Does Psychopathy Predict Future Risky Sexual Behavior?

Jessica Jade Fulton
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DOES PSYCHOPATHY PREDICT FUTURE RISKY SEXUAL BEHAVIOR?

by

Jessica Jade Fulton

Abstract of a Dissertation
Submitted to the Graduate School
of The University of Southern Mississippi
in Partial Fulfillment of the Requirements
for the Degree of Doctor of Philosophy

August 2012
ABSTRACT

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Risky sexual behavior (RSB), such as having sex with an unknown partner, is associated with a variety of negative consequences including sexually transmitted diseases and unplanned pregnancy. Previous research (e.g., Fulton, Marcus, & Payne, 2010) suggests that psychopathic personality traits as assessed by the Psychopathic Personality Inventory (Lilienfeld & Andrews, 1996) are associated with RSB. Self-Centered Impulsivity (SCI), which is characterized by impulsivity, irresponsibility, and reckless behavior, was positively associated with RSB among men and women. In contrast, Fearless Dominance (FD), which is characterized by fearlessness, manipulativeness, and social dominance, was positively associated with RSB among men but not women. The present study sought to replicate and extend previous cross-sectional research by examining whether psychopathic personality traits predicted RSB over time among a sample of college students. The present study also examined whether psychopathic personality traits moderated the associations between RSB and indicators of post-RSB psychological adjustment. Participants (N = 77) completed self-report measures of psychopathic personality traits and RSB at time one and completed weekly measures of positive affect, negative affect, state self-esteem, shame, and guilt over an eight-week period. Multilevel random coefficient models revealed that higher levels of SCI were associated with more RSB over time and that participants reported lower levels
of post-RSB negative affect and post-RSB 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 with low levels of FD but high levels of SCI 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. Findings are discussed in terms of implications and future research directions.
The University of Southern Mississippi

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A Dissertation
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CHAPTER I

INTRODUCTION

Risky sexual behavior (RSB) refers to a number of behaviors including having multiple sex partners, having casual sex with unknown partners, having sex without protection (i.e., condom or birth control), having sex with partners with known risk factors (e.g., intravenous drug user), and using alcohol or drugs prior to or during sex (Anaya, Cantwell, & Rotheram-Borus, 2003; Cooper, 2002; Ickovics et al., 2002; Turchik & Garske, 2009). Individuals engaging in RSB are at risk for a number of negative outcomes, such as contracting sexually transmitted diseases (STDs). In fact, despite earnest health education strategies to reduce the transmission of STDs, approximately nineteen million new cases of STDs are reported each year, half of which occur among individuals aged 15 to 24 (Weinstock, Berman, & Cates, 2004). Furthermore, over half a million people are currently living with HIV/AIDS in the United States, and between 2004 and 2007, the total number of new cases of HIV/AIDS increased 15% in 34 states (Center for Disease Control and Prevention [CDC], 2008a).

STDs including HIV/AIDS are not the only negative health consequence of RSB. Individuals engaging in RSB are also at risk for unplanned pregnancy. National survey data revealed that, in 2001, nearly half of all pregnancies among women aged 15-44 were unintended (Finer & Henshaw, 2006). Unplanned pregnancy can hinder academic success, school completion, and employment opportunities for parents, particularly for young mothers (Hayes, 1987). Children born to mothers without adequate prenatal care are at an increased risk of being born prematurely with a variety of physical and psychological deficits (Fifer, Monk, & Grose-Fifer, 2001; Rich-Edwards et al., 1997;
Susser, Brown, & Matte, 1999). Furthermore, certain STDs (e.g., chlamydia, gonorrhea) can lead to infertility and potentially fatal tubal pregnancy when left untreated (CDC, 2008b).

In addition to putting the individual at an increased risk for negative health outcomes, the consequences of RSB impose a substantial burden on the United States healthcare system. The estimated lifetime cost of medical care for an individual living with HIV/AIDS is $385,200 (Schackman et al., 2006), and care for STDs across all age groups costs approximately $17 billion annually (Siegel, 1997). Some researchers (e.g., Koutsky, 1997) have estimated that more than half of all people will have a STD at some point in their life. Therefore, the cost of diagnosing and treating STDs is likely to increase in the future.

Given the negative consequences of RSB, an increased understanding of the factors influencing the development and maintenance of these behaviors would be beneficial. Both situational factors (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 over time. An additional goal of the study was to determine whether psychopathic personality traits moderated the association between RSB and post-RSB psychological adjustment (e.g., positive affect, negative affect).

**Personality and Risky Sexual Behavior**

Psychologists have long been interested in the relation between personality traits and RSB (Eysenck, 1976). Since the publication of Eysenck’s book *Sex and Personality,*
a variety of personality traits have been linked to RSB (see Hoyle, Fejfar, & Miller, 2000 for a review). Perhaps the most extensively studied personality trait associated with RSB is sensation seeking (e.g., Kalichman, Cain, Ketch, & Hill, 2005; Ripa, Hansen, Mortensen, Sanders, & Reinisch, 2001). Sensation seeking is “a trait defined by the seeking of varied, novel, complex, and intense sensations and experiences, and the willingness to take physical, social, legal, and financial risks for the sake of such experience” (Zuckerman, 1994, p. 27). In a meta-analytic review of 53 studies examining the relation between personality traits and RSB, Hoyle et al. (2000) reported that sensation-seeking accounted for 64% of the effect sizes in the 53 studies identified. Furthermore, sensation seeking significantly predicted all forms of RSB, including number of sexual partners, unprotected sex, and high-risk encounters, with effect sizes in the moderate range.

RSB has also been examined within the context of the Five Factor Model (FFM; Costa & McCrae, 1992) of personality, which describes personality according to five dimensions: extraversion, conscientiousness, neuroticism, agreeableness, and openness. Extraversion is positively associated with RSB (Barnes, Malamuth, & Cheek, 1984; Costa, Fagan, Piedmont, Ponticas, & Wise, 1992; Miller et al., 2004), a relation that makes conceptual sense given that some form of social interaction usually precedes and facilitates sexual activity. In contrast, conscientiousness and agreeableness are negatively associated with RSB (Miller et al., 2004; Vollrath, Knock, & Cassano, 1999). The negative association between conscientiousness and RSB is rather intuitive, as individuals high in conscientiousness tend be responsible and self-disciplined, and therefore, may be less likely to engage in high-risk behaviors. In contrast, the negative
association between agreeableness and RSB seems counter-intuitive. Individuals high in agreeableness tend to be sympathetic, trusting, and cooperative, characteristics that would seemingly increase the likelihood of engaging in sex with multiple or unknown partners. However, Miller et al.’s (2004) examination of this association at the facet level of agreeableness provides a clearer understanding of the nature of RSB’s relation with agreeableness. Miller and colleagues (2004) found that trust was negatively correlated with number of sexual partners, and straightforwardness was negatively associated with the use of alcohol or drugs before or during sex. Additionally, both trust and straightforwardness were negatively associated with having sex with someone other than one’s primary partner (SOPR). Furthermore, the relation between RSB and straightforwardness was qualified by its interaction with gender such that straightforwardness was significantly negatively related to SOPR for men but not women. Based on these findings, Miller et al. (2004) suggested that low agreeableness is characterized by “deceit, distrust, and a general lack of concern for others” (p. 1622). Given the antagonistic and manipulative nature of individuals low in agreeableness, they may be less likely to have long-term relationships. As a result, these individuals may have more opportunities to engage in sex with new partners and may be more likely to take advantage of these opportunities despite the risks posed to both themselves and their partner. Finally, both neuroticism and openness have failed to yield consistent correlations with RSB (Hoyle et al., 2000).

Psychopathy

High sensation seeking, high extraversion, low agreeableness, and low conscientiousness (all associated with RSB) are also components of the higher-order
personality construct of psychopathy. Psychopathy is characterized by superficial charm, egocentricity, impulsivity, and shallow emotions (Cleckley, 1988; Hare, 1996). Lacking empathy, guilt, or remorse, individuals high in psychopathy are prone to pathological lying, manipulation, and persistent violation of social norms. Psychopathy has traditionally been studied with forensic and other institutionalized populations. Recently, however, the construct has been applied to non-forensic populations (e.g., Benning, Patrick, Blonigen, Hicks, & Iacono, 2005; Fulton et al., 2010), and taxometric analyses (e.g., Guay, Ruscio, Knight, & Hare, 2007; Marcus, John, & Edens, 2004; Walters, Brinkley, Magaletta, & Diamond, 2008) have demonstrated the dimensional nature of psychopathy (i.e., psychopathy varies in degree across the general population). Thus, the investigation of psychopathy in non-forensic samples (e.g., community and undergraduate samples) is warranted and may increase our understanding of the construct.

According to Lilienfeld and Andrews (1996), there has been a lack of consensus regarding the conceptualization of psychopathy which has resulted in two competing assessment approaches. The personality-based approach (e.g., Cleckley, 1941/1988) emphasizes personality traits such as guiltlessness, callousness, and fearlessness in the conceptualization and assessment of psychopathy, whereas the behavior-based approach (e.g., Robins, 1966) emphasizes repeated engagement in antisocial and criminal behaviors (e.g., physical aggressiveness, theft) as a key component of psychopathy. The distinction between the two approaches is important as they have different implications for the assessment of psychopathy (Lilienfeld & Andrews, 1996). In other words, the characteristics of psychopathy identified during assessment will differ depending on
which approach is used. For example, unlike the behavior-based approach to psychopathy, the personality-based approach identifies subclinical psychopathy (i.e., presence of psychopathic personality features in the absence of repeated engagement in antisocial acts; Widom, 1977). Furthermore, some researchers argue that antisocial behavior is not a core feature of psychopathy, and instead, is best conceptualized as a consequence of psychopathy (e.g., Cooke, 2008).

Although measuring behavioral features of psychopathy is clearly important, not all individuals high in psychopathic personality traits engage in criminal or antisocial behaviors. That is, some individuals high in psychopathy possess maladaptive personality traits but are still able to lead lives that have relatively benign consequences for society. Additionally, Lilienfeld and Andrews (1996) suggest that an advantage of assessing personality traits associated with psychopathy is the potential to identify factors that protect some individuals with psychopathic personality traits from engaging in antisocial and criminal behavior, as well as factors that make these outcomes more likely.

