



Sexual assault history and self-destructive behaviors in women college students: Testing the perniciousness of perfectionism in predicting non-suicidal self-injury and suicidal behaviors[☆]



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ABSTRACT

The present study examined presence of sexual assault history and perfectionism (viz., positive strivings & evaluative concerns) as predictors of self-destructive behaviors (viz., NSSI & suicidal behaviors) in a sample of 287 women college students. Results obtained from conducting a series of hierarchical regression analyses indicated several notable patterns. Sexual assault history was a consistent predictor of both NSSI and suicidal behaviors. Moreover, the inclusion of perfectionism was also found to consistently predict additional unique variance in NSSI and suicidal behaviors, even after accounting for sexual assault history. These patterns remained largely unchanged even after accounting for shared variance between NSSI and suicidal behaviors. Within the perfectionism set, evaluative concerns emerged as the most consistent unique predictor of both indices of self-destructive behavior. Finally, we did not find evidence for a significant Positive Strivings × Evaluative Concerns interaction effect in our analyses. Overall, our findings indicate that beyond the presence of sexual assault history, perfectionism remains an important predictor of self-destructive behaviors in women college students.

1. Introduction

Findings from a number of epidemiological studies around the world have shown that adolescents and emerging adults (e.g., college students) are at heightened risk for engaging in a variety of self-destructive behaviors (Muehlenkamp, Williams, Gutierrez, & Claes, 2009; Thompson & Swartout, 2018; Zetterqvist, Lundh, Dahlström, & Svedin, 2013). Across a spectrum of self-destructive behaviors, two of the most examined in the empirical literature have been non-suicidal self-injury (NSSI) and suicidal behaviors. In contrast to suicidal behaviors (e.g., suicidal ideation, suicidal attempts), NSSI behaviors have been defined as the direct and deliberate destruction of body tissue without the intent to die by suicide (Klonsky & Glenn, 2009; Nock & Favazza, 2009). Importantly, findings have shown that women, compared to men, are often at higher levels of risk for engaging in these self-destructive behaviors (e.g., Muehlenkamp et al., 2009; Zetterqvist et al., 2013). For example, in a recent study of a large sample of college students drawn

from two universities in the United States, women, compared to men, were more likely to report a prior suicide attempt (Becker, Holdaway, & Luebbe, 2018). Thus, it is not surprising that researchers have been interested in trying to identify factors that predict self-destructive behaviors in women.

One distinct factor that has been found to be consistently involved in accounting for self-destructive behavior has been the presence of sexual assault history (e.g., Chang, Batra, Premkumar, Chang, & Hirsch, in press; Tomasula, Anderson, Littleton, & Riley-Tillman, 2012; Ullman, 2004; Ullman & Najdowski, 2009). For example, in a recent study, adolescent girls who reported a history of sexual assault, compared to those who reported no history of sexual assault, were found to be more likely to report engaging in NSSI behaviors (Tatnell, Hasking, Newman, Taffe, & Martin, 2017). Similarly, in a study of women college students, Chang and Hirsch (2015) found that history of sexual assault was positively associated with greater suicidal behaviors in this group. Yet, given the common self-destructive process driving NSSI and suicidal

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behaviors, findings from studies have shown these behaviors overlap considerably (e.g., Siddaway, Wood, O'Carroll, and O'Connor, in press). Consequentially, it becomes difficult to clarify if, for example, sexual assault history among women is uniquely associated with NSSI behaviors, suicidal behaviors, or both. This is important to clarify as women, especially college women, are more likely to be the victim of sexual assault compared to men (Banyard et al., 2007). However, beyond sexual assault history, there is reason to consider other variables that might be important for understanding self-destructive behaviors in women, in particular, perfectionism.

