variables than have general mental models (Cozzarelli et al. 2000). As such, there is further rationale for assessing specific modes of attachment, such as romantic attachment, in relation to NSSI thoughts and behaviors.

In order to establish a foundation for our hypotheses and highlight the original nature of the present study, we will present theoretical and empirical works that model the relationships between diverse types of attachment and NSSI. The interpersonal and developmental models of NSSI maintain that attachment theory provides an explanatory framework for NSSI behaviors. In fact, individuals with insecure attachments (e.g., to caregivers, peers, romantic partners) are more likely to engage in NSSI because both insecure attachment and NSSI are associated with the inability to manage anger and social interactions, and failure to self-regulate emotions (Suyemoto 1998). According to Yates (2004), the development of negative attachment representations of self and others may contribute to the emergence of maladaptive emotion regulation strategies such as NSSI. Other authors imply that NSSI behaviors are related to anxiety over abandonment (mental

representation of self) rather than to avoidance of intimacy (mental representation of others). For example, Hindy and Schwarz's (1994) work demonstrated that individuals with a tendency toward anxious romantic attachment tend to report a wide range of intense emotions and Klonsky (2007) suggested that one of primary goals of NSSI behaviors is to regulate intense negative emotions. Further, Fung (2008) concluded that deliberate self-harm (DSH; self-harm with or without suicidal intent) is an external manifestation of fear of abandonment. This conclusion supports the notion that NSSI is linked with anxiety over abandonment rather than with avoidance of intimacy.

Authors in this area have explored the empirical link between attachment and NSSI in non-clinical populations. More specifically, in a sample of 133 undergraduate students, Gratz et al. (2002) found that an insecure attachment to a parental figure in childhood, as measured by the *Parental Attachment Questionnaire* (PAQ; Kenny 1985), was significantly related to lifetime NSSI, as measured by the *Deliberate Self-Harm Inventory* (DSHI; Gratz 2001). Moreover, Kimball and Diddams' study (2007) demonstrated that affect regulation mediated the relationship between insecure adult attachment and recent NSSI behaviors in a sample of 216 college students. Attachment information was gathered with the *Attachment Style Questionnaire* (ASQ; Feeney et al. 1994) while NSSI behaviors were measured with the DSHI. The results support the hypothesis that attachment to a parent and general adult attachment are both linked to NSSI behaviors in young adults.

In comparison to research about attachment to a parent and general attachment in adulthood, research into the role of romantic attachment in NSSI is limited. The only study of romantic attachment in NSSI known to the present authors was conducted by Fung (2008) and demonstrated that attachment characterized by anxiety over abandonment was significantly related to DSH. No significant results were found with respect to avoidance of intimacy. This study's sample consisted of 40 participants admitted to the hospital for minor injuries resulting from DSH, their partners, and a control group of 52 participants. Participants were between 18 and 55 years old. The dimensions of romantic attachment were measured by the *Experiences in Close Relationships* questionnaire (ECR; Brennan et al. 1998). Overall, with the exception of the established link between romantic attachment to one's partner and DSH (Fung 2008), past research has focused primarily on attachment in childhood to a parent and general attachment in adulthood. To our knowledge, no study exists that examined the link between romantic attachment and NSSI in non-clinical population. To address this limitation, the present study focuses on the link between romantic attachment and NSSI in young adults in the general population.

Intimate Partner Violence and NSSI

Intimate partner violence is defined as a pattern of multiple and varied behaviors (O'Leary and Woodin 2009). The present study is specifically designed to explore psychological, physical, and sexual violence. Psychological intimate partner violence is defined as any symbolic or verbal act intended to cause psychological pain or fear (e.g., verbal attacks, insults, threats; Straus et al. 1996). Physical intimate partner violence includes any aggressive behavior that could cause injury. Physical violence includes minor acts, such as pushing or shoving, and major acts, such as choking, burning, or using a knife or gun (Straus et al. 1996). Finally, sexual intimate partner violence refers to any forced or undesired sexual act (e.g., forcing a partner to engage in sexual activity; Straus et al. 1996). National Canadian and American surveys on couples within the community have revealed that 7–18% of women and approximately 6% of men have been victims of physical or sexual intimate partner violence. Further, 12–18% of women and approximately 17% of men have been victims of psychological violence perpetrated by a partner. The reported periods of violence ranged from 5 years to lifelong (Coker et al. 2002; Statistics Canada 2005). Other prevalence studies reported even higher rates, suggesting that intimate partner violence may be relatively normative in community samples (for a review, see Jose and O'Leary 2009). The rate of intimate partner violence is reported to peak during young adulthood and decline thereafter (Grandin and Lupri 1997). This finding highlights the importance of measuring the relationship between intimate partner violence and NSSI in young adults.