The Psychopathic Personality Inventory (PPI; Lilienfeld & Andrews, 1996) is one of a handful of personality-based measures of psychopathy. The PPI “has the capacity to identify individuals who possess the core personality features of psychopathy, but who have not exhibited the repeated legal or social transgressions typical of individuals with [antisocial personality disorder]” (Lilienfeld & Andrews, 1996, p. 519), making it an ideal instrument for use with a college student sample. Originally validated with college students, factor analyses of the PPI have yielded a two-factor solution (Benning, Patrick, Hicks, Blonigen, & Krueger, 2003). PPI-1, or Fearless Dominance, is generally characterized by the affective and interpersonal aspects of psychopathy, including
fearlessness, manipulativeness, social dominance, and narcissism. In contrast, PPI-2, or Self-Centered Impulsivity (SCI; or Impulsive Antisociality), is characterized by the antisocial and impulsive features of psychopathy (e.g., irresponsibility and aggression). The PPI consists of eight subscales. Social Potency, Stress Immunity, and Fearlessness subscales load onto FD, whereas Impulsive Nonconformity, Machiavellian Egocentricity, Carefree Nonplanfulness, and Blame Externalization subscales load onto SCI. Coldheartness does not load onto either factor.

FD and SCI tend to be weakly correlated or not at all correlated depending on the sample type (Marcus, Fulton, & Edens, in press). Specifically, a recent meta-analysis of 37 studies examining correlates of the two factors of the PPI (and its revisions) demonstrated that there was no association between FD and SCI in the forensic samples \((r = .03, ns)\), whereas there was a significant, small correlation between FD and SCI in the non-forensic samples \((r = .16, p < .001)\). Furthermore, the two factors predicted distinct and sometimes opposite correlates. For example, Marcus and colleagues (in press) found that FD was strongly positively associated with positive emotionality and negatively associated with negative emotionality. In contrast, SCI was positively correlated with negative emotionality and shared no association with positive emotionality. Both FD and SCI were positively associated with sensation seeking and negatively associated with constraint (i.e., behavioral inhibition).

Other studies support this pattern of differential predictive validity of FD and SCI across outcomes. For example, FD is positively associated with social potency (i.e., the ability to influence others), achievement, work ethic, and heroism (Benning et al., 2005; Lilienfeld & Andrews, 1996; Patrick, Edens, Poythress, Lilienfeld, & Benning, 2006), all
of which may be attractive to others. Additionally, Benning and colleagues (2003) demonstrated that FD is positively correlated with education level, high school class rank, and emotional resilience. In contrast, SCI is associated with the more destructive aspects of psychopathy, including reckless, aggressive, and rebellious behavior (Benning et al., 2003; Patrick et al., 2006). SCI is also positively correlated with alienation, poor planning, a tendency to blame others, and egocentricity, and is negatively associated with education achievement, income, and verbal intelligence (Fowles & Dindo, 2006; Uzieblo, Verschuere, & Crombez, 2007). Additionally, SCI is associated with measures of antisocial personality disorder, but FD is not (e.g., Benning et al., 2003; Patrick et al., 2006). Taken together, these findings suggest that compared to SCI, FD appears to embody traits that may be beneficial within the context of social relationships. Thus, high FD may only be problematic when it co-occurs with high SCI (Marcus et al., in press).

**Psychopathy and Risky Sexual Behavior**

Although few studies have examined the association between RSB and psychopathy, the available literature suggests that each factor uniquely contributes to an individual’s tendency to engage in RSB (e.g., Fulton et al., 2010; Richards, Casey, Lucente, & Kafami, 2003; Ručević, 2010). Richards and colleagues (2003) examined the relation between RSB and psychopathy in a sample of incarcerated female drug users. Psychopathy was measured using the Hare Psychopathy Checklist Revised (PCL-R; Hare, 1991) and a shorter version of the PCL-R, the Psychopathy Checklist Screening Version (PCL: SV). The PCL-R is a semi-structured interview that is based on both Cleckley’s (1988) psychopathy criteria and the *Diagnostic and Statistical Manual of Mental Disorders’s* (American Psychological Association, 2000) criteria for antisocial
personality disorder (Hart & Hare, 1989). Like the PPI, the PCL-R consists of two factors (Harpur, Hakstian, & Hare, 1988; Harpur, Hare, & Hakstian, 1989). Factor one is characterized by the affective-interpersonal aspect of psychopathy and measures individuals’ callous and remorseless style of interacting with others (Harris, Rice, & Quinsey, 1994). Factor two is characterized by the antisocial aspect of psychopathy and measures impulsive and socially deviant behaviors (Harris et al., 1994). Richards et al. (2003) found that factor one was negatively associated with unprotected vaginal sex, whereas factor two was positively associated with both having had sex with a drug-using partner and having had sex with a partner known to be HIV-positive (Richards et al., 2003).

The relation between RSB and psychopathy has also been examined in non-forensic samples. Hudek-Knezevic, Kardum, and Krapic (2009) examined the relation between psychopathy and RSB in a sample of college students. Psychopathy was assessed using the three factors of the Self-report Psychopathy Scale (Williams, Nathanson, & Paulhus, as cited in Hudek-Knezevic et al., 2009): antisocial behavior, impulsive thrill-seeking, and interpersonal manipulation. All factors were positively associated with RSB in women, whereas only antisocial behavior was positively associated with RSB in men. In another recent study, Ručević (2010) found that the Impulsive-Irresponsible factor (conceptually similar to SCI) but not the Grandiose–Manipulative factor (conceptually similar to FD) of the Youth Psychopathic Traits Inventory (YPI; Andershed, Kerr, Stattin, & Levander, 2002) predicted RSB among a sample of adolescent girls. Similarly, Fulton et al. (2010) found that psychopathic personality traits (as measured by the PPI) and RSB were significantly correlated in a
sample of college students. Interestingly, the association between psychopathic personality traits and RSB differed for men and women. Specifically, FD only predicted RSB for men, whereas SCI predicted RSB for both men and women. Furthermore, the association between SCI and RSB was stronger in men. This relation remained significant even when controlling for sensation seeking. These findings suggest that men high in FD, who are socially dominant and manipulative, engage in higher rates of RSB, whereas women with similar personality traits do not. In contrast, both men and women high in SCI, who are impulsive and irresponsible, engage in higher rates of RSB than those low on this factor.

The moderating role of gender in the relation between psychopathy and RSB is not surprising given that men generally report higher rates of RSB than women (e.g., Hawkins, Gray, & Hawkins, 1995; Poulson, Eppler, Satterwhite, Wuensch, & Bass, 1998). Data from the 2002 National Survey of Family Growth revealed that males between the ages of 15 and 44 were more likely than their female counterparts to report having had two or more opposite-sex partners (Mosher, Chandra, & Jones, 2005). Furthermore, among individuals aged 25-44, men reported an average of almost twice as many sexual partners and were more than twice as likely as women to have had over 15 sexual partners in their lifetime. Similarly, in a sample of college students, Gil (2005) found that men were significantly more likely than women to report having engaged in RSB over the past year. Specifically, 80% of men, compared to 38% of women, reported having engaged in RSB.

According to parental investment theory (Trivers, 1972), women tend to be more conservative and discriminating about sex than men because their investment in potential
offspring is greater. Men, in contrast, have a smaller investment and tend to vigorously pursue sexual opportunities to maximize their reproductive success. Consequently, men must compete for sexual opportunities with women, whereas women have more liberty to choose with whom they will have sex. In addition to the investment in potential offspring, the consequences of RSB tend to be greater for women. For example, due to the anatomical structure of their reproductive tract, women are biologically more susceptible to STDs when exposed to the viral and bacterial agents that cause them (e.g., Sharts-Hopko, 1997). That is, “men transmit infections to women more efficiently than women do to men” (Drennan, 1998, p. 1). Furthermore, unlike men, women are at risk for pregnancy as a result of engaging in RSB. Accordingly, it was expected that gender would be associated with RSB and that gender would moderate the association between psychopathic personality traits and RSB in the present study. Given the findings of Fulton et al. (2010), it was hypothesized that the association between SCI and RSB would be stronger among men than women and that FD would only predict RSB for men.

Risky Sexual Behavior, Affect, and Psychopathic Personality Traits

Considerable evidence supports a link between risky behaviors and affect (see Isen, 2000 for a review). Theorists (e.g., Diener, 1999; Russell, 2003; Watson & Clark, 1997; Watson & Tellegen, 1985) generally agree that two broad dimensions constitute emotion: positive affect and negative affect. Positive affect is characterized by emotions such as joy, enthusiasm, and alertness and usually involves pleasurable engagement, whereas negative affect is a dimension of subjective distress characterized by emotions such as anger, sadness, guilt, and fear (Watson & Tellegen, 1985). According to the mood-maintenance hypothesis (Isen & Patrick, 1983), individuals high in positive affect
avoid risk in an attempt to maintain their high positive affect, whereas individuals high in negative affect are more likely to take risks in an attempt to improve their mood, or raise levels of positive affect. In fact, evidence supports the idea that individuals use sex as a means of escape from negative emotions or to reduce negative affect (e.g., Cooper, Agocha, & Sheldon, 2000; Cooper, Shapiro, & Powers, 1998; Shrier, Koren, Aneja, & de Moor, 2010). For example, Shrier and colleagues (2010) assessed momentary affect and sex events among adolescents by having adolescents submit reports using a hand-held computer. The authors 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 which suggests that sex has the capacity to regulate emotional states, particularly negative emotions.

Despite previous research linking RSB and affect, research has yet to examine the role of psychopathic personality traits in the relation between RSB and affect. Therefore, the present study sought to examine the moderating role of psychopathic personality traits in the relation between RSB and post-RSB affect. Engaging in RSB likely provides positive reinforcement (e.g., sexual pleasure) or negative reinforcement (e.g., reduces negative emotions) for individuals, but after engaging in certain forms of RSB (e.g., sex with an unknown partner, sex with a partner with known risk factors), individuals tend to experience some form of negative affect (e.g., anxiety, shame, guilt, remorse; Baldwin, Whiteley, & Baldwin, 1990; Paul & Hayes, 2002). To date, it is unknown whether this process remains true as individuals’ levels of psychopathic personality traits increase.

