Psychopathic personality traits are associated with risky sexual behavior (RSB), which itself is associated with various negative consequences. The present study extended previous cross-sectional research by examining whether psychopathic personality traits predicted RSB among women and whether these traits moderated associations between RSB and post-RSB psychological adjustment. Seventy-seven female undergraduates completed self-report measures of psychopathic personality traits and RSB at baseline as well as measures of positive affect, negative affect, state self-esteem, shame, and guilt each week for eight consecutive weeks. Multilevel models revealed that higher levels of Self-Centered Impulsivity were associated with more RSB and that psychopathic personality traits moderated the associations between RSB and post-RSB psychological adjustment such that women with high levels of Self-Centered Impulsivity but low levels of Fearless Dominance reported more positive psychological adjustment when they were engaging in relatively high levels of RSB. These findings suggest that RSB may serve an emotion regulatory function and may also boost self-esteem among women low in Fearless Dominance but high in Self-Centered Impulsivity.

Risky sexual behavior (RSB) refers to various behaviors that include having multiple sex partners, casual sex with unknown partners,
sex with high-risk partners (e.g., intravenous drug users), and unprotected sex (Turchik & Garske, 2009). Individuals engaging in RSB are at risk for negative outcomes such as contracting sexually transmitted diseases (STDs) and experiencing psychological distress (Eshbaugh & Gute, 2008). Risks associated with RSB are greater for women than men. Due to the anatomical structure of their reproductive tract, women are biologically more susceptible to STDs when exposed to infectious agents (e.g., Sharts-Hopko, 1997). Furthermore, women often carry the burden of dealing with an unplanned pregnancy. Among women who choose to continue with pregnancy and become parents, their investment in their children is greater than that of men (Trivers, 1972), and consequently, they face obstacles to social, educational, or career goal attainment.

In addition to adverse outcomes at the individual level, the consequences of RSB impose a substantial burden on the United States healthcare system with care for STDs costing approximately $15.9 billion annually (Chesson, Blandford, Gift, Tao, & Irwin, 2004). Both situational (e.g., social and cultural norms, access to preventative healthcare) and individual difference factors (e.g., attitudes, personality traits) may influence the extent to which individuals engage in RSB. The goal of the present study was to determine whether psychopathic personality traits predicted RSB among women. An additional goal was to determine whether psychopathic personality traits moderated the association between RSB and post-RSB psychological adjustment including positive affect, negative affect, self-esteem, shame, and guilt.

**PSYCHOPATHY AND RSB**

A variety of personality traits have been linked to RSB with sensation seeking being among the most extensively studied traits (Hoyle, Fejfar, & Miller, 2000). In Hoyle et al.’s (2000) meta-analytic review of 53 studies examining associations between personality traits and RSB, sensation seeking predicted number of sexual partners, unprotected sex, and high-risk encounters. RSB is also positively associated with extraversion and negatively associated with conscientiousness and agreeableness (Miller et al., 2004).

The very traits that predict RSB (high sensation seeking, high extraversion, low agreeableness, and low conscientiousness) are also components of the higher-order personality construct of psychopa-
Psychopathy is characterized by superficial charm, egocentricity, impulsivity, and shallow emotions (Cleckley, 1941/1988). Although traditionally studied in forensic populations, the investigation of psychopathy in non-forensic samples is warranted given that taxometric analyses have demonstrated the dimensional nature of psychopathy (e.g., Marcus, John, & Edens, 2004).

The Psychopathic Personality Inventory (PPI; Lilienfeld & Andrews, 1996) is a personality-based measure of psychopathy that captures features of psychopathy in individuals who do not report legal or social transgressions. Originally validated with college students, factor analyses of the PPI have yielded a two-factor solution (Benning, Patrick, Hicks, Blonigen, & Krueger, 2003; Claes et al., 2009). These two higher-order factors are Fearless Dominance (FD) which includes the PPI subscales Social Potency, Stress Immunity, and Fearlessness, and Self-Centered Impulsivity (SCI) which includes Carefree Nonplanfulness, Impulsive Nonconformity, Machiavellian Egocentricity, and Blame Externalization. The eighth PPI subscale is Coldheartedness which does not load on either of these factors. Fearless Dominance is characterized by the affective and interpersonal aspects of psychopathy, including fearlessness, manipulativeness, social dominance, and narcissism. In contrast, Self-Centered Impulsivity is characterized by the antisocial and impulsive features of psychopathy (e.g., irresponsibility, aggression).