In general, most researchers view perfectionism as a multidimensional and multifunctional construct that is predicated on extremely high standards of achievement (e.g., Chang, 2006; Frost, Marten, Lahart, & Rosenblate, 1990; Hewitt & Flett, 1991). For example, researchers have shown that perfectionism can be parsed down to two distinct dimensions, namely, a positive strivings dimension and an evaluative concerns dimension (e.g., Frost, Heimberg, Holt, Mattia, & Neubauer, 1993; Gaudreau & Thompson, 2010). Although these dimensions have been found to have complex associations with various outcomes that preempt any simple categorization of being exclusively adaptive or maladaptive (Stoeber, 2017), some general patterns have been observed. Specifically, consistent with the general contention that the setting and appraisal of one's performance against very high, if not unrealistic, standards of achievement are likely to generate experiences of distress and dysfunction (e.g., Chang, Watkins, & Banks, 2004; Hewitt, Flett, & Ediger, 1996; Mandel, Dunkley, & Starrs, 2018), it is not surprising that findings from numerous studies have shown that evaluative concerns perfectionism is strongly associated with self-destructive behaviors (e.g., O'Connor, 2007; Smith et al., 2018). For example, Hoff and Muehlenkamp (2009) found that NSSI behaviors in college students was associated with higher scores on evaluative concerns perfectionism. Similarly, Claes, Soenens, Vansteenkiste, and Vandereycken (2012) found that evaluative concerns perfectionism was positively related to NSSI behaviors in inpatient women with eating disorders. Interestingly, results from a meta-analysis also showed that positive strivings also had a small, but significant positive association with suicide ideation (Smith et al., 2018). Given these findings, it would be important to determine if perfectionism remains an important predictor of distinct self-destructive behaviors, even after accounting for presence of sexual assault history in women students.

1.1. Purpose of the present study

Given these considerations, we had two specific objectives in conducting the present study: 1) to examine the relations between sexual assault history, perfectionism, NSSI behaviors, and suicidal behaviors in women college students; and 2) to determine if perfectionism remains a unique predictor of NSSI and suicidal behaviors, even after accounting for sexual assault history in women.

Consistent with past research (e.g., Hoff & Muehlenkamp, 2009; Muyan & Chang, 2015; Tatnell et al., 2017), we expected sexual assault history and perfectionism to be associated with both NSSI and suicidal behaviors in women college students. With regard to perfectionism, we expected evaluative concerns perfectionism, but not positive strivings perfectionism, to be positively associated with both indices of self-destructive behavior. In predicting self-destructive behaviors, we expected presence of sexual assault history to account for a significant amount of the variance in both NSSI and suicidal behaviors in women college students (e.g., Chang & Hirsch, 2015; Tatnell et al., 2017). However, given that perfectionism appears to be reliably associated with self-destructive behaviors and outcomes (Smith et al., 2018), we expected perfectionism, in particular evaluative concerns perfectionism (Claes et al., 2012), to account for additional unique variance in both NSSI and suicidal behaviors among women students, even after accounting for sexual assault history. Finally, consistent with the 2×2 model of perfectionism (Gaudreau & Thompson, 2010), in which a

profile of low positive strivings and high evaluative concerns represents a distinctly maladaptive condition, we were curious to determine if we might find evidence to support a Positive Strivings \times Evaluative Concerns interaction effect in predicting self-destructive behaviors.

2. Methods

2.1. Participants

Participants were 287 women college students attending a large public Southeastern university in the USA. Ages ranged from 18 to 25 years of age, with a mean age of 20.2 ($SD = 1.61$) years. The majority of the women students were freshman (43.2%) and White (90.2%).

2.2. Measures

2.2.1. Sexual assault history

To assess for presence of sexual assault history, we used a single item asking participants if they had experienced sexual assault victimization in the past ("no" = 0, "yes" = 1). Sexual assault victimization was defined as any unwanted sexual act attempted or forced upon a person (e.g., inappropriate touching, forced kissing, forced intercourse) by another individual. This is a strategy that has been used effectively in other studies involving vulnerable women populations (e.g., Chang, Kamble, et al., in press). In the present sample, 43 participants (15%) indicated having experienced sexual assault victimization in the past.

