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The Relationship Between Trauma-Related Shame, Disordered Behaviors, and Contextual Factors of Sexual Trauma Beyond Trait-Shame and Sex-Guilt

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THE RELATIONSHIP BETWEEN TRAUMA-RELATED SHAME, DISORDERED
BEHAVIORS, AND CONTEXTUAL FACTORS OF SEXUAL TRAUMA BEYOND TRAIT-
SHAME AND SEX-GUILT

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ABSTRACT

THE RELATIONSHIP BETWEEN TRAUMA-RELATED SHAME, DISORDERED BEHAVIORS, AND CONTEXTUAL FACTORS OF SEXUAL TRAUMA BEYOND TRAIT-SHAME AND SEX-GUILT

Michele Laaksonen
Virginia Consortium of Clinical Psychology, 2016
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Relatively little is known about the effect of contextual factors of sexual trauma (age at trauma, type of trauma, perpetrator gender, tactics, and relationship) and trauma-related shame and risk-taking motivations. Therefore, the current study aimed to examine this relationship among a sample of 360 undergraduate women with histories of sexual trauma, hypothesizing that trauma-related shame and motivations for participation in extreme sports, drinking games, and sex would differ based on the contextual factors of sexual trauma and the past experience of non-sexual trauma. Age was related to the linear combination of trauma-related shame and risk-taking motivations. Furthermore, contact, relationship, and disclosure were related to the linear combination of trauma-related shame but not risk-taking motivations. Additionally, in all analyses, nonsexual trauma had a significant effect on trauma-related shame; however, nonsexual trauma only had a significant effect on the linear combination of risk-taking motivations in four of the six analyses (i.e., age, contact, gender, and disclosure). Future research should examine other measures to study trauma-related shame and should explore the effects of contextual factors on risk-taking motivations for a wider variety of risky behaviors.

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This dissertation is dedicated to victims of sexual trauma.

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INTRODUCTION

There is a clear correlation for victims of sexual trauma with sexual traumas and shame (Gilbert, 1998) as well as with sexual trauma, shame, and risk-taking (Lindquist et al., 2013; Wayment & Aronson, 2002). This relationship may be due in part to post-traumatic stress symptoms (Semb, Stromsten, Sundbom, Fransson, & Henningsson, 2011) or factors known to increase traumatic stress, such as prior sexual trauma (Nishith, Mechanic, & Resnick, 2000), prior non-sexual trauma (Briere, Kaltman, & Green, 2008; Frazier et al., 2009), or contextual factors of sexual trauma. Contextual factors include the nature of the sexual contact, gender of the perpetrator, or tactics used (McCauley, Ruggiero, Resnick, Conoscenti, & Kilpatrick, 2009).

The Dynamics of Sexual Trauma

Sexual trauma has been explored utilizing various definitions based on the nature of the sexual contact. Sexual trauma may be defined as 1) a person's explicit expression of non-consent (i.e., "the no means no" standard), 2) implied expression of non-consent (e.g., the sexual act occurs with force, threat of force, coercion, or drugs), 3) a person's age (e.g., being a minor or under the legal age of consent and engaging in unwanted sexual acts or being a willing participant with a sexual partner whose age meets statutory sexual trauma laws), or 4) a person's lack of self-determination (e.g., individuals who are deemed competent to exercise the right to make autonomous decisions about their lives), such as individuals who have legal custodians, such as inmates, or situations when individuals are prevented from having an accurate understanding of the sexual situation, such as fraud) (Choudhary, 2009; Falk, 1998; Koss et al., 2007). In terms of consent, Peterson and Muehlenhard (2007a) theorized consent should not exclusively be determined by an external expression of one's willingness to engage in a sexual act but also an internal willingness to engage in the sexual act based on findings that on a measure of overall wantedness. They found 5% of rape victims report wanting intercourse, for

reasons such as being drunk or physical arousal during preceding, non-penetrative sexual behavior, and 6% of individuals who expressed consent reported the intercourse was unwanted. This theory thereby expands the definition of sexual assault to include individuals who expresses that the act is unwanted as sexual trauma victims. Additional research of trauma victims has supported the importance of wantedness in analyzing sexual trauma (Okigbo, 2011). Sexual trauma can be further defined by the nature of contact that can overlap: contact (e.g., rape or sexual assault) and non-contact (e.g., sexual harassment), penetration (e.g., rape) and non-penetration (e.g., sexual assault or sexual harassment), or specific sexual acts of harassment (e.g., exhibitionism, voyeurism, or sexually harassing gestures/photos/verbal comments), assault (e.g., fondling or attempted oral, vaginal, or anal penetration), or rape (e.g., oral, vaginal, or anal penetration) (Rind, Tromovitch, & Bauserman, 1998). Depending on the definition used, studies have found the following prevalence rates of sexual trauma: 7.7% to 50% for girls/female adolescents (Dhaliwal, Gauzas, Antonowicz, & Ross, 1996; Pereda, Guilera, Forns, & Gomez-Benito, 2009), 33% to 54% for college women (Kalof, 2000; Koss, Gidycz, & Wisniewski, 1987), 20-25% for rape among college women (Fisher, Cullen, & Turner, 2000), and, for sexual harassment, upwards of 97% of college women (Yoon, Funk, & Kropf, 2010). These varied prevalence rates highlight the need for specificity regarding contextual factors of the trauma when exploring the consequences of sexual assault.

While sexual assault refers to a specific negative life event, it also refers to a subsequent sequela of mental health symptoms, including intrusive memories, hyperarousal, avoidance of trauma reminders, emotional numbing, changes in cognition, and persistent negative emotional states. When all of these symptoms are present, Posttraumatic Stress Disorder (PTSD) may be diagnosable. Studies have shown lifetime prevalence rates of PTSD for sexual assault victims

ranging from 11.1% for attempted molestation to 57% for completed rape (Basile, Chen, Black, & Saltzman, 2007; Kilpatrick, Saunders, Veronen, Best, & Von, 1987; Finkelhor, Turner, Hamby, & Omrod, 2009) and ranging from 94% at one week post-trauma to 65% at one month post-trauma (Resnick, Kilpatrick, & Lipovsky, 1991). Also, college studies have found the prevalence of PTSD was 17.2-33.2% among women who experienced sexual harassment (Palmieri & Fitzgerald, 2005), 33% among women who experienced unwanted sex (Read, Ouimette, White, Colder, & Farrow, 2011), and 14.8% among women who experienced an attempted or completed rape (Elhai, Miller, Ford, Biehn, Palmieri, & Frueh, 2012). PTSD is more highly correlated with sexual assault than with any other form of trauma for college women (Frazier et al., 2009).

Research has shown that post traumatic symptom presentation and severity are highly influenced by the contextual factors of sexual assault. Each of the following has been positively correlated with post-traumatic stress symptoms: the physical acts perpetrated (McCauley et al., 2009; Zinzow, Seth, Jackson, Niehaus, Fitzgerald, 2010), the relationship to the perpetrator (Culbertson & Dehle, 2001), the onset of the trauma (Fischer, Stojek, & Hartzell, 2010; Littleton, Magee, & Axdsom, 2007; Zayed, 2008), or the presence of revictimization (Roodman & Clum, 2001). Across contextual factors, one feature of PTSD that has received increased attention in the American Psychological Association's Diagnostic and Statistical Manual of Mental Disorders – 5th Edition (DSM-5) is an alteration in mood, where the traumatized person experiences an increase in negative emotions, such as fear, anger, guilt, and also shame (Badour, Resnick, & Kilpatrick, 2015). In fact, PTSD has even been conceptualized as a “shame disorder” (Herman, 2011). Both the intensity of negative emotion and emotional dysregulation (i.e., deficits in managing one's emotions) have been associated with PTSD symptom severity

for female trauma victims (Newton & Ho, 2008) and for college trauma victims, even after controlling for negative emotion (Tull, Barrett, McMillan, & Roemer, 2007).

Shame

Shame refers to one's negative emotion about one's sense of self, which is distinct from guilt, or one's negative emotion about one's behaviors. Shame has been described as both a private and public emotion, where it may arise from "a profound disappointment in the kind of person one thought one was" (Manion, 2002, p. 76), or from the realization that others do not approve of the person because the person has broken or failed to meet social standards (Miller, 2011). Some have described shame in the context of disgust, by noting how both result in the disregard for and rejection of the self, but disgust involves a more intense, "violent rejection" of the self, or others (Miller, 2013, p. 92). Others have amalgamated these views by conceptualizing shame in the context of fear and threat, where shame is a "fear of exposure" (Gilbert, 1997, p. 113; Dorahy & Clearwater, 2012) or "the emotion that accompanies the failure to have defended the self at the center of its peripersonal space from either physical or social threat and the behavioral component is the urge to withdraw, to hide" (Corrigan, 2014, p. 174) through non-verbal behaviors, such as changes in posture or facial expressions (Keltner & Harker, 1998) and/or actions aimed at withdrawing from or attacking the self or others (Elison, Lennon, & Pulos, 2006). One interpersonal interaction that has been shown to affect one's sense of personal identity (Whiston, 1981; Wilson, 2005) and social identity (Budden, 2009), primarily through increasing one's sense of being negatively judged (Maercker & Müller, 2004; Peterson & Muehlenhard, 2004) and being surrounded by physical/social threats, is sexual trauma (Gordon & Riger, 1989; Dobbs, Waid, & Shelley, 2009). Interestingly, shame has also been conceptualized in the context of emotional regulation, where the state of shame is thought to

represent a fusion of various affective states, such as fear, anger, and betrayal (Wilson, Droždek, & Turkovic, 2006) and have properties of traumatic memories, such as dissociation, emotional numbing, and intrusions, even when the shame experience was not related to trauma (Matos & Pinto-Gouveia, 2010).

For victims of sexual assault, shame has been associated with feelings of powerlessness, inadequacy, self-condemnation, disgrace, exposure, humiliation/embarrassment, or feeling damaged (Beck et al., 2004; Harelli & Parkinson, 2008) as well as beliefs that they deserved the assault and/or they will be defamed because of the trauma (Weiss, 2010). One study reported 75% of female victims of sexual assault endorsed feeling shame following the trauma (Vidal & Petrak, 2007), while another study of female rape victims found 91.1% reported feeling humiliated (Kaysen, Morris, Rizvi, & Resnick, 2005).

Most studies of shame and trauma have focused on shame as a univariate construct (Davis, 2011; Feinauer, Hilton, & Callahan, 2003; Zayed, 2008), where “attention has been so strongly focused on the idea that some individuals exhibit a problematic disposition or inclination to experience shame, that the term ‘shame’ is sometimes used to refer to a dispositional trait rather than an emotional state” (Leeming & Boyle, 2004, p. 376). However, this discrepancy may reflect shame as a multidimensional construct (Wilson et al., 2006; Laaksonen, Hacker, & Lewis, 2015). For example, shame can describe one’s proneness to low self-regard (trait-related shame), which is believed to be relatively consistent, similar to personality (Kaufman, 1989; Mills, 2005). Trait-related shame has been associated with sexual trauma and sexual coercion in general (Feinauer et al., 2003; Glenn & Byers, 2009) as well as with post-traumatic stress symptom severity among individuals who have experienced a trauma (Leskela, Dieperink, & Thuras, 2002), sexual harassment (Larsen & Fitzgerald, 2011), childhood

sexual assault (Andrews, Brewin, Rose, & Kirk, 2000; Parvizian, 2004), rape (Pelletier, 2012), or sexual assault that occurred in both childhood and adulthood (Filipas & Ullman, 2006).

Shame can also be described as one's feelings of diminished self-worth stemming from a specific event or trauma (trauma-related shame) (Glenn & Byers, 2009; Goss, Gilbert, & Allan, 1994). There is significantly less research on trauma-related shame, but research at six months post trauma and one year post trauma has suggested this form of shame is dynamic (i.e., variable) (Feiring & Taska, 2005). Among trauma victims, trauma-related shame is predictive of PTSD symptom severity (Øktedalen, Hoffart, & Langkaas, 2015). Other studies have found that trauma-related shame has been correlated with PTSD severity for college females with childhood sexual abuse histories (Zinzow, et al., 2010) and with adolescent or adult sexual assault histories (Najdowski & Ullman, 2009). Additionally, one community sample highlighted that trauma-related shame may partially mediate the relationship between trait-shame and posttraumatic stress symptoms, which they hypothesized was because trauma-related shame represented a current emotional state and may be associated with increased avoidance (Semb et al., 2011). In a college sample of victims of interpersonal and impersonal trauma, of whom approximately 20% were victims of childhood sexual abuse, trauma-related shame was assessed via a retrospective question about how much trauma the victims experienced at the time of their trauma. This study found trauma-related shame to be both an independent predictor of PTSD symptom severity and a mediator between the effects of prior trauma on current PTSD symptom severity, when controlling for fear experienced at the time of the trauma (La Bash & Papa, 2014).

Research has further suggested victims of trauma respond to shame via behavioral responses geared at hiding "the perceived defect from others" in an effort towards self-protection (La Bash & Papa, 2014). Additionally, several researchers have proposed one's use of specific,

risky behaviors, or behaviors that have the potential of resulting in an “undesirable or even dangerous” outcome (Byrnes, Miller, & Schafer, 1999), may represent one’s effort to suppress, conceal, or avoid a sense of a corruption in one’s character caused by a stressful situation (behavioral shame) (Davis, 2011; Dwyer, 2010; Etzel, 2004; Hunziker, 2005) and therefore is a form of shame (Laaksonen et al., 2015).

Risk-Taking as Shame

Many individuals engage in potentially dangerous behaviors, such as excessive alcohol consumption, extreme sports, or risky sexual behavior, which pose a potential “unacceptable threat to physical, financial, or psychological well-being” (Lupton & Tulloch, 2002, p. 116). While people’s motivations are vast, reasons for risk-taking can be categorized in four ways: sensation seeking (e.g., thrill-seeking, novelty, or physical pleasure), emotional regulation (e.g., emotional avoidance, emotional reassurance, emotional expressivity, or general coping), social enhancement (e.g., social lubrication, celebration, intimacy enhancement, or conformity), or control (e.g., sexual manipulation or general agency) (Barlow, Woodman, & Hardy, 2013; Bornovalova, Daughters, & Lejuez, 2010; Johnson & Sheets, 2004). Given these motivations, risk-taking appears to represent a more emotional and somatic process than a cognitive process. Research has shown specific affective states during the decision-making process to engage in risk-taking affect engagement in risky behaviors, though this appears to be influenced by gender (Fessler, Pillsworth, & Flamson, 2004). For example, women compared to men are more motivated to engage in risk-taking when feeling disgusted (Fessler et al., 2004) and less likely to take risks when stressed (Mather & Lighthall, 2012). This may be particularly true for victims of sexual assault because of trauma’s impact on how one experiences emotion.

While no known research has examined prevalence rates of sexual trauma victims' engagement in or motivation for risk-taking behaviors across multiple forms of risk-taking, research has demonstrated how sexual trauma victims often engage in specific risk-taking behaviors at greater frequency than non-victims (Lindquist et al., 2013; Wayment & Aronson, 2002). Specifically, studies have found higher rates of alcohol use among adults with sexual trauma and PTSD (Frydenborg, 1999). Research has also shown associations between motivations for specific risk-taking and shame. For example, coping, enhancement, and conformity motivations for alcohol use have been associated with trait-shame (Treeby & Bruno, 2012), suggesting the need to assess the relationship between these motivations and shame among victims of sexual assault. Several theories on motivations and engagement in risk-taking offer an understanding for this discrepancy: Risk-as-feelings hypothesis, bypassed shame theory, information processing theory, and the discourse of control. Each of these theories is presented below.

Risk-as-feelings. The risk-as-feelings hypothesis (Loewenstein, Weber, Hsee, & Welch, 2001) posits risk-taking and risk aversion as affected by emotion because 1) feelings about and cognitive appraisals of risk are influenced by different factors, 2) the bidirectional influence between feelings about and cognitive appraisals of the immediacy and probability of beneficial versus harmful outcomes, the desirability of experiencing benefits versus avoiding harm, and the severity of benefits or harm that may be encountered, and the intensity with which consequences are imagined, and 3) emotion can precede and also usurp cognitive appraisals about risk and cognitive decision to engage in or avoid risk, particularly when dissociation occurs. This is consistent with research demonstrating engagement in risk-taking is significantly affected by one's emotional state at the time of decision-making (Fessler et al., 2004; Rhodes & Pivik,

2011), level of current stress (Mather & Lighthall, 2012), and decreases as one's emotional regulation abilities increases (Boyer, 2006). From this perspective, sexual trauma victims may engage in risk-taking because of a persistent negative emotional state, such as shame. This is consistent with research findings that trait-shame has been correlated with risk-taking motivations, such as substance use (Booth, Mengeling, Torner, & Sandler, 2011; Lindquist et al., 2013; McMullin & White, 2006) and problems related to use (Dearing, Stuewig, & Tangney, 2005; Spinardi-Pirozzi, 2009). Similarly, trait-shame has been correlated with risky sexual behaviors (Wayment & Aronson, 2002; Wyatt et al., 1997) and identified as a moderator between attachment style and sexual risk taking behaviors among individuals with histories of childhood sexual trauma (Gunn, 2010).

Considering the risk-as-feeling hypothesis, sexual trauma victims may also engage in risk-taking because of emotional dysregulation. Although the direction of findings are mixed, this hypothesis is consistent with research showing emotional dysregulation is related to risk-taking/risk-aversion (Messman-Moore, Walsh, & DiLillo, 2010; Walsh, DiLillo, & Messman-Moore, 2012). This hypothesis is further consistent with research of sexual trauma victims showing correlations between emotional dysregulation and drinking-to-cope motivations (Messman-Moore, Ward, Zerubavel, Chandley, & Barton, 2014) and between emotional dysregulation and sexual risk-taking, as measured by acts such as putting oneself in vulnerable sexual situations (Zerubavel, 2010).

Bypassed shame. Feelings of detachment are common among female rape victims. As one study found, 73.9% endorsed feeling detached from themselves and the world, as if they were in a dream (Kaysen et al., 2005). According to the bypassed shame theory (Kaufman, 1989; Lewis, 1995), the function of dissociation is to allow a victim to avoid experiencing shame

(Irvin, 1998; Talbot, Talbot, & Tu, 2004; Pratt, 2014). In fact, one researcher has argued dissociation is one of the most commonly used defenses to circumvent feelings of shame (Fischer, 1988). This is consistent with research uncovering dissociation as a mediator between shame and rape-related post-traumatic stress symptoms (Elklit, Due, & Christiansen, 2009). Through this lens, victims may engage in risky behavior to escape from themselves while combatting negative feelings about themselves and their bodies (Lehavot, Stappenbeck, Luterek, Kaysen, & Simpson, 2014; Marx & Sloan, 2005). This is supported through research findings that female and male victims of sexual assault report being motivated to use alcohol as a means of coping more so than do non-victims (Fossos, Kaysen, Neighbors, Lindgren, & Hove, 2011), and those with PTSD report greater coping-related motivations, such as Reassurance Seeking/Emotional Avoidance, than those without PTSD (Cooper, Shapiro, & Powers, 1998; Lehavot et al., 2014).

However, dissociation may also decrease one's ability to avoid risk in sexual situations, especially. For example, "women may not be aware of their right and capability to claim when, how, and with whom they are sexual" (Zierler & Krieger, 1997, p. 418). Therefore, risk-taking may not be as much a volitional act to avoid shame but a byproduct of other shame-avoidant behaviors, like dissociation. Alternatively, if shame predisposes one to dissociate, victims may be engaging in risky behavior to decrease feelings of dissociation/detachment by increasing their sense of being in their bodies and/or by attempting to increase access to social interaction. This is consistent with research findings that female victims of sexual assault report engaging in sexual behavior to "start and maintain relationships" more so than non-victims (Senn, Carey, & Coury-Doniger, 2011).

Informational processing. According to Information Processing Theory (Litz & Grey, 2001), emotional numbing does not refer to a global dampening of emotion but rather a decreased experience of positive emotion, where negative emotion, like shame, is actually experienced with heightened awareness. This finding is consistent with research on victims with PTSD (Lytle, 2014) and is particularly salient given 75.3% of female rape victims endorsed feeling numb during or immediately after their trauma (Kaysen et al., 2005). Through this theoretical context, victims of sexual trauma may have higher thresholds of the intensity of emotion needed for them to subjectively feel the positive emotion and therefore engage in risk-taking in order to “get a rush” and increase the likelihood of experiencing positive emotion. This is consistent with research citing associations between the use of alcohol for emotional enhancement (i.e., enhance positive emotions) and female victims of sexual assault (Grayson & Nolen-Hoeksema, 2005) as well as male victims with PTSD (Lehavot et al., 2014). This is further consistent with correlations found between drinking motivations of Emotional Expressivity and both having a history of sexual abuse and having PTSD symptoms (Cooper et al., 1998).

Alternatively, engagement in risky behaviors may represent a more negative reality, where victims feel disconnected and detached, have a sense of foreshortened future, feel damaged, unrepairable, and worthless, and then engage in risky behaviors as a method of deliberate self-harm. This is consistent with literature proposing risk-taking, for men and possibly for women, may be an attempt to engage in reckless behavior, or “public” self-injury (Laye-Gindhu & Schonert-Reichl, 2005; Noll, Horowitz, Bonanno, Trickett, & Putnam, 2003; Patton et al., 1997; Taylor, 2003). This is also consistent with research on sexual and physical

abuse victims that has found correlations between a sense of foreshortened future, emotional distress, and suicidal ideation (Northcott, 2010).

Discourse of control. Lupton & Tulloch (2002) posit risk-taking, for some individuals, is centered “in their notions of the boundaries of their bodies, how far they feel they can push themselves, how well they can conquer their emotions of fear and feelings of vulnerability...[during a] dangerous activity, involving the ability to maintain control over a situation that verges on complete chaos, that requires, above all...the ability not to give in to fear” (p. 122). This motivation of risk-taking may be particularly salient for victims of sexual assault who, according to traumagenic dynamics theory (Finkelhor & Browne, 1985) have experienced a threat to their physical and psychological integrity that resulted in a sense of powerlessness.

