ABSTRACT

A ROADMAP TO DEPRESSION AMONG RAPE VICTIMS: RAPE-RELATED SHAME, RUMINATION, EXPERIENTIAL AVOIDANCE AND REVICTIMIZATION

by Prachi Hemant Bhuptani

More than half of women who experience rape develop depression in the aftermath of their rape experience. Previous research demonstrates the individual role of revictimization, assault-related shame, rumination, and experiential avoidance in depression among rape victims. However, research has largely overlooked the relation among these variables as factors contributing to depression among rape victims. A sample of 160 community women who had experienced adult rape completed self-report measures. The PROCESS macro was used to test a parallel mediation model and a moderated-mediation model. Results suggest that both experiential avoidance and rape-related rumination independently mediated the relation between rape-related shame and depressive symptoms. Results also suggest that experiential avoidance moderated the relation between rape-related rumination and depressive symptoms such that rape-related rumination was related to depressive symptoms at mean and higher levels of experiential avoidance. Findings suggest that the presence of experiential avoidance amplifies the negative impact of rape-related rumination on depressive symptoms, and that interventions focusing on rape-related shame and experiential avoidance tendencies may alleviate symptoms of depression in rape victims. Implications for future clinical intervention and research will be discussed.
A ROADMAP TO DEPRESSION AMONG RAPE VICTIMS: RAPE-RELATED SHAME, RUMINATION, EXPERIENTIAL AVOIDANCE AND REVICTIMIZATION

A Thesis

Submitted to the

Faculty of Miami University

in partial fulfillment of

the requirements for the degree of

Master of Arts

by

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Miami University

Oxford, Ohio

2017

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This Thesis titled

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Table of Contents

Introduction .................................................................................................................. 1
   Rape and Shame ....................................................................................................... 1
   Role of Assault-Related Shame in Depression ....................................................... 3
   Role of Assault-Related Rumination in Depression ............................................... 4
   Rumination, Depression, and Avoidance ............................................................... 6
   Present Study ......................................................................................................... 8
   Study Aims ............................................................................................................. 9
Method ....................................................................................................................... 10
   Participants ............................................................................................................ 10
   Procedures ............................................................................................................ 10
   Measures .............................................................................................................. 11
      Rape and Related Variables .............................................................................. 11
      Child Sexual Abuse history ............................................................................. 12
      Experiential Avoidance ................................................................................. 12
      Depression ........................................................................................................ 12
Results ....................................................................................................................... 12
   Skewness, Kurtosis, and Missing Data ................................................................. 13
   Parallel Mediation Model ..................................................................................... 13
   Moderated-Mediation Model ............................................................................. 14
Discussion ................................................................................................................. 15
   Study Strengths, Limitations, and Future Directions ........................................... 17
   Clinical Implications ........................................................................................... 18
References ............................................................................................................... 20
Footnote .................................................................................................................... 27
List of Tables

1. Bivariate Correlations and Descriptive Statistics .................................. 28
List of Figures

1. Proposed Parallel Mediation Model .................................................. 29
2. Proposed Moderated-Mediation Model ............................................ 30
3. Interaction between Rape-Related Rumination and Experiential Avoidance .. 31
4. Johnson-Neyman Technique .......................................................... 32
5. Parallel Mediation Model .............................................................. 33
6. Moderated-Mediation Model .......................................................... 34
Acknowledgements

This project was supported by a grant to David DiLillo (Principal Investigator), Kim L. Gratz (Co-Investigator), and Terri Messman-Moore (Co-Investigator) from the National Institute of Child Health and Human Development R01HD062226
A Roadmap to Depression among Rape Victims:
Rape-related Shame, Rumination, Experiential Avoidance and Revictimization