As with insecure romantic attachment, intimate partner violence is understood in the context of interpersonal and developmental models of NSSI (for review, see Nock 2009). Marsha Linehan's (1993) model for the development of NSSI behaviors constitutes one of the most established and well-known theories on the subject. She hypothesized that individuals raised in an unhealthy environment are prone to problematic interpersonal relationships and difficulty controlling emotions. This, in turn, increases the likelihood of maladaptive behaviors such as NSSI. Linehan (1993) proposed that any environment in which physical, psychological, or sexual violence is present can be considered unhealthy. It is important to note that Linehan's work is limited to NSSI in patients with BPD, and therefore may not be generalizable to non-clinical populations. In fact, evidence exists to suggest that BPD and non-BPD self-injurers differ in terms of the etiological factors related to NSSI (Marchetto 2006). Nevertheless, research with non-clinical populations is generally consistent with Linehan's theory. Gratz's (2006) study demonstrated that childhood maltreatment (childhood sexual abuse, childhood physical abuse, parental emotional

neglect, and parental overprotection/psychological control) was related to an increase in NSSI behaviors in a sample of 249 female college students. Although empirical evidence has demonstrated a link between violence experienced during childhood and NSSI behaviors, literature regarding violence in intimate relationships is limited.

Until now, only one study has investigated the relationship between the experience of intimate partner violence and NSSI in adults (Sansone et al. 2007). These authors combined the physical and psychological violence subscales of the *Severity of Violence Against Women Scale* (SVAWS; Marshall 1992) to create a global score of lifetime intimate partner violence. They used the *Self-Harm Inventory* (SHI; Sansone et al. 1998) to assess lifetime presence of NSSI behaviors. The results obtained from their sample of 113 female psychiatric inpatients revealed that the experience of intimate partner physical and psychological violence in adulthood was linked with NSSI behaviors. The present study takes research one step further by examining the strength of this relationship in men and women from the general population, and by exploring intimate partner violence (physical, psychological, and sexual) over a limited recent period of time in order to reduce biases resulting from memory.

Hypotheses

The primary objective of the present study was to examine the role of romantic attachment and the experience of intimate partner violence on reports of recent NSSI thoughts and behaviors in young adults. Given that romantic attachment has been demonstrated to be the most important attachment relationship in young adulthood (Hazan and Shaver 1987) and that the incidence of domestic violence has been demonstrated to peak during this age (Grandin and Lupri 1997), a sample of college age students was deemed the most appropriate for assessing the relationship between NSSI thoughts and behaviors, romantic attachment and intimate partner violence.

Based on the literature reviewed above, we hypothesized that participants' anxiety over abandonment would positively predict NSSI thoughts and behaviors. We also hypothesized that participants' reports of violence (physical, psychological, and sexual) perpetrated by their partner would positively predict NSSI thoughts and behaviors. It should be noted that, although avoidance of intimacy was evaluated in the present study, no relationship was hypothesized to exist between this dimension and NSSI thoughts and behaviors. No gender differences in NSSI were anticipated, but the hypotheses were examined separately for women and men in order to address the relative paucity of literature on NSSI in men.

Method

Participants

To be eligible to participate in this study, participants had to be 18–25 years old and involved in a romantic relationship. The sample of 537 participants included 429 women and 108 men. This sample was drawn from a larger sample of 1,180 students, 643 of whom were not in a romantic relationship and were therefore excluded from the study. The sample was composed of Anglophone (74.1%) and Francophone (25.9%) students enrolled in an introductory experimental psychology course. The mean age of participants was 19.47 years ($SD = 1.63$, range = 17.83–25.75) and the average duration of the romantic relationship was 1.35 years ($SD = 1.34$). The racial background of the participants was 82% Caucasian, 6% Asian, 4% Black, 1% Hispanic and 7% of other racial background. The majority of the participants were heterosexual (92.7%), not cohabitating with their partner (87.7%), and did not have children (79.3%).