Fear during sexual trauma is very common. Among a sample of female rape victims, 97.2% endorsed feeling afraid during or immediately after their trauma, and 89.9% believed they may be seriously injured or killed (Kaysen et al., 2005). The long-term consequences of this constellation of emotion include an avoidance of trauma reminders (e.g., alcohol, sex) and subsequent dissociation/numbing (Merrill, Guimond, Thomsen, & Milner, 2003) or include decreased self-efficacy and perceived control during situations similar to the trauma (Stappenbeck et al., 2016; Walsh et al., 2013) and use of risky behavior as a means for gaining a sense of agency (Meston & Buss, 2010). The engagement in risky behavior may also be an attempt to cope with the fear/threat experienced during the sexual assault and anticipatorily experienced prior to subsequent sexual activity, so that one can engage in sex (Walsh et al., 2013). This is consistent with research showing female victims of sexual trauma consume higher

amounts of alcohol prior to engaging in sex than nonvictims (Howard & Wang, 2005; Senn, Carey, & Vanable, 2008; Stoner, George, Peters, & Norris, 2007).

Similarly, risk-taking as a discourse for control may represent more than an attempt to gain an internal sense of control over one's body, but to demonstrate that control, or gender reaffirmation, to others. Specifically, risk-taking may serve to combat internalized, negative social evaluations about one's sexual identity and gender role following sexual trauma, such as by reducing one's engendered power differential for women. In general, research has shown correlations between attempts to demonstrate masculinity or female agency and alcohol use (Gilchrist, Magee, Smith, & Jones, 2012; Iwamoto, Cheng, Lee, Takamatsu, & Gordon, 2011), risky sexual behavior (Knight et al., 2012; Kooyman, Pierce, & Zavadil, 2011), and extreme sports (Laurendeau & Sharara, 2008; Robinson, 2008). In terms of sexual assault, known research has only examined the relationship between agency and risk-taking among men, though findings have found positive correlations between internal conflicts regarding sexuality/gender and increased engagement in sports by male victims of sexual trauma (McGuffey, 2008). Similarly, research that found male victims of sexual trauma engage in increased sexual risk-taking and more extreme forms of sexual risk-taking (e.g., fathering children as adolescents) than non-victims has theorized insecurities about and a need to prove one's masculinity may mediate the relationship between sexual trauma and risky behaviors (Homma, Wang, Saewyc, & Kishor, 2012; Walker, Archer, & Davies, 2005).

The Role of Contextual Factors

Research among sexual trauma victims suggests shame and contextual factors of sexual trauma, rather than the mere presence of sexual trauma, is a strong predictor of sexual risk-taking (Campbell, Sefl, & Ahrens, 2004). Unfortunately, most studies of shame and trauma have

examined shame within specific types of sexual trauma such as childhood-only or adulthood-only contact sexual trauma. These contextual factors may also play a role in the experience of shame. For example, physical injury of the victim and the relationship to the perpetrator have been associated with increased shame among female sexual trauma victims in college (Zinzow & Thompson, 2011). Another study theorized that the tactic used (e.g., force, coercion, drug-facilitation), or even the type of penetration (e.g., oral, vaginal, or anal), may also be predictive of shame (Mohammadkhani et al., 2009). This may be particularly important when considering that force and drug-facilitated sexual trauma are perceived as more serious and associated with more negative affect for victims than those who had experienced coercive sexual trauma (Abbey, BeShears, Clinton-Sherrod, & McAuslan, 2004). Contrary to those findings, one study found that trauma-related shame is correlated with PTSD but neither trauma-related shame nor PTSD was correlated with abuse severity (i.e., penetration, the use of force, perpetration by a parent figure or person in the home, ten or more traumas, trauma ongoing for a year or more) for children/adolescents (Franklin, 2011).

Differences in the experience of shame has also been linked to the presence of childhood sexual abuse (Rind et al., 1998), the type of sexual abuse (Browning, 2002), the gender of the perpetrator (Rind et al., 1998), and delayed disclosures (Cermak & Molidor, 1996). In terms of the relationship between risk-taking motivations, shame, and contextual factors of sexual trauma, several studies have found relationships among these variables. For, example, one study found higher rates of alcohol use in individuals who have experienced childhood sexual trauma (Danielson & Holmes, 2004). Among college males, alcohol use, alcohol-related problem behaviors, and sexual risk taking behaviors have been associated with adolescent/adult sexual victimization (Turchik, 2012). Some studies have shown correlations between substance abuse

and binge drinking with drug-facilitated and incapacitated rape (McCauley et al., 2009). Research has also shown the frequency of binge drinking to be associated with those who have experienced sexual assault with an object, completed rape, and drug-facilitated sexual assault (Choudhary, 2009). Further, sensation seeking, exposure to danger, heavy drinking, and risky sexual behavior have all been correlated among college women who experienced sexual trauma and are predictive of future sexual victimization; however, these behaviors have not been studied in terms of shame and guilt (Combs-Lane, 2000). Research varies as to the direction of the relationship between risky sexual behavior and sexual trauma (Walser & Kern, 1996; Wayment & Aronson, 2002). One researcher has suggested that the relationship between sexual trauma and risky behavior stems from differences in schemas about one's sexual self (Niehaus, Jackson, & Davies, 2010) or one's vulnerability to danger (Combs-Lane, 2000) which may be related to one's experience of shame.

Rape victims who experience prior life-threatening events have an increased fear of future harm (Wirtz & Harrell, 1987). Additionally, based on a study on child and adolescent trauma victims that included sexual trauma, non-sexual trauma has an additive effect for risk-taking, where each trauma exposure significantly increases the likelihood that the victim will engage in risky behaviors, such as alcohol use (Layne et al., 2014). Victims who have experienced non-sexual trauma demonstrate higher rates of state shame than those with only sexual trauma, even after controlling for PTSD severity (Hagenaars, Fisch, & van Minnen, 2011).

These studies suggest shame may play an important role in the larger constellation of PTSD symptoms. These studies further demonstrate the need for exploring shame as a

multidimensional construct that may function differently based on contextual factors, considering the research on the variations in PTSD symptoms by contextual factors.

The Current Study

The current study examined shame and its relationship to the complex nature of sexual trauma characteristics among a sample of female college students with histories of sexual trauma. Given the extant literature demonstrating significant effects of contextual factors of sexual trauma (age at trauma, type of trauma, perpetrator gender, tactics, and relationship) on trait-shame and post-traumatic stress symptoms as well as correlations between trait-shame and trauma-related shame, it was predicted that trauma-related shame would differ based on the contextual factors and non-sexual trauma. Given the range of post-traumatic stress symptoms victims of sexual trauma often experience and the extant literature associating those symptoms with a myriad of motivations to engage in risk-taking, it was also predicted that the magnitude of risk-taking motivations (i.e., the total ratings endorsed of importance/agreement with multiple motivations) would differ based on the contextual factors and non-sexual trauma. Because of the positive correlations between guilt and shame in the extant literature and that sexual trauma is a crime with a sexual component, it may be necessary to statistically control for sex guilt in the analyses in order to understand trauma-related shame independent of guilt. Additionally, due to the positive correlations between trait-related shame and trauma-related shame, it may also be necessary to control for trait-related shame in the analyses in order to understand trauma-related shame independent of trait-related shame.

Hypotheses

- Hypothesis 1: (a) Women with sexual trauma that occurred in both childhood and adolescence/adulthood will have higher levels of trauma-related shame and risk-taking

motivations than those who experienced sexual trauma that occurred only in adolescence/adulthood. (b) It was predicted the expected pattern in scores on trauma-related shame and risk-taking motivations would be present for both those who had experienced prior nonsexual trauma and those who had not, with those who had additionally experienced nonsexual trauma scoring higher than those who had only experienced sexual trauma.

- Hypothesis 2: (a) Women with penetrative sexual trauma will have higher levels of trauma-related shame and risk-taking motivations than those who experienced non-contact sexual trauma. (b) It was predicted the expected pattern in scores on trauma-related shame and risk-taking motivations would be present for both those who had experienced prior nonsexual trauma and those who had not, with those who had additionally experienced nonsexual trauma scoring higher than those who had only experienced sexual trauma.
- Hypothesis 3: (a) Women with sexual trauma that included drug-facilitated tactics will have higher levels of trauma-related shame and risk-taking motivations than those who experienced sexual trauma that included relational tactics. (b) It was predicted the expected pattern in scores on trauma-related shame and risk-taking motivations would be present for both those who had experienced prior nonsexual trauma and those who had not, with those who had additionally experienced nonsexual trauma scoring higher than those who had only experienced sexual trauma.
- Hypothesis 4: (a) Women with sexual trauma that was perpetrated by someone of the same-sex will have higher levels of trauma-related shame and risk-taking motivations than those who experienced sexual trauma that was perpetrated by someone of the opposite sex. (b) It was predicted the expected pattern in scores on trauma-related shame and risk-taking

motivations would be present for both those who had experienced prior nonsexual trauma and those who had not, with those who had additionally experienced nonsexual trauma scoring higher than those who had only experienced sexual trauma.

- Hypothesis 5: (a) Women with sexual trauma perpetrated by family or sex partners will have higher levels of trauma-related shame and risk-taking motivations than those who experienced sexual trauma perpetrated by strangers, brief encounters, or friends who were not sexual partners. (b) It was predicted the expected pattern in scores on trauma-related shame and risk-taking motivations would be present for both those who had experienced prior nonsexual trauma and those who had not, with those who had additionally experienced nonsexual trauma scoring higher than those who had only experienced sexual trauma.
- Hypothesis 6: (a) Women who disclosed to anyone but received negative feedback will have higher levels of trauma-related shame and risk-taking motivations than those who received positive feedback. (b) It was predicted the expected pattern in scores on trauma-related shame and risk-taking motivations would be present for both those who had experienced prior nonsexual trauma and those who had not, with those who had additionally experienced nonsexual trauma scoring higher than those who had only experienced sexual trauma.

METHOD

Participants

Five hundred and nine female participants were recruited from a public university in the southeast United States via the Psychology Department's online research participation system (SONA) and received course credit for participation. The current study focused on those

participants who endorsed sexual assault histories and demonstrated sufficient attention to items and compliance with directions ($n = 360$). The participants' ages ranged from 18-53 years ($M = 20.12$ years, $SD = 3.86$). The sample was selected because of the high rates of sexual victimization that occur for adolescents and college-aged individuals and among women compared to men (Armstrong, Hamilton, & Sweeney, 2006; Banyard et al., 2007) and because of research suggesting women are more likely to endorse trauma-related negative affect compared to men (Badour et al., 2015).

Power analyses were conducted via G*Power based on an alpha of 0.05, a power of .80, and a medium effect size ($f = 0.25$), which was supported in sexual assault research (Weaver & Clum, 1995) and similar to the average effect size ($r = .21$) found in the field of personality and social psychology (Schönbrodt & Perugini, 2013). As planned analyses included the use of MANOVA with two, three, or five levels, depending on the individual analysis, and three dependent variables, the results of the power analysis indicated a sample size of 44 with 22 cases per group, a sample size of 57 with 19 cases per group, and a sample size of 70 with 14 cases per group, respectively (Faul, Erdfelder, Buchner, & Lang, 2013).

Measures

The Demographic Questionnaire

The Demographic Questionnaire (Appendix A) is a 14-item instrument developed for the present study that assessed the participants' age, gender, ethnicity, and sexual orientation. Participants also responded to questions about potentially traumatic events, such as experience in combat and jail/prison; experiences with natural disasters, automotive crashes, and physical abuse that they "viewed as traumatic," as well as the nature of their relationship to the perpetrator for physical abuse. Responses to the Demographic Questionnaire was utilized as a

cut-off to determine if participants had experienced a nonsexual trauma. Participants' experience of non-sexual traumas was coded into a dichotomous variable based on whether they endorsed non-sexual trauma.

The Test of Self-Conscious Affect-3-Short Version (TOSCA-3-SV)

The TOSCA-3-SV (Tangney, Dearing, Wagner, & Gramzow, 2000) is an 11-item instrument with four scales (i.e., guilt-proneness, shame-proneness, detachment-proneness, and externalization-proneness). For the purposes of the current study, only the shame-proneness subscale was used (TOSCA-S). Participants responded to 11 everyday scenarios, such as "You make a mistake at work and find out a co-worker is blamed for the error," using a five-point Likert scale ranging from 1 (*not at all likely to react that way*) to 5 (*very likely to react that way*). A shame response would be "You would think the company did not like the co-worker." Items reflect themes of absenteeism, damaging property, procrastination, injuring a friend or pet, losing an animal, incorrect self-appraisal of performance, gossiping, and being criticized about job performance. The subscale's total score ranges from 11-55. As this measure is not in the public domain, it is not included in the appendix.

The measure was normed using a college sample (Tangney et al., 2000). In previous studies with undergraduate samples, internal consistency for shame-proneness was $\alpha = .73 - .91$ (Dearing et al., 2005; Rusch et al., 2007; Terrizzi, 2013). In a previous study with undergraduate sample with 62.25% of sexual assault victims, the internal consistency of the Shame subscale was $\alpha = .78$ (Laaksonen et al., 2015). The TOSCA-3's internal consistency for the shame subscale among a community sample of African American women was $\alpha = .83$ (McCadney, 2010). The TOSCA-3-SV demonstrated good utility ($r = .90$ for shame scale) as measured by its correlation with the full length version of the TOSCA-3 (Tangney et al., 2000). Among college

undergraduates, the TOSCA-3-S been correlated with two other shame measures, the Personal Feelings Questionnaire Shame Subscale (PFQ-S), $r = .32$, $p < .001$, and the Shame Inventory, $r = .50$, $p < .001$, suggesting convergent validity (Rizvi, 2010), and found to have no correlation with a guilt measure, the PFQ-Guilt Subscale, suggesting discriminative validity (Rivzi, 2010). In the current study, the Shame subscale demonstrated sufficient reliability ($\alpha = .75$).

Other As Shamer (OAS-EF)

The OAS-EF (Goss et al., 1994) is an 18-item questionnaire derived from the Internal Shame Scale (ISS), a measure of shame that was normed on a student sample and found to have an internal consistency of $\alpha = .94$ and good test-retest reliability ($\alpha = .94$) (Goss et al., 1994). The OAS items were created by reversing the language of “I feel I am...” to “I feel other people see me as...” (Goss et al., 1994, p.714). The OAS assesses three factors of global, external shame (Inferior, Empty, and Mistake; Matos & Pinto-Gouveia, 2010). Only the Empty Factor (OAS-EF-EF) was used in the current study. The Empty Factor captures the feeling that one’s sense of self is not whole or strong (e.g., “Others see me as fragile”). The items are rated on a five-point Likert scale ranging from 0 (*never*) to 4 (*almost always*), and the subscale’s total score ranges from 0-16. As this measure is not in the public domain, it is not included in the appendix.

Similar to the ISS, the OAS was normed using a college sample and demonstrated an internal consistency of $\alpha = .92$ (Goss et al., 1994). While the measure’s authors did not report the internal consistency of the Empty Factor scale, the scale evidenced internal consistency in the current study of $\alpha = .80$. Factor loadings were reported, and the Empty Factor subscale demonstrated loadings of .61-.79, suggesting items are closely related and may represent a unitary concept (Goss et al., 1994). The Empty Factor subscale was also correlated with the ISS of $r = .69$, $p < .001$ (Goss et al., 1994), suggesting convergent validity, and no correlations with a

measure of self-consciousness (The Adapted Dimensions of Conscience Questionnaire – Self-consciousness subscale), suggesting discriminant validity.

The authors have described the OAS as a global measure of shame, which would suggest it measures trait-shame (Goss et al., 1994). Known research has only compared the OAS with the TOSCA-3-S and the Experiences of Shame Scale (ESS), which is a state-related measure of shame (i.e., shame over the past month). The OAS has been correlated with the TOSCA-3-S among a college sample of female, sexual assault victims, $r = .52$, $ps = .000$ (Nathanson, 2012). The OAS has shown good convergent validity with the ESS among a mixed college and community sample ($r = .52$) (Matos & Pinto-Gouveia, 2010) and among clinical samples with posttraumatic symptoms ($r = .66$) (Turner, Bernard, Birchwood, Jackson, & Jones, 2013). Known research has not examined validity of the Empty Factor Scale with shame measures; however, given the Empty Factor scale was correlated with the overall OAS measure, $r = .83$, $p < .001$ (Goss et al., 1994), research on the OAS was likely generalizable to the Empty Factor scale. Additionally, known research has not examined whether the OAS or its Empty Factor Scale (OAS-EF) is more appropriate as a trait-related shame or trauma-related shame measure.

The Sensation Seeking, Emotion Regulation, and Agency Scale (SEAS)

The SEAS (Barlow et al., 2013) consists of 18 items that measure motivations for high risk sports using three subscales that assess if participants feel a desire for physical excitement/sensation seeking, lack emotional regulation, or lack agency when they have not “participated for a significant period” in the high risk behavior. Ratings are made on a Likert scale from 0 (*totally disagree*) to 7 (*completely agree*), and the total scale score ranges from 0-126. Since not everyone would have experienced this behavior, a question was added for the purposes of this study to direct participants to the next appropriate question: Have you ever

engaged in extreme sports (e.g., mountain climbing/biking, skydiving, base jumping/bungee jumping, rock climbing, hang gliding, extreme skiing, scuba diving, white water rafting, skateboarding, automotive racing)? Additionally, two questions were added to the measure in the current study; however, these two items were not included in the total or subscale score. Specifically, participants were asked how often they have attempted to hide their engagement in extreme sports from others, which was scored on a Likert scale (0 = *Never* to 5 = *Very Often*), and how long they have participated in extreme sports. As this measure is not in the public domain, it is not included in the appendix.

Among a community sample of individuals who have participated in extreme sports, the Sensation Seeking, Emotion Regulation, and Agency subscales demonstrated an internal consistency of $\alpha = .85, .82, .85$, respectively (Barlow et al., 2013). The Sensation Seeking subscale showed a correlation with the Sensation Seeking Scale-V, a widely used sensation/thrill-seeking measure of $r = .25, p < .01$, suggesting poor convergent validity; the Emotion Regulation Subscale correlated with the Emotional Intelligence Scale ($r = -.44, p < .001$, suggesting convergent validity; and the Agency Subscale showed a correlation with the Lack of Mastery Subscale of the Pearlin Mastery Scale Inventory of $r = .58, p < .001$, suggesting convergent validity.

In the current study, all three subscales were correlated. Specifically, positive correlations were found between Sensation Seeking and both Agency ($r = .32, p < .01$) and Emotion Regulation ($r = .39, p < .01$) and the highest correlation was found between Emotion Regulation and Agency ($r = .70, p < .01$). The SEAS demonstrated an internal consistency in the current study of $\alpha = .93$. Although the alpha is acceptable suggesting items are closely related and may represent a unitary concept, there is not clear correlational support that the

concept of extreme-sports motivation is unitary. However, given the correlations and alpha in the current study, it supports the use of the magnitude of motivation (i.e., the total scale score) in analyses.

Reasons for Playing Drinking Games (RPDG)

The RPDG (Johnson & Sheets, 2004) is a 34-item measure that assessed eight domains of reasons for playing drinking games: Competition and Thrills, Conformity, Fun and Celebration, Social Lubrication, Novelty, Sexual Manipulation, Boredom, and Coping. For the current study, only four subscales (18 items) were used: Competition and Thrills, Conformity, Novelty, and Sexual Manipulation. Since not everyone would have engaged in drinking games, a question was added for the purposes of this study to direct participants to the next appropriate question: Do you consume alcoholic beverages? Have you ever played drinking games? Items are rated on a four-point Likert scale ranging from 0 (*not at all important*) to 4 (*very important*), and the total scale score ranges from 0-136. Additionally, two questions were added to the measure in the current study; however, these two items were not included in the total or subscale score. Specifically, participants were asked how often they have attempted to hide their engagement in drinking games from others, which was scored on a Likert scale (0 = *Never* to 5 = *Very Often*), and how long they have participated in drinking games. As this measure is not in the public domain, it is not included in the appendix.

All subscales demonstrated the following internal consistencies among a sample of college students: Competition and Thrills ($\alpha = .87$), Conformity ($\alpha = .89$), Novelty ($\alpha = .77$), and Sexual Manipulation ($\alpha = .80$) (Johnson & Sheets, 2004). The original scale had minimal convergent validity, as evidenced by low correlations between subscales (Johnson, Hamilton, & Sheets, 1999): Sexual Manipulation correlated with social reasons for drinking among female

college students ($r = .26, p < .0001$ and $r = .27, p < .27$), and Conformity correlated with fear of negative evaluation ($r = .21, p < .05$ for men, $r = .36, p < .001$ for women). Research has also shown gender differences among the subscales, except for the Novelty subscale, where men reported higher scores on all motivations (Johnson & Sheets, 2004) and gender differences among the relationship between motivations for playing drinking games and sensation-seeking (Johnson & Cropsey, 2000).

In the current study, most all subscales were significantly correlated. Specifically, there were positive correlations for Competition/Thrills and Conformity ($r = .34, p < .01$), Novelty ($r = .48, p < .01$), and also Sexual Manipulation ($r = .32, p < .01$). There were positive correlations between Conformity and both Novelty ($r = .30, p < .01$) and Sexual Manipulation ($r = .30, p < .01$). The RPDG demonstrated an internal consistency of $\alpha = .86$. The alpha and correlations suggest items are closely related and may represent a unitary concept and also support the use of the magnitude of motivation (i.e., the total scale score) in analyses.

The Sexual Risk Survey (SRS)

The SRS (Turchik & Garske, 2009) is a 23-item measure that assessed a variety of sexual risk-taking behaviors in the past six months across five domains: Sexual Risk Taking with Uncommitted Partners, Risky Sexual Acts, Impulsive Sexual Behaviors, Intent to Engage in Risky Sexual Behaviors, and Risky Anal Sex Acts. Participants reported the number of partners with whom they have engaged in the risky behavior. Two questions were added to the measure for the purposes of this study; however, these two items were not included in the total or subscale score. Specifically, participants were asked how often they have attempted to hide their sexual behavior from others, which was scored on a Likert scale (0 = *Never* to 5 = *Very Often*), and how

long they have engaged in the behavior. As this measure is not in the public domain, it is not included in the appendix.

Coding. Coding procedures were changed for the current study. Turchik & Garske (2009) recoded all participant responses for all items based on the frequency that the behavior occurred in their sample. Specifically, participants were scored as a 0 if they had no sexual partners, a 1 if they endorsed a behavior that was endorsed by 40% of the respondents, a 2 if they endorsed a behavior that endorsed by 30% of the respondents, a 3 if they endorsed a behavior that was endorsed by 20% of the respondents, and a 4 if they endorsed a behavior that was endorsed by 10% of the respondents. However, the current study was not interested in the frequency of behaviors by participant, but was interested in whether or not participants had engaged in the behavior. Therefore, for the current study, each item was scored dichotomously as “0” for never having experienced or “1” for having experienced the act. Then, a total score was calculated to indicate the number of risky behaviors in which the participant has engaged, which ranged from 0-23. Since it is important for this study to distinguish between consensual and nonconsensual sexual acts, participants were asked prior to this survey: Have you ever chosen to participate in sexual activity (aka consensual sex)? Participants were then asked to complete the survey thinking only of consensual experiences. This question was used to determine if the participants answered this survey and subsequent sex-related surveys. Participants were also asked how old they were when they first engaged in consensual sexual behavior and if they have ever attempted to hide their sexual behavior from others.

