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RESEARCH

# Nonsuicidal Self-Injury, Stress, and Self-Differentiation

Trevor J. Buser, Terry L. Pertuit, and Daniella L. Muller

*The authors surveyed 458 young adults and examined the relationships among stress, self-differentiation, and nonsuicidal self-injury (NSSI). They conducted multiple regression analyses to explore whether characteristics of self-differentiation (i.e., emotional reactivity and “I position”) were related to NSSI after controlling for the effects of stress, as well as whether emotional reactivity and I position served as mediators in the stress–NSSI relationship. I position and emotional reactivity both contributed statistically significant variance to NSSI after accounting for stress. Moreover, both I position and emotional reactivity served as partial mediators in the stress–NSSI relationship. The authors discuss counseling and research implications.*

*Keywords:* mental health of adults, nonsuicidal self-injury, self-differentiation, stress, young adults

A growing number of researchers have conceptualized emerging adulthood as a separate developmental stage focused on ages 18 to 25 years and characterized by exploration in major domains such as romantic relationships, work, and worldview (Arnett, 2000, 2015). Arnett (2000) described the transition from adolescence to adulthood as one of the most unique of life transitions, involving increasing independence from social roles and expectations. Although this stage can be a time of exploration and freedom, researchers also identified it as a time of increased risk for mental health issues (Schulenberg, Sameroff, & Cicchetti, 2004).

Among the mental health concerns known to be more common in emerging adulthood compared with later stages of adulthood is nonsuicidal self-injury

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(NSSI; Swannell, Martin, Page, Hasking, & St John, 2014). This behavior is identified by the *Diagnostic and Statistical Manual of Mental Disorders* (5th ed.; American Psychiatric Association, 2013) as a condition warranting further study. NSSI involves acts of self-inflicted harm that are undertaken without suicidal intent or social sanction and are characterized by mild or moderate tissue damage (American Psychiatric Association, 2013). According to research and theory in this area, stress is a salient variable in understanding the motivation and perpetuation of NSSI (Kim et al., 2015; Nock, 2009; Nock & Mendes, 2008). Stress has been defined as the “persistent state of over-arousal which reflects continuing difficulty in meeting taxing life demands” (Lovibond & Lovibond, 1995, p. 33). Individuals who perform NSSI experience increased stress and diminished ability to tolerate stress compared with those without a history of NSSI (Kim et al., 2015; Nock & Mendes, 2008). Additionally, many individuals perform NSSI as a way to manage stress (Zelkowitz, Cole, Han, & Tomarken, 2016). More research is needed, however, to understand nuances of the stress–NSSI relationship. In particular, there is a dearth of research on the pathways by which stress and NSSI are related. The current study aims to address this gap in the literature by exploring relationships among stress, NSSI, and self-differentiation.

## SELF-DIFFERENTIATION

Self-differentiation, as defined by Bowen (1978), is a broad construct incorporating aspects of interpersonal and intrapersonal functioning. A highly differentiated individual blends autonomy and connection in relationships, exhibits control over emotional reactions, and upholds a stable sense of self (Bowen, 1978; Kerr & Bowen, 1988; Skowron & Schmitt, 2003). In this investigation, we focused on variables from the intrapersonal domain of self-differentiation: emotional reactivity and “I position.” Differentiated individuals are theorized to be low in emotional reactivity, to be able to control their emotional responses, and to avoid being overwhelmed by emotional states (Skowron & Schmitt, 2003). Additionally, differentiated individuals are high in I position, in that they adhere to personal convictions and maintain a stable sense of self amid external pressures (Skowron & Schmitt, 2003). Individuals with a strong I position embody what Bowen (1978) termed the basic self, a firm belief system that is rooted in one’s own ideologies and assertions and less dependent on social approval.