Procedure

Participants voluntarily enrolled in the study and were subsequently provided access to a secure and encrypted Internet link (Survey Monkey) to complete the questionnaires online. In compensation for their time, each participant received two added percentage points on his or her final grade for the course. The questionnaire package included information that outlined the voluntary nature of the research and indicated that participants were free to discontinue their participation at any time without consequence. Completion of the questionnaire battery was assumed to indicate informed consent. The students were provided with a list of psychological resources in case they wished to speak to a professional about any questions or concerns. Finally, to ensure anonymity, the questionnaires were coded with five-digit numbers. The questionnaires were available in both English and French.

Measures

Romantic Attachment

The *Experiences in Close Relationships* questionnaire (ECR; Brennan et al. 1998) is a 36-item measure of romantic attachment along two dimensions: anxiety over abandonment and avoidance of intimacy. The questionnaire employs a Likert scale from (1) “strongly disagree” to (4) “neutral/mixed” to (7) “strongly agree.” The average score for each subscale ranges between 1 and 7. Elevated scores represent greater anxiety and avoidance. Both attachment dimensions

have consistently demonstrated adequate psychometric properties (e.g., Alonzo-Arbiol et al. 2007; Lafontaine and Lussier 2003; Picardi et al. 2000). In the present study, the internal reliability of the subscales (Cronbach's alpha) was .93 for anxiety over abandonment and .94 for avoidance of intimacy, as compared to .91 and .94, respectively, reported by Brennan et al. (1998).

Intimate Partner Violence

The *Revised Conflict Tactics Scales* (CTS2; Straus et al. 1996) is a 78-item measure of intimate partner violence that includes five subscales: physical violence, psychological violence, sexual violence, negotiation, and physical injury. Each subscale measures both experienced and perpetrated violence through items addressed to the participant (e.g., *I pushed or shoved my partner*) and items addressed to the participant's partner (e.g., *My partner pushed or shoved me*). Respondents use an eight-point response scale to indicate the frequency of each situation within the past year. Responses include, "this has never happened," "once in the past year," "twice in the past year," "3–5 times in the past year," "6–10 times in the past year," "11–20 times in the past year," "more than 20 times in the past year," and "not in the past year, but it happened before." Each category was coded with the approximate median score: 0, 1, 2, 4, 8, 15, and 25, respectively. The category "not in the past year, but it happened before" was coded with a 0 in order to obtain the annual prevalence rate of intimate partner violence. A combined subscale of the sum of each instance of the experience of physical, psychological, and sexual violence was calculated. Total scores on the experience of intimate partner violence subscale ranged from 0 to 675, with elevated scores representing more reported violence. The CTS2 has demonstrated good internal reliability, with Cronbach's alpha ranging from .79 to .95 (Straus et al. 1996). The alpha coefficients for the current study were .93 for the experience of physical violence, .84 for psychological violence, .76 for sexual violence, and .92 for the combined subscale.

Non-Suicidal Self-Injury

The *Ottawa Self-Injury Inventory* (OSI; Cloutier and Nixon 2003) measures current or past NSSI behaviors, the intended result of the behaviors, and NSSI thoughts. The OSI consists of 27 items (and several sub-items) that assess cognitive, affective, behavioral, and environmental elements of NSSI. The inventory includes both quantitative (dichotomous, categorical, and continuous) and qualitative (open-ended) items. Two questions from the OSI assessed participants' experiences of NSSI thoughts and behaviors: (1) *How often in the past 6 months have you thought about injuring*

yourself without the intention to kill yourself? (2) *How often in the past 6 months have you actually injured yourself without the intention to kill yourself?* The psychometric properties of the OSI are currently being evaluated in Canadian and German studies, but Cloutier and Nixon (2003) found that test–retest reliability correlations for a previous version of this questionnaire ranged from .52 to .74 over a 7 to 14-day interval.