2.2.2. Perfectionism

To assess for perfectionism, we used the Frost Multidimensional Perfectionism Scale (FMPS; Frost et al., 1990). The FMPS is a 35-item multidimensional measure of perfectionism consisting of the following six subscales: Concern over Mistakes (CM), Personal Standards (PS), Parental Expectations (PE), Parental Criticism (PC), Doubts about Actions (DA), and Organization (O). Respondents are asked to rate items across a 5-point Likert-type scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). In support of construct validity, scores on these subscales have been found to be associated with scores on other measures of perfectionism (Frost et al., 1993). However, as suggested by some researchers (Frost et al., 1993; Gaudreau & Thompson, 2010; Stoeber, 2017), scores from the PS subscale were used to construct a measure of Positive Strivings (PS) and scores added from the CM and DA subscales were used to construct a measure of Evaluative Concerns (EC). Scores on PE and PC were not used in the present study. As some researchers have contended (e.g., Stoeber, 2017; Stoeber & Otto, 2006), parental expectations and parental criticism might best be viewed as developmental antecedents to perfectionism, rather than core dimensions of perfectionism. In the present sample, internal reliabilities for PS and EC were 0.81 and 0.89, respectively. In general, higher scores on PS reflect greater positive strivings perfectionism, whereas higher scores on EC reflect greater evaluative concerns perfectionism.

2.2.3. Non-suicidal self-injury behaviors

To assess for NSSI behaviors, we used the Self-Harm Inventory (SHI; Sansone, Wiederman, & Sansone, 1998). The SHI is a 22-item measure of one's history of self-harm actions, ranging from eating disorder-specific actions (e.g., exercised an injury on purpose) to those related to medical concerns (e.g., not allowing a wound to heal). Participants are asked whether they have ever intentionally engaged in various self-harm behaviors. Respondents are asked to report if they have engaged ("yes" = 1) or not engaged ("no" = 0) in each self-harm action measured by the SHI. In support of construct validity, high scores on the SHI have been found to correctly identify borderline personality disordered patients (those who often engage in self-harm behaviors) from non-borderline patients (Sansone et al., 1998). In the present sample, internal reliability (KR20) for the SHI was 0.89. Higher scores on the SHI

indicate greater NSSI behaviors.

2.2.4. Suicidal behaviors

To assess for suicidal behaviors, we used the Suicidal Behaviors Questionnaire-Revised (SBQ-R; Osman et al., 2001). The SBQ-R is a 4-item measure that assesses for key aspects of suicidal behaviors (e.g., suicide ideation, suicide attempt). Respondents are asked to indicate how often or how likely it is for each of the suicidal behaviors to be present across a 5- to 7-point Likert-type scale, for example, ranging from 0 or 1 (never) to 5 (very often) or 6 (very likely). In support of construct validity, high scores on the SBQ-R have been found to accurately identify those at risk for dying by suicide, from those not at risk (Osman et al., 2001). In the present sample, internal reliability for the SBQ-R was 0.91. Higher scores on the SBQ-R indicate greater suicidal behaviors.

2.3. Procedures

Women participants attending a regional university in the Southeast United States were recruited through an electronic data collection system that allows potential participants to determine which studies they would like to participate in, and then voluntarily enroll. In this Institutional Review Board-approved study, participants completed surveys online in a location of their choosing. Participants read an online informed consent and indicated their approval by proceeding to the questionnaires. Upon completion, participants were provided with information about local mental health resources available on campus.

3. Results

Correlations, means, and standard deviations for all study measures are presented in Table 1. Noteworthy, sexual assault history was positively associated with both indices of self-destructive behaviors in women college students. Similarly, evaluative concerns was also found to be positively associated with both indices of self-destructive behaviors. In contrast, positive strivings was negatively associated with suicidal behaviors, but not with NSSI behaviors. Consistent with the notion that NSSI and suicidal behaviors are related, but distinguishable, they were found to share less than 20% of common variance.