In terms of Patrick, Fowles, and Krueger’s (2009) triarchic model of psychopathy, Fearless Dominance assesses boldness, Self-Centered Impulsivity assesses disinhibition, and Coldheartedness assesses meanness (Sellbom & Phillips, 2012). Fearless Dominance and Self-Centered Impulsivity tend to be weakly correlated, with each factor predicting distinct and sometimes opposite correlates (Marcus, Fulton, & Edens, 2013). For example, Fearless Dominance is strongly positively associated with positive affect and negatively associated with negative affect, whereas Self-Centered Impulsivity is positively correlated with negative affect and unrelated to positive affect. Both Fearless Dominance and Self-Centered Impulsivity are positively associated with sensation seeking, but only Self-Centered Impulsivity is negatively associated with constraint (i.e., behavioral inhibition). These findings suggest that compared to Self-Centered Impulsivity, Fearless Dominance may embody traits that are beneficial within the context of social relationships.
Because Fearless Dominance is only weakly associated with externalizing and other antisocial behaviors and with other established psychopathy measures, some (e.g., Miller & Lynam, 2012) have suggested that Fearless Dominance is not a facet of psychopathy. However, Fearless Dominance assesses traits that are central to Cleckley’s (1941/1988) classic conceptualization of psychopathy and the boldness component of Patrick et al.’s (2009) triarchic model. Indeed, Fearless Dominance may distinguish primary psychopathy, which is characterized by the absence of guilt, empathy, and anxiety from secondary psychopathy, in which antisocial behavior is accompanied by and perhaps motivated by high levels of impulsivity and negative affect (Lilienfeld et al., 2012). Furthermore, Lilienfeld (2013) has suggested that psychopathy may not be a classical syndrome in which the various symptoms are correlated but may be better understood as a compound trait or “a configuration of separable attributes that merge in an interpersonally meaningful fashion” (p. 336). This suggestion is consistent with Fowles and Dindo’s (2006) dual-deficit model of psychopathy in which prototypical psychopathy arises from the confluence of deficits in fear and anxiety (Fearless Dominance) and impulse control (Self-Centered Impulsivity). Thus, Marcus et al. (2013) have suggested that, when predicting externalizing or other negative outcomes, Fearless Dominance should be considered in terms of its interaction with Self-Centered Impulsivity. Specifically, Fearless Dominance may only contribute to the prediction of problematic behavior when it is combined with high levels of Self-Centered Impulsivity, whereas Fearless Dominance may be adaptive when paired with low levels of Self-Centered Impulsivity. In contrast, high levels of Self-Centered Impulsivity appear to be consistently problematic. Thus, boldness—in and of itself—is not pathological, but an individual who is both disinhibited and bold may be more dangerous than someone who is merely disinhibited.

Although few studies have examined the association between RSB and psychopathy, the extant literature suggests that psychopathic personality traits uniquely contribute to the tendency to engage in RSB for both incarcerated (Richards, Casey, Lucente, & Kafami, 2003) and non-forensic samples (Fulton, Marcus, & Payne, 2010; Ručević, 2010). Additionally, gender has been shown to moderate the association between psychopathic personality traits and RSB. For example, Fulton et al. (2010) found that Fearless Dominance only predicted RSB for men, whereas Self-Centered Impul-
sivity predicted RSB for both men and women with the association being stronger for men. Coldheartedness did not predict RSB for men or women.

**RSB, PSYCHOPATHIC PERSONALITY TRAITS, AND PSYCHOLOGICAL ADJUSTMENT**

Literature on the association between RSB and post-RSB psychological adjustment has been inconsistent (Dalton & Galambos, 2009; Eshbaugh & Gute, 2008; Ethier et al., 2006; Paul, McManus, & Hayes, 2000), and these inconsistencies are likely influenced by a variety of individual (e.g., gender, personality traits, attitudes), contextual (e.g., social norms, substance use), and methodological factors (e.g., study design, assessment methods, statistical power) across studies. In cross-sectional studies with retrospective ratings on lifetime behaviors, Eshbaugh and Gute (2008) found that casual sex and sex with a poorly known partner was associated with regret. Among longitudinal studies, baseline self-esteem and distress have been shown to be predictive of later risky sexual activity (Ethier et al., 2006). In a study that tracked the sexual and affective experiences of students across their first year of university, Dalton and Galambos (2009) failed to find zero-order associations between affective and sexual experiences. However, maturity status moderated these associations such that sexual experiences were associated with lower positive affect among less mature students relative to mature students.

Evidence also supports the moderating role of gender in the association between RSB and psychological adjustment. Specifically, although men and women engage in RSB at similar rates (e.g., Fielder & Carey, 2010; Owen, Rhoades, Stanley, & Fincham, 2010), RSB is associated with greater distress among women and reduced distress among men (e.g., Fielder & Carey, 2010; Owen et al., 2010). However, other studies suggest that casual sex temporarily improves psychological well-being and regulate mood states under some conditions in both men and women (e.g., Owen & Fincham, 2011a, b; Owen, Fincham, & Moore, 2011).

With the exception of studies examining maturity status and gender differences, limited research has investigated potential moderators in the relation between RSB and psychological adjustment. Previous research supports associations between RSB and psychopath-
ic personality traits as well as associations between psychopathic personality traits and patterns of emotionality. Psychopathic personality traits may influence both the likelihood that an individual will engage in RSB and post-RSB emotional reactions.

According to the mood-maintenance hypothesis (Isen & Patrick, 1983), individuals high in positive affect avoid risk to maintain their high positive affect, whereas individuals high in negative affect take risks to increase positive affect. Fearless Dominance is positively associated with positive emotionality and negatively associated with negative emotionality, whereas Self-Centered Impulsivity is positively correlated with negative emotionality and shares no association with positive emotionality (Marcus et al., 2013). Individuals high in Self-Centered Impulsivity experience high levels of negative affect and subsequently may engage in RSB to reduce or escape negative emotions. Indeed, research has demonstrated that sex has the ability to regulate emotional states (e.g., Cooper, Agocha, & Sheldon, 2000; Shrier, Koren, Aneja, & de Moor, 2010). For example, in a sample of adolescents, Shrier and colleagues (2010) found that positive affect increased during sex and returned to baseline after sex. In contrast, negative affect remained stable prior to and during sex but decreased after sex.