Results

Preliminary Results

All statistical analyses were conducted with SPSS, version 15.0. A total of 554 participants participated in this ongoing study. Seven participants failed to complete the questionnaire beyond the first few questions and their questionnaire data were therefore excluded from the analyses. Data from ten more participants were excluded because the participants did not satisfy the study's eligibility criteria.

Descriptive Statistics

Of the 537 participants included in the analyses, 7.8% ($n = 42$) of participants reported having experienced NSSI thoughts without engaging in NSSI behaviors at least once in the past 6 months. Of these participants, 6.5% ($n = 7$) were men and 8.2% ($n = 35$) were women. Moreover, 7.3% ($n = 39$) reported having engaged in NSSI behaviors at least once in the past 6 months [9.3% ($n = 10$) of men and 6.8% ($n = 29$) of women]. The present study revealed no significant gender difference with respect to NSSI behaviors ($\chi^2(1, N = 517) = .68, p = .41$) or NSSI thoughts [$\chi^2(1, N = 526) = .38, p = .54$].

The means and standard deviations for the independent variables (romantic attachment and the experience of intimate partner violence) are presented in Table 1, along with the results of the analysis of variance by gender. The intimate partner violence variable did not satisfy the assumptions of homogeneity of variance, and ANOVA was therefore replaced by the Brown–Forsythe test. The analyses revealed a significant gender difference in avoidance of intimacy. Men were more likely than women to report a romantic attachment characterized by avoidance of intimacy.

Correlational Analyses

Correlational analyses were conducted (see Table 2) to identify variables to be included in subsequent logistic regressions. As expected, greater anxiety over abandonment was related to more NSSI thoughts in men and women. In

Table 1 Analysis of variance for romantic attachment and intimate partner violence as a function of gender

Variables	Men (<i>n</i> = 108)		Women (<i>n</i> = 429)		<i>F</i> -ratio from ANOVA
	<i>M</i>	SD	<i>M</i>	SD	
Anxiety over abandonment	3.20	1.19	3.33	1.14	$F_{(1, 515)} = 1.08$
Avoidance of intimacy	2.84	1.05	2.45	1.05	$F_{(1, 516)} = 11.48^*$
Intimate partner violence	24.76	48.16	16.99	36.67	$F_{(1, 131.05)} = 2.33$

* $p < .05$

addition, greater anxiety over abandonment was correlated with more NSSI behaviors in women. The avoidance of intimacy dimension did not demonstrate a significant relationship to NSSI thoughts and behaviors. Finally, the experience of intimate partner violence was not correlated with NSSI thoughts in either men or women. However, a greater number of instances of intimate partner violence were related to more NSSI behaviors in men and women.

Logistic Regression

Four logistic regressions were conducted in order to determine the relative influence of each predictor on NSSI thoughts and behaviors. Separate regressions were conducted for men and women. Table 3 presents the impact of anxiety over abandonment on NSSI thoughts in men. This model explained 17% of the variance in NSSI thoughts and revealed that NSSI thoughts in men are positively predicted by anxiety over abandonment ($\beta = 1.06$, Wald $\chi^2 = 5.33$, $p < .05$). For each unit increase in anxiety over abandonment, men were 2.87 times more likely to report NSSI thoughts.

With respect to NSSI thoughts in women, only anxiety over abandonment was entered into the second regression model (see Table 3). The regression analysis revealed that only 2.5% of the variance in women’s NSSI thoughts was explained by this dimension. The results demonstrated that anxiety over abandonment significantly influenced NSSI thoughts in women ($\beta = .34$, Wald $\chi^2 = 4.32$, $p < .05$). For each unit increase in anxiety over abandonment, women were 1.40 times more likely to report NSSI thoughts.

A third logistic regression was conducted in order to explore the influence of the experience of intimate partner

violence on NSSI behaviors in men (see Table 4). The analyses revealed that the experience of intimate partner violence is a significant predictor ($\beta = .02$, Wald $\chi^2 = 7.95$, $p < .01$) of NSSI behaviors, explaining 16.6% of the variance. For each unit increase in intimate partner violence, men were 1.02 times more likely to report NSSI behaviors.