Reliability and validity. Among a college sample, the Sexual Risk Survey had an internal consistency of $\alpha = .88$ and test-retest reliability of $r = .93, p < .05$ (Turchik & Garske, 2009). The measure also showed good convergent validity with sexual excitability and

inhibition ($r = .31$, $r = -.20$, $p < .001$, respectively) and divergent validity with social desirability ($r = -.08$, $p > .05$) (Turchik & Garske, 2009). Given the categorical variables, internal consistency analyses produced the Kuder-Richardson-20 alpha (Koss et al., 2007), which indicated an internal consistency of $\alpha = .27$ in the current sample.

The Personal Feelings Questionnaire-2-S (PFQ2-S)

The PRQ2-S (Davis, 2011) was a revised version of the Personal Feelings Questionnaire's Guilt Subscale (PFQ2; Harder & Zalma, 1990), a common measure of general guilt developed on a college sample. The PFQ2-S was revised to measure sex-guilt (i.e., feelings of guilt about their sexuality) by applying the list of guilt-related words on the PFQ2 to statements about one's sexual experiences. Only participants who endorsed experiencing at least one sexual act on the Sexual Risk Survey were asked to complete this survey. Items were rated on a five-point Likert scale ranging from 0 (*continuously or almost continuously*) to 4 (*never*), and the total subscale score ranges from 0-24. An example item is: "How often do you experience the following feelings regarding your sexuality? Mild sexual guilt." As this measure is not in the public domain, it is not included in the appendix.

The PFQ2-S demonstrated an internal consistency of $\alpha = .88$ (Davis, 2011), similar to that of the original PFQ2-Guilt subscale ($\alpha = .83$; Harder & Zalma, 1990). Similarly, in the current study, the PFQ2-S an internal consistency of $\alpha = .83$. Because this measure was created for the Davis study, no additional psychometric information was available.

However, several studies have established reliability and validity with the PFQ2-Guilt Subscale. Among a sample of college students and outpatient veterans with trauma histories (e.g., sexual assault, combat), the PFQ2-Guilt Subscale showed good test-retest reliability ($\alpha = .85$) (Harder & Zalma, 1990). The PFQ2-Guilt Subscale was correlated with self-derogation ($r =$

.46, $p < .001$), suggesting convergent validity (Harder & Zalma, 1990). The PFQ2-Guilt Subscale has correlated with the TOSCA-S ($r = .35$, $p < .0001$) but not with the TOSCA-Guilt Subscale ($r = .11$, $p > .05$), suggesting poor convergent validity with a guilt measure and poor discriminant validity with a shame measure; however, these findings were based on an inpatient sample (Averill, Diefenbach, Stanley, Breckenridge, & Lusby, 2002).

The Motivations for Sexual Risk Behavior (MSRB)

The MSRB (Bornovalova et al., 2010) is a 28-item measure that assess four domains of motivation to engage in sexual behavior with a casual partner or commercial partner on a five-point Likert scale (0 = *complete disagreement* to 4 = *complete agreement*): Sexual Sensation Seeking, Intimacy Enhancement, Emotional Avoidance/Reassurance Seeking, and Emotional Expressivity. Only participants who endorsed experiencing at least one sexual act on the Sexual Risk Survey was asked to complete this survey. The current study focused on the casual partner scale only. The total scale score ranges from 0-112. As this measure is not in the public domain, it is not included in the appendix.

While the current measure was developed on a community sample of men in an inpatient drug and alcohol treatment center, the items were derived from the Sex Motives Measure (Cooper et al., 1998) that was developed using college students. Each subscale for casual partner motivation showed an internal consistency of $\alpha = .87 - .93$). Additionally, Emotional Expressivity and Reassurance Seeking/Emotional Avoidance were significantly related to PTSD symptoms to some extent, $r = .27-.28$, $p < .10$ (Bornovalova et al., 2010).

In the current study, the subscales were generally not significantly correlated. However, Sexual Sensation Seeking was correlated with both Intimacy Enhancement ($r = .19$, $p < .05$) and Emotional Avoidance/Reassurance Seeking ($r = .24$, $p < .001$). Additionally, there was a

positive correlation between Emotional Avoidance/Reassurance Seeking and Emotional Expressivity of $r = .57, p < .01$. The MSRB demonstrated an internal consistency of $\alpha = .90$ in the current study. Although the alpha is acceptable suggesting items are closely related and may represent a unitary concept, there is not clear correlational support that the concept of sex motivation is unitary. However, the correlations and alpha in the current study support the use of the magnitude of motivation (i.e., the total scale score) in analyses.

The Sexual Experiences Survey – Long Form Victimization (SES-LFV)

The SES-LFV is an extended version of the SES, which is a widely used measure of sexual assault. As the SES-LFV (Koss et al., 2006), nor the SES, is not in the public domain, it is not included in the appendix. Whereas the SES assesses only one sexual harassment situation (i.e., fondling) and six sexual assault situations (e.g., attempted and completed fellatio/cunnilingus, rape, and sodomy), the SES-LFV was expanded to include ten additional sexual harassment scenarios (e.g., frotteurism, voyeurism). On both the SES and SES-LFV, for each situation, participants were asked to circle the number of times (0-3+) each situation occurred after age 14 and within the last twelve months. For each situation of sexual assault, participants were asked to circle if force, threat, coercion, or drugs were present, which were enumerated on the SES-LFV via the letters “a” through “m.” At the end of the survey, the questionnaire had several questions associated with the sex of the perpetrator and one’s endorsement of the label of “rape.”

Expanded version (SES-LFV-E). In the current study, one set of questions were combined for the sexual assault situations, though the original wording of the items was retained. Specifically, participants were still asked to indicate if they had experienced an attempted sexual assault and if they had experienced a completed sexual assault for each of the three types of

sexual assault (oral, vaginal, and anal penetration). However, the current study was not focused on differences in contextual factors between attempted and completed situations of sexual assault, for each sexual assault situation. Therefore, instead of completing the contextual-factor questions on attempted and completed acts separately, as in the SES-LFV, participants were asked to complete those questions regarding the specific type of attempted and/or completed sexual assault.

In the current study, two questions which existed for some of the scenarios on the SES-LFV were included for additional situations. Specifically, the question of the perpetrator's sex was included after the list of sexual harassment situations and after each sexual assault situation. Additionally, since the SES-LFV asked about multiple perpetrators for sexual assault and not sexual harassment situations, a question of multiple perpetrators was added (i.e., How many different people, acting alone or together, did any of the above behaviors?) after the list of eleven sexual harassment situations. The use of these questions for various forms of sexual trauma has been empirically-supported (Morgan, Brittain, & Welch, 2012).

In the current study, several questions were added to the SES-LFV, which reflected empirically-supported contextual factors that influence one's level of mental health following sexual trauma and possibly one's level of shame and/or guilt. For example, as the current study was interested in child versus adolescent/adult trauma, a column was added to capture victimization before age 14 for each type of situation. Additionally, since the current study was interested in other empirically-supported, contextual factors of sexual trauma, such as relationship to the perpetrator(s) (Kellogg & Hofman, 1997) and disclosure (Ullman, Townsend, Filipia, & Starzynski, 2007), two questions were added after the list of eleven sexual harassment situations and after the sexual assault situations (i.e., What was the relationship to the person(s)

involved? Of the behaviors described above, did you tell anyone about the experience?).

Initially, the disclosure question was asked at the end of the sexual assault situations; however, when the directions regarding the packet of questionnaires were revised, the question placed after each sexual assault situation.

While the SES-LFV is fairly comprehensive, there was one tactic and several forms of sexual assault that have been identified in the literature but were not included in the SES-LFV. For the current study, these were included to provide a more accurate classification of whether individuals are victims of sexual trauma or not. Specifically, restraining the air supply of a victim in order to physically subdue the victim is a common tactic used in sexual violence but not readily studied (Möller, Bäckström, Söndergaard, & Helström, 2014; Ravello, 2014). Therefore, for each sexual assault situation, participants were asked to indicate if the perpetrator engaged in the sexual act with the victim without consent by “placing something tightly over my mouth and/or nose or putting pressure against my neck/throat.” Research has also highlighted sexual assault that occurs when the victim consents but does not want to consent or the victim wants to consent but does not/cannot (Foster, 2011; Peterson and Muehlenhard, 2007a); therefore, a question about silent or unwanted sexual experience (i.e., “Have you ever consented to sexual activity when you did not want to but did not let your partner know?”) and statutory sexual experience (i.e., When you were between the ages of 10 and 18, did you have any sexual experiences that you willingly engaged in with someone who was five or more years older?) were added. For the silent/unwanted and statutory sexual situations, participants were asked to identify if the situation included stimulation or oral, vaginal, or anal penetration.

Scoring. The SES-LFV does not yield scaled scores. Participants can be classified into dichotomous categories of having experienced or not experienced a given situation. These

classifications can be used to group individuals into non-victims and victims of sexual trauma, to calculate the non-exclusive prevalence rates of all unwanted sexual acts and tactics (where victims may fall into multiple categories of sexual trauma/tactics), and to calculate the prevalence rates of the most severe experience based on a hierarchy of sexual trauma experiences (Koss et al., 2007). The authors have acknowledged frequency scores can be obtained by summing the amount of times participants endorsed each situation occurred; however, they warn this method ignores the severity of the assault because sexual harassment and sexual assault would not be weighted differently (Koss et al., 2007). Koss et al. (2007) established an ordinal coding system for 5 levels of assault severity: non-victim, non-contact (i.e., sexual harassment), coercion (i.e., coercive/relational tactics), contact (i.e., fondling), attempted rape (i.e., oral, vaginal, or anal penetration), and completed rape. Interestingly, this coding system creates a hierarchy of various levels of physical contact and only one tactic.

Since the current study examined levels of physical contact and tactics separately, the coding was separated. Additionally, since the current study was not focused on attempted versus completed assaults, those two categories were combined and labeled penetrative contact, to avoid confusion with the legal term rape. In line with recommendations by Koss et al. (2007), participants were classified into the following categories: non-victim, non-contact (i.e., sexual harassment), sexual non-penetrative contact (i.e., kissing/fondling, stimulation/ejaculation), and attempted/completed penetrative sexual contact (i.e., attempted and completed oral, vaginal, and anal penetration) (Gidycz, Warkentin, & Orchowski, 2007). These categories were used in current study's analyses of the contextual factor Contact.

While the authors recommend using the SES-LFV to obtain prevalence rates of sexual trauma, they did not prescribe a hierarchy for individual types of sexual harassment and they

combined all forms of penetration as one category. However, research has established the type of penetration affects trauma symptoms (Kahn, Jackson, Kully, Badger, & Halvorsen, 2003; Van Berlo & Ensink, 2000). Therefore, in order to acquire prevalence rates for each situation of sexual harassment and assault, including the situations included in the SES-LFV-E, hierarchical levels of sexual trauma were established. Since Koss et al. (2007) had established the basic hierarchy using the level of physical contact to determine the order of severity, the current study did the same. Specifically, the hierarchy of all sexual traumas was as follows: displaying pornography, obscene verbalizations, sexual gestures, exhibitionism, voyeurism, fondling, attempted stimulation, attempted oral penetration, attempted vaginal penetration, attempted anal penetration, completed stimulation, completed oral penetration, completed vaginal penetration, and completed anal penetration.

In terms of tactic, Koss et al. (2007) identified three tactics: coercion using emotional (relational) tactics, drug-facilitated tactics, and threatened/actual force. They also suggested the following hierarchy of sexual trauma experiences: relational tactics, drug-facilitated tactics, and threatened/actual force. For exclusive scoring, when multiple categories were endorsed by participants, they were scored under force if force was present, drug-facilitated tactics if those were present but force was not, and relational tactics if those were present but no drugs or force were used. These exclusive categories were used in the current study's analyses of the contextual factor Tactic.

Therefore, the SES-LFV-E was used as a cut-off to determine if participants had experienced a sexual trauma, where participant who endorsed any form of sexual trauma were classified as having sexual trauma. Additionally, participant responses to the SES-LFV-E were used to determine grouping for contextual factors (age, contact, gender, tactic, relationship, and

disclosure). For age, participants were differentiated by when the sexual trauma(s) had occurred. For contact, participants were grouped by how much physical contact occurred during the sexual trauma(s). For gender, participants were grouped based on the congruency between the victim's and the perpetrator's gender. For tactic, participants were grouped by what type of tactic the perpetrator(s) used to sexually assault the victim. For relationship, the participants were grouped by how the victim knew their perpetrator(s). For disclosure, participants were grouped by whether they had disclosed their sexual trauma(s) to anyone and the type of reactions they received upon disclosure.

Reliability and validity. While the SES-LFV's reliability and validity findings have been reportedly been ongoing but unpublished (Koss et al., 2007), the authors warn that measures of internal consistency are likely inappropriate given "none of the purposes for which the SES is used to assess victimization, including as a measure of prevalence...[or] predictor variable...theoretically requires that women's' experiences be interrelated" (p. 11). One study found the SES-LFV had an internal consistency of $\alpha = .97$ among an undergraduate sample of sexual assault victims; however, it was unclear how items were scored, (Swinson, 2013). Another study found correlations between the SES-LFV and the Sexual Coercion and Aggression Measure for Victimization for women of $r = .29, p < .001$ for women and a pattern of underreporting on the SES-LFV (Taylor, 2006). Additionally, the SES, or abbreviated SES-LFV, has demonstrated an internal consistency reliability in an undergraduate college population of $\alpha = .74$ for women and $\alpha = .89$ for men, good test-retest reliability ($r = .97$), and good convergent validity using the correlation between self-report and interview for women ($r = .73$) and men ($r = .61$) (Koss & Gidycz, 1985). In the current study, there were too few cases to calculate internal consistency for the dichotomous values of whether participants had

experienced each form of sexual trauma or not or for the sexual assault experiences, but it was sufficient for sexual harassment situations (i.e., first eleven items on the questionnaire). Given the categorical variables, internal consistency analyses produced the Kuder-Richardson-20 alpha (Koss et al., 2007), which indicated an internal consistency of $\alpha = 1.00$.

The Revised Civilian Mississippi Scale for PTSD (RCMS)

Norris and Perilla (1996) created a revised version of Civilian Mississippi Scale for PTSD (CMS, Vreven, Gudanowski, King, and King's 1995) by omitting nine items, which were insufficiently "relevant or specific to trauma," from the original 39-item instrument (Norris & Perilla, 1996, p. 294). Responses are rated on a five-point Likert scale ranging from 1 (*never true*) to 5 (*very frequently*), and the total scale score ranges from 30-150. A sample item is "I am afraid to go to sleep at night." As this measure is not in the public domain, it is not included in the appendix.

The RCMS yielded symptom cluster scores for intrusion, avoidance/numbing, and arousal and a symptom severity score. To measure symptom clusters, the Likert response for each item within a cluster was summed. To measure the presence of PTSD, Norris and Perilla (1996) recommend the following cut-off: at least one intrusion symptom, three avoidance symptoms (i.e., avoidance, estrangement, numbness, and diminished interest), and two arousal symptoms (i.e., anger/irritability, sleep disturbance, concentration difficulties, exaggerated startle response, and hypervigilance) were endorsed as being at least a 3 or "somewhat true." To measure PTSD severity, total raw scores on the CMS were used. Participants were coded as being a sexual assault victim (e.g., noncontact, non-penetrative contact, or penetrative contact) who is positive or negative for PTSD.

The RCMS was normed on college students who had experienced a trauma; 11% of the sample had experienced sexual trauma (Norris & Perilla, 1996). The intrusion symptom cluster assessed reminders of the event, nightmares and fear of sleep, and re-experiencing with an internal consistency of $\alpha = .70$ and test-retest reliability of $r = .52$ (Norris & Perilla, 1996). The avoidance/numbing symptom cluster assessed “avoidance amnesia, diminished interest, estrangement, and numbness” with an internal consistency of $\alpha = .79$ and good test-retest reliability ($r = .68$) (Norris & Perilla, 1996). The arousal symptom cluster assessed “sleep disturbance, anger/irritability, concentration difficulties, hyper-alertness, and jumpiness” with an internal consistency of $\alpha = .68$ and test-retest reliability of $r = .66$ (Norris & Perilla, 1996). The RCMS also yielded symptom severity scores, which were obtained by adding the total of all items. One study on interpersonal trauma of women found mean symptom severity scores of 1.84 for single trauma histories and 1.94 for multiple trauma histories (DePrince, Combs, & Shanahan, 2009). In the current study, the RCMS demonstrated an internal consistency of $\alpha = .87$.

Sexual Abuse Shame Questionnaire (SAS)

The SAS (Feiring & Taska, 2005) is an eight-item questionnaire that assessed shame related to sexual trauma. This instrument is also known in the literature as the Shame Questionnaire (Smith, 2008) or the Abuse-Specific Shame Questionnaire (Matthews, 2011). The items reflect themes of feeling that everyone knows about the trauma, wanting to isolate, feeling ashamed, feeling dirty, wanting to cover one’s body, feeling invisible, feeling disgusted, and feeling exposed. A sample item is “What happened to me makes me feel dirty.” The items are rated on a three-point Likert scale ranging from 0 (*not true*) to 2 (*very true*); the total score ranges from 0-16. As this measure is not in the public domain, it is not included in the appendix.

The SAS has an internal consistency of $\alpha = .85$ (Feiring & Taska, 2005). In a previous study with an undergraduate sample with 62.25% of sexual assault victims, the reliability of SAS was .90 (Laaksonen et al., 2015). SAS scores also correlated with posture abuse-related shame (i.e., a measure of behavioral shame, where an individual endorses pictures of a person in different body postures) with correlations ranging from $r = .19$ ($p < .05$) to $r = -.72$ ($p < .0001$), indicating good convergent validity at six-years post-trauma (Feiring & Taska, 2005). The SAS scores only correlated at one-year post-trauma with the TOSCA-3 guilt score and with the TOSCA-3 shame, with correlations ranging from $r = .21$ ($p < .05$) to $r = -.32$ ($p < .0001$), indicating minimal discriminant validity between trauma-related shame, shame-proneness, and guilt-proneness (Feiring & Taska, 2005). Because this measure was created for the Feiring and Taska study, no additional psychometric information was available. In the current study, the SAS demonstrated an internal consistency of $\alpha = .88$.

Trauma-Related Shame Inventory (TRSI)

The TRSI (Øktedalen et al., 2014) is a 24-item questionnaire that assessed shame related to sexual trauma across items of internal and external shame and condemnation and affective-behavioral facets. Responses are rated on a four-point Likert scale ranging from 0 (*not true of me*) to 3 (*completely true of me*), and the total scale score ranges from 0-72. As this measure is not in the public domain, it is not included in the appendix. The measure demonstrated high reliability as the G-coefficient was .87 and the index of dependability was .87, and correlations with self-judgment of $r = .52$, $p < .001$, suggesting adequate convergent validity (Øktedalen et al., 2014). In the current study, the TRSI demonstrated an internal consistency of $\alpha = .97$.

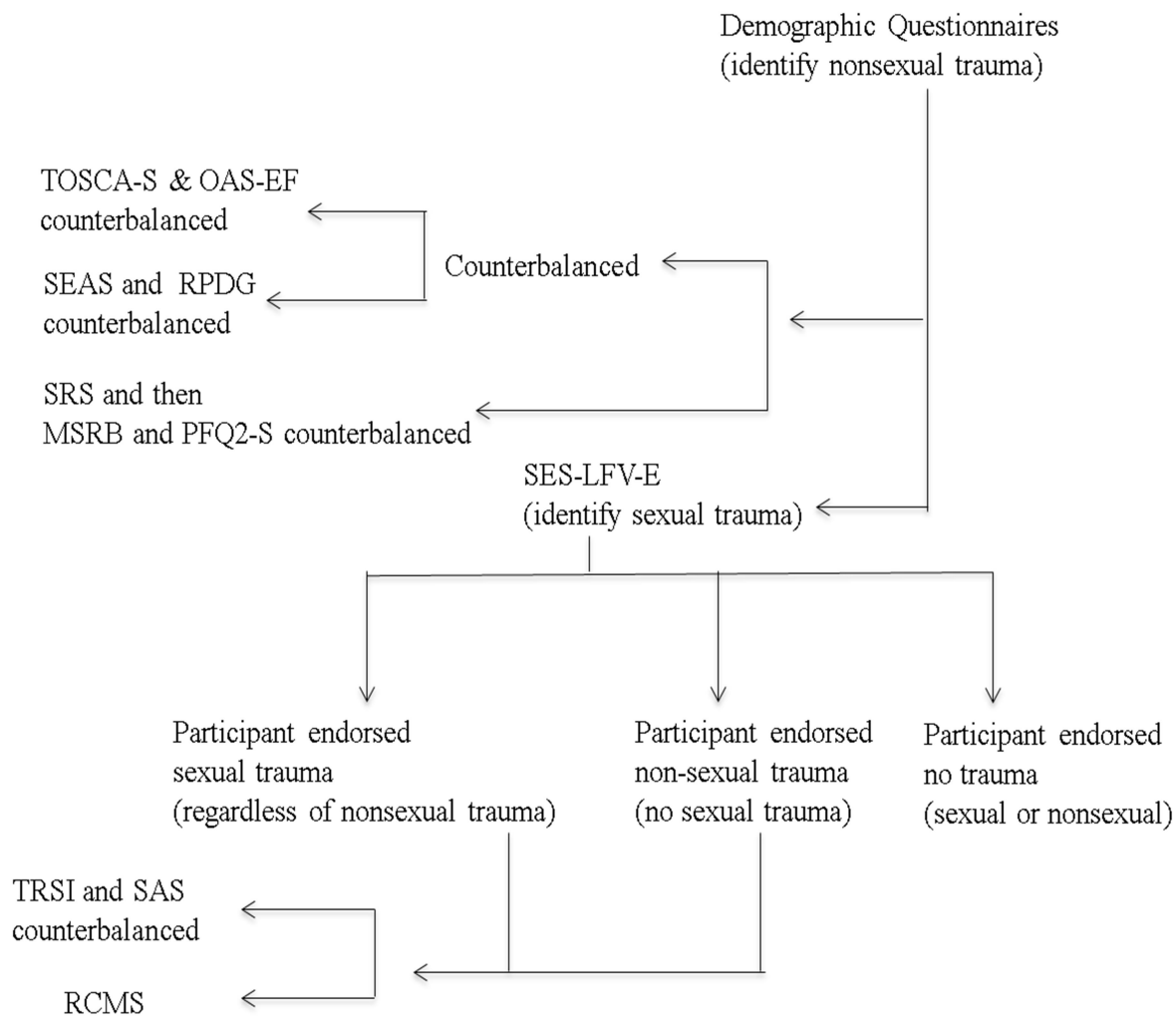
Procedures

Participants were given a consent form and a packet of paper and pencil questionnaires, as approved by the Institutional Review Board. On the questionnaires they were asked to identify past negative life experiences and their feelings about those experiences and current functioning to assess how negative life experiences affect later emotional and behavioral functioning in adulthood. Questionnaires were presented in the following order: (1) Demographics questionnaire; (2) the trait shame measure (TOSCA-S), the shame measure (OAS-EF), and the risky behavior questionnaires (SEAS, RPDG, MSRB) counterbalanced; (3) the sexual assault experiences questionnaire (SES-LFV-E); and, (4) the trauma symptom measure (CMS) and the trauma-related shame measures (SAS, TRSI) counterbalanced (See Figure 1).