OVERVIEW AND PREDICTIONS

The goal of the present study was to examine whether psychopathic personality traits predicted RSB over an eight-week period among female undergraduates. Based on previous cross-sectional findings (e.g., Fulton et al., 2010), we expected that only Self-Centered Impulsivity (and not Fearless Dominance or Coldheartedness) would predict RSB among women. An additional goal of the study was to examine associations between RSB and post-RSB psychological adjustment and whether these associations varied as a function of psychopathic personality traits. We hypothesized that RSB would be associated with poorer psychological adjustment (i.e., lower positive affect, lower self-esteem, higher negative affect, more guilt, and more shame) and that psychopathic personality traits would attenuate this association. Specifically, given the pattern of associations between Fearless Dominance and Self-Centered Impulsivity with other measures of emotionality and constraint (Marcus et al., 2013), we hypothesized a main effect for Self-Centered Impulsivity (i.e.,
Self-Centered Impulsivity would be associated with negative post-RSB psychological adjustment) and an interaction between Fearless Dominance and Self-Centered Impulsivity (i.e., elevated Fearless Dominance would predict adverse psychological adjustment but only in the presence of elevated Self-Centered Impulsivity).

METHOD

Participants

A total of 131 female undergraduates at a university in the southeastern region of the United States participated in return for partial fulfillment of a research participation requirement in their psychology courses.1 Because the study involved assessing reactions to sexual activity, participants were eligible for the present study if they reported having consensual sexual activity (i.e., oral, vaginal, or anal intercourse) over the course of their lifetime. To assess the correspondence between RSB and post-RSB psychological adjustment, it was essential that participants complete multiple weekly measures. Therefore, some minimum number of weekly measures had to be completed for participants to be included in the analyses. Our decision to only include participants in the final analyses who contributed data for at least 3 of the 8 weeks was consistent with recommendations for multilevel analyses (e.g., Maas & Hox, 2005). Because ongoing engagement in RSB was not an inclusion criteria for the present study, all diary entries were included regardless of whether a participant reported engaging in RSB during a particular week.

Of the 131 participants who began the study, 54 participants were excluded due to failure to complete weekly measures for 3 or more weeks. Analyses were conducted using the 77 remaining participants. Participants who had been excluded did not differ significantly on baseline measures from those who were retained for the final analyses. Furthermore, no significant differences were found between groups on: age, $t(128) = .95, p > .10$; racial/ethnic distribution, $\chi^2(5) = 4.90, p > .10$; relationship status, $\chi^2(5) = 7.27, p > .10$; sexual orientation, $\chi^2(5) = .01, p > .10$; or education level, $\chi^2[4] = 3.25, p > .10$.

1 Nineteen men participated in the study, and only 10 of these 19 male participants provided sufficient data. Therefore, analyses were limited to the female sample.
The mean age of the final sample was 21.98 years ($SD = 4.56$). The majority of participants reported being White (58%) or Black (37%). Seventy-three participants self-identified as heterosexual and four participants self-identified as bisexual (but reported only having sex with men over the course of the study). Approximately 40% of the participants reported their relationship status as being single. Of the 46 participants who reported being in a committed relationship (i.e., seriously dating, engaged, or married) at the time of the study, 15% reported having sex with at least one additional casual partner outside the context of their committed relationship during the eight-week study period.

**Materials and Procedure**

Participants completed a series of baseline measures via a secure website. Participants were offered the chance to win one of four $50 Visa gift cards. Interested participants were instructed to complete weekly measures via the secure website during a specified time window (i.e., between 8 a.m. and 11:59 p.m. on Mondays). Weekly diaries required approximately 30 minutes per submission. All measures were part of a larger project that included other questionnaires that were not relevant to the present study.

**Baseline Measures**

*Sexual Risk Survey.* The Sexual Risk Survey (SRS; Turchik & Garske, 2009) is a 23-item self-report scale which assesses the frequency of intent to engage in sexual risk behaviors and the frequency of actually engaging in risky sexual behaviors over the past 6 months. Participants are asked to report the number of times they engaged in various risky sexual behaviors (e.g., vaginal sex without a condom) and the number of partners with whom they engaged in such behaviors. SRS scores have demonstrated acceptable internal consistency ($\alpha = .88$) and test-retest reliability ($\alpha = .93$), and evidence supports its convergent and discriminant validity (Turchik & Garske, 2009). For the present study, a total score was computed by converting each item to a z-score and summing them. SRS scores obtained during this initial session were internally consistent ($\alpha = .80$) and used as a baseline measure of RSB.

*Psychopathic Personality Inventory.* The Psychopathic Personality Inventory (PPI; Lilienfeld & Andrews, 1996) is a self-report scale
consisting of 187 items. The scale measures the personality characteristics of psychopathy without overtly referring to antisocial or criminal behaviors. Respondents respond using a 4-point Likert-type scale (1 = false, 2 = mostly false, 3 = most true, 4 = true). The PPI yields a total score and eight subscale scores. Following previous factor analytic studies that have shown that these eight subscales can be reduced to two factors (Benning et al., 2003), Social Potency (24 items), Stress Immunity (11 items), and Fearlessness (19 items) subscale scores were averaged to create Fearless Domi-
nance (54 items). Carefree Nonplanfulness (20 items), Impulsive Nonconformity (17 items), Machiavellian Egocentricity (30 items), and Blame Externalization (18 items) subscale items were aver-
aged to form Self-Centered Impulsivity (85 items). Twenty-one PPI items were summed to create the Coldheartedness subscale, which does not load on either of these higher-order factors. Evidence for the construct validity of the PPI and its subscales has been demon-
strated through its relation with other measures of psychopathy and antisocial behavior as well as with other theoretically relevant constructs such as impulsivity and social potency (Lilienfeld & An-
drews, 1996). In the current sample, coefficient alphas for Fearless Dominance, Self-Centered Impulsivity, and Coldheartedness scores were .91, .91, and .79, respectively. Additionally, mean scores for Fearless Dominance, Self-Centered Impulsivity, and Coldhearted-
ness in the present study (see Table 2) were comparable (i.e., within
2 points) to those obtained with other samples of female undergrad-
uates (e.g., Carlson, Thái, & McLarnon, 2009; Uzieblo, Verschuere, & Crombez, 2007).