As previously discussed, FD is strongly positively associated with positive emotionality and negatively associated with negative emotionality, whereas SCI is
positively correlated with negative emotionality and shares no association with positive emotionality (Marcus et al., in press). Based on these findings, individuals high in FD tend to experience high levels of positive affect and low levels of negative affect, a combination that is likely predictive of lower levels of RSB. Conversely, individuals high in SCI tend to experience high levels of negative affect, and subsequently, may be more likely to engage in RSB in an effort to escape or reduce negative emotions. Given the lack of research in this area, an exploratory goal of the present study was to examine the association between RSB and post-RSB affect and whether these associations were moderated by psychopathic personality traits. Specifically, it was hypothesized that RSB would be negatively associated with post-RSB negative affect among individuals high in psychopathic personality traits.

The Present Study

Although RSB has been studied longitudinally, previous research has focused primarily on identifying (a) general trends in sexual behavior among adolescents (e.g., O’Sullivan, Cheng, Harris, & Brooks-Gunn, 2007; Saewyc, Taylor, Homma, & Ogilvie, 2008), (b) behaviors associated with RSB, such as alcohol use and illicit drug use, (e.g., Brook et al., 2004; Katz, Fromme, & D’Amico, 2000), and (c) protective factors unique to different ethnic and racial groups (e.g., Brook et al., 2004; Robinson, Holmbeck, & Paikoff, 2007; Trejos-Castillo & Vazsonyi, 2009). Furthermore, previous studies examining the relation between RSB and psychopathy have used cross-sectional designs (e.g., Fulton et al., 2010). The present study was the first to examine the relation between psychopathic personality traits and RSB over time using a weekly diary method.
The primary goal of the present study was to examine whether psychopathic personality traits predicted RSB over an eight-week period and whether gender moderated this relation. Furthermore, because research has consistently demonstrated a strong relation between sensation seeking and RSB and because sensation seeking is associated with psychopathy, an additional goal of the study was to determine whether psychopathic personality traits predicted RSB above and beyond the contribution of sensation seeking. Based on previous findings (e.g., Fulton et al., 2010), it was hypothesized that gender would moderate the association between psychopathic personality traits and RSB. Specifically, it was hypothesized that FD would predict RSB for men, whereas SCI would predict RSB for both men and women. Given previous research demonstrating affect’s association with both RSB (e.g., Kiene, Tennen, & Armeli, 2008; Mustanski, 2007) and psychopathy (e.g., Anestis, Anestis, & Joiner, 2009; Gaizo & Falkenbach, 2007; Marcus et al., in press; Patrick, 1994; Verona, Patrick, & Joiner, 2001), an exploratory goal of the study was to examine the association between RSB and post-RSB affect (i.e., affect directly following sexual activity) and whether this association varied as a function of psychopathic personality traits. Specifically, it was hypothesized that RSB would be negatively associated with post-RSB negative affect among individuals higher in psychopathic personality traits.
CHAPTER II

METHODOLOGY

Participants

All participants were sexually active undergraduates who participated in return for partial fulfillment of a research participation requirement in their psychology courses. A total of 614 individuals (80 men, 534 women) were screened to identify a sample of sexually active participants. For inclusion in the present study, participants had to endorse that they had been sexually active over the course of their lifetime. Sexual activity was defined as having had consensual oral, vaginal, or anal intercourse. A total of 150 participants (19 men and 131 women) met inclusion criteria and consented to participate in the study. Of the 150 participants who began the study, 63 participants were excluded due to failure to complete weekly measures for 3 or more weeks. Thus, analyses concerning weekly measures were conducted using the 87 (10 men, 77 women) remaining participants. The mean age of the final participants was 21.55 years ($SD = 5.44$) and their racial/ethnic composition was 58% White, 36% Black, and 6% Other. These 87 participants contributed a total of 464 weekly reports which is an average of 5.33 reports for each participant. Due to the disproportionate percentage of women, analyses were conducted separately with the female sample and the full mixed gender sample to determine whether the results differed across the two samples. The mean age of the female sample was 21.98 years ($SD = 4.56$). The majority of female participants reported being White (58%) or Black (37%), and 5% of the sample reported being from another racial/ethnic background. The female sample contributed a total of 400 weekly reports with each participant submitting 5.19 reports on average.
Materials and Procedure

The present study consisted of three phases: (a) an online screener, (b) a laboratory session, and (c) online weekly diary submissions. The online screener asked participants to complete a series of questionnaires (see Baseline Measures). Participation lasted approximately one and a half hours. Participants who reported having had been sexually active over the course of their lifetime were invited via e-mail to participate in the second phase of the study (i.e., the laboratory session).

During the laboratory session, participants completed measures that were part of a larger study. Additionally, participants were instructed to complete measures (see Weekly Measures) via the internet each week during a specified time window (i.e., between 8 a.m. on Mondays and 12 a.m. on Tuesdays) and were informed that they were eligible to win one of four $50.00 Visa gift cards based on the number of reports they submitted each week (i.e., participants who completed five or more submissions were entered in the lottery-style drawing for the gift cards). The laboratory session lasted approximately 30 minutes and included no more than six participants per session.

During the third phase of the study, participants completed a series of questionnaires online (see Weekly Measures), requiring approximately 30 minutes of their time per submission. The online survey was created in a way that allowed participants only one submission per week. The link could only be accessed one time. Therefore, participants were not able to re-enter the survey or edit existing responses.
Measures

Baseline Measures

The online screener was part of a larger project that included other questionnaires (e.g., measures of emotion regulation, experiential avoidance, and personality pathology). Only the measures relevant to the proposed study are described below.

Demographics questionnaire. The demographic questionnaire asked participants to report their age, race/ethnicity (African American/Black, Caucasian/White, Hispanic/Latino, Asian/Pacific Islander, Native American, other), gender (male/female), Greek membership (yes/no), education level (freshman, sophomore, junior, senior, graduate, alumni, other), relationship status (single, casually dating, committed relationship, married, separated/divorced, widowed), and sexual orientation (straight/heterosexual, gay/lesbian/bisexual, questioning/unsure, other).

Sexual Risk Survey. The Sexual Risk Survey (SRS; Turchik & Garske, 2009) is a 23-item self-report scale which assesses the frequency of sexual risk behaviors occurring 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. In the initial validation study, SRS scores demonstrated acceptable internal consistency ($\alpha = .88$) and test-retest reliability ($\alpha = .93$), and there is evidence for its convergent and discriminant validity (Turchik & Garske, 2009). For the present study, a total score was computed by standardizing each item and summing them. This method of scoring the SRS yielded good internal consistency ($\alpha = .87$) in a sample of college students (Fulton et al., 2010). Scores on the SRS were internally consistent in both the full sample ($\alpha = .83$) and the female sample ($\alpha = .83$).
SRS scores obtained during this initial session were used as a measure of baseline 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 major personality characteristics of psychopathy without overtly referring to antisocial or criminal behaviors. Respondents rate each item on a 4-point Likert scale (1 = false, 2 = mostly false, 3 = mostly true, 4 = true). The PPI total score has excellent internal consistency, with alphas ranging from .90 to .93, and test-retest reliability (α = .95; Lilienfeld & Andrews, 1996). As previously discussed, factor analyses have shown that these eight scales yield a two-factor solution (Benning et al., 2003). PPI-1, or FD, includes the Social Potency, Stress Immunity, and Fearlessness scales. PPI-2, or SCI, includes Carefree Nonplanfulness, Impulsive Nonconformity, Machiavellian Egocentricity, and Blame Externalization. Coldheartedness does not load on either factor. Evidence for the construct validity of the PPI and its subscales has been demonstrated 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 & Andrews, 1996). FD and SCI scores were internally consistent in the total sample (α = .91 and .91, respectively) as well as in the female sample (α = .91 and .91, respectively).

_Brief Sensation Seeking Scale._ The Brief Sensation Seeking Scale (BSSS; Hoyle, Stephenson, Palmgreen, Lorch, & Donohew, 2002) is an 8-item self-report instrument used to assess four primary dimensions of sensation seeking (i.e., Experience Seeking, Boredom Susceptibility, Thrill and Adventure seeking, Disinhibition). Respondents rate
the items on a five-point Likert scale (1 = strongly disagree to 5 = strongly agree). The BSSS has evidenced construct validity and is highly correlated with Zuckerman and colleagues’ (1993) Zuckerman-Kuhlman Personality Questionnaire ($r = .83$; Hoyle et al., 2002). Additionally, the BSSS has demonstrated adequate internal consistency, with coefficient alphas ranging from .76 to .82 (Fulton et al., 2010; Hoyle et al., 2002). For the present study, coefficient alphas for the BSSS were good in the full sample ($\alpha = .80$) and the female sample ($\alpha = .80$).

**Positive Affect and Negative Affect Schedule.** The Positive Affect and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988) is a 20-item self-report measure that assesses the distinct dimensions of positive affect and negative affect (e.g., Crawford & Henry, 2004). The PANAS is composed of two subscales: positive affect and negative affect. Watson et al. (1988) demonstrated good internal consistency for the positive affect scale ($\alpha$’s ranging from .85 to .90) and the negative affect scale ($\alpha$’s ranging from .86 to .91) using both clinical and nonclinical samples. The positive affect and negative affect scales also have good temporal stability (8-week test–retest correlation .68 and .71, respectively; Watson et al., 1988). Additionally, the PANAS has been used widely in daily diary and ecologically-based research (e.g., Croft & Walker, 2001; Gable, Reis, & Elliot, 2000). The positive affect and negative affect scales were internally consistent in the full sample ($\alpha = .88$ and $\alpha = .89$, respectively) and the female sample ($\alpha = .87$ and $\alpha = .87$, respectively). Both subscales were used in the current study, and during the baseline portion of the study, instructions assessing general affect were used (i.e., “Indicate to what extent you generally feel this way, that is, how you feel on average,”; Watson et al., 1988, p. 1065).
**Weekly Measures**

For the diary portion of the study, participants were asked to complete an abbreviated version of the SRS, reporting the frequency of sexual risk behaviors occurring over the past week rather than over the past six months. Participants were also asked to complete the PANAS. For the diary portion of the study, instructions assessing affect over the past week were used. Additionally, if an individual reported having engaged in RSB, he or she was asked to retrospectively rate his or her affect immediately after having engaged in RSB. 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. Thompson (2007) demonstrated good internal consistency for the positive affect scale (α’s ranging from .76 to .78) and the negative affect scale (α’s ranging from .72 to .76) across three samples. The PANAS-SF positive affect and negative affect scales also have good temporal stability (8-week test–retest correlation .84 and .84, respectively; Thompson, 2007). Furthermore, the short and full form subscales are highly correlated (r = .92 for PA and r = .95 for NA). Internal consistencies for the positive affect and negative affect scales in the full sample (α = .86 and .84, respectively) and the female sample (α = .84 and .84, respectively) were good.1

The weekly measures described above were part of a larger project that included other questionnaires (e.g., measures of alcohol use, shame, guilt, self-esteem). Although they were not part of the original proposal, measures of shame, guilt, and self-esteem were examined in exploratory analyses and therefore will be described here.
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. Participants rate items using a scale ranging from 0 (never) to 4 (almost always). Harder and colleagues (Harder, Rockart, & Cutler, 1993; Harder & Zalma, 1990) have demonstrated construct validity for the PFQ2 though its association with other constructs such as self-consciousness and depression. The PFQ2 also has adequate internal consistency ($\alpha = .78$) and test-retest reliability ($\alpha = .91$; Harder & Zalma, 1990). The shame and guilt scales were internally consistent in the full sample ($\alpha = .85$ and .89, respectively) and the female sample ($\alpha = .85$ and .89, respectively).