The lifetime prevalence of rape among women in the United States is 19.3% (Breiding et al., 2015). Rape is a potentially traumatic event that can have devastating and lasting outcomes such as anxiety, depression, and somatic symptoms, as well as greater perceived current stress and poor perceived health (Campbell, Dworkin, & Cabran, 2009; Zinzow et al., 2011). One of the commonly reported post-rape outcomes is depression. In a recent review of sexual assault and women’s mental health outcomes, Campbell and colleagues (2009) reported that up to 51% of rape victims endorsed depressive symptoms in the aftermath of the trauma. Studies indicate that individuals who experienced rape are three to five times more likely to meet the lifetime criteria of Major Depressive Episode, compared to crime non-victims (Zinzow et al., 2010, 2012; National Women's Study). Prevalence rates of depression may vary slightly in consideration of different forms of rape, but are significantly elevated despite method of coercion, as high as 36% for women reporting rape due to force and substance-involvement (Zinzow et al., 2012). The elevated prevalence rates of depression among rape victims necessitates examination of factors that contribute towards depression among rape victims. Research has demonstrated the individual role of shame, rumination, and experiential avoidance as contributing factors towards depression among rape victims (Merwin, Rosenthal, & Coffey, 2008; Michael, Halligan, Clark, & Ehlers, 2007; Wilson, 2006). However, research has neglected to examine rape-related shame and rumination, as well as overlooked how shame, rumination, and experiential avoidance are related to each other as factors underpinning depression among rape victims.

Rape and Shame

Shame is an important, albeit often overlooked, outcome associated with the rape experience (Wilson, 2006). Brown (2006) defines shame as “an intensely painful feeling or experience of believing we are flawed and therefore unworthy of acceptance and belonging” (p. 45). It is, hence, an intense negative emotion that involves feelings of self-condemnation and a desire to hide the damaged self from others (Tangney, 1995). Shame can be a pervasive emotional response in sexual assault and child abuse (Andrews, Brewin, Rose, & Kirk, 2000; Vidal & Petrak, 2007). Shame originates from self-blame, which is a common post-trauma sequela for most rape victims (Branscombe, Wohl, Owen, Allison, & N’gbala, 2003; Littleton & Breitkopf, 2006). Moor and Farchi (2011) posit that the self-blame common to rape victims
mirrors the uniquely unfavorable cultural context surrounding them, which faults rape victims for their assault and is typified by prejudice, victim-blaming attitudes. Furthermore, no other groups of trauma victims are blamed for their ordeal as are rape victims. Cultural prejudice and victim-blaming attitudes contribute to the rape-related stigma and result in feelings of ‘badness and shame’ (Finkelhor & Browne, 1985, p. 532).

Assault-related shame has often been emphasized as a common consequence of sexual assault both in childhood and adulthood (Amstadter & Vernon, 2008; Feiring, 2005). Vidal and Petrak (2007) surveyed a community sample of female survivors of adult sexual assault (ASA) and assessed for sexual assault-related shame by asking questions such as, “After the sexual assault, did you feel ashamed of yourself?” The authors reported that up to 75% of their sample endorsed feeling assault-related shame. Furthermore, Amstadter and Vernon (2008) compared emotional responses to different trauma types (e.g., adult sexual assault, physical assault, transportation accident, and illness/injury) among a college sample and found that ASA victims reported higher levels of shame than victims of other traumatic events (Amstadter & Vernon, 2008). Theoretical and empirical work show significant associations between child sexual abuse (CSA) and shame. Feiring, Taska, and Lewis (1996) proposed that childhood experiences of sexual assault often leads to shame. The authors suggest that shame stemming from CSA cultivates self-denigration as well as stigmatization. A longitudinal study examined the persistence of assault-related shame among sexually abused youth, aged eight to fifteen, during a six year period (Feiring, 2005). These youths were interviewed at three time points: at the time of discovery of abuse, and one and six years after abuse discovery. Individuals reporting high levels of assault-related shame a year following abuse discovery reported high levels of assault-related shame six years following discovery, illustrating the longstanding nature of shame in the context of sexual abuse. In addition, the relation between assault-related shame and shame proneness was examined. Shame proneness was defined as the general tendency to experience shame in situations that occur commonly over the course of life; in other words, this was a generalized shame response rather than abuse-related shame. Not surprisingly, among CSA victims, shame proneness (measured six years post-discovery) was significantly associated with assault-related shame at time of discovery and a year following discovery. These results suggest that shame stemming from CSA is not only endures, but also raises the question of whether abuse-related shame specifically may evolve into a more generalized shame proneness. It is possible that these
Experiences of assault-related shame may lead a person to persistently interpret events in terms of shame-prone affective style, which may increase the tendency to experience shame (Feiring, Taska, & Lewis, 2002; Malatesta & Wilson, 1988).