**Weekly Measures**

Each week, participants were asked to complete a modified ver-
sion of the SRS that concerned their RSB during the past week. The modified version included only SRS items that assessed actual en-
gagement in sexual risk behaviors. If an individual reported an RSB event, she was asked to retrospectively rate her affect, self-esteem, shame, and guilt after having engaged in RSB. When participants denied engaging in RSB during a particular week, they were asked to complete measures of affect and self-esteem with instructions that assessed feelings over the past week rather than related to a RSB event. Measures of post-RSB psychological adjustment are de-
scribed below.
**Positive and Negative Affect Schedule Short Form.** The Positive and Negative Affect Schedule Short Form (PANAS-SF; Thompson, 2007) was used to assess post-RSB affect. The PANAS-SF consists of 10 items that assess positive affect and negative affect. The short and full form subscales are highly correlated ($r = .92$ for positive affect and $r = .95$ for negative affect). Coefficient alphas for both the positive affect and negative affect scales in the current sample were .84.²

**Harder Personal Feelings Questionnaire.** The Harder Personal Feelings Questionnaire (PFQ2; Harder & Zalma, 1990) is a 22-item self-report measure designed to assess proneness to shame and guilt and possesses adequate psychometric properties. Coefficient alphas for the shame and guilt scales were .85 and .89, respectively.

**State Self-Esteem Scale.** The State Self-Esteem Scale (SSE; Heatherton & Polivy, 1991) is a 20-item self-report measure of state self-esteem. Research has shown the State Self-Esteem Scale to be a valid and reliable measure of self-esteem (e.g., Heatherton & Polivy, 1991). Scores on the SSE were internally consistent in the current sample ($\alpha = .90$).

**RESULTS**

**DESCRIPTIVE STATISTICS**

In the sample of 77 women, participants contributed a total of 400 weekly reports with each participant submitting 5.19 reports on average. Participants reported an average of 6.58 lifetime sexual partners ($SD = 8.24$; range $= 1 – 60$) and 1.43 sexual partners during the eight-week study period ($SD = 0.66$; range $= 1 – 13$). During the course of the study, more than half of the participants reported (1) giving unprotected fellatio, (2) having sex with a new partner before discussing known risk factors, (3) having sex with someone who had many sexual partners, or (4) having sex with someone who had not been tested for STDs (see Table 1).

Table 2 presents the means, standard deviations, and correlations for the baseline variables. Fearless Dominance and Self-Centered Impulsivity were positively correlated ($r = .30, p < .01$). Coldheartedness was not significantly associated with Fearless Dominance

² Following methods used in previous research (e.g., Zeigler-Hill & Showers, 2007), coefficient alphas for weekly measures were computed across multiple events for the same person.
Baseline self-reported RSB was positively associated with Fearless Dominance ($r = .27, p < .05$) and Self-Centered Impulsivity ($r = .33, p < .01$) but not with Coldheartedness ($r = -.03, p = .77$). Because Fearless Dominance and Self-Centered Impulsivity were correlated and because Fearless Dominance was unexpectedly correlated with baseline RSB, a multiple regression analysis was conducted to examine the unique effects of Fearless Dominance and Self-Centered Impulsivity on RSB. When Fearless Dominance and Self-Centered Impulsivity were entered in the model together, the overall model was significant, $F(2, 74) = 6.17, p = .003, R^2 = .14$. However, Self-Centered Impulsivity accounted for unique variance in baseline RSB ($\beta = .27, t = 2.42, p = .02$), whereas Fearless Dominance did not ($\beta = .19, t = 1.70, p = .09$).

OVERVIEW OF PRIMARY ANALYSES

Because observations at one level of analysis (i.e., weeks) were nested within another level of analysis (i.e., individuals), we conducted a series of multilevel analyses using the program HLM (Raudenbush, Bryk, & Congdon, 2004). The first step in the multilevel analysis was to examine the covariation between measures of RSB and post-RSB psychological adjustment. The second step was to exam-
ine whether psychopathic personality traits predicted weekly levels of RSB and post-RSB psychological adjustment. The third step was to examine how within-person associations between RSB and post-RSB adjustment varied as a function of psychopathic personality traits.

Conceptually, these multilevel models involved two components. First, a regression equation was estimated for each individual at Level 1 (within-person level) which yielded intercept and slope coefficients to index the association between variables at the weekly level. Second, Level 2 (between-persons level) examined whether the regression slopes obtained from the within-person level differed across individuals, depending on the level of psychopathic personality traits reported by the individual. Level 2 predictors were grand-mean centered which allowed for more precise estimation of intercepts and increased ease of interpretation (Raudenbush & Bryk, 2002).