We chose to examine these particular facets of self-differentiation on the basis of (a) literature suggesting a link between the intrapersonal self-differentiation domain and NSSI (Cawood & Huprich, 2011; Claes, Luyckx, & Bijttebier, 2014; Glenn, Blumenthal, Klonsky, & Hajcak, 2011; Kleiman, Ammerman, Look, Berman, & McCloskey, 2014; Lear & Pepper, 2016; Nock, Wedig, Holmberg, & Hooley, 2008) and (b) literature on the relationships between the intrapersonal self-differentiation domain and stress (Charbonneau, Mezulis,

& Hyde, 2009; Murdock & Gore, 2004). Regarding the former, researchers have documented a link between emotional reactivity and NSSI. For example, Glenn et al. (2011) reported that college students with NSSI history ( $n = 41$ ) reported increased emotional reactivity compared with college students without NSSI history ( $n = 37$ ). Similarly, Nock et al. (2008) found that individuals who engaged in NSSI showed higher levels of emotional reactivity ( $n = 56$ ) compared with individuals without a history of NSSI ( $n = 38$ ). Moreover, these researchers reported that emotional reactivity mediated the link between psychopathology and NSSI. In addition, Kleiman et al. (2014) reported that, among female college students ( $n = 1,175$ ), emotional reactivity mediated the relationship between depression and NSSI.

To date, no studies have examined the association between I position and NSSI, but researchers have found that NSSI stands in relationship with conceptually similar constructs. For example, Cawood and Huprich (2011) reported that, among young adults, those with a history of NSSI ( $n = 102$ ) had reduced levels of self-esteem compared with those without a history of NSSI ( $n = 200$ ). Previous researchers linked self-esteem to I position, reporting that increased self-esteem was associated with increased I position (Drake, Murdock, Marszalek, & Barber, 2015). In addition, authors have studied identity synthesis and self-concept clarity—constructs referring to a clear, organized, stable identity—and reported associations with NSSI (Claes et al., 2014; Lear & Pepper, 2016). For example, Lear and Pepper (2016) reported that, among participants who had engaged in NSSI ( $n = 59$ ), increased self-concept clarity predicted lower NSSI frequency.

Numerous connections have also been drawn between stress and the intrapersonal domain of self-differentiation. In a study of 119 college students, Murdock and Gore (2004) found that participants with high levels of perceived stress and high self-differentiation reported reduced psychological distress compared with participants with high perceived stress and low self-differentiation. The intrapersonal domain of self-differentiation may be particularly relevant for stress management, as theorized by Kerr and Bowen (1988). Increased stress has been related to both increased emotional reactivity (Charbonneau et al., 2009) and constructs related to an I position, such as lower self-esteem (Claudat, White, & Warren, 2016) and higher extrinsic self-esteem (i.e., basing personal assessment on external standards; Fang & Galambos, 2015).

In sum, previous researchers have provided support for the stress–NSSI and intrapersonal differentiation–NSSI relationships. However, no study to date has directly assessed the relationship between I position and NSSI. Furthermore, researchers have not examined emotional reactivity and I position together in relation to NSSI. Given theoretical and empirical ties between self-differentiation and stress, we were interested to examine the effect of the intrapersonal domain of self-differentiation on NSSI, after controlling for stress. Finally, in view of the interrelationships of variables, we sought to investigate whether I position

and emotional reactivity served as mediators of the stress–NSSI relationship. Our research hypotheses were as follows:

*Hypothesis 1:* Stress will be positively associated with NSSI.

*Hypothesis 2:* After controlling for stress, reduced emotional reactivity and increased I position will be associated with decreased NSSI.

*Hypothesis 3:* I position will serve as a mediator in the association between stress and NSSI.

*Hypothesis 4:* Emotional reactivity will serve as a mediator in the association between stress and NSSI.

## METHOD

### Procedure

We obtained institutional review board approval and emailed students ages 18 to 30 years at a private university in the northeast comprising 4,497 students. Participants were invited to click on a link, which took them to the informed consent form and survey on an SSL-encrypted SurveyMonkey site. As an incentive, individuals could enter a random drawing for a gift card.

After we removed participants who had vast amounts of missing data (i.e., answered only the informed consent form or a few items;  $n = 273$ ), participants who failed the validity check item ( $n = 28$ ), and participants who failed the dual-responder check item ( $n = 34$ ), a total of 458 participants remained. An inspection of missing data on the continuous variables (i.e., the Functional Assessment of Self-Mutilation [FASM; Lloyd-Richardson, Perrine, Dierker, & Kelley, 2007], the Depression Anxiety Stress Scales [DASS; Lovibond & Lovibond, 1995], and the Differentiation of Self Inventory–Revised [DSI-R; Skowron & Schmitt, 2003]) revealed a total of 0.247% missing data values. To manage missing data, we conducted a multiple imputation procedure. Authors have noted that multiple imputation is an optimal way to handle missing data (Tabachnick & Fidell, 2007). In this procedure, five different data imputations were carried out and then averaged for the final statistic reported. In line with recommendations, we also conducted statistical analyses without imputing the missing data; after finding similar results via these two calculations, our use of multiple imputation to handle missing data management was supported (Tabachnick & Fidell, 2007). Therefore, in the Results section, we report statistics from analyses using multiple imputation.