Assault-related shame following sexual assault may also be related to a prior history of child sexual abuse. Prospective and retrospective research has consistently demonstrated that women with CSA histories are at greater risk for ASA, a phenomenon called revictimization (Messman & Long, 1996; Testa, VanZile-Tamsen, & Livingston, 2005). This, in culmination with the findings mentioned above, suggests that adult rape victims with history of CSA may have a greater tendency to view their adult rape experiences through a lens of shame and, consequently, experience greater assault-related shame than adult rape victims without a history of CSA. A recent study on a Norwegian community sample of women provides empirical evidence for this claim. Aakvaag and colleagues (2016) examined trauma-related shame among victims of various types of violence and found that sexual violence across the lifetime (i.e., CSA, rape in childhood, and rape in adulthood) yielded stronger associations with trauma-related shame compared to non-sexual violence (i.e., physical violence outside of their romantic relationship or witnessed intimate partner violence between their parents). Additionally, the authors reported a cumulative impact of number of traumatic incidents on trauma-related shame such that participants who had experienced sexual revictimization (i.e., those with a history of CSA and rape in adulthood) endorsed greater levels of trauma-related shame compared to participants who had experienced only adult rape, childhood rape, or CSA.

**Role of Assault-Related Shame in Depression**

As mentioned before, depression is a common post-assault outcome for victims of rape and sexual assault (Abrahams, Jewkes, & Mathews, 2013; Campbell et al., 2009; Zinzow et al., 2010, 2012). Shame is one of the factors contributing to and maintaining depression among ASA and CSA victims (Welch & Mason, 2007). Earlier empirical work demonstrated that shame endorsed by adult rape victims persisted after the rape experience and contributed to depression (Kilpatrick, Veronen, & Best, 1985). Andrews (1995) found that shame mediated the relation between CSA and recurrent depression in adulthood. Researchers have attempted to unravel the intertwining nature of the relation between depression and shame, and factors contributing to shame and depression among sexual assault victims. Rape victims experience high levels of self-blame, societal blame, and resulting stigma which appears to contribute to higher incidence of
depression among them (Regehr, Alaggia, Dennis, Pitts, & Saini, 2013). Furthermore, rape victims who experienced less blame and stigma endorse lower levels of depressive symptoms than those who report more blame and stigma (Abrahams et al., 2013). Experiences of stigma and blame are often internalized, resulting in feelings of shame (Finkelhor & Browne, 1985), particularly for individuals who experience sexual abuse. Shame involves negative self-evaluation in the eyes of self and others (Deblinger & Runyon, 2005). It is frequently accompanied by fears of rejection and consequent, isolative and submissive behavior, which can reinforce the self-fulfilling prophecy that others dislike or despise them. Women endorsing high rates of shame following sexual assault often possess a negative evaluation of self (Vidal & Petrak, 2007). They also show concerns regarding how others view them, which can then lead to isolative behavior. Considering oneself unworthy in the eyes of self and others as well as consequent isolative and submissive behavior can contribute to depression among sexual assault victims.

In addition to generalized shame, research has also indicated a relation between assault-related shame and depression in sexual assault victims. Assault-related shame is considered to be a type of contextualized shame. In their meta-analytic review on the role of shame in depression, Kim and colleagues (2011) defined contextualized shame as experiences of shame tied to specific contexts (e.g., sexual assault). In that review, the authors compared the strength of association between generalized shame and depression with that of the relation between contextualized shame and depression, and found an equivalent magnitude of association. This suggests that assault-related shame and generalized shame play an equally important role in depression. Earlier theories propose that sexual assault-related shame often leads to negative outcomes such as depression (Feiring et al., 1996). Empirical work has borne out this assumption, and demonstrated a significant association between assault-related shame and depression for victims of CSA, ASA, and revictimization (Aakvaag et al., 2016; Feiring, Taska, & Chen, 2002). Therefore, assault-related shame may also cause feelings worthlessness and isolative behaviors among adult rape victims and consequently, contribute to depression among these victims.

**Role of Assault-Related Rumination in Depression**

Rumination is defined as a cognitive process that entails passive and repeated thoughts about one’s distress as well as possible causes, meaning, and consequences of the distress.
Research within a community sample (comprised of both males and females), indicated that individuals with a history of CSA endorsed greater levels of rumination than individuals without CSA, which in turn was significantly associated with higher levels of depression symptoms (Sarin & Nolen-Hoeksema, 2010). Related, in a prospective study, rumination mediated the relation between CSA history and depression for female (but not male) college students (Spasojević & Alloy, 2002). The relation between sexual assault, rumination, and depression is also found among those who experience sexual violence during adulthood. In a sample of college students, Conway, Mendelson, Giannopoulos, Csank, and Holm (2004) found that victims of CSA, ASA, and revictimized victims reported elevated rumination on feelings of sadness compared to participants with no history of assault. The authors also reported a cumulative impact of assault history on rumination levels such that participants who were revictimized (i.e., reported both CSA and ASA) reported higher levels of rumination than victims of either child or adult sexual assault only. Furthermore, the authors demonstrated that rumination mediated the relation between sexual assault experiences in either childhood or adulthood and depression in adulthood.