All participants were required to complete the demographics questionnaire, the trait shame measures, and the sexual assault experiences questionnaire. Participants were asked to follow skip-logic rules for completing the risky behavior questionnaires, where they were asked to skip the questions about their motivations for engaging in the behavior if they had never engaged in the specific behavior. Similarly, participants were asked to follow skip-logic rules for completing the trauma-related shame measures and the trauma symptom measure, where they were asked to skip the aforementioned, trauma-specific questions if they had never experienced a sexual or nonsexual trauma. After completion of the questionnaires, participants were individually debriefed and given contact information for on-campus counseling centers and community rape crisis program.

During the course of the study, many participants asked questions to clarify the items about statutory sexual trauma and sexual experiences that were not wanted but to which they

Figure 1. Order of Measures



Note. Trait-related shame (TOSCA-S), shame (OAS-EF), extreme-sports motivations (SEAS), drinking-games motivations (RPDG), sexual risk survey (SRS), sex motivations (MSRB), sex-guilt (PFQ2-S), sexual experiences survey (SES-LFV-E), trauma-related shame (SAS and TRSI), and post-traumatic stress symptoms (RCMS).

consented. Many participants also asked questions to clarify if their reported trauma would meet criteria for answering the final set of questionnaires (i.e., the RCMS, SAS, and TRSI). For some,

their questions parallel the research showing that sexual trauma victims have difficulty identifying their experience as a sexual trauma (Maercker & Müller, 2004; Orman, 2013); in fact, several participants specifically stated they did not think their nonconsensual sexual experience qualified for continuing because it was not traumatic for them. For others, their questions merely represented difficulty understanding the directions given after the sexual trauma survey (i.e., SES-LFV-E) for when to complete the rest of the questionnaires. Therefore, after collection of approximately 150 protocols, the protocols were adjusted by adding additional questions about the statutory and unwanted/consented experiences to more closely align the format of the questions with other questions about sexual trauma. The protocols were further adjusted by expanding the directions for the inclusion/exclusion rule for the final set of questionnaires (See Appendix B). These changes were approved by the IRB, approximately 300 protocols were collected after implementation of the changes, and fewer questions were observed during participant survey-completion. However, because of the additional information included regarding statutory and unwanted/consented sexual experiences, the prevalence rates regarding these two forms of sexual trauma may be underreported.

Data Analysis Plan

The dataset was examined for missing data, normality, and linearity. Then, preliminary analyses were conducted. Finally, the hypotheses were tested using a Multivariate Analysis of Variance (MANOVA). Prior to conducting the MANOVA, assumptions were tested.

Data Cleaning

Missing data. Questionnaires were excluded from the study if there were signs participants may have attended poorly to items and not responded with regard to item content: incongruent responses (e.g., the endorsement of sexual trauma on the SES-LFV-E and the directions page for completing the trauma-related questionnaires contradicted each other) or endorsing “1s” for all RCMS responses (which should be unlikely considering several items are reversed scored). Additionally, questionnaires were excluded if participants indicated they responded to trauma-related questionnaires based on other trauma, instead of sexual trauma, when they had endorsed histories of sexual trauma. In other words, if participants had indicated sexual trauma on the SESX-LFV-E and then checked on the directions page that there was no sexual trauma but there was nonsexual trauma (See Appendix B), the protocols were excluded. Based on meeting at least one of the aforementioned exclusion factors, 59 protocols were removed from analyses. Of the full sample of sexual trauma participants, 4.1% (n = 17) had incongruent responses, 4.8% (n = 20) endorsed a “1” on all RCMS items, and 6.2% (n = 26) answered trauma-related questionnaires on nonsexual trauma.

Questionnaires with missing data were retained for analysis. When there was one item missing on a questionnaire, which resulted in a total score, mean substitution was used to replace the missing value and the total score was computed. When more than one item was missing on a questionnaire, total scores were not computed and were labeled as missing values.

Two missing value analyses were conducted via Little's MCAR Test because the sample size of those who completed trauma-related shame measures and risk-taking measures varied significantly due to skip logic. Specifically, while all sexual trauma participants were expected to complete all measures of trait-related and shame-related variables (i.e., TOSCA-S, OAS-EF, SAS, and TRSI), the sample size for the proposed MANOVA regarding risky-behavior motivations (i.e., RPDG, SEAS, PFQ2-S, and MSRB) was comprised only of sexual trauma participants who had ingested alcohol and participated in drinking games, engaged in extreme sports, and engaged in sexual behavior. The first assessed all of the trait-related and shame-related variables, and the second assessed all of motivations for risky behavior and sex-guilt. Significant missing values were not corrected, such as via imputation, if the percentage of missing values fell below the 10% exclusionary criteria (Hair, Black, Bain, Anderson, & Tatham, 2006).

Normality and linearity. Univariate normality was assessed via skewness and kurtosis statistics, histograms, and Boxplots. Problems with skewness and kurtosis were deemed significant if skewness statistics exceeded the absolute value of 2 or kurtosis statistics exceeded the absolute value of 7 (Curran, West, and Finch, 1996). For problems of skewness and kurtosis, normality was also assessed via histograms and detrended normal q-q plots based on the +/- 1.96 standard deviation cut-off as recommended by Garson (2012). Extreme outliers were identified as scores exceeding three interquartile ranges from the median on Boxplots and were winsorized, which is one of the most common procedures for adjusting variance (Erceg-Hurn & Mirosevick, 2008). In other words, a new variable was created that was identical to the original variable, the new variable was sorted in descending order of values, as all extreme values in all analyses were in the upper tail of the distribution, and the extreme scores were replaced by the next highest,

non-extreme values in a consecutive manner to retain the original rank order of the values (Erceg-Hurn & Mirosevich, 2008). Normality was then also assessed for the dependent variables across each level of the independent variables. Bi-variate normality was assessed via scatterplots conducted to examine the linear relationships between all combinations of dependent variables and proposed covariates (i.e., trait-related shame, as measured by the TOSCA-S, and sex-guilt, as measured by the PFQ2-S).

Preliminary Analyses

Chi square analysis. As two versions of the questionnaires were used during the course of the study, prior to any analyses, chi square analyses were conducted to determine if there were differences on sexual trauma reporting pre- and post-revision. The percentage of participants who reported having experienced sexual trauma did not differ by revisions, $\chi^2(1, N = 433) = 3.18, p = .07$. The percentage of participants who reported having experienced sexual harassment did not differ by revisions, $\chi^2(1, N = 435) = 2.22, p = .14$. Similarly, the percentage of participants who reported having experienced statutory sexual trauma did not differ by revisions, $\chi^2(1, N = 424) = 1.57, p = .21$. However, as anticipated, the percentage of participants who reported having experienced sexual assault did differ by revisions, $\chi^2(2, N = 429) = 13.81, p = .001$, and was higher for those who received the revised version of the questionnaire. Similarly, the percentage of participants who reported having experienced silent/unwanted sexual trauma did differ by revisions, $\chi^2(1, N = 418) = 11.07, p = .001$, and was higher for those who received the revised version of the questionnaire.

Descriptive analyses. Descriptive analyses were conducted to examine the demographic characteristics, endorsement of traumatic events, and engagement in risk-taking behaviors. The

percentage of participants scoring at a level indicative on PTSD, as measured by the RCMS (measure of post-traumatic stress symptoms) was also reported.

Hypothesis Testing – MANOVA

Multivariate Analysis of Variance (MANOVA) was chosen because the study is examining the effects of independent variables on dependent variables, which are all believed to correlate and represent a form of shame and MANOVA tests for mean differences between “underlying unobserved latent variables (derived from the variables in the dataset)” (Field, 2013; Warne, 2014). Additionally, use of MANOVA reduces the likelihood of committing a Type I error, given the multiple dependent variables (Field, 2013), though this is less of a concern if dependent variables are correlated (Warne, 2014).

Multicollinearity and singularity. To ensure the dependent variables were correlated sufficiently to warrant the use of MANOVA, but not to the extent of multicollinearity, a Pearson’s correlational analysis was conducted. All dependent variables were expected to correlate within the recommended range of $r = .30 - .70$, $p < .05$ (Braitman, 2015). Variables were not expected to exceed the threshold of $r < .90$, which would indicate multicollinearity (Tabachnick & Fidell, 2013). If all variables were sufficiently correlated, they were included in a single analysis (Tabachnick & Fidell, 2013).

Correlations were classified as non-existent ($r = 0 - .09$), small/weak ($r = .1 - .29$), moderate ($r = .3 - .49$), large/high ($r = .5 - .79$), very large/high ($r = .8 - .99$), or perfect ($r = 1.00$) (Field, 2001). As theory would suggest, the trauma-related shame variables were expected to demonstrate convergent validity via moderate or large correlations, and the risk-taking motivation variables were expected to demonstrate convergent validity via moderate or large correlations. Therefore, if the dependent variables were not sufficiently correlated, they would

be split into two sets in a manner consistent with the hypotheses: trauma-related shame variables (i.e., SAS scale score, TRSI scale score, and OAS-EF scale score) and disordered-behavior variables (i.e., SEAS scale score for risk-taking motives, RPDG scale score for drinking motives, MRSB scale score for sex motives).

Given the lack of research on examining whether the OAS-EF shame measure is a measure of trait and/or trauma-related shame, the correlations between the OAS-EF (shame measure), SAS (trauma-related shame measure), and TRSI (trauma-related shame measure) were examined to determine if the OAS-EF (shame measure) may be an appropriate measure to include with trauma-related shame analyses. If the OAS-EF was found to correlate with both trauma-related shame measures (i.e., SAS and TRSI), then it would be included as a trauma-related shame measure in subsequent analyses.

Assessment of covariates. Based on the literature review, it was further predicted that trait-shame and sex-guilt may be highly correlated ($r = .50 - .79$) with dependent variables and thus need to be accounted for in the analysis. To ensure that unnecessary variables were not added to the analysis, which may reduce power, Pearson's correlational analyses were used to examine if trait-shame (TOSCA-S) and sex-guilt (PFQ2-S) would need to be controlled for in the analyses.

Examination of cell size. Split-file frequencies were performed to group the data using a contextual sexual-trauma variable and obtain the cell sizes of each dependent variable per each level of each contextual sexual-trauma variable, as recommended by Field (2005) and Tabachnick & Fidell (2013). Because the dependent variables of risk-taking motivations requires participants to have ingested alcohol and participated in drinking games, extreme sports, and sexual behavior, split-file frequencies were run for this set of variables after excluding all

participants who did not meet the aforementioned criteria, in order to obtain the cell sizes for the MANOVA. Because of the significantly lower sample size for risk-taking motivations, the dependent variables of trauma-related shame and risk-taking motivations would be separated for analyses. In other words, 12, rather than 6, MANOVAs (contextual variable of age, contact, tactic, gender, relationship, or disclosure, by nonsexual trauma, i.e., the presence of sexual trauma only and the presence of nonsexual trauma plus sexual trauma) were planned as part of hypotheses testing to assess the effects of the two independent variables on the dependent variables of trauma-related shame (i.e., OAS-EF, TRSI, and SAS measures) and risk-taking motivations (i.e., SEAS, RPDG, and MSRB measures). Six MANOVAs were planned, one for each contextual variable, with the dependent variable of trauma-related shame; and, six were conducted with the dependent variable of risk-taking motivations because analyses on trauma-related shame were separate from analyses on risk-taking motivations. Additionally, when cell size fell below the recommended size according to G*Power, cell sizes were examined based on the minimum necessary sample size as recommended by Tabachnick and Fidell (2013). Tabachnick and Fidell (2013) recommend cell sizes to have more cases than the number of dependent variables (i.e., 3), as calculated by multiplying the number of cells (i.e., 3 or 5, depending on the independent variable) by the number of dependent variables plus one. Therefore, if cell sizes fell below the G*Power recommendations but met the minimum requirement recommended by Tabachnick and Fidell (2013), analyses were conducted.

Homogeneity of covariance matrices and homogeneity of variance. A series of preliminary MANOVAs were performed to examine assumptions of homogeneity of covariance-variance and homogeneity of variance. Separate preliminary MANOVAs were conducted for each of the contextual trauma factors (i.e., age, contact, tactic, gender, relationship, and

disclosure), where the presence of other trauma was entered as a second independent variable and trauma-related shame was entered as dependent variables. A second set of preliminary MANOVAs were conducted for each of the contextual trauma factors, where the presence of other trauma was entered as a second independent variable and risk-taking motivations were entered as dependent variables.

For all analyses, homogeneity of covariance-variance was assessed via Box's Test of Equality of Covariance Matrices. Given the unequal sample size of females, a p value of .001 was used to identify violations (Tabachnick & Fidell, 2013). When no violations of homogeneity of covariance-variance occurred, Wilks Lambda and an alpha level of .05 were used to determine multivariate significance (Tabachnick & Fidell, 2013). However, Box's M can be overly sensitive to unequal covariances; therefore, when a violation of homogeneity of covariance-variance occurred, Pillai's Trace, which is more robust to significant inequality of covariances in that Type I error is controlled and power is maintained (Erceg-Hurn & Mirosevic, 2008; Field, 2005), an alpha level of .01 were used to determine multivariate significance (Field, 2005), and results were interpreted with caution. Homogeneity of variance was assessed via Levene's Test of Equality of Error Variances with a p value of .05 used to identify violations on individual dependent variables (Field, 2005). When violations occurred, given the unequal sample sizes (unbalanced design), which are assumed to reflect genuine variations within the population, Type II Sum of Squares analyses were examined to identify between-subjects effects (Lane et al., n.d.; Langsrud, 2003).

Post-hoc analyses. While discriminant analysis is generally recommended as a post hoc procedure for MANOVA because it assesses the latent variable (Field, 2013; Warne, 2014), ANOVAs were conducted because the study hypothesized mean differences between specific

observed variables, not differences in the linear combination of latent variables. Therefore, if multivariate main effects were identified, univariate results were examined using ANOVAs to identify which groups of a given independent variable have significantly different adjusted mean vectors. However, some authors additionally warn using the ANOVA as a follow-up to MANOVA because post hoc analyses are conducted only when initial analysis result in significant findings; but, because MANOVA and ANOVA are addressing different research questions on somewhat different variables (i.e., the linear combination of a variable versus the observed variable), ANOVA may produce statistically significant and clinically-relevant findings even in the absence of multivariate findings (Enders, 2003; Field, 2005). Scheffe post hoc analyses were conducted to explore significant ANOVA results when there were more than two levels, as recommended for unequal sample sizes (Verma, 2013).

RESULTS

Preliminary Analyses

Descriptive Analysis

Descriptive analyses were conducted to examine the demographic characteristics and endorsement of traumatic events (See Table 1), risk-taking behaviors (See Table 2), and characteristics of sexual trauma (See Table 3). Means and standard deviations were calculated for all dependent variables and potential covariates (See Table 4).

Missing Data

For the set of trait and trauma-related shame variables ($n = 360$), 27 values were missing (7.5%), i.e., 27 participants had more than one item missing on at least one shame variable and therefore had missing total scores for the variable(s). Little's MCAR indicated data was likely missing completely at random (chi-square = 14.04, $df = 8$, $p = .08$). For those who had engaged in drinking games, sports-related risk-taking, and sexual behavior ($n = 58$), there were no missing values; i.e., all participants who completed at least one risk-taking measure had no more than one item missing on any of the risk-taking measures and therefore total scores were computed.

Normality and Linearity

Skewness and kurtosis were calculated for all dependent variables and potential covariates (See Table 4). Univariate normality testing revealed TRSI (trauma-related shame) had 28 extreme values, was significantly skewed (2.76) and kurtic (7.89), and violated normality based on the detrended normal q-q plots; therefore, extreme values were winsorized. However, even after this correction, all extreme outliers remained and the variable remained significantly skewed (2.13). Therefore, a square-root transformation was conducted and skewness fell within

Table 1

Sample Characteristics

Variable	Percentage (<i>n</i> = 360)
Ethnicity	
African American	42.8
Asian American	5.6
European American/Caucasian	32.8
Latino/a American	6.1
Middle Eastern American	2.8
Native American/Alaskan Indian	1.4
Multiethnic/Other	8.1
Sexual Orientation	
Asexual	1.1
Bisexual	8.9
Gay/Lesbian	1.4
Heterosexual	88.6
Other	0.6
Class Standing	
Freshman	54.4
Sophomore	20.6
Junior	13.9
Senior	9.4
Unsure	0.6
Other	0.8
Disability	
Mental-Health Disorder	8.3
Non-Mental-Health Disorder	1.4
Non-Sexual Traumatic Events	
Past Incarceration	0.3
Military-related Trauma	0.8
Natural Disaster	16.1
Transportation Accident/Crash	22.5
Physical Assault	16.1
Personal Serious Injury/Illness	1.9
Serious Injury/Illness or Death of Another	5
Domestic Violence	2.5
Posttraumatic Stress Disorder	18.9

Note. A portion of the sample had non-sexual traumatic events that fell into multiple categories or other categories (5.3%).

Table 2

Sample Characteristics of Risk-Taking

Variable	Percentage
Alcohol Use	(n = 359)
Never	11.7
Rarely	17.5
Sometimes	45.6
Often	21.7
Very Often	3.3
Alcohol Games	(n = 317)
Never	13.3
Rarely	22.5
Sometimes	31.9
Often	16.1
Very Often	4.2
Extreme Sports	(n = 359)
Never	60.8
Rarely	13.6
Sometimes	18.6
Often	5.8
Very Often	0.8
Consensual Sex	(n = 357)
Never	16.4
Rarely	9.2
Sometimes	18.1
Often	31.4
Very Often	24.4

Table 3

Sample Characteristics for Sexual Assault

Variable	Percentage
<i>SES items (1-10): Non-contact Sexual trauma</i>	95 (n = 342)
Stared at “in a sexual way”	70.6 (n = 254)
Teased	62.5 (n = 255)
Sent sexual or obscene materials	41.4 (n = 149)
Sent pornographic pictures	42.8 (n = 154)
Received sexual or obscene phone call	17.5 (n = 63)
Watched while undressing, nude, or having sex	15 (n = 54)
Photographed when undressing, nude, or having sex	11.4 (n = 41)
Shown someone’s “the private areas”	46.1 (n = 166)
Target of “sexual motions”	48.3 (n = 174)
Witnessed masturbation	9.2 (n = 89.4)
<i>Contact Sexual trauma (SES 11-17 and added items)</i>	65.3 (n = 235)
Fondling	50.6 (n = 182)
Oral penetration	9.2 (n = 33)
Vaginal penetration	17.5 (n = 63)
Anal penetration	3.6 (n = 13)
Attempted oral penetration	15 (n = 54)
Attempted vaginal penetration	10 (n = 36)
Attempted anal penetration	2.2 (n = 8)
Statutory Oral Penetration	14.2 (n = 51)
Statutory Vaginal Penetration	16.1 (n = 58)
Statutory Anal Penetration	2.2 (n = 8)
Silent Oral Penetration	16.7 (n = 60)
Silent Vaginal Penetration	23.6 (n = 85)
Silent Anal Penetration	1.9 (n = 7)

Table 3 Continued

Sample Characteristics for Sexual Assault

Variable	Percentage
<i>Highest Level of Sexual Harassment</i>	(n = 358)
Sexual harassment of a photographic nature	1.9
Sexual harassment of a verbal nature	4.7
Sexual harassment of a gesturing nature	18.6
Exhibitionism	13.1
Voyeurism	6.1
<i>Highest Level of Sexual Assault</i>	(n = 351)
Statutory Oral Penetration	1.1
Statutory Vaginal Penetration	3.1
Statutory Anal Penetration	0.8
Silent Oral Penetration	1.9
Silent Vaginal Penetration	6.1
Silent Anal Penetration	0.6
Fondling	20.3
Attempted Oral Penetration	6.1
Attempted Vaginal Penetration	5.6
Attempted Anal Penetration	3.3
Oral Penetration	2.8
Vaginal Penetration	17.5
Anal Penetration	3.3

Table 3 Continued

Sample Characteristics for Sexual Assault

Variable	Percentage
Most Traumatic	(n = 286)
<i>Sexual harassment</i>	
Sexual harassment of a photographic nature	6.9
Sexual harassment of a verbal nature	6.9
Sexual harassment of a gesturing nature	15.3
Exhibitionism	3.9
Voyeurism	2.2
<i>Sexual assault</i>	
Statutory Oral Penetration	0.3
Statutory Vaginal Penetration	2.2
Statutory Anal Penetration	0.3
Fondling	11.7
Silent Oral Penetration	1.9
Silent Vaginal Penetration	3.1
Silent Anal Penetration	0
Attempted Oral Penetration	4.2
Attempted Vaginal Penetration	2.8
Attempted Anal Penetration	0
Oral Penetration	1.9
Vaginal Penetration	12.2
Anal Penetration	2.5
Other/Multiple	3.6
No answer	17.8

Table 4

Univariate Descriptive Statistics for Dependent Variables and Potential Covariates

Variable	<i>M (SD)</i>	Skew	Kurtosis
TOSCA-S	30.83(7.78)	-.08	-.59
OAS-EF	9.68(4.15)	1.03	.67
SEAS	50.33(25.48)	.21	-.40
RPDG	19.34(10.85)	.84	.93
MSRB	29.62(14.26)	.93	1.54
PFQ2-S	3.13(4.11)	1.77	3.33
SAS	2.62(3.54)	1.69	2.40
TRSI	6.45(12.42)	2.76	7.89

Note. TOSCA-S = Trait-related shame (TOSCA-S), scores range from 11-55; OAS-EF = shame measure, scores range from 0-16; SEAS = extreme-sports motivation, scores range from 0-126; RPDG = drinking-game motivation, scores range from 34-136; MSRB = sex motivation, scores range from 0-112; PFQ2-S = sex-guilt (PFQ2-S), scores range from 0-24; SAS = trauma-related shame, scores range from 0-16; TRSI = trauma-related shame, scores range from 0-72.

the acceptable range and subsequent analyses were conducted using the square-root of the variable (SR-TRSI). The MSRB (sex motivations measure) had one extreme outlier and violated normality based on detrended normal q-q plots; therefore, the extreme value was winsorized. Additionally, the sex guilt measure (PFQ2-S) had three extreme outliers and violated normality based on the detrended normal q-q plots. However, only one extreme value could be winsorized without jeopardizing the rank order of the original values. The most extreme outlier was winsorized. Following the corrections for normality, no problems with univariate normality remained. Relationships between all dependent variables and proposed covariates were linear.