### Participants

The 458 study participants ranged in age from 18 to 30 ( $M = 20.8$ ,  $SD = 2.5$ ), and 13 participants did not provide their age. Participants were mostly female ( $n = 339$ , 74.0%), with the remainder identifying as male ( $n = 117$ , 25.5%) and other ( $n = 2$ , 0.4%). (Some percentages do not total 100 because of

rounding.) In terms of sexual identity, 400 (87.3%) identified as heterosexual, 29 (6.3%) as bisexual, 12 (2.6%) as gay, 10 (2.2%) as other, five (1.1%) as lesbian, and two declined to answer. Participants reported their racial/ethnic backgrounds as follows: Caucasian/White ( $n = 324$ , 70.7%), Hispanic/Latino ( $n = 39$ , 8.5%), African American ( $n = 34$ , 7.4%), Asian/Pacific Islander ( $n = 30$ , 6.6%), multiethnic/multiracial ( $n = 21$ , 4.6%), other ( $n = 8$ , 1.7%), and two participants chose not to answer. Most participants reported a middle-class economic background ( $n = 244$ , 53.3%), with the remainder reporting their background as working class ( $n = 99$ , 21.6%), upper middle class ( $n = 86$ , 18.8%), lower class ( $n = 22$ , 4.8%), and upper class ( $n = 7$ , 1.5%).

**Measures**

Participants completed a demographic questionnaire and four instruments for the purposes of the current investigation. We chose these instruments because researchers have provided support for their psychometric properties with young adult samples, as described in the following paragraphs.

To measure stress, we used the Stress subscale (14 items) of the DASS (Lovibond & Lovibond, 1995). Participants respond to items on a Likert-type scale ranging from 0 (*did not apply to me at all*) to 4 (*applied to me very much, or most of the time*). Higher scores indicate increased levels of stress in the past week, which was defined by Lovibond and Lovibond (1995) as having problems in responding successfully to external life pressures and being in a state of tension, irritation, and overarousal. The authors provided evidence for the validity and reliability of scores on the Stress subscale (Lovibond & Lovibond, 1995). In a study with a young adult sample, Bayram and Bilgel (2008) reported the reliability of scores was  $\alpha = .86$ . In our study, the reliability of scores was  $\alpha = .93$ .

To assess the intrapersonal elements of NSSI, participants completed the DSI-R (Skowron & Schmitt, 2003). I position was assessed via the I Position subscale, which contains 11 items regarding an individual’s ability to maintain a secure self-identity and withstand external pressures. Higher scores indicate increased levels of I position. Emotional reactivity was assessed via the 11-item Emotional Reactivity subscale. Higher scores indicate reduced emotional reactivity. For both DSI-R subscales, participants answered items on a Likert-type scale ranging from 1 (*not at all true of me*) to 6 (*very true of me*). Total scores were averaged. Jankowski and Hooper (2012) used these subscales with a sample composed mostly of young adults and reported adequate reliability for scores on the Emotional Reactivity subscale ( $\alpha = .86$ ) and the I Position subscale ( $\alpha = .79$ ). Skowron and Friedlander (1998) also provided evidence for the validity and reliability of scores. In our study, reliability for I Position scores was  $\alpha = .80$  and for emotional reactivity scores was  $\alpha = .89$ .

To assess frequency of NSSI in the past year, we used the FASM (Lloyd-Richardson et al., 2007). Participants reported engagement in 11 different methods of NSSI, such as cutting, burning, erasing, hitting, and skin scraping.

On the basis of precedent, we made modifications to the FASM. In the instrument instructions, we asked participants to report only self-injurious behavior that was nonsuicidal in nature (T. J. Buser & Hackney, 2012). We also modified the response options, such that participants reported their frequency of NSSI engagement on a Likert-type scale including response options of 1 (*0 times*), 2 (*1 time*), 3 (*2–5 times*), 4 (*6–10 times*), and 5 (*11 or more times*; Yates, Tracy, & Luthar, 2008). Furthermore, in data analyses, we removed the item “picked at a wound” due to prior concerns about the normative nature of this item (Lloyd-Richardson et al., 2007; Yates et al., 2008). Evidence supporting the reliability and validity of scores was reported for the original FASM (Lloyd-Richardson et al., 2007). In using the scale with young adult samples, T. J. Buser and colleagues (T. J. Buser, Buser, & Kearney, 2012; T. J. Buser & Hackney, 2012) reported acceptable levels of reliability for scores (ranging from .64 to .79). In the current study, reliability of scores was  $\alpha = .71$ .