Noteworthy, positive strivings was positively associated with evaluative concerns. A post-hoc examination of the bivariate correlations indicated that scores on the PS subscale were significantly and positively associated with scores on both the DA and CM subscales, $r = 0.19$ and 0.40 , respectively, $p < .001$. A significant and positive correlation was found between scores on the DA and CM subscales, $r = 0.72$, $p < .001$.

3.1. Sexual assault history and self-destructive behaviors in women college students: does perfectionism matter?

To determine if perfectionism, above and beyond sexual assault

Table 1

Correlations, means, and standard deviations of all study measures in women college students.

| | 1 | 2 | 3 | 4 | 5 |
|-----------------------------|---------|---------|---------|---------|------|
| 1. Sexual assault history | – | | | | |
| 2. Positive strivings | 0.04 | – | | | |
| 3. Evaluative concerns | 0.21*** | 0.36*** | – | | |
| 4. Non-suicidal self-injury | 0.31*** | –0.00 | 0.23*** | – | |
| 5. Suicidal behaviors | 0.29*** | –0.08 | 0.22*** | 0.44*** | – |
| M | 0.15 | 24.00 | 36.58 | 3.11 | 2.15 |
| SD | 0.36 | 4.40 | 9.12 | 3.90 | 3.21 |

Note. $N = 287$.

*** $p < .001$.

Table 2

Results of hierarchical regression analysis showing amount of variance in self-destructive behaviors accounted for by sexual assault history and perfectionism in women college students.

| Self-destructive behaviors | β | R^2 | ΔR^2 | F |
|---|---------|-------|--------------|----------|
| Non-suicidal self-injury behaviors | | | | |
| Step 1: demographics | | 0.01 | – | 1.57 |
| Age | 0.07 | | | |
| Race | 0.08 | | | |
| Step 2: sexual assault history | 0.32*** | 0.11 | 0.10 | 33.03*** |
| Step 3: perfectionism | | 0.15 | 0.04 | 6.22** |
| Positive strivings | –0.09 | | | |
| Evaluative concerns | 0.21*** | | | |
| Step 4: positive strivings \times evaluative concerns | 0.10 | 0.15 | 0.00 | 0.08 |
| Suicidal behaviors | | | | |
| Step 1: demographics | | 0.00 | – | 0.11 |
| Age | 0.02 | | | |
| Race | –0.02 | | | |
| Step 2: sexual assault history | 0.29*** | 0.09 | 0.08 | 26.50*** |
| Step 3: perfectionism | | 0.14 | 0.05 | 8.25*** |
| Positive strivings | –0.17** | | | |
| Evaluative concerns | 0.23*** | | | |
| Step 4: positive strivings \times evaluative concerns | –0.31 | 0.14 | 0.00 | 0.78 |

Note. $N = 287$.

** $p < .05$.

*** $p \leq .001$.

history, was a significant unique predictor of self-destructive behaviors in women college students, we conducted a series of hierarchical regression analyses in predicting NSSI and suicidal behaviors. For each of these regression analyses, we controlled for demographic factors in Step 1, followed by sexual assault history in Step 2, and the two facets of perfectionism (as a set) in Step 3. Finally, the interaction term of PS \times EC was included in Step 4. To determine whether any of the predictors accounted for a small, medium, or large amount of the variance in self-destructive behaviors, we used Cohen's (1977) convention for small ($f^2 = 0.02$), medium ($f^2 = 0.15$), and large effects ($f^2 = 0.35$) as a general guide.