Finally, a fourth logistic regression was conducted in order to explore the relative impacts of anxiety over abandonment and the experience of intimate partner violence on NSSI behaviors in women (see Table 4). This model explained 9.9% of the variance in NSSI behaviors. Both intimate partner violence ($\beta = .01$, Wald $\chi^2 = 8.40$, $p < .01$) and anxiety over abandonment ($\beta = .47$, Wald $\chi^2 = 6.76$, $p < .01$) significantly influenced NSSI behaviors. Specifically, for each unit increase in anxiety over abandonment, women were 1.61 times more likely to report NSSI behaviors. Women were also 1.01 times more likely to report NSSI behaviors for each unit increase in intimate partner violence.

Discussion

The primary objective of the present study was to investigate the influence of romantic attachment and the experience of intimate partner violence (physical, psychological, and sexual) on retrospective reports of NSSI thoughts and behaviors in young adults during the past 6 months. The findings indicate that NSSI thoughts and behaviors are equally prevalent in young men and women, underscoring the importance of examining the predictors of NSSI in both genders. Despite the relatively few male participants in the study, the results confirm the general hypothesis that no

Table 2 Pearson correlations between romantic attachment, NSSI thoughts and behaviors, and intimate partner violence as a function of gender

Variables	Men (<i>n</i> = 108)		Women (<i>n</i> = 429)	
	NSSI thoughts	NSSI behaviors	NSSI thoughts	NSSI behaviors
Anxiety over abandonment	.25*	.05	.10*	.14**
Avoidance of intimacy	.07	.12	.02	.03
Intimate partner violence	-.01	.35**	-.03	.20**

* $p < .05$; ** $p < .01$

Table 3 Summary of logistic regression analyses for NSSI Thoughts

Variables	R^2	Adjusted R^2	B	SE	Wald	Odds ratio	95% CI for OR's	
							Lower	Upper
Men	.065	.170						
Anxiety over abandonment			1.06	.46	5.33	2.87*	1.17	7.04
Women	.011	.025						
Anxiety over abandonment			.34	.16	4.32	1.40*	1.02	1.92

* $p < .05$ **Table 4** Summary of logistic regression analysis for NSSI behaviors

Variables	R^2	Adjusted R^2	B	SE	Wald	Odds ratio	95% CI for OR's	
							Lower	Upper
Men	.075	.166						
Intimate partner violence			.02	.01	7.95	1.02**	1.00	1.03
Women	.040	.099						
Anxiety over abandonment			.47	.18	6.76	1.61**	1.12	2.29
Intimate partner violence			.01	.00	8.40	1.01**	1.00	1.02

* $p < .05$; ** $p < .01$

gender differences in NSSI exist in the general population (Heath et al. 2009).

The present study's hypotheses about NSSI thoughts were partially confirmed. In women, romantic attachment characterized by high anxiety over abandonment influenced the prevalence of recent NSSI thoughts (without action). Moreover, anxiety over abandonment had a considerable impact on men's NSSI thoughts. Finally, avoidance of intimacy was not significantly related to NSSI thoughts in men or women. The results also partially support the hypotheses put forth about NSSI behaviors. Among women, anxiety over abandonment also predicted NSSI behaviors, whereas avoidance of intimacy was not significantly related to NSSI behaviors in women or men. These results are consistent with Fung's (2008) findings of a positive link between anxiety over abandonment and deliberate self-harm (DSH) and a lack of significant relationship between avoidance of intimacy and DSH. These results support the hypothesis that individuals with a secure attachment are more likely to use adaptive emotion regulation strategies (e.g., behavioral or cognitive coping methods, support seeking) (Schaffer 1993), whereas individuals with attachment characterized by anxiety over abandonment are more likely to use maladaptive affect regulation strategies (Cooper et al. 1998) such as NSSI behaviors. In addition to Schaffer's study, research by Kimball and Diddams (2007) provided further support for this hypothesis. Their results demonstrated the mediating effect of affect regulation on the relationship between attachment and NSSI. The experience of intimate partner

violence also emerged as a significant predictor of recent NSSI behaviors in both men and women. These results support Linehan's well-known (1993) theory that an unhealthy environment can increase the likelihood of NSSI behaviors. The finding that, like attachment, intimate partner violence significantly predicts NSSI behaviors supports the hypothesis that NSSI represents a maladaptive emotion regulation strategy (Linehan 1993). Indeed, if victims of intimate partner violence are unable to regulate their emotions appropriately, they may redirect this violence towards themselves. Indeed, if victims of intimate partner violence are unable to regulate their emotions appropriately, they may redirect this violence inward.