### Data Analysis

Prior to data analysis, we examined the skewness and kurtosis values of variable distributions. The values were acceptable for all variables except NSSI (Miles & Shevlin, 2001). We carried out an inverse transformation on NSSI scores, which brought skewness and kurtosis to appropriate levels (Miles & Shevlin, 2001). This transformation reversed the direction of relationships involving NSSI; for ease of interpretation, we will present results with the original direction of relationships. For all parametric statistics, the transformed variable will be used.

## RESULTS

The demographic categorical variables had unequal cell sizes, and we thus used nonparametric statistics to determine statistically significant relationships between these variables and NSSI scores. We used Kruskal–Wallis tests to ascertain links between NSSI and the following variables: gender identity, sexual identity, race/ethnicity, and economic class. A significant relationship emerged between sexual identity and NSSI,  $\chi^2(4, 456) = 31.02, p = .000$ . We carried out a Pearson correlation and found that age was significantly associated with NSSI ( $r = -.16, p = .001$ ), such that younger individuals reported higher levels of NSSI. This was a small effect size (Cohen, 1992). Therefore, age and sexual identity were entered as control variables in principal analyses. See Table 1.

To test the first two research hypotheses, we carried out a hierarchical regression. First, we ascertained if we had sufficient power to carry out a regression with five predictors and an effect size of  $f^2 = .06$ , which was projected due to results from related research on NSSI (J. K. Buser, Buser, & Rutt, 2017). We determined that a sample of 458 participants was adequate for Cohen’s (1988) .80 benchmark for statistical power (Soper, 2017a).

TABLE 1

Means, Standard Deviations, Ranges, and Pearson Correlations

Variable	<i>M</i>	<i>SD</i>	Range	1	2	3	4
1. Stress	12.82	8.87	42.00	—			
2. IP	3.90	0.85	4.91	-.54*	—		
3. ER	3.37	1.13	4.82	-.68*	.52*	—	
4. NSSI	12.88	4.17	26.00	.43*	-.33*	-.40*	—

Note. *N* = 458. The means, standard deviations, and ranges are reported using the non-transformed data; the Pearson correlations are reported using the transformed data. IP = I position; ER = emotional reactivity; NSSI = nonsuicidal self-injury.

\**p* < .001.

In Step 1 of the regression, we entered the control variables (age and sexual identity). For the hierarchical regression, we had a total of 443 participants because of missing data on these control variables. Age and sexual identity explained 6.8% of the variance in NSSI,  $\Delta F(2, 440) = 16.11, p = .000$ . This is a small effect of  $f^2 = .07$  (Cohen, 1992; Soper, 2017b). In Step 2, we entered stress. Stress explained an additional 14.5% of the variance in NSSI,  $\Delta F(1, 439) = 80.89, p = .000$ , after accounting for age and sexual identity. The effect size of this finding was  $f^2 = .18$  (Soper, 2017a), which is a medium effect (Cohen, 1992). This result supported our first hypothesis. In Step 3, we entered the self-differentiation variables as a block. After accounting for age, sexual identity, and stress, I position and emotional reactivity explained 3.0% of the variance in NSSI,  $\Delta F(2, 437) = 8.79, p = .000$ . This was a small effect size ( $f^2 = .04$ ; Cohen, 1992; Soper, 2017a). Both I position ( $\beta = -.12, p = .022$ ) and emotional reactivity ( $\beta = -.17, p = .004$ ) had statistically significant, inverse beta values, indicating that each contributed uniquely to the outcome of NSSI, after accounting for variance contributed by the other self-differentiation variable. Therefore, our second research hypothesis was supported: Increased levels of I position and decreased emotional reactivity were associated with decreased levels of NSSI, after accounting for the impact of stress. As noted above, higher scores on the Emotional Reactivity subscale indicate decreased emotional reactivity.