Results of conducting these analyses for each of two indices of self-destructive behaviors are presented in Table 2. As this table shows, sexual assault history was found to account for a small ($f^2 = 0.12$) 11% of unique variance in NSSI behaviors, $F(1, 283) = 33.03$, $p < .001$, independent of age and race. Noteworthy, the inclusion of perfectionism was found to account for a small ($f^2 = 0.04$) 4% of additional variance in NSSI behaviors, $F(2, 281) = 6.22$, $p < .01$. Within the perfectionism set, only evaluative concerns ($\beta = 0.21$, $p < .001$) was found to be a unique predictor. The inclusion of the interaction term of PS \times EC failed to account for any additional amount of unique variance in NSSI behaviors, $F(1, 280) = 0.08$, $n.s.$

In predicting suicidal behaviors, sexual assault history was found to account for a small ($f^2 = 0.09$) 9% of unique variance in suicidal behaviors, $F(1, 283) = 26.50$, $p < .001$, independent of age and race. Noteworthy, the inclusion of perfectionism was found to account for a small ($f^2 = 0.05$) 5% of additional variance in suicidal behaviors, $F(2, 281) = 8.25$, $p < .001$. Within the perfectionism set, both positive strivings ($\beta = -0.17$, $p < .01$) and evaluative concerns ($\beta = 0.23$, $p < .001$) were found to be unique predictors. The inclusion of the interaction term of PS \times EC failed to account for any additional amount of unique variance in suicidal behaviors, $F(1, 280) = 0.78$, $n.s.$

3.2. Controlling for common variance in NSSI and suicidal behaviors: does perfectionism still matter?

As noted earlier, NSSI and suicidal behaviors share variance with each other given their common self-destructive nature. Therefore, to clarify our previous regression findings to the prediction of NSSI and

Table 3

Results of hierarchical regression analysis showing amount variance in self-destructive behaviors accounted for by sexual assault history and perfectionism in women college students, controlling for overlap in self-destructive behaviors.

| Self-destructive behaviors | β | R ² | ΔR^2 | F |
|--|---------|----------------|--------------|----------|
| Non-suicidal self-injury behaviors | | | | |
| Step 1: demographics | | 0.01 | – | 1.57 |
| Age | 0.07 | | | |
| Race | 0.08 | | | |
| Step 2: suicidal behaviors | 0.44*** | 0.20 | 0.19 | 67.14*** |
| Step 3: sexual assault history | 0.21*** | 0.24 | 0.04 | 15.32*** |
| Step 4: perfectionism | | 0.26 | 0.01 | 2.67† |
| Positive strivings | –0.03 | | | |
| Evaluation concerns | 0.13* | | | |
| Step 5: positive strivings × evaluative concerns | 0.21 | 0.26 | 0.00 | 0.41 |
| Suicidal behaviors | | | | |
| Step 1: demographics | | 0.00 | – | 0.11 |
| Age | 0.02 | | | |
| Race | –0.02 | | | |
| Step 2: non-suicidal self-injury behaviors | 0.44*** | 0.19 | 0.19 | 67.14*** |
| Step 3: sexual assault history | 0.17** | 0.22 | 0.03 | 9.18** |
| Step 4: perfectionism | | 0.24 | 0.03 | 4.64** |
| Positive strivings | –0.14* | | | |
| Evaluation concerns | 0.15** | | | |
| Step 5: positive strivings × evaluative concerns | –0.34 | 0.25 | 0.00 | 1.11 |

Note. $N = 287$.

† $p < .10$.

* $p \leq .05$.

** $p < .01$.

*** $p < .001$.

suicidal behaviors, we ran another set of hierarchical regression analyses to predict NSSI and suicidal behaviors. However, for these analyses, we controlled for overlap between the two self-destructive behaviors. Results of these analyses are presented in Table 3. As this table shows, after accounting for suicidal behaviors, the inclusion of sexual assault history was found to account for a small ($f^2 = 0.04$), but significant 4% of additional unique variance in NSSI behaviors, $F(1, 282) = 15.23, p < .001$. Importantly, when perfectionism was included, the perfectionism set was found to account for a small ($f^2 = 0.01$) and marginally significant 1% of additional variance in NSSI behaviors, $F(2, 280) = 2.67, p < .10$. Within the perfectionism set, only evaluative concerns ($\beta = 0.13, p < .05$) was found to be a unique predictor. As before, the inclusion of the interaction term of PS × EC failed to account for any additional amount of unique variance in NSSI behaviors, $F(1, 279) = 0.41, n.s.$