Multicollinearity and Singularity

Results of Pearson's correlations revealed all of the dependent variables were not moderately correlated with each other ($r = .3-.49$), as hypothesized (See Table 5). However, the

Table 5

Correlations between Potential Covariates and Dependent Variables

Variables	TOSCA-S	SR-TRSI	SAS	OAS-EF	RPDG	SEAS	MSRB	PFQ2-S
TOSCA-S	--							
SR-TRSI	.28	--						
SAS	.26	.74**	--					
OAS-EF	.41*	.41*	.33*	--				
RPDG	.26	.28	.22	.25	--			
SEAS	.27	.39*	.24	.51**	.34*	--		
MSRB	.21	.32*	.24	.41*	.58**	.39*	--	
PFQ2-S	.18	.38*	.29	.28	.32*	.32*	.45*	--

Note. TOSCA-S = Trait-related shame (TOSCA-S); OAS-EF = shame measure; SEAS = extreme-sports motivation; RPDG = drinking-game motivation; MSRB = sex motivation; PFQ2-S = sex-guilt (PFQ2-S); SAS = trauma-related shame; SR-TRSI = trauma-related shame). All correlations based on $p = .01$.

*moderate effect ($r = .3 - .49$).

**double astericks indicate a large correlation ($r = .5 - .79$).

trauma-related shame variables (i.e., SAS and SR-TRSI) were positively correlated with each other ($n = 345$, $r = .74$, $df = 344$, $p < .01$). These variables plus the OAS-EF scale score (shame measure) and risk-taking motivation variables (i.e., SEAS scale score for extreme-sports motivations, RPDG scale score for drinking motivations, MRSB scale score for sex motivations)

were positively correlated with each other. Specifically, the drinking-game motivations (RPDG) correlated with sex motivations (MSRB, $n = 149$, $r = .54$, $df = 148$, $p < .01$) and extreme-sports motivations (SEAS, $n = 115$, $r = .35$, $df = 114$, $p < .01$); and, sex motivations (MSRB) correlated with the extreme-sports motivations (SEAS, $n = 65$, $r = .51$, $df = 64$, $p < .01$). Therefore, the dependent variables were split into two sets of variables: trauma-related shame and risk-taking motivations. All correlations fell below the threshold of multicollinearity ($r = .80$). Based on the correlations observed with the OAS-EF (shame measure), this measure demonstrated a positive correlation with both the SAS (trauma-related shame measure) ($n = 351$, $r = .39$, $df = 350$, $p < .01$) and the SR-TRSI (trauma-related shame measure) ($n = 345$, $r = .46$, $df = 344$, $p < .01$). Given these results, the OAS-EF (shame measure) was included in the analyses examining trauma-related shame.

Assessment of Potential Covariates

Results of Pearson's correlations revealed that trait-shame was significantly and positively correlated with all dependent variables to some extent, but was most highly correlated with RPDG (drinking motivations measure) ($n = 268$, $r = .31$, $df = 267$, $p < .01$) (See Table 7). Results further revealed that sex-guilt (PFQ2-S) was correlated to some extent with all dependent variables, but most highly correlated with MSRB (sex motivations measure) ($n = 168$, $r = .45$, $df = 167$, $p < .01$) and SR-TRSI (trauma-related shame measure) ($n = 325$, $r = .40$, $df = 324$, $p < .01$). Given the magnitude of these correlations, trait shame (TOSCA-S) and sex guilt (PFQ2-S) were not included as a covariate in the analyses.

Main Analyses

Overall, it was predicted that 1) trauma-related shame would differ based on the contextual factors and presence or absence of non-sexual trauma, and 2) the magnitude of risk-

taking motivations (i.e., the total ratings endorsed of importance/agreement with multiple motivations) would differ based on the contextual factors and non-sexual trauma (See Table 6).

Age of Victimization (Hypothesis 1)

Separate 3 (Age: childhood-only, adolescence/adulthood-only, and both childhood and adolescence/adulthood) x 2 (nonsexual trauma: absent or present) MANOVAs were planned on trauma-related shame and risk taking motivations. According to G*Power analysis, the desired sample size would be 57 with 19 cases per group (Faul et al., 2013). Preliminary analysis of frequencies suggested analyses on age would have insufficient cell size for the Childhood-Only level ($n = 10$). Therefore, the Childhood-Only level was omitted (See Table 6). With the adjustment of levels, there would be sufficient cell size for analysis of trauma-related shame, where the smallest cell size was $n = 137$, and risk-taking motivations, where the lowest cell size was $n = 21$.

Preliminary MANOVAs were conducted to examine homogeneity of covariance matrices and homogeneity of variance. A preliminary 2 (Age: adolescence/adulthood-only and both childhood and adolescence/adulthood) x 2 (nonsexual trauma: absent or present) MANOVA on trauma-related shame indicated Box's M Test was significant, $M = 55.91$, $F(24, 2097.32) = 2.15$, $p = .001$; therefore, final analyses would be based on an alpha level of .01 and Pillai's Trace. Levene's Test was also significant for the OAS-EF (trauma-related shame measure), $F(5, 319) = 2.32$, $p = .04$, the SR-TRSI (trauma-related shame measure), $F(5, 319) = 5.62$, $p < .001$, and the SAS (trauma-related shame measure), $F(5, 319) = 3.57$, $p = .004$; therefore, final analyses would be based on Type II Sum of Squares.

A preliminary 2 (Age: adolescence/adulthood-only and both childhood and adolescence/adulthood) x 2 (nonsexual trauma: absent or present) MANOVA on risk-taking

Table 6

Proposed Levels of the Independent Variables

Contextual Factor	Proposed Levels
Age	<ol style="list-style-type: none"> 1. ST occurred before age 14 (i.e., only in childhood) 2. ST occurred after age 14 (i.e., only in adolescence/adulthood)* 3. ST occurred in both childhood and adolescence/adulthood*
Contact	<ol style="list-style-type: none"> 1. ST involved no physical contact 2. ST involved attempted/completed, non-penetrative contact* 3. ST involved attempted/completed oral, vaginal, or anal contact*
Gender	<ol style="list-style-type: none"> 1. Participant was the same-sex as their perpetrator(s) 2. Participant was the opposite sex* 3. ST(s) involved multiple perpetrators, both female and male*
Tactic	<ol style="list-style-type: none"> 1. ST involved relational tactics only, such as being criticized or pressured (i.e., SES-LFV-E's "a" and/or "b") 2. ST involved drug-facilitated tactics, such as being surreptitiously given alcohol/drugs or being taken advantage of after voluntary use of alcohol/drugs (i.e., SES-LFV-E's "c" - "j"), and no force 3. ST involved threats of or actual force, such as being physically restrained or victimized by multiple people simultaneously (i.e., SES-LFV-E's "k" - "m")
Relationship	<ol style="list-style-type: none"> 1. ST by a caregiver/family member 2. ST by a friend/significant other with whom there had been a prior, consensual sexual relationship* 3. ST by a friend/significant other with whom there had never been a consensual sexual relationship 4. ST by a stranger/brief encounter (i.e., someone the victim had just met)* 5. ST(s) involved multiple perpetrators with different relationships to the victim
Disclosure	<ol style="list-style-type: none"> 1. Participant disclosed ST and received positive/supportive reactions 2. Participant disclosed ST and received negative or mixed reactions 3. Participant did not disclose ST

Note. ST = sexual trauma. Following adjustments in planned analyses due to cell size, same-gender was collapsed into the both-gender level; for relationships, Caregiver/Family Member, Friend/Significant Other: No Prior Consensual Sexual Relationship, and Multiple Perpetrators were collapsed into a single, new level, No Prior Sex.

*Level was retained following adjustments in planned analyses due to cell size.

motivations indicated Box's M test was not significant, $M = 36.22$, $F(18, 3832.58) = 1.76$, $p = .02$; therefore, final analyses would be based on an alpha level of .05 and Wilk's Lambda. Levene's Test was not significant for the MSRB (sex motivations measure), $F(4, 53) = .63$, $p = .64$, the RPDG (drinking-games motivations measure), $F(4, 53) = 1.31$, $p = .277$, and the SEAS (extreme-sports motivations measure), $F(4, 53) = 1.05$, $p = .39$; therefore, final analyses would be based on Type III Sum of Squares. Overall, these results indicated the assumption of homogeneity of covariance matrices and assumption of homogeneity of variance was violated for trauma-related shame analysis but upheld for the risk-taking motivations analysis.

Final analyses. A 2 (Age: adolescence/adulthood-only and both childhood and adolescence/adulthood) x 2 (nonsexual trauma: absent or present) MANOVA on trauma-related shame indicated a significant main effect of age on the linear composite of trauma-related shame, Pillai's Trace = .04, multivariate $F(3, 319) = 4.44$, $p = .005$, partial eta squared = .04. Follow up analyses of variance showed a nonsignificant effect of age on the OAS-EF (trauma-related shame measure), $F(1, 321) = 3.57$, $p = .06$, partial eta squared = .01, but significant effects on the SAS (trauma-related shame measure), $F(1, 321) = 9.87$, $p = .002$, partial eta squared = .03, and the SR-TRSI (trauma-related shame measure), $F(2, 321) = 12.55$, $p < .001$, partial eta squared = .04. Individuals who experienced a sexual trauma during both childhood and adolescence/adulthood, regardless of the presence/absence of nonsexual trauma, scored higher on the SAS and SR-TRSI than those who were assaulted during adolescence/adulthood only ($M = 2.95$ vs. 1.72 , $M = 1.73$ vs. 1.01 , respectively). This pattern remained for those who had experienced sexual and nonsexual trauma compared to those who had experienced sexual trauma only (See Table 7). Results of the MANOVA also indicated a significant main effect of prior non-sexual trauma on the linear composite of trauma-related shame, Pillai's Trace = .05,

Table 7

Estimated Marginal Means: Age

Age	Adolescent/ Adult- Only (STO)	Both Childhood and Adolescence/Adulthood (STO)	Adolescent/ Adult- Only (STNST)	Both Childhood and Adolescence/Adulthood (STNST)
OAS-EF	8.64	9.47	10.01	10.88
SAS	1.38	2.61	2.58	3.81
SR-TRSI	.82	1.54	1.49	2.21
RPDG	26.47	29.94	15.33	18.81
SEAS	42.80	63.43	43.74	64.36
MSRB	28.11	38.24	23.32	33.45

Note. STO = Sexual trauma only with no nonsexual trauma; STNST = Sexual trauma with nonsexual trauma; OAS-EF = shame measure; SEAS = extreme-sports motivation; RPDG = drinking-game motivation; MSRB = sex motivation; SAS = trauma-related shame; SR-TRSI = trauma-related shame).

multivariate $F(6, 640) = 2.56, p = .02$, partial eta squared = .02. Similarly, follow up analyses of variance revealed significant effects of nonsexual trauma on the OAS (trauma-related shame measure), $F(2, 321) = 4.99, p = .007$, partial eta squared = .03, SAS (trauma-related shame measure), $F(2, 321) = 4.96, p = .008$, partial eta squared = .03, and the SR-TRSI (trauma-related shame measure), $F(2, 321) = 5.71, p = .004$ partial eta squared = .03. Individuals who had experienced sexual and nonsexual trauma, regardless of age of victimization, scored higher on the SAS and SR-TRSI than those who had only experienced sexual trauma ($M = 3.20$ vs. 2.00 and $M = 1.85$ vs. 1.18 , respectively).

A 2 (Age: adolescence/adulthood-only and both childhood and adolescence/adulthood) x 2 (nonsexual trauma: absent or present) MANOVA on risk taking motivations indicated there

was a significant main effect of age on the linear composite of risk-taking motivations, Wilk's Lambda = .84, $F(3, 52) = 3.32$, $p = .03$, partial eta squared = .16. Analysis of variance indicated a nonsignificant effect of age on drinking-game motivations (RPDG), $F(1, 54) = 1.48$, $p = .23$, partial eta squared = .03, but significant effects on extreme-sports motivations (SEAS), $F(1, 54) = 8.69$, $p = .005$, partial eta squared = .14, and sex motivations (MSRB), $F(1, 54) = 7.03$, $p = .01$ partial eta squared = .11. Individuals who experienced a sexual trauma during both childhood and adolescence/adulthood, regardless of the presence/absence of nonsexual trauma, scored higher on extreme-sports motivations (SEAS) and sex motivations (MSRB) than those who were assaulted during adolescence/adulthood only ($M = 59.60$ vs. 38.97 and $M = 43.23$ vs. 33.10 , respectively). This pattern remained for those who had experienced sexual and nonsexual trauma compared to those who had experienced sexual trauma only (See Table 7). Similarly, results of the MANOVA also indicated there was a significant main effect of prior non-sexual trauma on the linear composite of risk-taking motivations, Wilk's Lambda = .59, $F(6, 104) = .59$, $p < .001$, partial eta squared = .23. Follow up analyses of variance evidenced a nonsignificant effect of nonsexual trauma on the SEAS, $F(2, 54) = .26$, $p = .77$, partial eta squared = .01, but significant effects on drinking-game motivations (RPDG), $F(2, 54) = 12.53$, $p < .001$, partial eta squared = .32, and sex motivations (MSRB), $F(2, 54) = 3.35$, $p = .04$, partial eta squared = .11. Individuals who had experienced sexual trauma only, regardless of age, scored higher on drinking-game motivations (RPDG) and sex motivations (MSRB) than those who had also experienced nonsexual trauma ($M = 28.20$ vs. 17.07 , $M = 33.17$ vs. 28.38 , respectively).

Contact Type of Sexual Trauma (Hypothesis 2)

Separate 3 (Contact: no physical contact, attempted or completed non-penetrative contact, and attempted or completed penetrative contact) x 2 (nonsexual trauma: absent or present) MANOVAs were planned on trauma-related shame and risk-taking motivations. According to G*Power analysis, the desired sample size would be 57 with 19 cases per group (Faul et al., 2013). Preliminary analysis of frequencies suggested analyses on contact would have sufficient cell size for all three levels of the variable and sufficient power to conduct a MANOVA for trauma-related shame analyses. However, for a MANOVA with the dependent variables of risk-taking motivations, cell sizes would be insufficient. Therefore, Contact was changed from a 3-level to a 2-level variable, where the levels of No Physical Contact and Attempted/Completed Non-Penetrative Contact were collapsed into a new level, Non-Penetrative Contact (See Table 6). With the adjustment of levels, there would be sufficient cell size for analyses with the dependent variables of trauma-related shame, where the smallest cell size was $n = 144$, but analysis with the dependent variables of risk-taking motivations, where the smallest cell size was $n = 13$, would be below the recommended sample size. However, analysis with the dependent variables of risk-taking motivations did meet the minimum requirement of cell size recommended by Tabachnick and Fidell (2013) of n of 7.

Preliminary MANOVAs were conducted to examine homogeneity of covariance matrices and homogeneity of variance. A preliminary 2 (Contact: attempted or completed non-penetrative contact and non-penetrative contact (no physical contact or attempted or completed penetrative contact)) x 2 (nonsexual trauma: absent or present) MANOVA on trauma-related shame indicated Box's M Test was significant, $M = 92.35$, $F(24, 723.90) = 3.32$, $p < .001$; therefore, final analyses would be based on an alpha level of .01 and Pillai's Trace. Levene's Test was not

significant for the OAS-EF (trauma-related shame measure), $F(5, 335) = 1.48, p = .20$.

However, Levene's Test was significant for the SAS (trauma-related shame measure), $F(5, 335) = 9.05, p < .001$, and for the SR-TRSI (trauma-related shame measure), $F(5, 335) = 13.08, p < .001$; therefore, final analyses would be based on Type II Sum of Squares. A preliminary 2 (Contact: attempted or completed non-penetrative contact and non-penetrative contact (no physical contact or attempted or completed penetrative contact)) x 2 (nonsexual trauma: absent or present) MANOVA on risk-taking motivations indicated Box's M test was not significant, $M = 25.08, F(18, 1.15) = 1.15, p = .30$; therefore, final analyses would be based on an alpha level of .05 and Wilk's Lambda. Levene's Test was not significant for the MSRB (sex motivations measure), $F(4, 56) = .66, p = .62$, the RPDG (drinking-games motivations measure), $F(4, 56) = .30, p = .88$, and the SEAS (extreme-sports motivations measure), $F(4, 56) = 1.41, p = .24$; therefore, final analyses would be based on Type III Sum of Squares. Overall, these results indicated the assumption of homogeneity of covariance matrices was violated for analysis on trauma-related shame and the assumption of homogeneity of variance was only upheld for the OAS-EF as it was violated for the SR-TRSI and SAS. The assumption of homogeneity of covariance matrices and homogeneity of variance was upheld for analysis on risk-taking motivations.

Final analyses. A 2 (Contact: attempted or completed non-penetrative contact and non-penetrative contact (no physical contact or attempted or completed penetrative contact)) x 2 (nonsexual trauma: absent or present) MANOVA on trauma-related shame indicated there was a significant main effect of contact on the linear composite of trauma-related shame, Pillai's Trace = .13, multivariate $F(3, 335) = 17.44, p < .001$, partial eta squared = .13. Follow-up analyses of variance showed significant effects of contact on the OAS-EF (trauma-related shame measure),

$F(1, 337) = 4.67, p = .03$, partial eta squared = .01, the SAS (trauma-related shame measure), $F(1, 337) = 40.03, p < .001$, partial eta squared = .11, and the SR-TRSI (trauma-related shame measure), $F(1, 337) = 46.87, p < .001$, partial eta squared = .12. Individuals who experienced penetrative sexual trauma, regardless of the presence/absence of nonsexual trauma, scored higher on the OAS-EF, SAS, and SR-TRSI than those who experienced nonpenetrative sexual trauma ($M = 9.75$ vs. 8.78 , $M = 3.41$ vs. 1.13 , and $M = 2.00$ vs. $.71$, respectively). This pattern remained for those who had experienced sexual and nonsexual trauma compared to those who had experienced sexual trauma only (See Table 8). Similarly, results of the MANOVA indicated a significant main effect of prior non-sexual trauma on the linear composite of trauma-related shame, Pillai's Trace = .04, multivariate $F(6, 672) = 2.26, p = .04$, partial eta squared = .02. Follow-up analysis of variance also indicated significant effects of nonsexual trauma on the OAS-EF (trauma-related shame measure), $F(2, 337) = 4.72, p = .01$, partial eta squared = .03, the SAS (trauma-related shame measure), $F(2, 337) = 3.99, p = .02$, partial eta squared = .02, and the SR-TRSI (trauma-related shame measure), $F(2, 337) = 4.55, p = .01$, partial eta squared = .03. Individuals who had experienced both sexual and nonsexual trauma, regardless of penetration, scored higher on the OAS-EF, SAS, and SR-TRSI than those who had only experienced sexual trauma ($M = 10.31$ vs. 8.99 , $M = 2.91$ vs. 1.90 , and $M = 1.73$ vs. 1.16 , respectively).

A 2 (Contact: attempted or completed non-penetrative contact and non-penetrative contact (no physical contact or attempted or completed penetrative contact)) x 2 (nonsexual trauma: absent or present) MANOVA was conducted; however, sample size was low (smallest $n = 13$). Analysis indicated there was a nonsignificant main effect of contact on the linear composite of risk-taking motivations, Wilk's Lambda = .96, multivariate $F(3, 55) = .75, p = .53$,

Table 8

Estimated Marginal Means: Contact

Contact	Non-Penetrative (STO)	Penetrative (STO)	Non-Penetrative (STNST)	Penetrative (STNST)
OAS-EF	8.51	9.47	9.83	10.79
SAS	.75	3.34	1.77	4.05
SR-TRSI	.52	1.81	1.08	2.37
RPDG	25.79	28.56	15.61	18.37
SEAS	49.60	56.67	50.63	57.69
MSRB	34.71	33.57	30.25	29.11

Note. STO = Sexual trauma only with no nonsexual trauma; STNST = Sexual trauma with nonsexual trauma; OAS-EF = shame measure; SEAS = extreme-sports motivation; RPDG = drinking-game motivation; MSRB = sex motivation; SAS = trauma-related shame; SR-TRSI = trauma-related shame).

partial eta squared = .04. However, results of the MANOVA indicated there was a significant main effect of prior non-sexual trauma on the linear composite of risk-taking motivations, Wilk's Lambda = .61, $F(6, 112) = .61, p < .001$, partial eta squared = .20. Follow-up analysis of variance evidenced a nonsignificant effect of nonsexual trauma on extreme-sports motivations (SEAS), $F(2, 57) = .06, p = .40$, partial eta squared = .002, but significant effects on drinking-game motivations (RPDG), $F(2, 57) = 11.42, p < .001$, partial eta squared = .29, and sex motivations (MSRB), $F(2, 57) = 4.05, p = .02$, partial eta squared = .12. Individuals who had experienced sexual trauma only, regardless of penetration, scored higher on drinking-game motivations (RPDG) and sex motivations (MSRB) than those who had also experienced nonsexual trauma ($M = 27.17$ vs. 16.99 and $M = 34.14$ vs. 29.68, respectively).

Tactics of Perpetrator(s) (Hypothesis 3)

Separate 3 (Tactic: relational, drug-facilitated, and threatened/actual force) x 2 (nonsexual trauma: absent or present) MANOVAs were planned on trauma-related shame and risk-taking motivations (See Table 6). According to G*Power analysis, the desired sample size would be 57 with 19 cases per group (Faul et al., 2013). Preliminary analysis of frequencies suggested analyses on tactic would have sufficient cell size for all three levels of the variable for analyses with trauma-related shame, where the smallest cell size was $n = 24$, but insufficient cell size for analyses with risk-taking motivations. Cell size for analyses with risk-taking motivations also fell below the minimum requirement recommended by Tabachnick and Fidell (2013) of n of 7.