RSB AND POST-RSB PSYCHOLOGICAL ADJUSTMENT

A two-level model was used to examine within-person associations between RSB and post-RSB psychological adjustment (i.e., positive affect, negative affect, state self-esteem, shame, and guilt). For these analyses, the within-person coefficients were modeled as random, and the reports of RSB were person-mean centered because there was considerable variability in the reports of RSB across weeks and between participants (Raudenbush & Bryk, 2002; West, Ryu, Kwok, & Cham, 2011). Inferential statistics and effect sizes appear in Tables.

| TABLE 2. Intercorrelations and Descriptive Statistics for Baseline Measures |
|-----------------|--------|--------|--------|--------|
|                 | 1      | 2      | 3      | 4      |
| 1. Fearless Dominance | —      |        |        |        |
| 2. Self-Centered Impulsivity | .30**  | —      |        |        |
| 3. Coldheartedness | -.14   | -.06   | —      | —      |
| 4. Risky Sexual Behavior | .27*   | .33*   | -.03   | —      |
| M                | 44.35  | 42.36  | 40.86  | 2.69   |
| SD               | 7.31   | 6.38   | 7.88   | 8.23   |
| Range            | 29.33–58.33 | 28.25–56.75 | 26.00–58.00 | -6.03–30.00 |

Note. Risky sexual behavior values are z-scores. *p < .05; **p < .01.
Effect sizes were estimated using proportion reduction in variance (PRV; Raudenbush & Bryk, 2002; Peugh, 2010) which is computed as

\[ PRV = \frac{\text{var}_{\text{NoPredictor}} - \text{var}_{\text{Predictor}}}{\text{var}_{\text{NoPredictor}}} \]

There was no association between RSB and post-RSB positive affect (\( \gamma_{10} = -.04, t = -.72, p = .47 \)). RSB was negatively associated with post-RSB negative affect (\( \gamma_{10} = -.08, t = -2.01, p < .05 \)) and post-RSB shame (\( \gamma_{10} = -.15, t = -2.12, p < .05 \)) during weeks when participants engaged in more RSB. The associations between RSB and post-RSB self-esteem (\( \gamma_{10} = .31, t = 1.73, p = .08 \)) and post-RSB guilt (\( \gamma_{10} = -.11, t = -1.74, p = .08 \)) failed to reach conventional levels of significance. Overall, participants reported lower post-RSB shame and negative affect during weeks when they engaged in more RSB.

A two-level model was used to examine whether psychopathic personality traits predicted weekly levels of RSB (Table 3) and post-RSB psychological adjustment (Table 4). Self-Centered Impulsivity was a significant predictor of RSB (\( \gamma_{03} = .15, t = 2.79, p < .01 \)) such that higher levels of Self-Centered Impulsivity were associated with more RSB over an eight-week period. Neither Coldheartedness (\( \gamma_{01} = -.02, t = -.43, p = .67 \)), Fearless Dominance (\( \gamma_{02} = -.02, t = -.45, p = .66 \)), nor the interaction of Fearless Dominance and Self-Centered Impulsivity (\( \gamma_{04} = .001, t = .19, p = .85 \)) predicted RSB. A two-level model was used to examine whether the average scores for post-

| Table 3. Psychopathic Personality Traits as Predictors of Risky Sexual Behavior |
|---------------------------------|---|---|
| **B** | **t** | **Effect Size** |
| Level 2 |
| Intercept | -0.01 | -0.01 |
| Coldheartedness | -0.02 | -0.43 | 0.03 |
| Fearless Dominance | -0.02 | -0.45 | 0.06 |
| Self-Centered Impulsivity | 0.15 | 2.79* | 0.14 |
| Fearless Dominance x Self-Centered Impulsivity | 0.00 | 0.19 | 0.00 |

Note. \( N = 77. * p < .01 \).
RSB psychological adjustment were associated with psychopathic personality traits. Self-Centered Impulsivity was positively associated with average levels of post-RSB negative affect ($\gamma_{03} = .09, t = 3.06, p < .01$), post-RSB shame ($\gamma_{03} = .22, t = 3.23, p < .01$), and post-RSB guilt ($\gamma_{03} = .10, t = 2.39, p < .05$), and negatively associated with average levels of post-RSB self-esteem ($\gamma_{03} = -.85, t = -3.97, p < .001$).\(^3\) Coldheartedness and Fearless Dominance were positively associated with average levels of post-RSB self-esteem ($\gamma_{01} = .28, t = 2.19, p < .05$ and $\gamma_{02} = .67, t = 3.12, p < .01$, respectively). The interaction of Fearless Dominance and Self-Centered Impulsivity did not significantly predict average levels of post-RSB psychological adjustment.

PSYCHOPATHIC PERSONALITY TRAITS AS MODERATORS OF WITHIN-PERSON ASSOCIATIONS BETWEEN RSB AND POST-RSB PSYCHOLOGICAL ADJUSTMENT

To determine if the within-person associations described in the previous analyses varied as a function of person-level differences in psychopathic personality traits, coefficients from Level 1 were analyzed at Level 2 (Table 5). Both Coldheartedness and Fearless Dominance failed to moderate the associations between RSB and post-RSB psychological adjustment. Self-Centered Impulsivity moderated the association that RSB had with post-RSB self-esteem ($\gamma_{13} = .06, t = 2.45, p < .05$), post-RSB shame ($\gamma_{13} = -.02, t = -3.41, p < .001$), and post-RSB guilt ($\gamma_{13} = -.02, t = -2.26, p < .05$). In each case, the main effect of Self-Centered Impulsivity was qualified by its interaction with Fearless Dominance: post-RSB self-esteem ($\gamma_{14} = .01, t = 2.30, p < .05$), post-RSB shame ($\gamma_{14} = -.003, t = -3.01, p < .01$), and post-RSB guilt ($\gamma_{14} = -.002, t = -2.35, p < .05$).