In predicting suicidal behaviors, after accounting for NSSI behaviors, the inclusion of sexual assault history was found to account for a small ($f^2 = 0.03$), but significant 3% of additional unique variance in suicidal behaviors, $F(1, 282) = 9.18, p < .01$. Noteworthy, when perfectionism was included, the perfectionism set was found to account for a small ($f^2 = 0.03$), but significant 3% of additional variance in suicidal behaviors, $F(2, 280) = 4.64, p < .01$. Within the perfectionism set, both positive strivings ($\beta = -0.14, p < .05$) and evaluative concerns ($\beta = 0.15, p < .01$) were found to be unique predictors. Thus, taken together, results from these analyses consistently indicated that perfectionism, especially evaluative concerns, predicted additional unique variance specific to NSSI behaviors and to suicidal behaviors in women students, even after accounting for sexual assault history. As before, the inclusion of the interaction term of PS × EC failed to account for any additional amount of unique variance in suicidal behaviors, $F(1, 279) = 1.11, n.s.$

4. Discussion

In the present study, we examined the relations between sexual

assault history, perfectionism, and self-destructive behaviors in women college students. Consistent with expectations and past research findings (e.g. Chang, Kamble, et al., in press; Tatnell et al., 2017; Ullman & Najdowski, 2009), presence of sexual assault history was found to be positively associated with greater NSSI and suicidal behaviors in women. Similarly, consistent with past research theory and findings (e.g., Hoff & Muehlenkamp, 2009; Muyan & Chang, 2015), perfectionism was found to be associated with both indices of self-destructive behavior examined in the present study. Not surprisingly, the most consistent association involved evaluative concerns perfectionism. Specifically, greater evaluative concerns, but not lower positive strivings, was associated with both greater NSSI behaviors and suicidal behaviors. Overall, these findings indicate that presence of sexual assault history and perfectionism are important variables that are linked to self-destructive behaviors in women students.

4.1. Beyond the impact of sexual assault victimization on self-destructive behaviors in women college students: appreciating the perniciousness of perfectionism.

As researchers have previously identified (e.g., Chang & Hirsch, 2015; Tatnell et al., 2017; Ullman & Najdowski, 2009), one powerful correlate and predictor of self-destructive behaviors in young women is the presence of sexual assault history. In that regard, we found that sexual assault history consistently accounted for unique variance in NSSI and suicidal behaviors. Importantly, expanding on past research findings, we were able to show that this pattern remained even after controlling for shared variance between the two self-destructive behaviors. Thus, our findings indicate that presence of sexual assault history is uniquely involved in both NSSI and suicidal behaviors in women. This said, we were also interested in determining if perfectionism would add, beyond sexual assault history, to the prediction of self-destructive behaviors in women.

As a construct that has been identified by researchers to represent a destructive, pernicious personality process (Smith et al., 2018), we were also interested in testing the hypothesis that perfectionism would significantly add to the prediction of self-destructive behaviors in women, even after accounting for presence of sexual assault history. Consistent with expectations, we found that the inclusion of perfectionism consistently accounted for a small, but significant amount of additional variance in both NSSI and suicidal behaviors, even after accounting for sexual assault history. Noteworthy, this pattern remained even after controlling for common variance between the two indices of self-destructive behavior. Specifically, we found that evaluative concerns consistently emerged as a unique predictor of greater NSSI and greater suicidal behaviors in women. In contrast, (lack of) positive strivings only emerged as a unique predictor of greater suicidal behaviors in women. Interestingly, according to Chester, Merwin, and DeWall (2015), one factor that might help account for the reliable link between evaluative concerns and self-destructive behaviors is the poor choice of emotional regulation strategies used (e.g., aggression) when evaluative concerns generates negative affective experiences (e.g., stress, depressed mood). This suggests that it might be useful to examine how different emotional regulation strategies might mediate the link between evaluative concerns and self-destructive behaviors in women.