Preliminary MANOVAs were conducted to examine homogeneity of covariance matrices and homogeneity of variance. A preliminary 3 (Tactic: relational, drug-facilitated, and threatened/actual force) x 2 (nonsexual trauma: absent or present) MANOVA on trauma-related shame indicated Box's M Test was not significant, $M = 42.58$, $F(30, 7136.96) = 1.29$, $p = .14$. Levene's Test was not significant for the OAS-EF (trauma-related shame measure), $F(7, 114) = 1.70$, $p = .12$, or for the SAS (trauma-related shame measure), $F(7, 114) = 1.65$, $p = .13$. However, Levene's Test was significant for the SR-TRSI (trauma-related shame measure), $F(7, 114) = 2.11$, $p < .05$. Overall, these results indicated the assumption of homogeneity of covariance matrices was upheld and the assumption of homogeneity of variance was upheld for the OAS-EF and SAS but violated for the SR-TRSI.

Final analyses. A 3 (Tactic: relational, drug-facilitated, and threatened/actual force) x 2 (nonsexual trauma: absent or present) MANOVA on trauma-related shame indicated tactic did not have a significant main effect on the linear composite of trauma-related shame, Wilk's

Lambda = .91, multivariate $F(6, 230) = 1.82, p = .10$, partial eta squared = .04. Similarly, results indicated prior non-sexual trauma did not have a significant main effect on the linear composite of trauma-related shame, Wilk's Lambda = .94, multivariate $F(6, 230) = 1.25, p = .28$, partial eta squared = .03.

Gender of Perpetrator(s) (Hypothesis 4)

Separate 3 (Gender: same gender, opposite gender, and both same and opposite gender) x 2 (nonsexual trauma: absent or present) MANOVAs were planned on trauma-related shame and risk-taking motivations. According to G*Power analysis, the desired sample size would be 57 with 19 cases per group (Faul et al., 2013). Preliminary analysis of frequencies suggested there would not be sufficient cell size for a MANOVA. Therefore, the Same Gender level and Both Same and Opposite Gender level of the variable were collapsed into a new variable, Same/Both Gender (See Table 6). Subsequent analyses on Gender would include two levels: Opposite Gender and Same/Both Gender. With the adjustment of levels, there would only be sufficient cell size for analyses with the dependent variables of trauma-related shame, where the smallest cell size was $n = 40$. Cell size for analyses with risk-taking motivations also fell below the minimum requirement recommended by Tabachnick and Fidell (2013) of n of 7.

Preliminary MANOVAs were conducted to examine homogeneity of covariance matrices and homogeneity of variance. A preliminary 2 (Gender: opposite gender and same/both gender (same gender or both same and opposite gender)) x 2 (nonsexual trauma: absent or present) MANOVA on trauma-related shame indicated Box's M Test was significant, $M = 66.77, F(24, 4390.08) = 2.57, p < .001$. Levene's Test was not significant for the OAS-EF (trauma-related shame measure), $F(4, 305) = 1.78, p = .132$, or for the SR-TRSI (trauma-related shame measure), $F(4, 305) = 2.23, p = .066$. However, Levene's Test was significant for the SAS

(trauma-related shame measure), $F(4, 305) = 4.34, p < .05$; therefore, final analyses would be based on Type II Sum of Squares. A preliminary 2 (Gender: opposite gender and same/both gender (same gender or both same and opposite gender)) x 2 (nonsexual trauma: absent or present) MANOVA on risk-taking motivations indicated Box's M test was significant, $M = 41.25, F(12, 956.71) = 2.88, p = .001$; therefore, final analyses would be based on an alpha level of .01 and Pillai's Trace. Levene's Test was not significant for the MSRB (sex motivations measure), $F(4, 48) = .75, p = .56$, the RPDG (drinking-game motivations measure), $F(4, 48) = .33, p = .85$, or the SEAS (extreme-sports motivations measure), $F(4, 48) = .75, p = .56$; therefore, final analyses would be based on Type III Sum of Squares. Overall, these results indicated the assumption of homogeneity of covariance matrices was violated for both analyses and the assumption of homogeneity of variance was upheld for the risk-taking motivation analysis. However, the assumption of homogeneity of variance was only upheld for the OAS-EF and SR-TRSI for the risk-taking motivation analyses as it was violated for the SAS.

Final analyses. A 2 (Gender: opposite gender and same/both gender (same gender or both same and opposite gender)) x 2 (nonsexual trauma: absent or present) MANOVA on trauma-related shame indicated there was a nonsignificant main effect of gender on the linear composite of trauma-related shame, Pillai's Trace = .02, multivariate $F(3, 304) = 2.32, p = .07$, partial eta squared = .02. However, results indicated there was a significant main effect of prior non-sexual trauma on the linear composite of trauma-related shame, Pillai's Trace = .05, multivariate $F(6, 608) = 2.76, p = .01$, partial eta squared = .03. Follow-up analysis of variance evidenced significant effects of nonsexual trauma on all three trauma-related shame measures, OAS-EF =, $F(2, 306) = 5.37, p = .005$, partial eta squared = .03, the SAS, $F(2, 306) = 5.52, p = .004$, partial eta squared = .03, and the SR-TRSI, $F(2, 306) = 6.42, p = .002$, partial eta squared

=.04. Individuals who had experienced both sexual and nonsexual trauma, regardless of the perpetrator's gender, scored higher on the OAS-EF, SAS, and SR-TRSI than those who had only experienced sexual trauma ($M = 10.44$ vs. 9.00 , $M = 2.85$ vs. 1.57 , and $M = 1.91$ vs. 1.20 , respectively) (See Table 9).

A 2 (Gender: opposite gender and same/both gender (same gender or both same and opposite gender)) x 2 (nonsexual trauma: absent or present) MANOVA on risk-taking motivations was; however, sample size was low (smallest $n = 7$). Analysis indicated gender did not have a significant main effect on the linear composite of risk-taking motivations, Pillai's Trace = .08, multivariate $F(3, 47) = 1.28$, $p = .29$, partial eta squared = .08. Results also indicated a significant main effect of prior non-sexual trauma on the linear composite of risk-taking motivations, Pillai's Trace = .50, multivariate $F(6, 96) = 5.33$, $p < .001$, partial eta squared = .25. Follow-up analysis of variance revealed a nonsignificant effect of nonsexual trauma on extreme-sports motivations (SEAS), $F(2, 49) = .01$, $p = .99$, partial eta squared $< .001$, but significant effects on drinking-game motivations (RPDG), $F(2, 49) = 13.91$, $p < .001$, partial eta squared = .36, and sex motivations (MSRB), $F(2, 49) = 3.22$, $p = .049$, partial eta squared = .12. Individuals who had experienced sexual trauma only, regardless of the perpetrator's gender, scored higher on drinking-game motivations (RPDG) and sex motivations (MSRB) than those who had also experienced nonsexual trauma ($M = 29.92$ vs. 19.13 and $M = 34.10$ vs. 32.22 , respectively) (See Table 9).

Relationship to Perpetrator(s) (Hypothesis 5)

Separate 5 (Relationship: caregiver/family member, friend/significant other: prior sex, friend/significant other: no sex, brief encounter/stranger, and multiple perpetrators) x 2

Table 9

Estimated Marginal Means: Gender

Gender	Opposite (STO)	Same or Both (STO)	Opposite (STNST)	Same or Both (STNST)
OAS-EF	8.85	9.16	10.29	10.60
SAS	1.99	1.15	3.28	2.43
SR-TRSI	1.14	1.25	1.85	1.96
RPDG	26.45	33.40	15.67	22.60
SEAS	53.97	60.49	53.90	60.42
MSRB	33.16	35.03	31.28	33.16

Note. STO = Sexual trauma only with no nonsexual trauma; STNST = Sexual trauma with nonsexual trauma; OAS-EF = shame measure; SEAS = extreme-sports motivation; RPDG = drinking-game motivation; MSRB = sex motivation; SAS = trauma-related shame; SR-TRSI = trauma-related shame).

(nonsexual trauma: absent or present) MANOVAs were planned on trauma-related and risk-taking motivations. According to G*Power analysis, the desired sample size would be 70 with 14 cases per group (Faul et al., 2013). Preliminary analysis of frequencies suggested analyses on relationship would have sufficient cell size for all five levels of the variable and sufficient power to conduct a MANOVA with the dependent variables of trauma-related but not for risk-taking motivations. Therefore, relationship was changed from a 5-level to a 3-level variable for planned analyses with the dependent variables of risk-taking behaviors, where the levels of Caregiver/family member, Friend/Significant Other with whom the victim had no prior sexual relationship, and Multiple Perpetrators were collapsed into a new level, No Prior Sex (See Table 6). With the adjustment of levels, there would be sufficient cell size for all analyses with trauma-related shame, where the smallest cell size was $n = 32$, but cell size for risk-taking

motivation analyses would be below the recommended size, where the smallest cell size was $n = 11$. Cell size for analyses with risk-taking motivations did meet the minimum requirement recommended by Tabachnick and Fidell (2013) of n of 7.

Preliminary MANOVAs were conducted to examine homogeneity of covariance matrices and homogeneity of variance. A preliminary 5 (Relationship: caregiver/family member, friend/significant other: prior sex, friend/significant other: no sex, brief encounter/stranger, and multiple perpetrators) x 2 (nonsexual trauma: absent or present) MANOVA on trauma-related shame indicated Box's M Test was not significant, $M = 86.16$, $F(54, 19059.48) = 1.49$, $p = .011$; therefore, final analyses would be based on an alpha level of .05 and Wilk's Lambda. Levene's Test was not significant for the OAS-EF (trauma-related shame measure), $F(13, 285) = 1.22$, $p = .262$, or for the SAS (trauma-related shame measure), $F(13, 285) = 1.73$, $p = .054$. However, Levene's Test was significant for the SR-TRSI (trauma-related shame measure), $F(13, 285) = 1.96$, $p < .05$; therefore, final analyses would be based on Type II Sum of Squares. A preliminary 3 (Relationship: friend/significant other: prior sex, brief encounter/stranger, and no prior sex (i.e., multiple perpetrators, caregiver/family member, or friend/significant other: no sex)) x 2 (nonsexual trauma: absent or present) MANOVA on risk-taking motivations Box's M test was not significant, $M = 49.82$, $F(30, 1629.73) = 1.26$, $p = .15$; therefore, final analyses would be based on an alpha level of .05 and Wilk's Lambda. Levene's Test was not significant for the MSRB (sex motivations measure), $F(7, 40) = 1.21$, $p = .32$, the RPDG (drinking-game motivations measure), $F(7, 40) = 1.18$, $p = .34$, or the SEAS (extreme-sports motivations measure), $F(7, 40) = 1.56$, $p = .17$; therefore, final analyses would be based on Type III Sum of Squares. Overall, these results indicated the assumption of homogeneity of covariance matrices was upheld for both analyses and the assumption of homogeneity of variance was upheld for the

risk-taking motivations analysis. However, the assumption of homogeneity of variance was upheld during the trauma-related shame analysis for the OAS-EF and SAS but violated for the SR-TRSI.

Final analyses. A 5 (Relationship: caregiver/family member, friend/significant other: prior sex, friend/significant other: no sex, brief encounter/stranger, and multiple perpetrators) x 2 (nonsexual trauma: absent or present) MANOVA on trauma-related shame indicated there was a significant main effect of relationship on the linear composite of trauma-related shame, Wilk's Lambda = .93, multivariate $F(12, 767.56) = 1.84, p = .04$, partial eta squared = .02. Follow-up analysis of variance evidenced a significant effect of relationship on the SAS (trauma-related shame measure), $F(4, 292) = 4.45, p = .02$, partial eta squared = .06, but nonsignificant effects on the OAS-EF (trauma-related shame measure), $F(4, 292) = 1.14, p = .34$, partial eta squared = .01, and the SR-TRSI (trauma-related shame measure), $F(2, 292) = 2.67, p = .06$, partial eta squared = .03. Post hoc analysis found, regardless of the presence/absence of nonsexual trauma, individuals who had a caregiver or family member as a perpetrator had significantly higher rates of trauma-related shame ($M = 4.78$), as measured by the SAS, than those who had been sexually assaulted by a stranger/brief encounter ($M = 2.23$), a non-sexual partner ($M = 1.79$), or a former consensual sexual partner ($M = 1.43$). This pattern remained for those who had experienced sexual and nonsexual trauma compared to those who had experienced sexual trauma only (See Table 10). However, results indicated prior non-sexual trauma did not have a significant main effect on the linear composite of trauma-related shame, Wilk's Lambda = .97, multivariate $F(6, 580) = 1.51, p = .17$, partial eta squared = .01.

A 3 (Relationship: friend/significant other: prior sex, brief encounter/stranger, and no prior sex (i.e., multiple perpetrators, caregiver/family member, or friend/significant other: no

Table 10

Estimated Marginal Means: Relationship

Relationship	1	2	3	4	5	6	7	8	9	10
OAS-EF	8.02	8.86	9.49	9.54	9.54	9.13	9.98	10.60	10.66	10.66
SAS	1.21	1.79	2.17	2.23	4.57	2.07	2.65	3.03	3.09	5.43
SR-TRSI	.84	1	1.30	1.43	2.04	1.39	1.56	1.85	1.99	2.60

Note. STO = Sexual trauma only with no nonsexual trauma; STNST = Sexual trauma with nonsexual trauma; OAS-EF = shame measure; SEAS = extreme-sports motivation; RPDG = drinking-game motivation; MSRB = sex motivation; SAS = trauma-related shame; SR-TRSI = trauma-related shame); 1 = Sex (STO); 2 = Friend/Significant Other -No Sex (STO); 3 = Stranger (STO); 4 = Multiple (STO); 5 = Caregiver (STO); 6 = Sex (STNST); 7 = Friend/Significant Other- No Sex (STNST); 8 = Stranger (STNST); 9 = Multiple (STNST); 10 = Caregiver (STNST).

sex)) x 2 (nonsexual trauma: absent or present) MANOVA on risk-taking motivations was conducted; however, sample size was low (smallest $n = 11$). Analysis indicated there was a nonsignificant main effect of relationship on the linear composite of risk-taking motivations, Wilk's Lambda = .93, multivariate $F(6, 82) = .54, p = .78$, partial eta squared = .04. However, results indicated prior non-sexual trauma did have a significant main effect on the linear composite of risk-taking motivations, Wilk's Lambda = .55, multivariate $F(6, 84) = 4.73, p < .001$, partial eta squared = .26. Follow-up analysis of variance evidenced a significant effect of nonsexual trauma on drinking-game motivations (RPDG), $F(4, 43) = 11.55, p < .001$, partial eta squared = .35, but nonsignificant effects on extreme-sports motivations (SEAS), $F(4, 43) = .22, p = .80$, partial eta squared = .01, and sex motivations (MSRB), $F(4, 43) = 2.77, p = .07$, partial eta squared = .11. Individuals who had experienced sexual trauma only scored significantly higher on drinking-game motivations (RPDG), regardless of the relationship to the perpetrator, than those who had also experienced nonsexual trauma ($M = 27.98$ vs. 17.41, respectively).

Table 10 Continued

Estimated Marginal Means: Relationship

Relationship	Sex/Multiple (STO)	No sex (STO)	S/BE (STO)	Sex/Multiple (STNST)	No Sex (STNST)	S/BE (STNST)
RPDG	29.13	28.67	25.20	18	11.40	21
SEAS	50.87	51	68.80	54.92	44.80	50.90
MSRB	34.37	27.67	39.60	33.92	23.80	31

Note. STO = Sexual trauma only with no nonsexual trauma; STNST = Sexual trauma with nonsexual trauma; OAS-EF = shame measure; SEAS = extreme-sports motivation; RPDG = drinking-game motivation; MSRB = sex motivation; SAS = trauma-related shame; SR-TRSI = trauma-related shame); 1 = Sex (STO); 2 = Friend/Significant Other -No Sex (STO); 3 = Stranger (STO); 4 = Multiple (STO); 5 = Caregiver (STO); 6 = Sex (STNST); 7 = Friend/Significant Other- No Sex (STNST); 8 = Stranger (STNST); 9 = Multiple (STNST); 10 = Caregiver (STNST); S/BE = Stranger/Brief Encounter.

Disclosure of Victimization (Hypothesis 6)

Separate 3 (Disclosure: positive/supportive reactions, negative/non-supportive reactions, and non-disclosure) x 2 (nonsexual trauma: absent or present) MANOVAs were planned on trauma-related shame and risk-taking motivations. According to G*Power analysis, the desired sample size would be 57 with 19 cases per group (Faul et al., 2013). Frequencies suggested trauma-related shame analyses on disclosure would have sufficient cell size for all three levels of the variable for trauma-related shame, where the smallest cell size was $n = 50$, but the cell size for risk-taking motivations would be below the recommended size, where the smallest cell size was $n = 10$. Cell size for analyses with risk-taking motivations did meet the minimum requirement recommended by Tabachnick and Fidell (2013) of n of 7.

Preliminary MANOVAs were conducted to examine homogeneity of covariance matrices and homogeneity of variance. A 3 (Disclosure: positive/supportive reactions, negative/non-supportive reactions, and non-disclosure) x 2 (nonsexual trauma: absent or present) MANOVA

on trauma-related shame indicated Box's M Test was significant, $M = 79.35$, $F(36, 6502.45) = 2.06$, $p < .001$; therefore, final analyses would be based on an alpha level of .01 and Pillai's Trace. Levene's Test was not significant for the OAS-EF (trauma-related shame measure), $F(7, 293) = 1.87$, $p = .075$. However, Levene's Test was significant for the SAS (trauma-related shame measure), $F(7, 293) = 2.51$, $p < .05$, and the SR-TRSI (trauma-related shame measure), $F(7, 293) = 2.24$, $p < .05$; therefore, final analyses would be based on Type II Sum of Squares. A 3 (Disclosure: positive/supportive reactions, negative/non-supportive reactions, and non-disclosure) x 2 (nonsexual trauma: absent or present) MANOVA on risk-taking motivations indicated Box's M test was nonsignificant, $M = 43.20$, $F(24, 929.33) = 1.37$, $p = .11$; therefore, final analyses would be based on an alpha level of .05 and Wilk's Lambda. Levene's Test was not significant for the MSRB (sex motivations measure), $F(4, 42) = .31$, $p = .94$, the RPDG (drinking-game motivations measure), $F(4, 42) = 1.05$, $p = .41$, or the SEAS (extreme-sports motivations measure), $F(4, 42) = 1.11$, $p = .38$; therefore, final analyses would be based on Type III Sum of Squares. Overall, these results indicated, for trauma-related analysis, the assumption of homogeneity of covariance matrices was violated and the assumption of homogeneity of variance was upheld for the OAS-EF but violated for the SAS and SR-TRSI. However, the assumption of homogeneity of covariance matrices and homogeneity of variance was upheld for risk-taking motivations analysis.

Final analyses. A 3 (Disclosure: positive/supportive reactions, negative/non-supportive reactions, and non-disclosure) x 2 (nonsexual trauma: absent or present) MANOVA on trauma-related shame indicated there was a significant main effect of disclosure on the linear composite of trauma-related shame, Pillai's Trace = .04, multivariate $F(6, 590) = 2.19$, $p = .04$, partial eta squared = .02. Follow-up analysis of variance evidenced a significant effect of disclosure on the

SAS (trauma-related shame measure), $F(2, 296) = 4.69, p = .01$, partial eta squared = .03, but nonsignificant effects on the OAS-EF (trauma-related shame measure), $F(2, 296) = .54, p = .54$, partial eta squared = .004, and the SR-TRSI (trauma-related shame measure), $F(2, 296) = 2.09, p = .13$, partial eta squared = .01. Post hoc analyses revealed individuals who disclosed their sexual trauma and received negative feedback, regardless of the presence/absence of nonsexual trauma, scored higher on the SAS than those who never disclosed ($M = 3.51$ vs. 1.83 , respectively). This pattern remained for those who had experienced sexual and nonsexual trauma compared to those who had experienced sexual trauma only (See Table 11). Results of the MANOVA further indicated a significant main effect of prior non-sexual trauma on the linear composite of trauma-related shame, Pillai's Trace = .05, multivariate $F(6, 590) = 2.32, p = .03$, partial eta squared = .03. Follow-up analysis of variance evidenced a nonsignificant effect of nonsexual trauma on the SAS (trauma-related shame measure), $F(2, 296) = 2.96, p = .05$, partial eta squared = .02, but significant effects on the OAS-EF (trauma-related shame measure), $F(2, 296) = 4.14, p = .02$, partial eta squared = .03, and the SR-TRSI (trauma-related shame measure), $F(2, 296) = 5.80, p = .003$, partial eta squared = .04. Post hoc analyses revealed individuals who had experienced sexual and nonsexual trauma, regardless of disclosure, scored higher on the OAS and SR-TRSI than those who had only experienced sexual trauma ($M = 10.38$ vs. 9.09 and $M = 1.92$ vs. 1.22 , respectively).

A 3 (Disclosure: positive/supportive reactions, negative/non-supportive reactions, and non-disclosure) x 2 (nonsexual trauma: absent or present) MANOVA on risk-taking motivations was conducted; however, sample size was low (smallest $n = 10$). Analysis indicated there was a nonsignificant main effect of disclosure on the linear composite of risk-taking motivations, Wilk's Lambda = .76, multivariate $F(6, 86) = 2.14, p = .06$, partial eta squared = .13. However,

Table 11

Estimated Marginal Means: Disclosure

Disclosure	Positive (STO)	Non (STO)	Negative (STO)	Positive (STNST)	Non (STNST)	Negative (STNST)
OAS-EF	8.96	8.81	9.49	10.23	10.11	10.79
SAS	2.24	1.55	3.23	3.22	2.53	4.21
SR-TRSI	1	1.05	1.60	1.70	1.75	2.30
RPDG	28.42	28.25	28.36	17.02	16.86	16.96
SEAS	45.14	54.53	73.66	38.71	48.11	67.24
MSRB	29.92	31.90	43.13	26.04	28.02	39.45

Note. STO = Sexual trauma only with no nonsexual trauma; STNST = Sexual trauma with nonsexual trauma; OAS-EF = shame measure; SEAS = extreme-sports motivation; RPDG = drinking-game motivation; MSRB = sex motivation; SAS = trauma-related shame; SR-TRSI = trauma-related shame); Non = Nondisclosure.

results indicated prior non-sexual trauma did have a significant main effect on the linear composite of risk-taking motivations, Wilk's Lambda = .57, multivariate $F(6, 86) = 4.72, p < .001$, partial eta squared = .25. Follow-up analysis of variance evidenced a nonsignificant effect of nonsexual trauma on extreme-sports motivations (SEAS), $F(4, 45) = .39, p = .68$, partial eta squared = .02, but significant effects on drinking-game motivations (RPDG), $F(4, 45) = 10.70, p < .001$, partial eta squared = .32, and sex motivations (MSRB), $F(4, 45) = 4.44, p = .02$, partial eta squared = .16. Post hoc analyses revealed individuals who had experienced sexual trauma only, regardless of disclosure, scored higher on drinking-game motivations (RPDG) and sex motivations (MSRB) than those who were had experienced sexual and nonsexual trauma ($M = 28.34$ vs. 16.95 and $M = 34.98$ vs. 31.10 , respectively).