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3. Controlling for baseline positive affect, negative affect, or self-esteem did not change the results of any analyses in which post-RSB positive affect, negative affect, or self-esteem served as the dependent variable. Shame and guilt were only assessed with weekly measures, and therefore, it was not possible to control for baseline shame and guilt when post-RSB shame or guilt served as the dependent variable.

4. Relationship status was related to Fearless Dominance, $t(75) = 3.96, p < .001$, with single participants ($M = 48.03, SD = 6.08$) reporting higher levels of Fearless Dominance than those who reported being in a committed relationship ($M = 41.87, SD = 7.07$). Relationship status was not related to Self-Centered Impulsivity, Coldheartedness, positive affect, negative affect, or self-esteem ($ts < 1.50, ps > .14$). Furthermore, when relationship status was controlled in the primary analyses, the results remained the same.
### TABLE 4. Psychopathic Personality Traits as Predictors of Post-Risky Sexual Behavior Psychological Adjustment

<table>
<thead>
<tr>
<th></th>
<th>Negative Affect</th>
<th>Positive Affect</th>
<th>Self-Esteem</th>
<th>Shame</th>
<th>Guilt</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>t</td>
<td>ES</td>
<td>B</td>
<td>t</td>
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<tr>
<td>Level 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercept</td>
<td>-6.07</td>
<td>-36.42</td>
<td>9.75</td>
<td>65.37</td>
<td>12.27</td>
</tr>
<tr>
<td>CH</td>
<td>-0.01</td>
<td>-0.39</td>
<td>0.02</td>
<td>0.41</td>
<td>0.28</td>
</tr>
<tr>
<td>FD</td>
<td>0.01</td>
<td>0.56</td>
<td>0.00</td>
<td>0.60</td>
<td>0.67</td>
</tr>
<tr>
<td>SCI</td>
<td>0.09</td>
<td>3.06*</td>
<td>0.02</td>
<td>0.31</td>
<td>-0.85</td>
</tr>
<tr>
<td>FD x SCI</td>
<td>0.01</td>
<td>1.36</td>
<td>0.02</td>
<td>-0.01</td>
<td>-1.92</td>
</tr>
</tbody>
</table>

**Notes.** N = 77. ES = Effect Size; CH = Coldheartedness; FD = Fearless Dominance; SCI = Self-Centered Impulsivity. *p < .01; **p < .001.

### TABLE 5. Psychopathic Personality Traits as Moderators of Within-Person Associations between Risky Sexual Behavior and Post-Risky Sexual Behavior Psychological Adjustment

<table>
<thead>
<tr>
<th></th>
<th>Negative Affect</th>
<th>Positive Affect</th>
<th>Self-Esteem</th>
<th>Shame</th>
<th>Guilt</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>t</td>
<td>ES</td>
<td>B</td>
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**Notes.** N = 77. RSB = Risky Sexual Behavior; ES = Effect Size; CH = Coldheartedness; FD = Fearless Dominance; SCI = Self-Centered Impulsivity. *p < .05; **p < .01; ***p < .001.
To examine the patterns of these cross-level interactions, we began by probing whether the interaction of Fearless Dominance and RSB was significant for those with low and high levels of Self-Centered Impulsivity. For post-RSB self-esteem, the interaction of Fearless Dominance and RSB was significant for those high in Self-Centered Impulsivity ($\gamma_{13} = .44$, $t = 3.38$, $p < .001$) but not for those low in Self-Centered Impulsivity ($\gamma_{13} = -.30$, $t = -1.20$, $p = .23$). Simple slopes tests were then conducted that have been adapted for multilevel models (Curran, Bauer, & Willoughby, 2006). The predicted values for post-RSB self-esteem are presented in Panel A of Figure 1. For the analysis concerning post-RSB self-esteem, the slope of the line representing the association between RSB and post-RSB self-esteem was positive for those low in Fearless Dominance but high in Self-Centered Impulsivity ($\gamma_{13} = .54$, $t = 2.29$, $p = .02$). The remaining associations did not approach conventional levels of significance ($|\gamma_{13}| < .09$, $t < 1.72$, ns).

For post-RSB guilt, the interaction of Fearless Dominance and RSB was significant for those high in Self-Centered Impulsivity ($\gamma_{13} = -.13$, $t = -2.58$, $p = .01$) but not for those low in Self-Centered Impulsivity ($\gamma_{13} = .04$, $t = 0.34$, $p = .73$). The simple slopes tests revealed a pattern that was conceptually similar to what was observed for post-RSB self-esteem (see Panel B, Figure 1) such that the slope of the line representing the association between RSB and post-RSB guilt was negative for those low in Fearless Dominance but high in Self-Centered Impulsivity ($\gamma_{13} = -.18$, $t = -2.08$, $p = .04$). The remaining associations did not approach conventional levels of significance ($|\gamma_{13}| < .11$, $t < 1.33$, ns).