Our nonsignificant findings for positive strivings in predicting NSSI behaviors, with and without controlling for suicidal behaviors, are consistent with findings obtained by Claes et al. (2012). These investigators found that evaluative concerns, but not positive strivings, was a unique predictor of specific NSSI behaviors (viz., self-punishment, self-torturing, & cry for help) in women seeking treatment for eating disorders. However, in identifying a positive association between positive strivings and evaluative concerns (as also found in the present study), Claes et al. raised the contention that positive strivings might still be relevant for understanding NSSI behaviors. For example, these

researchers discussed the possibility that positive strivings might elicit or promote evaluative concerns that, in turn, leads to engagement in future NSSI behaviors. Accordingly, it would be important to see if alternative models might be useful in mapping the role of perfectionistic dimensions across time in the development and maintenance of NSSI behaviors in women.

Interestingly, when we tested the 2×2 model of perfectionism (Gaudreau & Thompson, 2010), we did not find any support for a significant Positive Strivings \times Evaluative Concerns interaction effect in predicting NSSI and suicidal behaviors in women. One possible explanation for our nonsignificant results is that the 2×2 model is predicated on the identification of a maladaptive perfectionism subtype that is based on low positive strivings and high evaluative concerns. In that regard, positive strivings is viewed as a functional perfectionistic component, rather than a dysfunctional perfectionistic component. However, as we noted earlier, Smith et al.'s (2018) meta-analysis identified a small, but reliable *positive* association between positive strivings and suicide risk behaviors (e.g., suicide ideation). In the present findings, we found that positive strivings had a significant unique, but small *negative* association in predicting suicidal behaviors. Thus, for example, in situations where positive strivings holds a weak association (regardless of valence) with a negative outcome, there might be limited value and utility in testing the 2×2 model of perfectionism. Clearly, more research is needed to determine the contexts or conditions in which it might be more or less optimal to apply the 2×2 model of perfectionism (Stoeber, 2012).

Taken together, these findings indicate a more complex pattern in which perfectionism might be involved in accounting for NSSI behaviors, compared to suicidal behaviors, in women. On the one hand, the perniciousness of perfectionism in self-destructive behaviors among women students appears to be driven by a common tendency for women to be overly critical in appraising their ability to achieve high standards of performance. Although there has been some suggestion that the association between evaluative concerns and negative affective conditions in adults might be due to genetic factors (e.g., Moser, Slane, Burt, & Klump, 2012), additional pressures for women, compared to men, to meet a plethora of unrealistic (often, unnecessary) societal expectations might also need to be considered (e.g., feminine, thin, attractive, family-oriented, & care-giver; Bear & Glick, 2017; Fredrickson, Roberts, Noll, Quinn, & Twenge, 1998).

On the other hand, independent of sexual assault history and the tendency to be overly critical in appraising their ability for high achievement, the tendency to have lower standards and aspirations for personal achievement appears to place women at potential risk for suicidal behaviors. According to the interpersonal theory of suicide (Joiner, 2005), one important factor believed to be associated with heightened risk for dying by suicide is thwarted belongingness (Chang, Batra et al., *in press*), defined as the painful perception that one's basic need to connect with others has gone unmet. Thus, it might be that low positive strivings develop when women perceive their efforts to pursue a goal as ultimately “not mattering” to others or when they experience social disconnection from others (e.g., Roxborough et al., 2012). Accordingly, it would be interesting in future research to determine if the positive association between thwarted belongingness and suicidal behaviors is itself mediated by low positive strivings in women. Relatedly, given that positive strivings emerged as a significant and unique predictor of suicidal behaviors only after controlling for other variables, including evaluative concerns, this might raise some questions about the content coherence of the items making up the PS subscale, compared to the items making up the CM and DA subscales of the FMPS (Blasberg, Hewitt, Flett, Sherry, & Chen, 2016).