State Self-Esteem Scale. The State Self-Esteem Scale (SSE; Heatherton & Polivy, 1991) is a 20-item self-report measure that assesses state self-esteem. Participants respond to items on a scale ranging from 1 (not at all) to 5 (extremely). Previous research has shown the State Self-Esteem Scale to be a valid and reliable measure of self-esteem (e.g., Heatherton & Polivy, 1991; Vohs & Heatherton, 2004). Scores on the SSE were internally consistent in both the full sample ($\alpha = .90$) and the female sample ($\alpha = .90$).
CHAPTER III
RESULTS
Preliminary Analyses

The small number of male participants in the present study precluded the examination of hypotheses that included gender. As a result, the examination of gender as a moderator in the relation between psychopathic personality traits and RSB was not examined. Additionally, for the sake of simplicity, the results were only reported for the female sample, and unless otherwise noted, the results remained the same when conducted with the full sample. Analyses were first conducted to identify potential covariates for subsequent analyses. Variables were considered for inclusion as covariates if they demonstrated a statistically significant association with total SRS scores (i.e., SRS scores summed across eight weeks). No significant differences in SRS scores were found across race/ethnicity, $F(3, 73) = .77, p = .52$, relationship status, $F(5, 71) = .36, p = .87$, sexual orientation, $F(1, 75) = .35, p = .56$, education level, $F(4, 72) = 1.94, p = .11$, or Greek membership, $t(75) = .06, p = .95$. Additionally, SRS scores were not significantly correlated with age, $r = .05, p = .66$. Therefore, no variables were included in the analyses as covariates.

Descriptive Statistics

Table 1 presents the means, standard deviations, and intercorrelations for the baseline variables. In the current study, FD and SCI were positively correlated ($r = .30, p < .01$). Baseline self-reported RSB was positively associated with both FD ($r = .26, p < .05$) and SCI ($r = .28, p < .05$). Sensation seeking was also positively correlated with both FD ($r = .59, p < .01$) and SCI ($r = .46, p < .01$). FD was strongly positively associated
with baseline positive affect \((r = .50, p < .01)\) but was not significantly associated with baseline negative affect \((r = -.22, ns)\). Conversely, SCI was strongly positively associated with baseline negative affect \((r = .40, p < .01)\) but was not significantly associated with baseline positive affect \((r = -.16, ns)\). Because FD and SCI were significantly correlated and because FD was unexpectedly correlated with baseline RSB, a multiple regression analysis was conducted to determine the unique effects of FD and SCI on RSB. When FD and SCI were entered in the model together, the overall model was significant \((F (2, 74) = 6.17, p = .003, R^2 = .14)\). However, SCI accounted for a unique amount of variance in baseline RSB \((\beta = .27, t = 2.42, p = .02)\) whereas FD did not \((\beta = .19, t = 1.70, p = .09)\).

Table 1

Intercorrelations and Descriptive Statistics for Baseline Measures

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<td>.28**</td>
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<td>.13</td>
<td>-.43**</td>
<td>—</td>
<td>.04</td>
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<td>.00</td>
<td>.33**</td>
<td>.20</td>
<td>.03</td>
<td>.04</td>
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<td>6.99</td>
<td>7.21</td>
<td>7.19</td>
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*Note.* FD = Fearless Dominance. SCI = Self-Centered Impulsivity. CH = Coldheartedness. PPI = Psychopathic Personality Inventory total score. SS = Sensation Seeking. SRS = Sexual Risk Survey. PA = Positive Affect. NA = Negative Affect. SE = State Self-Esteem. SH = Shame. GU = Guilt. Correlations appearing above the diagonal represent the zero-order correlations for the full sample, \((n = 87)\) and those below the diagonal represent the zero-order correlations for the female sample \((n = 77)\). Sexual Risk Survey values are z-scores. Means and standard deviations for the full sample are underlined.

*\(p < .05\).* **\(p < .01\).**

Regarding the associations between baseline and weekly measures (see Table 2), baseline and weekly self-reported RSB scores were not significantly associated \((r = .11, ns)\). Weekly self-reported RSB was not significantly associated with FD \((r = -.04, ns)\), SCI \((r = .11, ns)\), or sensation seeking \((r = -.05, ns)\). FD was not associated with post-RSB positive affect \((r = -.06, ns)\), post-RSB negative affect \((r = -.16, ns)\), post-RSB shame \((r = .06, ns)\), or post-RSB guilt \((r = .21, ns)\). However, FD was positively associated with post-RSB self-esteem \((r = .26, p < .01)\). In contrast, SCI was positively correlated with post-RSB negative affect \((r = .38, p < .01)\), post-RSB shame \((r = .41, p < .01)\), and post-RSB guilt \((r = .30, p < .01)\) and was negatively associated with post-RSB self-esteem \((r = -.34, p < .01)\). However, SCI was not significantly correlated with post-RSB positive affect \((r = .06, ns)\). Finally, sensation seeking was not significantly associated with post-RSB positive affect \((r = -.11, ns)\), post-RSB negative affect \((r = .00, ns)\),
ns), post-RSB shame ($r = -.01, ns$), post-RSB guilt ($r = .03, ns$), or post-RSB self-esteem ($r = .17, ns$).

Table 2

*Intercorrelations between Baseline and Weekly Measures and Descriptive Statistics for Weekly Measures*

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<td>SE</td>
<td>SH</td>
<td>GU</td>
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<td>.38**</td>
<td>-.34**</td>
<td>.41**</td>
<td>.30**</td>
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<td>-.14</td>
<td>-.11</td>
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<td>.35*</td>
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<td>.29*</td>
<td>.30**</td>
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<td>.43**</td>
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<table>
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<td>SH</td>
<td>GU</td>
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<td>.13</td>
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<td>-.07</td>
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<td>-.12</td>
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<td>.17</td>
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<tr>
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<td>.17</td>
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\(M\)  
-0.11  
10.33  
5.83  
80.88  
11.78  
7.09  

\(SD\)  
4.10  
4.57  
2.13  
12.89  
3.63  
2.67  

*Note.* FD = Fearless Dominance. SCI = Self-Centered Impulsivity. CH = Coldheartedness. PPI = Psychopathic Personality Inventory total score. SS = Sensation Seeking. SRS = Sexual Risk Survey. PA = Positive Affect. NA = Negative Affect. SE = State Self-Esteem. SH = Shame. GU = Guilt. Sexual Risk Survey values are z-scores. The weekly event measures are bolded and refer to the average scores across the 8 weeks.

*\(p < .05.\)** *\(p < .01.\)

Zero-order correlations among the weekly measures are presented in Table 3.

Weekly self-reported RSB scores were not significantly associated with post-RSB positive affect \((r = .12, ns)\), post-RSB negative affect \((r = .01, ns)\), post-RSB self-esteem \((r = -.06, ns)\), post-RSB shame \((r = .04, ns)\), or post-RSB guilt \((r = .12, ns)\). \(^2\) Post-RSB positive affect was positively associated with post-RSB negative affect \((r = .29, p < .05)\).
and shame ($r = .33, p < .01$). Post-RSB negative affect was positively correlated with post-RSB shame ($r = .74, p < .01$) and post-RSB guilt ($r = .83, p < .01$) and negatively correlated with post-RSB self-esteem ($r = -.37, p < .01$). Post-RSB self-esteem was negatively associated with both post-RSB shame ($r = -.48, p < .01$) and post-RSB guilt ($r = -.33, p < .01$). Finally, post-RSB shame and post-RSB guilt were strongly positively correlated ($r = .82, p < .01$).

Table 3

Intercorrelations for Weekly Measures

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<td>.29**</td>
<td>-.07</td>
<td>.04</td>
<td>-.04</td>
<td>-.05</td>
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<td>—</td>
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<td>.07</td>
<td>.23*</td>
<td>.12</td>
</tr>
<tr>
<td>3. NA</td>
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<td>.29*</td>
<td>—</td>
<td>-.40**</td>
<td>.75**</td>
<td>.83**</td>
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<td>.00</td>
<td>-.37**</td>
<td>—</td>
<td>-.50**</td>
<td>-.36**</td>
</tr>
<tr>
<td>5. SH</td>
<td>.04</td>
<td>.33**</td>
<td>.74**</td>
<td>-.48**</td>
<td>—</td>
<td>.83**</td>
</tr>
<tr>
<td>6. GU</td>
<td>.02</td>
<td>.19</td>
<td>.83**</td>
<td>-.33**</td>
<td>.82**</td>
<td>—</td>
</tr>
</tbody>
</table>

Note. SRS = Sexual Risk Survey. PA = Positive Affect. NA = Negative Affect. SE = State Self-Esteem. SH = Shame. GU = Guilt. Correlations appearing above the diagonal represent the zero-order correlations for the full sample ($n = 87$) and those below the diagonal represent the zero-order correlations for the female sample ($n = 77$). Sexual Risk Survey values are z-scores. The weekly event measures refer to the average scores across the 8 weeks.