As in the previous analyses, the analyses for post-RSB shame revealed that the interaction of Fearless Dominance and RSB was significant for those high in Self-Centered Impulsivity ($\gamma_{13} = -.16$, $t = -2.75$, $p = .007$) but not for those low in Self-Centered Impulsivity ($\gamma_{13} = .11$, $t = 1.45$, $p = .15$). Simple slopes tests revealed the same basic pattern that was observed for post-RSB self-esteem and post-RSB guilt (see Panel C, Figure 1). That is, the slope of the line representing the association between RSB and post-RSB shame was negative for those who reported low levels of Fearless Dominance but high levels of Self-Centered Impulsivity ($\gamma_{13} = -.18$, $t = -2.04$, $p = .04$). Unlike the previous analyses, the slope of the line representing the association between RSB and post-RSB shame was also significant for those who possessed high levels of both Fearless Dominance and Self-Centered Impulsivity ($\gamma_{13} = -.19$, $t = -2.59$, $p = .01$).
remaining associations for post-RSB shame did not approach conventional levels of significance (|γ₁₃| < .13, ts < 1.59, ns). These results demonstrate that individuals low in Fearless Dominance but high in Self-Centered Impulsivity reported more positive psychological adjustment (i.e., higher self-esteem, less guilt, and less shame) at times when they were engaging in relatively high levels of RSB.
DISCUSSION

The present study extended findings from our previous cross-sectional study (Fulton et al., 2010) by demonstrating that psychopathic personality traits predicted RSB over an eight-week period using a weekly diary method. College women who were high in Self-Centered Impulsivity and therefore more impulsive, egocentric, and irresponsible reported engaging in higher levels of RSB. In contrast, neither Coldheartedness, Fearless Dominance, nor the interaction of Fearless Dominance and Self-Centered Impulsivity were related to RSB.

The cross-sectional results in the present study were similar to, but not entirely consistent with, either our previous study (Fulton et al., 2010) or the longitudinal results in the present study. In all three instances, Self-Centered Impulsivity was modestly associated with RSB. However, in the cross-sectional results from the current study, Fearless Dominance was positively correlated with baseline RSB. These divergent results are likely explained by the shared variance of Fearless Dominance and Self-Centered Impulsivity in the current sample: When Self-Centered Impulsivity was controlled, Fearless Dominance no longer explained a significant amount of unique variance in RSB in the cross-sectional results.

Consistent with previous research, Self-Centered Impulsivity was associated with and predictive of a variety of aversive psychological states, including guilt, shame, negative affect, and low self-esteem. However, contrary to our expectations, psychopathic personality traits did not attenuate the association between RSB and guilt, shame, and low self-esteem. Instead, our results suggest that college women low in Fearless Dominance but high in Self-Centered Impulsivity felt better about themselves (i.e., higher self-esteem, less guilt, and less shame) when they were engaging in relatively high levels of RSB. Given that Self-Centered Impulsivity was positively correlated with guilt and shame and negatively correlated with self esteem, it appears that high levels of RSB brought these women’s reported levels of guilt, shame, and self-esteem closer to the group average but not to an especially positive level. Conversely, when women low in Fearless Dominance and high in Self-Centered Impulsivity engaged in relatively low levels of RSB, they reported especially high levels of guilt and shame and especially low levels of self-esteem.
Given the strong positive association between Self-Centered Impulsivity and baseline negative affect in the present study and previous evidence that negative emotionality is positively correlated with Self-Centered Impulsivity and negatively correlated with Fearless Dominance (Marcus et al., 2013), it is possible that individuals low in Fearless Dominance and high in Self-Centered Impulsivity engage in RSB in part to modulate negative emotions and enhance their self-esteem. Thus, whereas high levels of boldness may interact with high levels of disinhibition to result in problematic behavior in certain situations involving harm to others (e.g., predatory aggression among institutionalized forensic patients; Smith, Edens, & McDermott, 2011; positive attitudes toward sexually predatory tactics among college men; Marcus & Norris, in press), low levels of boldness may interact with high levels of disinhibition to result in emotion regulation difficulties. These emotion regulation difficulties may then contribute to a range of interpersonal and behavioral difficulties.

These findings may be understood in terms of the primary versus secondary psychopathy distinction. In secondary psychopathy (Self-Centered Impulsivity without Fearless Dominance), negative affect may motivate impulsive behavior, including both antisocial behavior and self-harm. Furthermore, although the PPI does not assess borderline personality traits, borderline personality features include high levels of impulsivity along with negative affect. Furthermore, secondary psychopathy has been linked to borderline personality disorder (Skeem, Johansson, Andershed, Kerr, & Louden, 2007), raising the possibility that this combination of high Self-Centered Impulsivity and low Fearless Dominance may be a proxy for borderline traits. Future research assessing both psychopathic and borderline traits may help determine whether the pattern of improved psychological adjustment following RSB is better explained through the lens of psychopathy, borderline personality disorder, or a combination of the two. Although the current study was framed in terms of psychopathic personality traits, another way to conceptualize findings from the current study is in terms of individual personality traits. From this perspective, it is reasonable to conclude that women who are fearful, anxious, impulsive, self-centered, and externalizing are likely to report that increased RSB helps regulate emotions and improve self-esteem.
IMPLICATIONS AND LIMITATIONS

Findings from the present study may facilitate matching of women to specialized interventions tailored to target the maladaptive cognitive, interpersonal, and behavioral aspects of Fearless Dominance and Self-Centered Impulsivity. Interventions that reduce impulsive acts and foster constraint and self-control may be especially useful for women high in Self-Centered Impulsivity. For example, these women may benefit from social skills training focused on how to give appropriate responses in situations when the probability of RSB is high. Additionally, instruction about how to erotically incorporate preventive measures (e.g., condom use) into sexual activity may be a useful adjunct to traditional psychoeducation about the consequences of RSB (Tanner & Pollack, 1988). Finally, behavioral rehearsal might be beneficial as a means of increasing individuals’ comfort and competency with appropriate social responses and safe sex practices.