Pertaining to other hypotheses, we carried out regression analyses to determine if I position and emotional reactivity served as mediators in the stress–NSSI relationship. We followed the procedure described by Frazier, Tix, and Barron (2004) for establishing the conditions of mediation. Due to a total of six regression analyses required to test I position and emotional reactivity as potential mediators, we carried out a Bonferroni correction and set alpha at .008. To test the potentially mediating role of I position, we carried out the following analyses: (a) a regression in which stress was the predictor (controlling for age and sexual identity) and NSSI was the outcome, (b) a regression in which stress



was the predictor and I position was the outcome, and (c) a regression in which I position and stress were the predictors (controlling for age and sexual identity) and NSSI was the outcome. In the first regression, stress explained 14.5% of the variance in NSSI ( $B = .001, \beta = .39, p = .000$ ). In the second regression, stress explained 28.8% of the variance in I position ( $B = -.051, \beta = -.54, p = .000$ ). In the third regression, I position and stress together explained 16.1% of the variance in NSSI. I position was significantly linked with NSSI after controlling for stress ( $B = -.003, \beta = -.15, p = .002$ ). Stress was significantly linked with NSSI after controlling for I position ( $B = .001, \beta = .30, p = .000$ ). A Sobel test ( $z = 2.92, p = .003$ ) was significant (Preacher & Leonardelli, 2017), indicating that the I position partially mediated the relationship between stress and NSSI. Hypothesis 3 was supported.

To test the ability for emotional reactivity to serve as a mediator, we carried out the same analyses as described above for I position using emotional reactivity as the intervening variable. In the first regression, stress explained 14.5% of the variance in NSSI ( $B = .001, \beta = .39, p = .000$ ). In the second regression, stress explained 45.7% of the variance in emotional reactivity ( $B = -.086, \beta = -.66, p = .000$ ). In the third regression, emotional reactivity and stress together explained 16.7% of the variance in NSSI. Emotional reactivity was significantly linked with NSSI after controlling for stress ( $B = -.003, \beta = -.20, p = .000$ ). Stress was significantly linked with NSSI after controlling for emotional reactivity ( $B = .001, \beta = .25, p = .000$ ). A Sobel test ( $z = 2.97, p = .003$ ) was significant (Preacher & Leonardelli, 2017), indicating that emotional reactivity partially mediated the relationship between stress and NSSI. Thus, Hypothesis 4 was supported.

## DISCUSSION

We examined the relationships among NSSI, stress, and Bowen's (1978) intrapersonal constructs of self-differentiation among young adults. We confirmed that stress was a significant predictor of NSSI, after controlling for age and sexual identity. These findings are consistent with previous studies on stress and NSSI (Kim et al., 2015; Nock & Mendes, 2008; Zerkowitz et al., 2016). We also explored the intrapersonal domains of self-differentiation in relation to stress and NSSI. We found that, after controlling for stress, I position and emotional reactivity were significantly associated with NSSI. Our findings aligned with results from other studies documenting a significant relationship between NSSI and emotional reactivity (Glenn et al., 2011; Nock et al., 2008) and between NSSI and constructs similar to I position (Cawood & Huprich, 2011; Lear & Pepper, 2016). These findings also extended previous results. We found that both I position and emotional reactivity are significant predictors of NSSI, after controlling for stress and relevant demographic variables. In other words,

a stable, secure sense of self and the ability to control emotional reactions are important factors in predicting NSSI, above and beyond the influence of stress on NSSI.

Furthermore, we examined emotional reactivity and I position as potential mediators in the stress–NSSI relationship. We found that both variables served as partial mediators in this relationship. This finding suggests, for example, that individuals with high I position are less vulnerable to engagement in NSSI, even amid stressful circumstances. It may be that engagement in NSSI contradicts the core sense of self for individuals with high I position. In related research on eating disorder symptoms, a personal value for health was identified as a factor protecting body-dissatisfied participants from engaging in binge eating, extreme dieting, or other unhealthy eating habits (J. K. Buser, Parkins, & Salazar, 2016). Additionally, authors have posited that individuals with a high I position are less vulnerable to societal expectations for body image ideals; their own stable sense of self and convictions prevent acquiescing to social mores (Schwartz, Grammas, Sutherland, Siffert, & Bush-King, 2010). However, more research is needed on the specific mechanisms (e.g., content of personal convictions) that explain reduced engagement in NSSI among individuals with high I position.