*p < .05. **p < .01.
Sexual Histories

The majority of participants \((n = 46; 60\%)\) reported being in a committed relationship at the time of the study. Of these participants, the average length of their relationship was 37.26 months \((SD = 44.75; \text{range} = 1 – 216)\). Participants’ reports of their sexual behavior in the six months preceding the study are shown in Table 4. Giving or receiving cunnilingus and fellatio without protection against STDs was relatively common among participants. Participants reported a mean of 6.58 \((SD = 8.24; \text{range} = 1 – 60)\) lifetime sexual partners and a mean of 1.67 \((SD = 1.73; \text{range} = 1-13)\) sexual partners in the six months preceding the study.\(^3\) The majority of participants \((69.1\%)\) reported engaging in sexual events with steady partners (i.e., partners with whom they were in a committed relationship).\(^4\)

Table 4

**Sexual Behavior in Six Months Preceding the Study**

<table>
<thead>
<tr>
<th>Sexual Behavior</th>
<th>Percent of participants reporting behavior</th>
<th>Number of Occasions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Percent reporting behavior</td>
<td>(M)</td>
</tr>
<tr>
<td>Vaginal intercourse without a condom</td>
<td>63.3% ((62.1%))</td>
<td>16.56</td>
</tr>
<tr>
<td></td>
<td>(17.01)</td>
<td>(26.69)</td>
</tr>
<tr>
<td>Vaginal intercourse without protection against pregnancy</td>
<td>45.5% ((42.5%))</td>
<td>8.19</td>
</tr>
<tr>
<td></td>
<td>(7.54)</td>
<td>(17.08)</td>
</tr>
<tr>
<td>Given or received cunnilingus without a dental dam</td>
<td>81.8% ((80.5%))</td>
<td>12.75</td>
</tr>
<tr>
<td></td>
<td>(12.95)</td>
<td>(19.21)</td>
</tr>
<tr>
<td>Sexual Behavior</td>
<td>Percent of participants reporting behavior</td>
<td>Number of Occasions</td>
</tr>
<tr>
<td>---------------------------------------------------------------------------------</td>
<td>---------------------------------------------</td>
<td>---------------------</td>
</tr>
<tr>
<td></td>
<td></td>
<td>$M$</td>
</tr>
<tr>
<td>Given or received fellatio without a condom</td>
<td>77.9% (77%)</td>
<td>11.29</td>
</tr>
<tr>
<td>Anal intercourse without a condom</td>
<td>16.6% (14.9%)</td>
<td>0.82</td>
</tr>
<tr>
<td>Unprotected anal penetration by object followed by unprotected anal sex</td>
<td>6.5% (5.7%)</td>
<td>0.52</td>
</tr>
<tr>
<td>Alcohol or drug use before or during sex</td>
<td>49.4% (47.1%)</td>
<td>4.14</td>
</tr>
<tr>
<td>Sex with a new partner before discussing known risk factors</td>
<td>11.4% (11.5%)</td>
<td>0.47</td>
</tr>
<tr>
<td>Sex with someone who has had many sexual partners</td>
<td>24.7% (25.3%)</td>
<td>1.42</td>
</tr>
<tr>
<td>Sex with someone who has not been tested for STIs</td>
<td>20.8% (19.5%)</td>
<td>0.36</td>
</tr>
</tbody>
</table>
Table 4 (continued).

<table>
<thead>
<tr>
<th>Sexual Behavior</th>
<th>Percent of participants reporting behavior</th>
<th>Number of Occasions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex with someone who was also engaging in sex with others during the same time period</td>
<td>15.6%</td>
<td>(13.8%) 0.43 1.53 0-12</td>
</tr>
</tbody>
</table>

Note. n = 77 participants. STIs = Sexually Transmitted Infection. Values for the full sample (N = 87) appear in parentheses.

Primary Analyses

The weekly measures from the present study comprised a multilevel data structure because observations at one level of analysis (i.e., weeks) were nested within another level of analysis (i.e., individuals). Due to the hierarchical structure of the data, a series of multilevel analyses were conducted using the program HLM (Bryk, Raudenbush, & Congdon, 1998). The first step in the multilevel analysis was to examine the covariance between measures of RSB and post-RSB affect. The second step was to examine whether psychopathic personality traits predicted weekly levels of RSB (controlling for the contribution of sensation seeking) and post-RSB affect. The third step was to examine how within-person associations between RSB and post-RSB affect varied as a function of psychopathic personality traits.

These multilevel models conceptually involved two components. First, a regression equation was estimated for each individual at Level 1 (the within-person level) which yielded intercept and slope coefficients to index the association between variables...
at the weekly level (e.g., “Does post-RSB negative affect tend to increase during weeks when individuals report engaging in RSB?”). Second, Level 2 (the 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 (e.g., “Is the tendency to experience lower levels of post-RSB negative affect after engaging in RSB relatively weak for individuals who report possessing low levels of psychopathic personality traits?”). Level 2 predictors were grand-mean centered, as this type of centering allows for more precise estimation of intercepts and makes intercepts more interpretable (Raudenbush & Bryk, 2002).

**RSB and Post-RSB Affect**

A two-level model was used to examine within-person associations between RSB and post-RSB affect. The Level 1 model was as follows:

\[
y_{ij} = \beta_{0j} + \beta_{1j} \text{RISKY SEXUAL BEHAVIOR} + r_{ij},
\]

in which \(y\) is the post-RSB affect of person \(j\) on week \(i\), \(\beta_{0j}\) is a random coefficient representing the intercept for person \(j\), \(\beta_{1j}\) is a random coefficient for RSB, and \(r_{ij}\) represents error. For these analyses, the reports of RSB were person-mean centered (Raudenbush & Bryk, 2002). This technique was used because there was considerable variability in the reports of RSB across weeks (i.e., participants reported more RSB during some weeks than others) and between participants (i.e., some participants reported more RSB than was reported by other participants). Person-mean centering reduces the influence of habituation to the average amount of RSB reported by participants and adjusts for possible self-report biases. That is, the use of person-mean centering for weekly reports of RSB allowed for the examination of the association between post-RSB
affect and deviations from the participant’s average report of RSB (e.g., “Do participants report lower post-RSB negative affect for those weeks when they report more RSB than is typical for them?”).

Within-person associations between post-RSB affect and RSB were examined by analyzing Level 1 (within-person level) coefficients at Level 2 (between-person level) using the following model:

\[
\text{Intercept: } \beta_{0j} = \gamma_{00} + u_{0j}; \\
\text{Risky Sexual Behavior: } \beta_{1j} = \gamma_{10} + u_{1j}.
\]

In this model, \( \gamma_{00} \) represented the average of the within-person intercepts and \( \gamma_{10} \) represented the average reports of RSB. The within-person coefficients are modeled as random (i.e., \( u_{0j} \) and \( u_{1j} \) terms are included). There was no evidence of an association between RSB and post-RSB positive affect (\( \gamma_{10} = -.04, t = -2.01, p < .05, d = .47 \)). RSB was negatively associated with post-RSB negative affect (\( \gamma_{10} = -.08, t = -2.01, p < .05, d = .47 \)), indicating that participants reported lower levels of post-RSB negative affect during weeks when they engaged in more RSB.5

Psychopathic Personality Traits as a Predictor of Weekly Measures of RSB and Post-RSB Affect

A two-level model was used to examine whether psychopathic personality traits predicted weekly levels of RSB (controlling for the contribution of sensation seeking) and post-RSB affect. These effects were examined at Level 2 by modeling the variability of \( \beta_{0j} \), the coefficient from the Level 1 model representing the group mean. This type of analysis is referred to as a means as outcomes analysis (Bryk & Raudenbush, 1992;
Nezlek & Zyzniewski, 1998). To examine whether the average scores for RSB were associated with psychopathic personality traits, the following Level 2 model was used:

\[
\beta_{0j} = \gamma_{00} + \gamma_{01}(\text{Sensation Seeking}) + \gamma_{02}(\text{FD}) + \gamma_{03}(\text{SCI}) + \gamma_{04}(\text{FD} \times \text{SCI}) + u_{0j}.
\]

SCI was a significant predictor of RSB (\(\gamma_{03} = .13, t = 2.22, p < .05, d = .52\)) even when controlling for sensation seeking (\(\gamma_{03} = .16, t = 3.13, p < .01, d = .74\)). That is, higher levels of SCI were associated with more RSB over an eight-week period (even when controlling for the contribution of sensation seeking). In contrast, FD did not significantly predict RSB when controlling for sensation seeking (\(\gamma_{02} = .03, t = .64, p = .52\)) or when sensation seeking was removed from the model (\(\gamma_{02} = -.01, t = -.32, p = .75\)). Furthermore, the interaction of FD and SCI did not predict RSB when sensation seeking was included in the model (\(\gamma_{04} = .001, t = .20, p = .85\)) or when excluded from the model (\(\gamma_{04} = .001, t = .07, p = .94\)). The results of the model controlling for sensation seeking are presented in Table 5.

### Table 5

**MRCM Analysis: Psychopathic Personality Traits as a Predictor of Risky Sexual Behavior**

<table>
<thead>
<tr>
<th></th>
<th>(B)</th>
<th>(t)</th>
<th>(d)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Level 2</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercept</td>
<td>-.02</td>
<td>-0.07</td>
<td></td>
</tr>
<tr>
<td>Sensation seeking</td>
<td>-.10</td>
<td>-1.47</td>
<td></td>
</tr>
</tbody>
</table>
Table 5 (continued).

<table>
<thead>
<tr>
<th></th>
<th>$B$</th>
<th>$t$</th>
<th>$d$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fearless Dominance</td>
<td>.03</td>
<td>0.64</td>
<td></td>
</tr>
<tr>
<td>Self-Centered Impulsivity</td>
<td>.16</td>
<td>3.13*</td>
<td>.74</td>
</tr>
<tr>
<td>Fearless Dominance x Self-Centered Impulsivity</td>
<td>.001</td>
<td>0.20</td>
<td></td>
</tr>
</tbody>
</table>

Note. $N = 77$. MRCM = multilevel random coefficient models.