Some possible implications of the present findings might be worth considering. First, our findings suggest the importance of screening for past sexual assault history in women college students in efforts to identify those who might be at risk of engaging in self-destructive behaviors, including both NSSI and suicidal behaviors. Although some

researchers (e.g., Probst, Turchik, Zimak, & Huckins, 2011) have pointed to the use of measures like the Sexual Experiences Survey–Revised (SES-R; Koss et al., 2007), which is made up of 21 questions, with some questions comprised of up to 13 parts, such lengthy measures might best be given following a positive indication to a briefer assessment of sexual assault history (e.g., “Have you ever been sexually assaulted?”). In turn, quick or brief assessments of sexual assault history might allow mental health providers to incorporate this critical assessment in general health screenings when working with distressed women students, especially when there is some indication of self-destructive behaviors. Second, our findings for perfectionism also point to the importance of screening for and targeting evaluative concerns and (lack of) positive strivings in the context of self-destructive behaviors in women students. Importantly, findings from several recent studies examining the efficacy of various perfectionism interventions have shown that a variety of strategies and approaches (e.g., cognitive-behavioral therapy & interpersonal group therapy; Hewitt et al., 2015; Shafran, Coughtrey, & Radha, 2016) are useful for reducing dysfunctional perfectionism in adults. Accordingly, based on more advanced designs in future research, it would be useful to determine if efforts to treat dysfunctional perfectionistic tendencies in distressed women students might be associated with reduced engagement in, or reduced risk of engaging in, NSSI and suicidal behaviors.

4.2. Some limitations of the present research

Although the present study is the first to clarify the unique contributions of sexual assault history and perfectionism in predicting unique variance in NSSI and suicidal behaviors in women college students, a number of limitations are worth noting. First, although comprehensive measures of sexual assault victimization (e.g., SES-R) exist, we decided to use a single-item measure to assess for the presence or absence of sexual assault history in the present study. We used this strategy to reduce reactivity in responses as well as to increase participation in the study. However, as we discussed earlier, information obtained from a quick global assessment of sexual assault victimization should be followed up using more comprehensive assessment tools. Second, because our sample was predominantly White, it would be important to determine if similar or different findings emerge when studying women students of diverse ethnoracial and cultural backgrounds (e.g., Latin Americans, Asian Americans, & African Americans). Relatedly, we focused on women college students. Whether a similar pattern is present for men students remains to be determined. Third, although the present study focused on the prediction of two important indices of self-destructive behaviors in women students, it would be useful to determine if the present model is also useful for predicting other self-destructive behaviors (e.g., restrained eating, excessive exercising; Bewell-Weiss & Carter, 2010). Fourth, it would be useful in future studies to expand on the present findings to determine if there are important differences present within women college students (e.g., early vs. recent history of sexual assault). Fifth, concerns about the wording and content of items of perfectionism measures raise a need for researchers to exercise caution in appraising the meaning of any particular set of findings based solely on a single measure or methodology (e.g., Blasberg et al., 2016; Chang, 2006). Lastly, and relatedly, given the cross-sectional nature of the present findings, it is impossible to clarify causality. Therefore, it would be useful in future studies to determine the extent to which sexual assault history and perfectionism predict unique changes in NSSI and suicidal behaviors across time.

4.3. Concluding thoughts

The present study of women college students is the first to not only clarify the role of sexual assault history in accounting for unique variance in NSSI and suicidal behaviors, but the first to also implicate the consistent role of perfectionism, in particular, evaluative concerns, in

accounting for additional unique variance in these self-destructive behaviors, even after controlling for sexual assault history. Accordingly, our findings add to the growing empirical literature pointing to the pervasive and pernicious nature of certain facets of perfectionism that are involved in dysfunctional and destructive behaviors in adults.

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