Another interesting finding from the present study relates to the similarity and differences in the links between intimate relationship functioning and NSSI thoughts and intimate relationship functioning and NSSI behaviors. Although both NSSI thoughts and behaviors were generally related to romantic attachment characterized by anxiety over abandonment, NSSI behaviors, but not thoughts, were related to the experience of intimate partner violence. The comparison of NSSI thoughts to NSSI behaviors is in its infancy. NSSI thoughts can be a considerable source of suffering, and further investigation is warranted. Although NSSI thoughts are often associated with action, they do not necessarily lead to acts of NSSI (Nixon et al. 2002). NSSI thoughts can be conceptualized as a conditioned response to stress that may or may not result in NSSI. A study by Brain et al. (1998) demonstrated that, in individuals who

had previously self-injured, simply thinking about self-injury produced the physiological and emotional effects common to self-injurious behaviors. If the thoughts persist, the risk of action increases. It is therefore critical to understand, evaluate, treat, and monitor NSSI thoughts as well as NSSI behaviors.

The present study's initial findings demonstrate the value of evaluating intimate relationship functioning in the process of determining indicators of presence or absence of NSSI thoughts and/or behaviors in young adults. Moreover, the present study fills certain gaps in the current research and makes a unique contribution to the literature on this topic by assessing three forms of intimate partner violence: physical, psychological, and sexual. The use of statistical analyses to evaluate the relative impacts of intimate partner violence and romantic attachment on NSSI constitutes a further strength of the present study. This study increases the depth of knowledge about NSSI in young men and women in the general, rather than clinical, population. It is among the first to distinguish between NSSI thoughts and behaviors and to examine the influences of romantic attachment and intimate partner violence on NSSI.

Despite the important empirical and clinical implications of this study, certain methodological limitations exist. First, the sample consisted uniquely of undergraduate university students in psychology, a group that is unlikely to represent the general population. Second, given that most psychology classes include more women than men, the recruitment method did not favor equal gender representation. Third, the retrospective self-reports measures used in this study depend on accurate memory and honest responses. Finally, the research topic and the possibility of course credit for participation created the potential for a selection bias.

Future research should consider NSSI thoughts and behaviors from a systemic/dyadic perspective by investigating the impact of one partner's attachment on the other partner's NSSI thoughts and behaviors. Past research has demonstrated that one partner's behavior systematically affects the other partner's behavior (Pistole 1994). The combination of, for example, a preoccupied attachment pattern (elevated anxiety over abandonment) in one partner and a dismissing attachment pattern (elevated avoidance of intimacy) in the other is likely to create problems in a relationship. The use of a systemic perspective would allow greater precision of the factors that precede and maintain NSSI behaviors. Further, in addition to examining intimate partner violence, it would be interesting to investigate the influence of other indicators of intimate relationship functioning in an integrated model (e.g., couple dissatisfaction, poor communication between partners, problems in dyadic coping) in order to enhance our understanding of NSSI thoughts and behaviors. These kinds of studies have the

potential to accrue a wealth of empirical data that could, in turn, be used by health professionals to reduce suffering among young adults dealing with this issue.

In conclusion, the risk and preventive factors for NSSI are complex and multiple. Efforts by researchers in this area to create a comprehensive model (for a review, see Nixon and Heath 2009 and Nock 2009) support this claim. The present study adds to the literature in this area by examining interpersonal aspects related to NSSI within the context of romantic relationships. Overall, our findings demonstrate the influence of romantic attachment anxiety and the experience of intimate partner violence on NSSI thoughts and behaviors in young adults. The development of interventions specific to NSSI is in its infancy. We hope that the results of this study will contribute to the development of preventive and curative treatments for NSSI in young adults.

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