DISCUSSION

The current study examined how contextual factors of sexual trauma and the presence/absence of nonsexual trauma affects the development of trauma-related shame and motivations for engaging in risk-taking behaviors among a sample of female college students with histories of sexual trauma.

Trauma-Related Shame

In this study, it was presumed that two known measures of trauma-related shame, the SAS and SR-TRSI, would be highly correlated ($r > .50-.79$) and represent a single construct, and that the OAS-EF may tap into trauma-related shame because of similarities in the questions to the other two measures of shame. This was partially supported. Correlations revealed trauma-related shame variables (SAS and SR-TRSI) were related above the expected correlation of $r = .50$, which provides evidence of convergent validity to these measures and supports similar findings obtained by Laaksonen, Hacker, & Lewis (2015). However, the OAS-EF (shame measure) had the lowest correlations with trauma-related shame measures (SAS and SR-TRSI) and trait-related shame (TOSCA-S), suggesting the OAS-EF taps into aspects of shame that are present in both trait-related and trauma-related shame for female victims of sexual assault.

Risk-Taking Motivations

In this study, it was presumed that three known measures of risk-taking motivations across very distinct forms of risk-taking, the RPDG (drinking-game motivations measure), SEAS (extreme-sports motivations measure), and MSRB (sex motivations measure), would be moderately correlated ($r = .3 - .49$) and represent a related construct. This was supported via correlational analysis and evidenced the importance of measuring different types of risk-taking motivations because, while motivations may span different types of risk-taking, there are distinct

differences in why a person, or at least a sexual assault victim, engages in one form of risk-taking versus other forms. The correlations found are consistent with known research about these risk-taking behaviors and motivations for these behaviors (Abbey, 2002; Combs-Lane & Smith, 2002; Johnson & Stahl, 2004; Palmer, McMahon, Rounsaville, & Ball, 2010).

Contextual Factors

Age of Victimization

Both age and nonsexual trauma had significant effects on the linear combination of trauma-related shame and also on risk-taking motivations. The first hypothesis was partially supported. This study found trauma-related shame scores were higher for those who were sexually assaulted during both childhood and adolescence/adulthood compared to those assaulted only in adolescence/adulthood, but only significantly higher for two of the three measures (i.e., SAS and SR-TRSI). This pattern remained for both those who had experienced prior nonsexual trauma and those who had not, where those who had nonsexual trauma histories scored higher than those who did not. These findings that age at victimization significantly impacts shame is consistent with research in the field (Kessler & Bieschke, 1999) and evidences the need for early clinical intervention with victims of childhood sexual trauma, intervention that ideally targets trauma-related shame.

Similarly, risk-taking motivation scores were higher for those who were sexually assaulted during both childhood and adolescence/adulthood compared to those assaulted only in adolescence/adulthood, but only significantly higher for extreme-sports motivations and sex motivations, not drinking-game motivations. This finding is consistent with literature on engagement in risk-taking behavior (Davis, Combs-Lane, & Jackson, 2002). The lack of significance regarding drinking-game motivations was surprising considering the research

highlighting childhood sexual assault as a predictor of drinking motivations (Grayson & Nolen-Hoeksema, 2005). However, the lack of significance may be an artifact of the weaker relationship between trauma-related shame and drinking-game motivations compared to other risk-taking motivations, as evidenced by the correlational finding that trauma-related shame (SAS, SR-TRSI, and OAS-EF) evidenced the weakest relationship with motivations to engage in drinking games compared to other risk-taking motivations. Interesting, while the aforementioned pattern in risk-taking motivations remained for both those who had experienced prior nonsexual trauma and those who had not, those who had only experienced sexual trauma had higher scores overall on risk-taking motivations than those who had also experienced prior nonsexual trauma.

These findings are concerning clinically, particularly considering 54.4% of the current sample was comprised of freshman students. Freshman face several more years of being at heightened risk for being victimized as college students and their risk increases if they have already experienced multiple sexual traumas or if they engage in risky alcohol and/or sexual behavior. Unfortunately, history of revictimization is associated with their increased engagement in risky behaviors, thereby creating a vicious cycle of risk (Combs-Lane & Smith, 2002). Furthermore, these findings emphasize the importance of mental health services for students who have experienced sexual trauma and for such treatment to specifically target trauma-related shame and motivations for engaging in risky behaviors.

Contact Type of Sexual Trauma

There were significant effects of contact on the linear combination of trauma-related shame but not on risk-taking motivations; however, the analysis on risk-taking motivations was likely underpowered due to low sample size of participants who had engaged in all three types of

risk-taking behavior (i.e., extreme sports, drinking games, and sex). The second hypothesis was partially supported. Individuals who were orally, vaginally, or anally penetrated during their sexual assault scored significantly higher on all measures of trauma-related shame compared to those who experienced non-contact sexual trauma, a pattern which remained for both those who had experienced prior nonsexual trauma and those who had not. This finding of the effects of contact is consistent with other research that has found increased shame (Carcirieri & Osman, 2012) as well as traumatic stress and substance use (Bulik, Prescott, & Kendler, 2001) among victims with penetrative versus non-penetrative sexual assault. Among a sample in which 83.1% of the participants are (consensually) sexually active, this finding also raises additional questions as to whether there are differences in trauma-related shame among participants whose penetrative sexual trauma history was the person's first penetrative sexual experience or if the penetrative sexual trauma occurred after the person had experienced consensual penetrative sex, particularly considering research on first sexual experiences and guilt (Davis, 2011). Unfortunately, no known research has examined this possibility.

Tactics of Perpetrator(s)

Tactic did not have a significant effect on the linear combination of trauma-related shame. Unfortunately, the effects of tactic could not be explored regarding risk-taking motivations due to insufficient sample size of victims who have engaged in all three risk-taking behaviors (i.e., extreme sports, drinking games, and sex). Therefore, the third hypothesis, that trauma-related shame and risk-taking motivations would be highest for those who experienced a forcible sexual assault, compared to those who were subjected to relational tactics by their perpetrators, could not be fully explored.

Among those participants in the current study who endorsed having perpetrators use a specific tactic during the sexual trauma, the most common tactic was threatened or actual force, followed by drug-facilitated tactics, and lastly relational tactics. However, it is difficult to compare these findings with extant literature because studies have found varying results of tactic usage. For example, one national study of college students found commensurate levels of force and drug-facilitated tactics (Kilpatrick, Resnick, Ruggiero, Conoscenti, & McCauley, 2007), while another study found higher rates of relational tactics and commensurate levels of force and drug-facilitated tactics (Abbey et al., 2004), and a third study found higher rates of drug-facilitated tactics compared to force tactics (Krebs, Lindquist, Warner, Fisher, & Martin, 2009). Despite the differences across studies in prevalence of perpetrator tactic, there is consistency about the effects of tactic on functioning. For example, studies among women who experienced threat or actual force during their sexual traumas experienced more “disruption” following the trauma compared to those who experienced drug-facilitated or relational tactics (Abbey, BeShears, Clinton-Sherrod, & McAuslan, 2004, p. 323; Roesler & McKenzie, 1994).

However, research also has shown the use of tactic is dependent upon the relationship to the perpetrator, where strangers are more likely to use force, acquaintances are more likely to use drug-facilitated tactics, and significant others are more likely to use relational tactics (Ullman & Brecklin, 2000). This could explain the different rates of force, drug-facilitated, and relational tactics in the current study because most of the participants reported they were sexually assaulted by a stranger or someone with whom they had only had a brief encounter and the fewest number of participants reported being sexually assaulted by someone with whom they had engaged in consensual sex prior to the sexual trauma. The lack of significant findings regarding the effect of tactic on trauma-related shame also appears to mirror the aforementioned research by Ullman

and Brecklin (2000) and the importance of the victim's relationship to the perpetrator(s), more so than tactic itself, in trauma-related shame.

Gender of Perpetrator(s)

Gender did not have a significant effect on the linear combination of trauma-related shame or risk-taking motivations. Therefore, the fourth hypothesis, that those whose sexual assault was perpetrated by someone of the same-sex would have higher levels of trauma-related shame and risk-taking motivations than those who experienced sexual trauma perpetrated by someone of the opposite sex, was not suggested. Unfortunately, the levels of gender had to be collapsed for current analyses due to the small sample size of participants reporting sexual traumas perpetrated by someone of the same gender and/or both the same and opposite gender. Combining the two groups of sexual assault victims (i.e., those with perpetrators of the same gender and those with multiple perpetrators of the same and opposite gender) may have made a gender effect on trauma-related shame and/or risk-taking motivations undetectable, if there was a gender effect. Alternatively, this finding is consistent with one study of victims of childhood sexual abuse, which found no effect of perpetrator's gender on trauma symptoms (Ketring & Feinauer, 1999).

This problem of low sample size could be expected from the low to nonexistent levels of same-sex and both same and opposite sex perpetrators found in other studies of sexual assault (Harned, 2005). However, the low rates are surprising given the current study's focus on sexual trauma ranging from sexual harassment to rape and the literature on sexual harassment, which has shown commensurate rates of sexual harassment perpetration by men and women (Lee, Croninger, Linn, & Chen, 1996; Waldo, Berdahl, & Fitzgerald, 1998). It is possible participants may have been more inclined to minimize experiences of sexual harassment or that these

experiences may have been seen as being non-traumatic and more easily forgotten. While there is no known research examining tendencies of victims to minimize incidents of sexual harassment, anecdotally during the study, a notable number of participants commented on the sexual harassment items, stating “that doesn’t count” or “it wasn’t traumatic.”

While there were no statistically significant findings, a pattern in means was identified that was consistent with the hypothesis, may be of clinical importance, and warrants further research. Specifically, there was a pattern where those whose perpetrators were in the Same or Both Gender category had higher motivation magnitudes across risk-taking motivation measures than those whose perpetrators were of the Opposite Gender.

Relationship to Perpetrator(s)

There was a significant effect of relationship on the linear combination of trauma-related shame but not on risk-taking motivations; however, the analysis on risk-taking motivations was likely underpowered due to low sample size of participants who had engaged in all three types of risk-taking behavior (i.e., extreme sports, drinking games, and sex). Therefore, the fifth hypothesis that trauma-related shame and risk-taking motivations would be highest for those who were sexually assaulted by a family member or a former consensual, sex partner, compared to those assaulted by a stranger, brief encounter, or friend with whom there was no prior sexual relationship, could not be fully explored.

In terms of trauma-related shame, the hypothesis was partially supported. Individuals who were sexually assaulted by a family member had the highest scores on all three measures of trauma-related shame, though the difference in scores was only significant for the SAS. Their scores were higher than those who had been sexually assaulted by a stranger/brief encounter, a non-sexual partner, or a former consensual sexual partner. This pattern remained for both those

who had experienced prior nonsexual trauma and those who had not, where those who had nonsexual trauma histories scored higher than those who did not. This finding that the relationship to the perpetrator affects trauma-related shame aligns with current research associating this contextual factor with PTSD (Gutner, Rizvi, Monson, & Resnick, 2006), which has been considered a shame disorder (Herman, 2011).

While the only statistically-significant finding in the relationship analyses was that individuals who had a caregiver or family member as a perpetrator scored significantly higher on the SAS, regardless of the absence/presence of nonsexual trauma, than those who had been sexually assaulted by a stranger/brief encounter, a non-sexual partner, or a former consensual sexual partner, a pattern of means was identified of possible clinical importance. For both trauma-related shame and nonsexual trauma analyses, scores on the SAS and SR-TRSI increased as the relationship to the perpetrator changed from being those who had had prior sexual relationships, which resulted in the lowest scores, to those who had been sexually assaulted by those they had not had prior sexual relationships, to strangers and brief encounters, to multiple perpetrators, and to a caregiver or family member, which resulted in the highest scores. A similar pattern in means was found on the OAS-EF, with the exception that having multiple perpetrators resulted in equal scores as having a perpetrator who was a caregiver or family member. However, given the nonsignificant findings, this area needs more research.

Disclosure of Victimization

There was a significant effect of disclosure on the linear combination of trauma-related shame but not on risk-taking motivations; however, the analysis on risk-taking motivations was likely underpowered due to low sample size of participants who had engaged in all three types of risk-taking behavior (i.e., extreme sports, drinking games, and sex). Therefore, the sixth

hypothesis, that trauma-related shame and risk-taking motivations would be highest for those who disclosed and received negative feedback, compared to those who disclosed and received positive feedback, could not be fully explored.

In terms of trauma-related shame, the hypothesis was partially supported. Individuals who disclosed their sexual trauma and received negative feedback had the highest scores on all three measures of trauma-related shame. While this difference in scores was only statistically significant for the SAS, this pattern also was present for the SR-TRSI. These findings align with current research associating disclosure and post-traumatic stress (Ullman & Filipas, 2001). Additionally, the pattern of shame increasing as a function of the level of negativity in disclosure found in the current study remained for both those who had experienced prior nonsexual trauma and those who had not, where those who had also experienced nonsexual trauma had higher scores overall on trauma-related shame measures, and significantly higher scores on the OAS-EF and SR-TRSI, than those who had also experienced only sexual trauma.

These findings are poignant because, while victims are often encouraged to tell someone, they are potentially placing themselves at increased risk of experiencing trauma-related shame. Not disclosing, and thereby not taking the risk of receiving negative feedback, has a protective function. This possibility is consistent with literature showing women are less likely to disclose when they know the perpetrator, did not experience penetrative sexual trauma, and did not experience force tactics, which are all related to contextual factors that decrease the likelihood the victim will receive a positive/supportive reaction to disclosure (Kogan, 2004; Ullman & Filipas, 2001). This finding of the effect of disclosure on trauma-related shame also evidences the importance of college staff and students to be trained in how to best respond to disclosures of sexual trauma.

The Presence of Nonsexual Trauma

The presence of nonsexual trauma generally had a significant effect on SR-TRSI scores across trauma-related shame analyses and a significant effect on all three measures of trauma-related shame for analyses on contact and gender. These findings are not surprising given the research highlighting the increased risk of trauma symptoms following multiple traumas (Cloitre et al., 2009), the theoretical perspective of PTSD as a shame disorder (Lee, Scragg, & Turner 2001), and the aforementioned correlations between the trauma-related shame measures found in this study.

However, the SR-TRSI and SAS, not the OAS-EF, was significantly affected by nonsexual trauma for analysis regarding age. This finding could possibly be easily explained by the stronger correlations found in this study between the SAS and SR-TRSI, compared to the OAS-EF and SR-TRSI, and by the stronger correlations found between PTSD and the SAS ($n = 345, r = .48, p < .001$) and SR-TRSI ($n = 345, r = .47, p < .001$), compared to the OAS-EF ($n = 360, r = .30, p < .001$). In other words, perhaps the OAS-EF was not significant in those analyses because it is not closely measuring trauma-related shame as the other two measures. As there has been no other research to examine the relationship between the OAS-EF and other shame measures of state, trait, and trauma-related shame as compared to the relationship between the trauma-related shame measures of the SAS and SR-TRSI, it is unclear how the OAS-EF may be tapping into other aspects of shame. Additionally, the significance of one trauma-related shame measure over another, namely the SR-TRSI compared to the SAS, seems to indicate the SR-TRSI is accessing a broader range of trauma-related shame aspects. The SR-TRSI does have an internalizing and externalizing subscale, in which the measure assesses shame one feels about oneself and shame one feels because of perceptions of how others view that person, a distinction

that may be important to assess in trauma-related shame. These seemingly conflicting results regarding the OAS-EF and SAS emphasize the importance for continued research to deconstruct the concept and measurement of trauma-related shame through correlational studies or factor analyses.

For risk-taking analyses of contact, gender, and disclosure, nonsexual trauma, regardless of the contextual variable, had significant effects on drinking-game motivations and sex motivations but not extreme-sports motivations. Generally research has demonstrated a positive relationship between the number and types of trauma and risk-taking (Griffin, Martinovich, Gawron, & Lyons, 2009; Luxenberg, Spinazzola, & Van der Kolk, 2001). However, the current study found the absence of, rather than the presence of, nonsexual trauma significantly impacted risk-taking motivations for engagement in extreme sports and drinking games. A similar relationship was found for the effect of nonsexual trauma on sexual risk-taking motivations, though it was statistically nonsignificant. These overall findings may suggest the effects of trauma on risk-taking motivations are partially-dependent upon the type of trauma (e.g., sexual trauma versus nonsexual trauma), where victims who have only ever experienced a sexual trauma engage in risk-taking for different reasons or more reasons than those who have experienced a broader range of trauma.

Intuitively, relationships would be expected between motivations for drinking games and sex among a college sample, between these two types of motivations and sexual trauma, and between all motivations and additive trauma (i.e., sexual and nonsexual traumatic experiences). It is unclear why additive trauma decreases the risk-taking motivations for a victim of sexual trauma. However, this study examined risk-taking motivations via the magnitude of motivation without discriminating between the types of motivations. In other words, a high magnitude of

motivation may indicate victims with sexual trauma only endorsed a broader range of motivations or endorsed certain types of motivations as being more important to them than those who had also experienced nonsexual trauma. Perhaps as one experiences more trauma, their motivations become more profuse but less strong or they become more focused into one type of motivation.

One reason nonsexual trauma may lead to such changes in motivation is the role of guilt. Specifically, where shame has largely been associated with sexual trauma, guilt has been found to be a primary response to other forms of trauma (Amstadter & Vernon, 2008). Therefore, it is possible the magnitude of risk-taking motivations is impacted not as much by the type of trauma per se but by the level of shame versus guilt. This possibility would be aligned with a proposed model of PTSD by Lee, Scragg, and Turner (2001), which suggested there are two forms of PTSD: a shame-based PTSD and a guilt-based PTSD. Therefore, future research should examine whether if there are different subtypes among victims with a high magnitude or low magnitude of motivation, while accounting for differences in shame and guilt.

In light of these findings, it is surprising the presence of nonsexual trauma, which has been shown to increase one's risk of developing PTSD (Cloitre et al., 2009), generally did not significantly impact extreme-sports motivations, the risk-taking motivation most correlated with PTSD (as found in the current study), but did impact other risk-taking motivations. While the current study did not control for PTSD, correlational analyses did reveal positive correlations between PTSD and extreme-sports motivations of $r = .37, p < .001$ ($n = 139$) but smaller correlations between PTSD and drinking-game motivations ($n = 268, r = .25, p < .001$) and sex motivations ($n = 168, r = .24, p < .001$). Future research would likely need to parse out PTSD

among sexual trauma victims and nonsexual trauma victims to clarify the role of multiple traumas and PTSD on risk-taking motivations.

Risk-Taking Motivations as Trauma-Related Shame

Research has shown trauma-related shame affects risk-taking behavior and has hypothesized about the association with risk-taking motivations among victims of sexual trauma (Messman-Moore, Coates, Gaffey, & Johnson, 2008). In this study, it was presumed that risk-taking motivations represented a form of trauma-related shame and therefore would be moderately correlated and represent a related construct. This was partially supported in the current study, the relationship between trauma-related shame and risk-taking motivations varied as a function of how trauma-related shame was measured and the type of risk-taking. Specifically, trauma-related shame, as measured by the SR-TRSI, evidenced moderate relationships with extreme-sports motivations and sex motivations, whereas these relationships were weak when trauma-related shame was measured by the SAS. This discrepancy is surprising given the high correlations between the SR-TRSI and SAS.

Another surprising finding was that the OAS-EF had the strongest correlations with motivations to engage in extreme-sports and sex motivations compared to any of the other trauma-related shame measures. However, this may be explained by the difference in types of motivations captured by the different motivations' questionnaires and elements of trauma-related shame captured by the different shame measures, where, for example, the SEAS has a subscale assessing agency motivations (i.e., being motivated by a desire to gain and/or maintain a sense of self-agency) in extreme-sports participation and the OAS-EF has an item that specifically addresses one's sense of "control." Overall, these subtle differences highlight the nuances of construct measurement and raise the question of the impact PTSD may have on the relationship

between trauma-related shame and risk-taking motivations, particularly among the current sample, where 18.9% of the sample met criteria for PTSD based on positive screenings for intrusive, avoidant, and hyperarousal symptom clusters on the RCMS, and given empirical findings associating PTSD with trauma-related shame (Feiring & Taska, 2005; Miller & Resnick, 2007) and risk-taking behaviors (Messman-Moore, Ward, & Brown, 2009; Miller & Resnick, 2007) for victims of sexual trauma.

Limitations

The most significant limitation was sample size. The lifetime prevalence of sexual trauma (i.e., sexual harassment, sexual assault, and/or rape/sodomy) among the current undergraduate sample was 82.32%. However, 14.08% of the sample of sexual trauma victims was excluded from analyses due to content nonresponsivity. Content nonresponsivity likely reflected poor attention and/or effort/motivation, and failure to follow directions instructing participants to complete trauma-related questionnaires on their sexual trauma. The failure to follow directions may have reflected inattention, poor effort/motivation, or fatigue but also may be due to difficulty understanding directions, a heightened level of traumatization with nonsexual versus sexual trauma and/or minimization of the sexual trauma compared to nonsexual trauma, and emotional flooding from sexual trauma questions and/or a decision to actively avoid thinking about the sexual trauma. While the rate of exclusion in the current study is consistent with estimates of careless responding in undergraduate samples (Meade & Craig, 2011), it is slightly higher than the 10% rate estimated among undergraduate samples who received course credit for participation in research on personality (Kurtz & Parish, 2001). However, there is no known research about rates of careless responding and/or content avoidance in self-reported, trauma-related data collected among sexual trauma victims, which could have attributed to increased

responding problems among the current sample compared to those in the aforementioned research based on non-trauma-related research.

Among the remaining sample for the current study, sample sizes for risk-taking motivations were notably smaller than those for trauma-related shame. This is largely a design issue and the use of skip logic, or conditional branching, where participants were asked a question about engagement in a specific risk-taking behavior prior to instructions for completing the corresponding questions about motivations. Similarly, participants were asked questions about nonsexual trauma and sexual trauma prior to instructions for completing trauma-related shame measures. While these filter questions were created for the current study, they were included because, in validation studies, only those who had experienced the risk-taking behavior completed the motivation measures and only individuals who had experienced a traumatic event completed the trauma-related shame and posttraumatic stress measures.