* $p < .01.$

To examine whether the average scores for post-RSB affect were associated with psychopathic personality traits, the following Level 2 model was used:

$$
\beta_{0j} = \gamma_{00} + \gamma_{01}(FD) + \gamma_{02}(SCI) + \gamma_{03}(FD \times SCI) + u_{0j}.
$$

The results are presented in Table 6. SCI was positively associated with post-RSB negative affect ($\gamma_{02} = .09$, $t = 3.67$, $p < .001$, $d = .86$). In contrast, FD was not significantly associated with post-RSB negative affect ($\gamma_{01} = .01$, $t = .58$, $p = .56$). Neither FD nor SCI was significantly associated with post-RSB positive affect ($\gamma_{01} = -.04$, $t = -.79$, $p = .43$ and $\gamma_{02} = .02$, $t = .36$, $p = .72$, respectively). The interaction of FD and SCI did not significantly predict post-RSB negative affect ($\gamma_{03} = .005$, $t = 1.36$, $p = .18$) or post-RSB positive affect ($\gamma_{03} = -.01$, $t = -1.93$, $p = .06$). Taken together, these results demonstrate that SCI is associated with higher average levels of RSB and post-RSB negative affect. However, there is no evidence supporting associations between FD and RSB or between FD and post-RSB affect. 7
Table 6

*MRCM Analysis: Psychopathic Personality Traits as a Predictor of Post-Risky Sexual Behavior Negative Affect and Positive Affect*

<table>
<thead>
<tr>
<th></th>
<th>Negative Affect</th>
<th>Positive Affect</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>t</td>
</tr>
<tr>
<td>Level 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercept</td>
<td>-6.08</td>
<td>38.34</td>
</tr>
<tr>
<td>FD</td>
<td>0.01</td>
<td>0.58</td>
</tr>
<tr>
<td>SCI</td>
<td>0.09</td>
<td>3.67*</td>
</tr>
<tr>
<td>FD x SCI</td>
<td>0.005</td>
<td>1.36</td>
</tr>
</tbody>
</table>

*Note. N = 77. MRCM = multilevel random coefficient models. FD = Fearless Dominance. SCI = Self-Centered Impulsivity. *p < .001.*

*Psychopathic Personality Traits as a Moderator of Within-Person Associations between RSB and Post-RSB Affect*

Analyses were conducted to examine whether the within-person associations described in the previous analyses varied as a function of person-level differences in psychopathic personality traits. Psychopathic personality traits failed to moderate the associations between RSB and post-RSB affect (see Table 7). This means that the associations between RSB and post-RSB affect were no stronger or weaker for individuals high in FD or SCI than for individuals who were low in these same traits.
Table 7

MRCM Analysis: Psychopathic Personality Traits as a Moderator of Within-Person Associations between Risky Sexual Behavior and Post-Risky Sexual Behavior Affect

<table>
<thead>
<tr>
<th></th>
<th>Negative Affect</th>
<th></th>
<th>Positive Affect</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>t</td>
<td>d</td>
<td>B</td>
</tr>
<tr>
<td>Level 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RSB</td>
<td>-.08</td>
<td>-2.01*</td>
<td>.47</td>
<td>-.04</td>
</tr>
<tr>
<td>Level 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercept</td>
<td>-.05</td>
<td>-0.95</td>
<td></td>
<td>-.09</td>
</tr>
<tr>
<td>FD</td>
<td>.00</td>
<td>0.08</td>
<td></td>
<td>-.04</td>
</tr>
<tr>
<td>SCI</td>
<td>-.04</td>
<td>-1.29</td>
<td>.10</td>
<td>1.52</td>
</tr>
<tr>
<td>FD x SCI</td>
<td>-.03</td>
<td>-1.25</td>
<td>.03</td>
<td>0.52</td>
</tr>
</tbody>
</table>

Note. N = 77. MRCM = multilevel random coefficient models. RSB = Risky Sexual Behavior. FD = Fearless Dominance. SCI = Self-Centered Impulsivity.

* p < .05.

Additional Exploratory Analyses

Although not part of the originally proposed analyses, several additional analyses were conducted. First, exploratory analyses were conducted to examine the covariation between measures of RSB and post-RSB psychological adjustment including: (a) state self-esteem, (b) shame, and (c) guilt. The second goal was to examine whether psychopathic personality traits predicted weekly levels of psychological adjustment. Additionally, exploratory analyses were conducted to examine how within-person
associations between RSB and psychological adjustment varied as a function of psychopathic personality traits.

**RSB and Post-RSB Psychological Adjustment**

A two-level model was used to examine within-person associations between RSB and post-RSB psychological adjustment. The Level 1 model was as follows:

\[ y_{ij} = \beta_{0j} + \beta_{1j} \text{RISKY SEXUAL BEHAVIOR} + r_{ij}, \]

in which \( y \) is the psychological adjustment of person \( j \) on week \( i \), \( \beta_{0j} \) is a random coefficient representing the intercept for person \( j \), \( \beta_{1j} \) is a random coefficient for RSB, and \( r_{ij} \) represents error. For these analyses, the reports of RSB were person-mean centered. Within-person associations between RSB and post-RSB psychological adjustment were examined by analyzing Level 1 (within-person level) coefficients at Level 2 (between-person level) using the following model:

**Intercept:** \( \beta_{0j} = \gamma_{00} + u_{0j} \);  

**Risky Sexual Behavior:** \( \beta_{1j} = \gamma_{10} + u_{1j} \).

In this model, \( \gamma_{00} \) represented the average of the within-person intercepts and \( \gamma_{10} \) represented the average reports of RSB. The within-person coefficients are modeled as random (i.e., \( u_{0j} \) and \( u_{1j} \) terms are included). The associations between RSB and post-RSB psychological adjustment varied across the indicators of adjustment, with these associations failing to reach conventional levels of significance for post-RSB self-esteem (\( \gamma_{10} = .31, t = 1.73, p = .08 \)) and post-RSB guilt (\( \gamma_{10} = -.11, t = -1.74, p = .08 \)). However, RSB was negatively associated with post-RSB shame (\( \gamma_{10} = -.15, t = -2.12, p < .05, d = .49 \)). Taken together, these results show that participants reported lower levels of post-RSB shame during weeks when they engaged in more RSB.
Psychopathic Personality Traits and Weekly Measures of Psychological Adjustment

A means as outcomes analysis was conducted to examine whether psychopathic personality traits were associated with weekly levels of psychological adjustment. To examine whether the average scores for RSB and psychological adjustment were associated with psychopathic personality traits, the following Level 2 model was used:

$$\beta_{0j} = \gamma_{00} + \gamma_{01}(FD) + \gamma_{02}(SCI) + \gamma_{03}(FD \times SCI) + u_{0j}.$$  

As can be seen in Table 8, the only significant association to emerge for FD concerned post-RSB self-esteem ($\gamma_{01} = .63, t = 2.88, p < .01, d = .68$) such that those with higher levels of FD tended to report relatively high levels of post-RSB self-esteem. SCI was negatively associated with post-RSB self-esteem level ($\gamma_{02} = -.85, t = -4.35, p < .001, d = 1.03$) and positively associated with post-RSB shame ($\gamma_{02} = .22, t = 3.65, p < .001, d = .86$) and post-RSB guilt ($\gamma_{02} = .10, t = 2.67, p < .01, d = .63$). Furthermore, the interaction of FD and SCI did not significantly predict post-RSB self-esteem ($\gamma_{03} = -.01, t = -.47, p = .64$), post-RSB shame ($\gamma_{03} = .01, t = .86, p = .40$), and post-RSB guilt ($\gamma_{03} = .01, t = 1.77, p = .08$). These results show that FD is associated with higher average levels of post-RSB self-esteem, whereas SCI is associated with lower average levels of post-RSB self-esteem and higher average levels of post-RSB shame and post-RSB guilt.
Table 8

**MRCM Analysis: Psychopathic Personality Traits as a Predictor of Post-Risky Sexual Behavior Psychological Adjustment**

<table>
<thead>
<tr>
<th></th>
<th>Self-Esteem</th>
<th></th>
<th>Shame</th>
<th></th>
<th>Guilt</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B  t  d</td>
<td>B  t  d</td>
<td>B  t  d</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Level 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercept</td>
<td>79.09 67.19</td>
<td>12.22 -40.76</td>
<td>7.41  34.30</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FD</td>
<td>.63  2.88*  .68</td>
<td>-0.03 -0.64</td>
<td>0.04  1.47</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SCI</td>
<td>-.85 -4.35**  1.03</td>
<td>.22  3.65** .86</td>
<td>0.10  2.67* .63</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FD x SCI</td>
<td>-0.01 -0.47</td>
<td>0.01  0.86</td>
<td>0.01  1.77</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note. N = 77. MRCM = multilevel random coefficient models. FD = Fearless Dominance. SCI = Self-Centered Impulsivity.*

*p < .01. **p < .001.

**Psychopathic Personality Traits as a Moderator of Within-Person Associations between RSB and Post-RSB Psychological Adjustment**

This analysis examined whether individual differences in psychopathic personality traits moderated the association 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 using a model such as the following:

\[
\beta_{0j} = \gamma_{00} + \gamma_{01}(FD) + \gamma_{02}(SCI) + \gamma_{03}(FD \times SCI) + u_{0j} ;
\]

\[
\beta_{1j} = \gamma_{10} + \gamma_{11}(FD) + \gamma_{12}(SCI) + \gamma_{13}(FD \times SCI) + u_{1j} .
\]
In these models, the moderating effect of psychopathic personality traits was tested by the significance of the $\gamma_{11}$, $\gamma_{12}$, and $\gamma_{13}$ coefficients. These coefficients can be interpreted like standardized regression coefficients because Level 2 variables were standardized prior to analysis (Nezlek & Plesko, 2003; see Table 9). SCI was found to moderate the association that RSB had with post-RSB self-esteem ($\gamma_{12} = .41, t = 2.79, p < .01, d = .66$), post-RSB shame ($\gamma_{12} = -.16, t = -2.52, p < .05, d = .59$), and post-RSB guilt ($\gamma_{12} = -.10, t = -2.02, p < .05, d = .48$). In each case, the main effect of SCI was qualified by its interaction with FD: post-RSB self-esteem ($\gamma_{13} = .23, t = 2.29, p < .05, d = .54$), post-RSB shame ($\gamma_{13} = -.12, t = -2.82, p < .01, d = .66$), and post-RSB guilt ($\gamma_{13} = -.10, t = -2.35, p < .05, d = .55$).