Individuals low in Fearless Dominance and high in Self-Centered Impulsivity experience frequent and intense negative emotions. If RSB serves an emotion regulatory function among individuals low in Fearless Dominance and high in Self-Centered Impulsivity, they may benefit from interventions that provide alternative strategies to tolerate extreme emotional states and to inhibit destructive initial response tendencies. One efficacious treatment that focuses on these issues is the distress tolerance skills training module of Linehan’s (1993) Dialectical Behavior Therapy.

Although comparable to the rate reported in a daily diary study that spanned only two weeks (e.g., Zeigler-Hill, Chadha, & Osterman, 2008), the attrition rate (41%) was a primary limitation of the current study. Attrition contributed to a smaller sample size and consequently reduced statistical power and the ability to detect potential effects of smaller magnitude. Additionally, although attriters and non-attriters did not differ on demographic or baseline variables, it is possible that these two groups systematically differed on some meaningful characteristics not assessed in the current study. Thus, attrition may limit the generalizability of the current findings.

Another limitation of the present study was the use of self-report measures. This mono-method bias may have yielded inflated associations among measures and have particular implications for reports of RSB. Because RSB is a sensitive topic and the present study
relied on self-reports of RSB with no corroborating partner report, it is possible that participants minimized (or exaggerated) their reports of RSB. These limitations may be addressed in future research by measuring constructs, particularly RSB, using other means (e.g., partner report, collateral reports); however, some circumstances (e.g., when a partner is poorly known) may make doing so difficult or impossible.

The present study attempted to address limitations of cross-sectional studies that have relied on retrospective reports of RSB by reducing the interval between occurrence of the behavior and recall. Still, recall biases may have influenced the accuracy of self-reported post-RSB psychological adjustment. Relatedly, the relation between psychological adjustment and risky sexual behavior is bidirectional. Particular psychological states (e.g., high negative affect, high self-esteem) may have influenced an individual’s proclivity to engage in RSB, and at the same time, engagement in RSB likely influenced subsequent psychological adjustment. The current study did not assess psychological adjustment immediately prior to RSB. Therefore, it was not possible to disentangle these bidirectional associations. Measurement approaches, such as ecological momentary assessment which allows for repeated sampling of current behaviors and experiences in real time, that better minimize recall biases and isolate casual effects may be ideal for identifying temporal antecedents and consequences of RSB.

Although not necessarily a limitation, the current study focused exclusively on undergraduate women. There is evidence of gender differences in the expression of psychopathy (e.g., Hamburger, Lilienfeld, & Hogben, 1996; Miller, Watts, & Jones, 2011). For example, Miller and colleagues (2011) found that factor two of the Self-Report Psychopathy Scale—III (Williams, Paulhus, & Hare, 2007), which is highly correlated with Self-Centered Impulsivity (Marcus et al., 2013), was more strongly associated with “having difficulty resisting urges when experiencing positive affect, seeking out high risk/dangerous activities, and having difficulty considering the potential consequences of one’s behaviors before acting” (p. 568) among women than men. Considering such differences, research with male samples is needed to better understand the associations between psychopathic personality traits and RSB across genders.

Evidence also suggests that psychopathic personality traits may have different implications across non-forensic and forensic samples. For instance, Marcus et al. (2013) found that Fearless Domi-
inance and Self-Centered Impulsivity were weakly correlated among non-forensic samples and not at all correlated among forensic samples. Additionally, among non-forensic samples, Fearless Dominance was negatively correlated with constraint, and Self-Centered Impulsivity was negatively correlated with positive emotionality. In contrast, the direction of these associations was reversed among non-forensic samples. Thus, one might hypothesize that among forensic populations, individuals high in Fearless Dominance may have more inhibitory constraint in potentially risky situations (regardless of whether these individuals choose to draw upon this constraint) and that RSB may impact post-RSB positive affect differently among those high in Self-Centered Impulsivity. However, it is less clear how Fearless Dominance and Self-Centered Impulsivity may interact to influence the association between RSB and post-RSB adjustment among forensic samples. In any case, the current literature suggests that these constellations of traits may mean different things across samples and settings. Furthermore, college women in the current study scored lower on the PPI than college men (e.g., Uzieblo et al., 2007) and male inmates (e.g., Neumann, Malterer, & Newman, 2008). Therefore, future research may consider examining these associations with community and forensic samples.

The indicators of psychological adjustment either focused specifically on post-RSB adjustment or reflected adjustment during the past week when no sexual events were reported. We assumed that these indicators were capturing the same basic constructs in either situation, but it is possible that these subtle differences in the instructions may have led to these measures capturing slightly different constructs. For example, it is possible that the post-RSB assessments may have captured state psychological adjustment whereas the evaluations of the entire week may have tapped into something more akin to trait psychological adjustment.

The present study demonstrated that higher levels of Self-Centered Impulsivity were associated with more RSB and that participants reported lower post-RSB negative affect and shame during weeks when they engaged in more RSB. Furthermore, psychopathic personality traits moderated the associations between RSB and post-RSB psychological adjustment such that individuals low in Fearless Dominance but high in Self-Centered Impulsivity reported more positive psychological adjustment (i.e., higher self-esteem, less guilt, and less shame) at times when they were engaging in relatively high levels of RSB. One possible explanation for these
findings is that RSB may serve an emotion regulatory function and increase self-esteem among women low in Fearless Dominance and high in Self-Centered Impulsivity. Future research examining the mediating roles of emotion regulation and self-esteem enhancement will be necessary to better understand the processes by which RSB influences post-RSB psychological adjustment at different levels of psychopathy.

REFERENCES