One correction to attempt to minimize the subsequently low sample size could have been using hypothetical motivations and trauma-related shame situations. By posing the motivations and/or trauma-related shame questions as hypothetical, rather than actual motivations/shame, all participants would have responded to the items, regardless of whether they had engaged in the behavior (for motivations) or experienced a trauma (for trauma-related shame). However, this correction was not implemented because of concerns about hypothetical bias, a phenomenon in which participants' expected outcomes about their thoughts, feelings, and actions are contingent upon a specific context, are often overestimated/overly-favorable, and are only weakly correlated ($r < .30$) with actual outcomes (Armor & Sackett, 2006). Another correction could have been utilizing an internet-based rather than paper-pencil format, which would have allowed the survey to directly forward participants to the next questionnaire appropriate for them, based on their

previous responses, and thereby likely decreasing the burden for participants of following skip logic instructions and subsequent errors. While internet-based surveys have been found to attain higher response rates (Hsu & McFall, 2015), this correction was not implemented because of the sensitive nature of the study (i.e., sexual trauma disclosure) and because a paper-and-pencil modality allowed the researcher to gauge distress levels of participants and provide an opportunity for questions.

Alternatively, one way to reduce this effect in the future may be to change the use of risky behaviors. For example, future studies could assess more risky drinking behaviors than just participation in drinking games and to expand general risk-taking to include activities beyond sports. However, this approach is only beneficial to expanding on the current research if those additional behaviors also have a range of hypothesized motivations. Unfortunately, most risk-taking measures focus heavily, if not solely, on sensation-seeking motivations rather than also assessing intimacy, emotional regulation, agency, and other motivations. Or, future studies could assess the effects of contextual factors of sexual trauma on individual risk-taking behaviors, rather than a set of risk-taking behaviors.

In terms of other sample size limitations, across levels, the independent variables of tactic also had small samples. The low rates are likely impacted by the design of the surveys, which did not ask about tactics regarding penetrative sex acts within the statutory or silent context. Similarly relationship type was not included on the original survey regarding the statutory or silent context, and the update to the survey occurred after 29.47% of the sample had been collected. Additionally, sample sizes were smaller for certain levels of the independent variables. Specifically, sample sizes were insufficient for the following independent variables and specific levels: age's childhood-only sexual abuse level, gender's same-sex level, and

relationship's caregiver/family and sex partner levels. The low rates of childhood-only sexual abuse coupled with the high rates of the both childhood and adolescence/adulthood sexual abuse suggests revictimization is common for many who are sexually assaulted as children, which is a notion supported by the literature (Messman-Moore, Long, & Siegfried, 2000).

Additionally, the decision to conduct analyses on two combined sets of variables (trauma-related shame and risk-taking motivations) was based on correlational analyses conducted in the course of the current study, which had a sample size ranging from 65 to 357. Similarly, the decision to include covariates was based on a correlational analysis. While alpha and correlational coefficients evidence whether or not scale items or subscales, respectively, are closely related, they may suggest but do not in themselves establish variables as unitary concepts. Therefore, future research should ensure sufficient sample size to conduct a factor analysis or latent variable analysis to confirm the dimensionality of the trauma-related and risk-taking motivation constructs. Another limitation to the use of correlational analyses in the aforementioned decisions is research recommends a minimum sample size of 238 for statistically-stable, correlational estimates and warns against the use of correlational analyses when the sample size is less than 150 (Schönbrodt & Perugini, 2013). Using this guideline, correlations between trauma-related variables (i.e., SR-TRSI, SAS, and OAS-EF) and trauma-related variables and covariates, trait shame (TOSCA-S) and sex guilt (PFQ2-S), were likely representative of their true relationships. Similarly, correlations between drinking-game motivations (RPDG) and both trauma-related variables (i.e., SR-TRSI, SAS, and OAS-EF) and covariates, trait shame (TOSCA-S) and sex guilt (PFQ2-S) were likely representative of their true relationships. However, some of the correlations uncovered may not be representative of the actual relationship between variables. Specifically, correlations between sex-motivations

(MSRB) and both covariates, trait shame (TOSCA-S) and sex guilt (PFQ2-S), and trauma-related shame (i.e., SR-TRSI, SAS, and OAS-EF) may be unstable based on sample sizes of 161-168. Correlations cannot be considered stable between extreme-sports motivations (SEAS) and trauma-related shame (i.e., SR-TRSI, SAS, and OAS-EF), where $n = 132-137$; covariates of trait shame (TOSCA-S) and sex guilt (PFQ2-S), where $n = 137-138$; and other risk-taking motivations of drinking-game motivations (RPDG) and sex motivations (MSRB), where $n = 65-115$. Therefore, the relationship between extreme-sports motivations and all variables should be interpreted with extreme caution. Additionally, future research should examine the stability of the correlations between sex-motivations, trait shame, sex guilt, and trauma-related shame.

A second notable limitation of the current study is measurement of sexual trauma, shame, and risk-taking behaviors. First and foremost, all data were based on self-report. Common problems with research on sexual trauma victims is underreporting by victims (Kahn et al., 2003). While the SES-LFV-E attempts to minimize this problem by using descriptions of behaviors rather than labels (e.g., asking if someone “touched” the participant when she “did not want the person to” instead of asking if the participant was sexually harassed), there still may have been underreporting. For example, participants may have underreported sexual assault experiences and thereby been excluded from the study because of difficulties in recognizing the experience as a form of sexual trauma, perceptions that the trauma was not a “trauma,” or to avoid being triggered by the questions. The significant finding of differences in sexual trauma endorsement between the original and the revised version of the questionnaire packet further suggested a tendency of underreporting but one that may be partially rectified by repeating the sexual trauma scenarios when directions for subsequent questionnaires are given in survey packets. Unfortunately, there is no known extant research on underreporting rates when

questions referencing trauma use an umbrella term of trauma or enumerate all scenarios meeting the trauma criteria.

Participants may also have underreported sexual trauma because of differences between perceptions about consent and willingness. Except for the questions added to the SES-LFV-E for this study, most of the items ask about experiences when the participant did not “consent.” However, research has shown non-willingness to engage in a sexual act is a form of sexual trauma (Peterson & Muehlenhard, 2007a), is the reason approximately 40% of victims label their experience as abuse or sexual assault (Harned, 2005) rather than “just bad sex” (Arttime & Peterson, 2015, p. 575), and is associated with increased shame (Arttime & Peterson, 2015). This failure of the standard SES-LFV questionnaires to assess non-willingness may have resulted in underreporting of sexual trauma. Alternatively, participants may have endorsed sexual trauma but underreported levels of shame and risk-taking motivations because of factors such as the amount of time that has lapsed since experiencing shame and/or engaging in risk-taking.

Similarly, due to the self-report nature of the study, another limitation is common method variance, a form of systematic measurement error in which the variance is caused not by the construct but by the method of measurement (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). While several interventions were used to control for bias, such as ensuring anonymity, counterbalancing measures, assessing predictor and criterion variables with different measures and different response formats, and selection of measures with reverse coding and varying scale length when possible, common method variance likely posed some degree of threat to the validity of the findings. Specifically, constructs were measured by self-report scales, which had similar anchors and were measured in the same sitting. As all measures were self-report, participants may have consciously or unconsciously answered in a manner consistent across

questionnaires, consistent with a response pattern, congruent with perceived social acceptability, and/or congruent with their current mood. This may have, in turn, misleadingly increased correlations between constructs. However, the findings of differences in risk-taking motivations across different types of risk-taking, the differences in reported levels of trauma-related shame across different measures, and the consistency of response content across reverse-scored items lend credence to the validity of this study's findings. To help control for common method variance, future research should consider measuring social desirability and state mood, so that these can be accounted for via partial correlations or latent variable models, and utilizing non-self-report measures, which may be particularly appropriate for assessing trait shame.

Secondly, the measures of trauma-related shame were statement-based items that asked participants to rate shame based on different time intervals (e.g., past week, past year), as dictated by the individual measures, which can limit the understanding of the studied constructs on shame (Davis, 2011; Tracy, Robins, & Tangney, 2007). Similarly, because of the lack of a more universal risk-taking motivations questionnaire, individual questionnaires about specific risk-taking behaviors were utilized. While effort was taken to select measures that had similar subscales, there are differences in the types of motivations assessed that may make generalizing across risk-taking behaviors difficult.

In terms of generalizability, while the positive results of the current study were consistent with extant research on college female samples, which are largely Caucasian, the current sample had a slightly larger African American population than Caucasians. This may have influenced results as research has shown African American women tend to experience less sexual trauma than Caucasian women (Kalof, 2000) but "more negative outcomes" from sexual trauma than Caucasian women (Sigurvinsdottir & Ullman, 2015, p. 636).

CONCLUSIONS

Overall, this study highlighted trauma-related shame is a distinct form of shame, there is a commonality between motivations across different types of risk-taking, and trauma-related shame and risk-taking motivations are related constructs. Additionally, this study supported the importance of considering contextual factors of sexual trauma and the presence or absence of nonsexual trauma history when examining the effects of sexual trauma, specifically the emergence of trauma-related shame and engagement in risk-taking behaviors. In terms of both clinical and research implications, these findings suggest the importance of assessing for multiple risk-taking behaviors and motivations as well as for selecting the most appropriate measure of trauma-related shame, based on the clinical concerns for sexual trauma victims or research question, and the need for a broad-based, trauma-related shame measure, which includes internalized and externalized shame. This research also highlights some important future directions.

Shame

Shame has been hypothesized as both a primary emotion (Nathanson, 1992) that arises at the time of the trauma and a secondary emotion that arises from the meaning-making process victims navigate following trauma (Brewin, Dalgleish, & Joseph, 1996; Weiner, 1986). To fully understand the role of shame in trauma, it would therefore be important to examine both primary shame and secondary shame. However, since the moment of sexual trauma cannot ethically be studied, research by default can only assess primary shame in one of two ways: 1) during re-experiencing of the trauma via intrusive memories or exposure to “hotspots” of trauma memories (Holmes, Grey, & Young, 2005), or 2) retrospective beliefs about the level of shame experienced at the moment of the trauma, which may be skewed by a number of factors, such as the victim’s

pre- and post-trauma schemas about the self, others, and the world (Lee, Scragg, & Turner, 2001), the amount of perceived traumatic loss (Gilbert, 1997), and current emotional state (Davis, 2011 Dorahy et al., 2013). Additionally, recent research has found explicit and implicit shame are distinct concepts (Bockers, Roepke, Renneberg, & Knaevelsrud, 2016 Grout, 2015).

The current study focused on trauma-related shame without consideration of anger or fear, both of which have been identified as closely associated with shame; therefore, future studies should consider the role of anger and fear in shame. In fact, shame has been theorized as a form of anger, sometimes known as “humiliated fury” (Lewis, 1971) that shifts from being directed at oneself to being directed at rejecting others, and as a threat. Research on sexual trauma victims has suggested anger is a stronger independent predictor of PTSD than shame (Badour et al., 2015). Additionally, the risk-as-feelings hypothesis emphasizes the role of fear, as well as threat perception, on both the emotional and cognitive appraisals of risk-taking, particularly in the moment just prior to engagement in risk (Loewenstein et al., 2001).

This relationship of fear and risk-taking may be even more consequential for victims of sexual trauma given fear is inherently a part of shame (Gilbert, 1997), many victims experience various forms of shame, including anticipatory shame (Pryor & Hughes, 2013), and the impact of fear on PTSD symptoms. For example, the level of fear experienced during the trauma may be a greater independent predictor of PTSD than shame (La Bash & Papa, 2014), to the extent fear predicts shame (La Bash, 2015), or shame may be a greater independent predictor of PTSD than fear (Badour et al., 2015; Holmes, Grey, & Young, 2005). Therefore, engagement in risky behavior may be complicated by the alterations in threat perception commonly experienced by sexual assault victims, where they may perceive dangerous situations as less dangerous and innocuous situations as more dangerous than they objectively are (Breitenbecher, 2001;

Messman-Moore & Brown, 2006). This is consistent with research demonstrating correlations between shame and fear of self-compassion (Kelly, Carter, Zuroff, & Borairi, 2013). This is also consistent with research on victims of sexual trauma that has revealed correlations between shame and fear of intimacy (Lutwak, Panish, & Ferrari, 2003), fear of not being believed if an assault occurs (Scarce, 2001), fear of public spaces (Valentine, 1992), fear of sex (Lacelle, Hebert, Lavoie, Vitaro, & Tremblay, 2012), fear of stranger rape (Pryor & Hughes, 2013), and general fear of rape as mediated by objectification (Fairchild & Rudman, 2008; Fredrickson & Roberts, 1997). Therefore, future research should examine the relationship between shame, fear, and risk-taking motivations.

Risky Behavior

Because of the intrapersonal focus on shame, the current study examined risk-taking that places oneself in potential harm and possibly placing others in potential harm, such as with sexual risk-taking. This decision was consistent with research showing risk-taking motivations differ based on who is at-risk (Levenson, 1990). However, to more clearly understand the role of shame in risk-taking, it would be beneficial to determine how one's motivation for and engagement in risk-taking differs when only oneself is in potential harm versus when others are placed in potential harm. Similarly, risk-taking motivations, particularly for sexual risk-taking, may vary depending on the specific behavior (Bancroft, Janssen, Strong, Carnes, Vukadinovic, & Long, 2003). Therefore, it may be beneficial to examine risk-taking motivations among victims, comparing different types of sexual behaviors. Additionally, future research should examine how the predictors affect the different types of motivations (i.e., the subscales) for risk-taking motivations as well as motivations for not engaging in the behavior (Johnson & Cohen, 2004).

Future research should also explore whether motivations for different types of risk-taking serve as a precursor to various types of sexual and nonsexual trauma, a consequence of such trauma, or both. While no known research has examined this broad dynamic, research has explored the relationship between risk-taking behaviors and sexual trauma. Longitudinal studies among adolescent girls have found mixed results when assessing if engagement in risky drinking (i.e., early alcohol use and high levels of alcohol use) was a precursor to being sexually victimized in early adolescence (Pedersen & Skrondal, 1996) or not (Begle et al., 2011). But, these studies have found evidence to suggest alcohol use (Begle et al., 2011) and pathological drinking (i.e., dependency or abuse) were consequences of being sexually victimized in childhood only (Pedersen & Skrondal, 1996). In terms of adult-onset sexual trauma, a prospective study of college women found alcohol use was associated with being raped, but not sexual coercion, and sexual risk-taking and sex shame were associated with both rape and sexual coercion; unfortunately, the study did not examine the possible effects of prior sexual trauma (Messman-Moore et al., 2008).

Additional Variables

This study examined several key contextual variables of sexual assault. However, other contextual variables, which have been identified as being impactful on traumatic stress were not included in the current study but should be considered for future studies. Specifically, each of the following have been correlated with post-traumatic stress symptoms: the life-threatening nature of trauma (Littleton et al., 2011), injuries occurred during the trauma (McCauley et al., 2009; Zinzow et al., 2010), the number of sex acts and other violent acts involved in the trauma (Möller et al., 2014), the number of traumatic incidents (Ullman & Filipas, 2001), the centrality of the event to one's identity (Matos, Pinto-Gouveia, & Duarte, 2012), and the intensity of peri-

traumatic emotion (Ozer, Best, Lipsey, & Weiss, 2009). While this study did examine the effects of non-sexual trauma on shame for victims of sexual assault, it did not distinguish between non-sexual trauma that occurred in childhood or adulthood. However, research has shown the experience of different types of traumatic events in childhood, but not adulthood, predicts a larger constellation of post-traumatic stress symptoms later in adulthood (Cloitre et al., 2009).

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APPENDIX A
Demographics Questionnaire

Please answer all questions and clearly indicate your answer.

1. **What is your age in years?** _____
2. **How do you identify your gender?** Female Male Transgender, Transsexual, or Intersex Other: _____
3. **How do you identify your ethnicity?**
 African American Asian American European American
 Latino/a American
 Middle Eastern American Native American or Alaskan Native Other, specify: _____
4. **How do you identify for your sexual orientation?**
 Asexual: I am not sexually attracted to either men or women
 Bisexual: I am sexually attracted to both men and women
 Gay/Lesbian: I am sexually attracted only to same-sex individuals
 Heterosexual: I am sexually attracted only to opposite-sex individuals
 Other, specify: _____
5. **How do you identify your religious affiliation?**
 Buddhist Christian, _____ Islamic Jewish Pagan,
 _____ Other: _____
6. **Which *best* describes your relationship status?**
 Not involved in a dating relationship Monogamous dating relationship (i.e., dating only one person)
 Non-monogamous dating relationship Living with someone
 Engaged Married/In Civil Union
 Separated, Divorced, or Widowed
7. **What is your current standing in college?** Freshman Sophomore Junior
 Senior Graduate Unsure
8. **Do you have a disability?**
 No
 Yes, I have been diagnosed with a Mental Health Disorder (e.g., Depression, Anxiety), specify: _____
 Yes, I have been diagnosed with a disability that is NOT a Mental Health Disorder, specify: _____
9. **Have you ever been incarcerated?** No Yes

10. Have you ever served in the military?

- No (Skip to Next Question)
 Yes, but I do not have previous military combat experience (Skip to Next Question)
 Yes, and I do have previous military combat experience? (Answer A)

A. Check the type of combat experience you had: Wounded Prisoner of War
 Witnessed others KIA

11. Have you ever had an experience with a natural disaster (e.g., earthquake, flood, hurricane, tornado, fire, tsunami, volcano) that you would consider *traumatic*?

- No Yes, specify: _____

12. Have you ever had an accident/crash (e.g., vehicle, train, plane, ship) that you would consider *traumatic*?

- No Yes, specify:

13. Have you ever experienced physical assault that you would consider *traumatic*?

- No (Skip to Next Questionnaire)
 Yes (Answer A, B, C, and D)

A. Did the perpetrator present or use a weapon? No Yes

B. Did the perpetrator attempt to strangle you? No Yes

C. What was your relationship to the perpetrator(s)?

- Parent/Legal Guardian Other Relative Significant Other
 Friend/Acquaintance Stranger
 Other: _____

D. Did you tell anyone about the assault? No Yes , specify (e.g., police, medical, friend, family): _____

14. Have you had a *traumatic experience* that is not listed above? No Yes , specify: _____

APPENDIX B Directions

In the original questionnaire packet, the directions below were given after the SES-LFV.

Directions for the Next Set of Questionnaires:

- A. *I have experienced at least one of the situations described on the Negative Life Experiences Questionnaire*
- No (Answer B)
- Yes (Complete the packet, thinking about the most distressing event you endorsed on the Negative Experiences Questionnaire, specify: _____)
- B. *I have experienced a significant traumatic event as described on the Demographics Questionnaire (e.g., incarceration, military experience, combat, natural disaster, accident/crash, physical assault, or other)*
- No, (Answer RCMS Questionnaire, #19-42 only)
- Yes (Complete the packet, thinking about the most distressing event you endorsed on the Demographics Questionnaire, specify: _____)

In the revised questionnaire packet, the directions below were given after the SES-LFV.

Please read this page carefully. In Questions 1-23 on the *Negative Experiences Questionnaire* (p. 8-19), you indicated whether you had any of the following experiences. You do not need to mark on 1-23 below just reread them to answer Question 25.

[Items from the SES-LFV were listed here for participants. As the SES-LFV is copyrighted, this content is not available to reproduce.]

25. Have you had any of the above experiences listed above (Questions 1-23)?

Yes, I indicated on the Negative Experiences Questionnaire (p. 8-19) that I had had one of the above experiences (Answer A and B)

A. If you had to pick one of those experiences listed above (that you have experienced and checked on pg. 8-19) as being the most distressing to you, what would it be?

B. How many people, acting alone or together, did any of the behaviors listed in # 12-23 above? 1 2 3 4 or more

If you answered "Yes," skip to the next page and complete the remainder of the packet on that most distressing experience.

No, I have not had any of the experiences above (Questions 1-23) (Answer A)

A. In the Demographics Questionnaire (pg. 1 of this packet), did you indicate that you had any traumatic experiences (e.g., incarceration, military service, natural disaster, accident/crash, physical assault, or other traumatic experience)?

Yes, if you had to pick one of those experiences as being the most distressing to you, what would it be?

If you answered "Yes," skip to the next page and complete the remainder of the packet on that most distressing experience.

No, I have not had any of the experiences above that I would consider traumatic (e.g., incarceration, military service, natural disaster, accident/crash, physical assault, other traumatic experience)

If you answered "No," go to the RCMS Questionnaire and answer Questions 19-30 only.

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CONFERENCE/SYMPOSIUM PRESENTATIONS

Grant, J.D., Cox, R.L., Laaksonen, M., & Lankenau, E.S. (2002, April). *Associations between relational transgressions and personality in close friendships*. Poster presented at the 9th Biennial Meeting of the Society for Research on Adolescence, New Orleans, LA.

Holohan, D.R., Laaksonen, M., Baugh, F.G., Cox, R.D., Ragsdale, K.G., Ruscio, A.M., & Cooley, S.B. (2004, November). *Understanding Chronic PTSD: The Effects of Shame and Guilt on PTSD Symptom Severity and Quality of Life*. Poster presented at the 38th AABT Convention in New Orleans, LA.

Laaksonen, M., Holohan, D.R., & Wright, T. (2005, Nov.). *The effects of shame and guilt cognitions on PTSD symptom severity and symptom clusters*. Poster presented at the 21st ISTSS Convention in Toronto, ON.

Laaksonen, M., Hacker, D., & Lewis, R. (2014, Nov.). *The relationship between shame and guilt following sexual assault*. Poster presented at the 31st ISTSS Convention in New Orleans, LA.

RESEARCH SUPPORT

Research Assistant: Gruner, E. (2002, April). *Ritchie's Cinderella: Realism and romance in the fairy tale form*. Presentation at the 10th Eighteenth- and Nineteenth-Century British Women Writers Conference in Madison, WI.

Research Assistant: Loehrer, R. K., Palmadesso, M., & Aspelmeier, J. (July 30, 2004). *The use of post-conviction polygraph in sex offender treatment*. Poster presentation given at the 112th Convention of the American Psychological Association in Honolulu, Hawaii.

Research Assistant: Loehrer, R.K. (2004-2005). *Sex Offender Cycle*.

Research Assistant: (2004). *Priming effects on word/non-word lexical and anagram asks*.

THESIS FOR M.A. IN ENGLISH: Laaksonen, M. (2009). *A Jamesonian Analysis of Contemporary, American, Rape Autobiographies*. Old Dominion University.