Table 9

**MRCM Analysis: Psychopathic Personality Traits as a Moderator of Within-Person Associations between Risky Sexual Behavior and Post-Risky Sexual Behavior**

**Psychological Adjustment**

<table>
<thead>
<tr>
<th></th>
<th>Self-Esteem</th>
<th></th>
<th>Shame</th>
<th></th>
<th>Guilt</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$B$</td>
<td>$t$</td>
<td>$d$</td>
<td>$B$</td>
<td>$t$</td>
</tr>
<tr>
<td><strong>Level 1</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RSB</td>
<td>.31</td>
<td>1.73</td>
<td>-.15</td>
<td>-2.12*</td>
<td>.49</td>
</tr>
<tr>
<td><strong>Level 2</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercept</td>
<td>.07</td>
<td>0.47</td>
<td>-.02</td>
<td>-.36</td>
<td>-.05</td>
</tr>
<tr>
<td>FD</td>
<td>-.17</td>
<td>-1.18</td>
<td>.01</td>
<td>0.25</td>
<td>.05</td>
</tr>
<tr>
<td>SCI</td>
<td>.41</td>
<td>2.79**</td>
<td>.66</td>
<td>-.16</td>
<td>-2.52*</td>
</tr>
<tr>
<td>FD x SCI</td>
<td>.23</td>
<td>2.29*</td>
<td>.54</td>
<td>-.12</td>
<td>-2.82**</td>
</tr>
</tbody>
</table>
To examine the pattern of these cross-level interactions, simple slopes tests were employed that have been adapted for multilevel models (Curran, Bauer, & Willoughby, 2006). For the analysis concerning self-esteem, the slope of the line representing the association between RSB and post-RSB self-esteem was positive for those with low levels of FD but high levels of SCI ($\gamma_{13} = .34$, $t = 3.21$, $p < .01$, $d = .76$; see Figure 1).

\[ B = -.05, t < 1, \text{ ns} \]
\[ B = -.01, t < 1, \text{ ns} \]
\[ B = .09, t = 1.71, \text{ ns} \]
\[ B = .34, t = 3.21, p < .01 \]

*Figure 1.* Predicted values for the association between RSB and post-RSB state self-esteem, illustrating the cross-level interaction of Fearless Dominance (one standard deviation above and below the grand mean) and Self-Centered Impulsivity (one standard deviation above and below the grand mean).

The remaining associations did not approach conventional levels of significance ($|\gamma_{13}| < .09$, $ts < 1.71$, ns). As can be seen in Figure 2, a conceptually similar pattern
emerged for post-RSB guilt such that the slope of the line representing the association between RSB and post-RSB guilt was negative for those with low levels of FD and high levels of SCI ($\gamma_{13} = -.20$, $t = -2.61$, $p < .01$, $d = .62$) but the remaining associations did not approach conventional levels of significance ($|\gamma_{13}| < .10$, $ts < 1.32$, $ns$).

This pattern also emerged for post-RSB shame such that the slope of the line representing the association between RSB and post-RSB shame was negative for those with low levels of FD and high levels of SCI ($\gamma_{13} = -.21$, $t = -2.75$, $p < .01$, $d = .65$) as well as those with high levels of both FD and SCI ($\gamma_{13} = -.17$, $t = -2.39$, $p < .01$, $d = .56$). See Figure 3. The remaining associations for post-RSB shame did not approach conventional levels of significance ($|\gamma_{13}| < .14$, $ts < 1.63$, $ns$). See Table 3. Taken
together, these results reveal that individuals with low levels of FD but high levels of SCI 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.\textsuperscript{11}

\textbf{Weekly Risky Sexual Behavior}

\textit{Figure 3.} Predicted values for the association between RSB and post-RSB shame, illustrating the cross-level interaction of Fearless Dominance (one standard deviation above and below the grand mean) and Self-Centered Impulsivity (one standard deviation above and below the grand mean).
CHAPTER IV
DISCUSSION

The present study extends findings from previous studies that utilized cross-sectional data by examining whether psychopathic personality traits predicted RSB over an eight-week period (above and beyond sensation seeking) using a weekly diary method. Given the disproportionate number of women in the current sample, the moderating role of gender in the relation between psychopathic personality traits and RSB could not be examined, and the findings are discussed in the context of the female sample.

In the present study, FD did not predict weekly self-reported RSB. Only SCI was a significant predictor of future RSB above and beyond the contribution of sensation seeking. It is important to note that although SCI significantly predicted weekly RSB in the multilevel model, SCI was not significantly correlated with weekly self-reported RSB. This discrepancy is most likely due to differences in the way that HLM and correlation quantify error. HLM produces error terms that account for the potential dependency due to nesting effects whereas correlation does not. Specifically, HLM separates the criterion variance into within and between components, and subsequently, error terms are not systematically biased (Raudenbush & Bryk, 2002). Accordingly, a multilevel coefficient can be considered a more accurate indicator of effect size than a zero-order correlation between SCI and weekly RSB scores.

The cross-sectional results were not entirely parallel with the longitudinal results in the present study. On the one hand, the association between SCI and RSB in the cross-sectional results ($r = .28, p < .05$) was very similar to those found in the longitudinal results of the present study ($B = .12$ or $r = 28, p = .01$) and in the results of Fulton et al.
(2010) \( r = 20, p < .01 \). On the other hand, FD was positively correlated with baseline RSB in the cross-sectional results \( r = .26, p < .05 \), whereas FD was not significantly correlated with weekly RSB in the longitudinal results \( B = .02 \) or \( r = .05, ns \) or in Fulton et al.’s (2010) results \( r = .09, ns \). These divergent results are most likely explained by the shared variance of FD and SCI. In fact, when SCI was controlled for, FD no longer explained a significant amount of unique variance in RSB in the cross-sectional results.

In addition to being consistent with the findings of Fulton et al. (2010), the longitudinal results in the present study are consistent with evidence that the Impulsive-Irresponsible factor (conceptually similar to SCI) predicted RSB among a sample of adolescent girls (Ručević, 2010). Thus, it appears that women who are high in impulsivity, thrill-seeking, negative affectivity, and have a tendency to engage in antisocial behavior (i.e., SCI traits) report engaging in higher levels of RSB. One possibility for the present results is that RSB serves an emotion regulatory function for individuals high in SCI. According to Westen (1994), individuals who experience frequent or intense negative emotions are more likely to regulate their emotions through maladaptive means such as emotional avoidance. Emotional avoidance can be achieved through various means including substance use and other risky behaviors that serve to numb intense negative emotions (Linehan, 1993). For example, Cooper et al. (1998) found that individuals engage in certain forms of RSB, such as having indiscriminate sexual contact, to escape negative emotions. Given the strong positive association between SCI and baseline negative affect in the present study and previous evidence that individuals high in SCI tend to also be high in negative emotionality (e.g., see Marcus et
al., in press for a review), it is possible that these individuals engage in RSB to modulate negative emotions.

In the present study, RSB was also associated with reports of post-RSB psychological adjustment. Specifically, RSB was negatively associated with post-RSB negative affect and shame. However, there was no association between RSB and post-RSB positive affect, guilt, or self-esteem. Thus, individuals who reported engaging in more RSB tended to experience less post-RSB negative affect and shame following RSB events. The effects of RSB on post-RSB psychological adjustment were further clarified by the moderating role of psychopathic personality traits. Specifically, among individuals low in FD and high in SCI, RSB was positively correlated with post-RSB self-esteem, whereas RSB was negatively associated with post-RSB shame and guilt. Among individuals high in both FD and SCI, RSB was negatively associated with post-RSB shame. Taken together, these findings suggest that individuals low in FD but high in SCI experience 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.

The negative associations between RSB and post-RSB shame and guilt further suggest that RSB serves an emotion regulatory function, particularly among individuals low in FD and high in SCI. However, it is surprising that the interaction between low FD and high SCI was associated with more positive post-RSB psychological adjustment, given Marcus et al.’s (2011) suggestion that high levels of both FD and SCI are likely to be most problematic. Following from the proposition that RSB serves an emotion regulatory function, it is possible that for individuals high in SCI, being high in FD does not matter much in terms of providing a buffer against frequent and intense negative
emotions (with the exception being the relation between RSB and shame). In contrast, being low in FD may put individuals high in SCI at increased risk for intense negative emotionality and subsequent emotion dysregulation, as these individuals are lacking the more adaptive aspects of psychopathy that are associated with FD (e.g., positive emotionality, high self-esteem). It is important to acknowledge that this interpretation is merely speculative, however, given the lack research on the moderating role of psychopathic personality traits in the association between RSB and post-RSB psychological adjustment. Further research is needed to replicate these findings and delineate the source of these patterns.

In addition to serving an emotion regulatory function, RSB may also serve to boost self-esteem levels. That is, individuals high in SCI and low in FD may also use RSB to enhance their self-esteem by increasing their feelings of being desirable and wanted. In fact, individuals may engage in risky behaviors to enhance their self-esteem. Specifically, Baumeister and Scher (1988) have suggested that when deciding to engage in risky behaviors, individuals are most concerned with minimizing potential losses and maximizing potential gains. For example, when faced with the decision to engage in RSB, individuals face both the possibility of contracting a potentially life-threatening disease and the opportunity to experience excitement and enhance intimacy. Thus, individuals must weigh the potential losses and gains and choose a course of action. However, Baumeister and Scher (1998) suggest that the need to validate one’s sense of self-worth can lead individuals to overemphasize the possible gains of risky behaviors if those behaviors can enhance self-esteem. Indeed, evidence suggests that sex has the capacity to enhance feelings of self-worth and positive esteem (e.g., Goldenberg, McCoy,
Pyszczynski, Greenberg, & Solomon, 2000; Goldenberg, Pyszczynski, McKoy, Greenberg, & Solomon, 1999). Future studies should examine the mediating roles of emotion regulation and self-esteem enhancement, as well as other specific motivations (e.g., emotional intimacy, partner manipulation, physical pleasure, procreation) to identify mechanisms underlying the relation between RSB and post-RSB psychological adjustment among individuals high in psychopathic personality traits.