Similarly, emotional reactivity served as a partial mediator in the stress–NSSI relationship. As noted above, previous researchers had found that emotional reactivity mediated the psychopathology–NSSI relationship and the depression–NSSI relationship (Kleiman et al., 2014; Nock et al., 2008). The current finding, therefore, extended these studies, indicating that emotional reactivity also served as a pathway through which stress is associated with NSSI. In accordance with conjectures by Bowen and others (Bowen, 1978; Skowron & Schmitt, 2003), individuals with the ability to regulate their emotions appear better positioned to cope with stressful situations and avoid engagement in NSSI. It may be that the ability to control one’s own emotions mitigates the need to use NSSI as a means of reducing negative affect (Zelkowitz et al., 2016). This finding may be particularly salient for individuals with a history of NSSI, given findings that such individuals often experience diminished ability to tolerate stress (Kim et al., 2015; Nock & Mendes, 2008).

### **Implications for Counseling Practice**

Given the mediating role of I position in the stress–NSSI relationship, counselors may want to pay specific attention to this variable. From the Bowenian (Bowen, 1978; Kerr & Bowen, 1988) perspective, the goal of counseling is to help clients develop differentiation by balancing autonomy and emotional connectedness with others. The counselor supports this goal by focusing on relationships rather than characteristics of presenting concerns. The process begins with the client examining emotional processes in important relational systems, including unspoken rules, decision-making processes, and societal influences. Interventions

should be focused on helping clients to develop a strong ability to take an I position, while simultaneously developing more authentic relationships with others. Strong I position develops when clients have a clear understanding and dedication to their sense of self (i.e., one's core beliefs and values), especially in the face of conflict with others.

Discussion of the indivisible self model of wellness (Myers & Sweeney, 2004; Myers, Willse, & Villalba, 2011) may be one concrete pathway for helping clients strengthen I position (Coleman & Mills, 2014). Composed of five interacting domains that together make up the indivisible self, the indivisible self model of wellness highlights the creative self (emotions, thoughts, work, control, humor), the coping self (leisure, realistic thoughts, managing stress, self-worth), the social self (love and friendship), the essential self (gender identity, self-care, spirituality, cultural identity), and the physical self (nutrition and exercise; Myers & Sweeney, 2004; Myers et al., 2011). Counselors could work with clients to discuss each of these domains—for example, asking clients to reflect on their beliefs about self-care and experiences related to leisure time—and to help clients begin identifying key features of their identity and core convictions. In tandem with this self-exploration, counselors could be attuned to beliefs that may counter NSSI engagement, such as a commitment to self-care. Counselors could ask clients to expand on this belief and how it relates to reducing NSSI. Such discussions may be useful for developing I position and reducing stress-related engagement in NSSI.

Counselors may also consider a client's level of emotional reactivity, in view of the finding that this variable also partially mediated the stress–NSSI relationship. A potential way to decrease emotional reactivity involves interventions from mindfulness-based cognitive therapy (MBCT; Segal, Williams, & Teasdale, 2002). Segal et al. (2002) detailed various mindfulness practices, which guide clients to bring increased attention and a spirit of acceptance to present phenomena, such as bodily sensations and thoughts. Outcome studies are suggestive that MBCT might have a salubrious impact on emotional reactivity. For example, in a randomized controlled trial of the approach with clients who struggle with depression, Britton, Shahar, Szepeswol, and Jacobs (2012) reported that clients in the treatment condition experienced “faster affective recovery from potent negative affect-producing stressors” (p. 374).

### **Strengths and Limitations**

This study provided novel findings indicating that higher I position and lower emotional reactivity were related to decreased NSSI, after accounting for stress. The hierarchical regression analysis was a strength of the study, as it provided a more rigorous test of the relationship between NSSI and aspects of self-differentiation. This study also has important limitations. We did not

use random sampling, and results may not be generalized beyond the study population. Relatedly, our study was limited in participant diversity. As noted previously, the sample was predominantly female, heterosexual, and Caucasian. Finally, only self-report data were gathered; responses may be affected by social desirability and self-awareness deficiency.

### Future Research

These findings generate promising targets for future research. Replication of this study with a more diverse sample, while controlling for socially desirable responding, may address some limitations. This future line of research also carries important cultural implications; there are competing perspectives in the literature regarding whether Bowen's concept of self-differentiation is cross-culturally relevant (Essandoh, 1995). More research is needed to understand if the relationship between NSSI and self-differentiation operates in similar ways across diverse cultural groups.

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