Implications

In addition to expanding on the previous literature by replicating the findings of Fulton et al. (2010) for women and examining the associations among psychopathic personality traits, RSB, and post-RSB affect over time, the findings from the present study also have implications for informing RSB interventions. Specifically, the present findings may facilitate matching of women to specialized interventions tailored to target the maladaptive cognitive, interpersonal, and behavioral aspects of FD and SCI. Individuals low in FD and high in SCI appear to experience frequent and intense negative emotions. If these individuals engage in RSB as a means to reduce or escape negative emotions, then RSB is negatively reinforcing, and subsequently, is more likely to be used as a strategy to cope with negative emotions in the future. Therefore, individuals low in FD and high in SCI may benefit from interventions that teach them to tolerate extreme emotional states and to inhibit destructive initial response tendencies. One efficacious treatment that focuses on just these issues is the distress tolerance skills training module of Linehan’s (1993) Dialectical Behavior Therapy.

The goal of distress tolerance training is to teach individuals to respond adaptively during extreme emotional states and to avoid ill-chosen, rash actions. Although the
treatment module was originally designed to target maladaptive behaviors in which individuals with borderline personality disorder typically engage (e.g., suicidal gestures and attempts, angry outbursts, reckless driving, RSB, and excessive spending), DBT skills training has been applied effectively with disorders other than borderline personality disorder, including depression (e.g., Gratz, Tull, & Wagner, 2005), substance use (e.g., Dimeff, Rizvi, Brown, & Linehan, 2000), bulimia nervosa and anorexia nervosa (e.g., Kröger et al., 2010).

In contrast to women low in FD and high in SCI, women high in both FD and SCI may benefit more from intervention approaches that are self-focused. Specifically, these women may benefit from interventions that emphasize their needs and rights while de-emphasizing the well-being of others. For example, interventions could highlight that the use of birth control and condoms may protect *them* from an STD or an unintended pregnancy. Furthermore, among women high in both FD and SCI, educational strategies that emphasize the negative health (e.g., increased risk of cervical cancer) and social consequences of engaging in certain forms of RSB, such as having numerous sex partners, may be particularly appealing as such strategies may capitalize on their natural proclivities for self-protection and self-promotion. Future research is needed to examine the clinical utility of this research, including the examination of potential gender similarities and differences in trends of engaging in RSB among individuals high in psychopathy as such information may further guide intervention development.

**Limitations and Future Research**

Although several interesting findings emerged from this project, they must be interpreted within the context of limitations. First and foremost, the lack of male
participants in the present study precluded the examination of gender as a moderator in the relation between psychopathic personality traits and RSB. Therefore, future research is needed to replicate previous findings that support the moderating role of gender in the relation between psychopathic personality traits and RSB (e.g., Fulton et al., 2010).

In addition to gender differences in the relation between psychopathy and RSB, evidence suggests that there are gender differences in the traits and expression of psychopathy (e.g., Forouzan, & Cooke, 2005; Hamburger, Lilienfeld, & Hogben, 1996; Hicks, Vaidyanathan, & Patrick, 2010; Miller, Watts, & Jones, 2011; Nicholls, Ogloff, Brink, & Spidel, 2005). For example, Hicks et al. (2010) found gender differences in the manifestation of secondary psychopathy. More recently, Miller and colleagues (2011) found that among women, factor two of the Self-Report Psychopathy Scale – III (Williams, Paulhus, & Hare, 2007) which is characterized by impulsivity, irresponsibility, and antisocial behavior, 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” (Miller et al., 2011, p. 568). Thus, because this sample was comprised solely of women, these results should not be generalized to men. Furthermore, future research would likely benefit from extending this research with a mixed gender sample.

Another limitation of the present study was the use of self-report measures. This mono-method bias may have yielded inflated associations among the measures and may have particular implications for reports of RSB. According to Baumeister’s (1982) self-presentation theory, individuals may not provide accurate information regarding sensitive
topics because they are concerned about how other people may view them. Because RSB is a sensitive topic and the present study relied on self-reports of RSB with no factual verification (i.e., partner report), it is always possible that participants minimized (or exaggerated) their reports of RSB. These limitations may be addressed in future research by measuring RSB, as well as other constructs, using other means (e.g., partner report, collateral reports, evaluations from peers and family members). However, it is important to note that although it may be possible to obtain corroborating data about particular behaviors (e.g., condom use) from sexual partners, some circumstances (e.g., when a partner is poorly known) may make doing so extremely difficult or even impossible. Therefore, reliance on self-report data may be a general limitation of research in the area of RSB.

The present study attempted to address limitations of cross-sectional studies that have relied on retrospective reports of RSB (e.g. Fulton et al., 2010) by reducing the interval between occurrence of the behavior and recall. However, despite minimizing this interval, there is likely still unaccounted for error in these retrospective reports. Recall bias may have also influenced the accuracy of self-reported post-RSB affect and psychological adjustment. That is, although participants were required to complete weekly diaries within a specified time window each week, it is possible that participants’ psychological states at the time of the diary entries impacted the recall of their feelings following RSB events. For example, a state of high positive affect may make it more likely that one remembers a sexual encounter as more (or less) enjoyable than it actually was. Measurement approaches that better minimize recall bias, such as ecological momentary assessment which allows for repeated sampling of current behaviors and
experiences in real time, may be ideal for identifying temporal antecedents and consequences of RSB.

Finally, future research should examine the influence of other relevant personality variables on the relation between RSB and post-RSB psychological adjustment. For example, high levels of shame proneness (i.e., one’s “propensity to experience episodic shame states in response to failures or transgressions”; Tangney, Youman, & Stuewig, 2009, p. 195) may deter some individuals from engaging in RSB. Put another way, individuals low in shame proneness may be more likely to engage in RSB. Furthermore, shame proneness may influence the relation between RSB and post-RSB psychological adjustment (e.g., state shame). A better understanding of how such personality traits are associated with RSB may further inform RSB interventions.
CHAPTER V

CONCLUSION

The present study demonstrated that higher levels SCI were associated with more RSB over time and that participants reported lower levels of 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 FD but high in SCI 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.

This information may be useful in developing targeted RSB interventions for individuals high in psychopathic personality traits. For example, the distress tolerance skills training component of Dialectical Behavior Therapy could be adapted for use with individuals low in FD but high in SCI. In contrast, intervention strategies that take advantage of self-protection and self-promotion motives may be particularly useful among individuals high in both FD and SCI.

In short, findings from the present study provide a useful starting point for understanding the moderating role of psychopathic personality traits in the relation between RSB and post-RSB psychological adjustment. Future research examining the mediating roles of emotion regulation and self-esteem enhancement will be necessary to more fully understand the processes by which RSB influences post-RSB psychological adjustment at different levels of psychopathy.
FOOTNOTES

1. Following methods used in previous research (e.g., Zeigler-Hill & Showers, 2007), coefficient alphas for the weekly measures were computed across multiple events for the same person.

2. Self-reported weekly RSB scores and post-RSB positive affect were positively correlated in the full sample ($r = .29, p < .01$).

3. Sixty percent ($n = 6$) of male participants reported being in a committed relationship, with an average length of 15 months ($SD = 18.74$; range = 1 – 52). Male participants ($n = 10$) reported an average of 11.60 ($SD = 9.41$; range = 2 – 30) lifetime sexual partners and a mean of 1.40 ($SD = .97$; range = 0-3) sexual partners in the six months preceding the study.

4. To examine the possibility that scores on the SRS were inflated by the high rates of less risky sexual behaviors (e.g., unprotected oral sex) endorsed in the present study, an alternative composite score of RSB that included only the riskiest items from the SRS (e.g., anal sex without a condom, sex with an unknown partner) was computed. When the primary analyses were conducted using this alternative composite score, the results remained the same.

5. Effect sizes were computed using the following formula (Rosenthal & Rosnow, 1984): $d = 2t / (df)^{1/2}$.

6. In the full sample, SCI did not significantly predict RSB above and beyond sensation seeking ($B = .14, t = 1.34, p = .18$) or when sensation seeking was removed from the model ($B = .14, t = 1.36, p = .18$).
7. Controlling for baseline positive affect and negative affect did not change the results of any analyses in which post-RSB positive affect or post-RSB negative affect served as the dependent variable.

8. Controlling for baseline self-esteem did not change the results of any analyses in which post-RSB self-esteem served as the dependent variable.

9. FD was not significantly associated with post-RSB self-esteem in the full sample ($B = .55, t = 1.18, p = .24$).

10. RSB was not significantly associated with post-RSB shame in the full sample ($B = -.08, t = -1.34, p = .18$).

11. In the full sample, psychopathic personality traits failed to moderate the associations between RSB and post-RSB (a) self-esteem, (b) shame, and (c) guilt.
APPENDIX

INSTITUTIONAL REVIEW BOARD DOCUMENTATION

THE UNIVERSITY OF SOUTHERN MISSISSIPPI

Institutional Review Board

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HUMAN SUBJECTS PROTECTION REVIEW COMMITTEE
NOTICE OF COMMITTEE ACTION

The project has been reviewed by The University of Southern Mississippi Human Subjects Protection Review Committee in accordance with Federal Drug Administration regulations (21 CFR 26, 111), Department of Health and Human Services (45 CFR Part 46), and university guidelines to ensure adherence to the following criteria:

- The risks to subjects are minimized.
- The risks to subjects are reasonable in relation to the anticipated benefits.
- The selection of subjects is equitable.
- Informed consent is adequate and appropriately documented.
- Where appropriate, the research plan makes adequate provisions for monitoring the data collected to ensure the safety of the subjects.
- Where appropriate, there are adequate provisions to protect the privacy of subjects and to maintain the confidentiality of all data.
- Appropriate additional safeguards have been included to protect vulnerable subjects.
- Any unanticipated, serious, or continuing problems encountered regarding risks to subjects must be reported immediately, but not later than 10 days following the event. This should be reported to the IRB Office via the “Adverse Effect Report Form”.
- If approved, the maximum period of approval is limited to twelve months. Projects that exceed this period must submit an application for renewal or continuation.

PROTOCOL NUMBER: 29121701
PROJECT TITLE: Personality and Health Behavior; Personality and Sexual Behavior
PROPOSED PROJECT DATES: 01/19/10 to 05/19/11
PROJECT TYPE: Dissertation or Thesis
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PERIOD OF APPROVAL: 01/19/10 to 01/18/11

Lawrence A. Hosman, Ph.D.
HSPRC Chair

1-20-10
Date
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