Sexual assault victims may ruminate on the assault itself, and such ongoing rumination is related to long-term distress (Holman & Silver, 1996). Barnett, Heinze, and Arble (2013) define sexual assault-related rumination as “focusing on assault related thoughts, memories, or feelings” (p. 600). Sexual assault victims may experience high levels of intense distress, helplessness and hopelessness, due to their inability to understand their experiences (Spasojević & Alloy, 2002). As a result, they may be prone to embrace passive coping strategies such as rumination, and engage in repeated thoughts related to the sexual assault in an attempt to understand the experience and control negative emotions. Conway and colleagues (2004) also suggest that sexual assault victims may be less likely to turn to others for social support due to lack of trust, and are more likely to feel powerlessness (Peterson & Seligman, 1983) and self-blame (Branscombe et al., 2003). These factors could also discourage externally-oriented problem-solving behavior and foster rumination. Therefore, rumination impairs active and externally-oriented problem-solving and enhances negative thinking and consequently, leads to depression among sexual assault victims (Sarin & Nolen-Hoeksema, 2010).

Assault-related rumination is associated with depression among victims of sexual violence (either CSA or ASA). Barnett and colleagues (2013) followed children with a history of
sexual abuse over a period of 30 months and examined the extent to which they ruminated on their assault. In that study, CSA-related rumination prospectively predicted an increase in depression at the 30-month follow-up period. Michael, Halligan, Clark, and Ehlers (2007) examined a community sample of adult victims of either physical or sexual assault and found a significant association between assault-related rumination and negative affect. Because assault-related rumination predicts depression among victims of lifetime sexual assault, Wells and Colbear (2012) designed a trauma-focused intervention focused on reducing assault-related rumination to reduce depression, anxiety, and post-traumatic stress disorder. In a preliminary controlled clinical trial, the intervention resulted in a significant reduction in depressive symptoms in the treatment group but not in the control group, suggesting assault-related rumination may be an important mechanism maintaining depression among sexual assault victims.

Research on non-clinical populations suggests rumination mediates the relation between shame and depression (Cheung, Gilbert, & Irons, 2004; Orth, Berking, & Burkhardt, 2006). As mentioned previously, shame leads to feelings of unworthiness and fear of rejection and promotes isolating behaviors (Deblinger & Runyon, 2005). Relatedly, shame leads to a decrease in self-esteem and dampens the need of belongingness. The perception of self as unworthy and a hampered need of belongingness then becomes a crucial factor eliciting and maintaining rumination related to the distressing situation (Gold & Wegner, 1995). These repeated thoughts regarding one’s distress then fosters depression (Nolen-Hoeksema, 1991). Therefore, rumination mediates the relation between shame and depression. However, the studies examining the relation between generalized shame and generalized rumination have either failed to assess for sexual violence or focused on non-traumatized population. Hence, research has largely overlooked the mediating role of assault-related rumination in the relation between assault-related shame and depression among rape victims.

**Rumination, Depression, and Avoidance**

Experiential avoidance refers to an unwillingness to remain in contact with, and efforts to avoid, internal experiences (e.g., thoughts, emotions, images, and bodily sensations) often perceived as undesirable or uncomfortable (Hayes et al., 2004). Avoiding private experiences can have detrimental effects because it prevents individuals from responding to aversive stimuli in an adaptive and self-protective manner, and often has the paradoxical effect of increasing the
intensity of the avoided stimulus (Hayes, et al., 1996). Research suggests a strong relation between sexual assault and experiential avoidance, with sexual assault victims engaging in greater levels of experiential avoidance than non-victims (Batten, Follette, & Aban, 2001; Tull & Roemer, 2003). Additionally, several studies suggest that experiential avoidance mediates the relation between sexual assault and depression (Merwin, Rosenthal, & Coffey, 2008). Sexual assault victims may attempt to suppress or avoid distressing thoughts, emotions, or bodily sensations to temporarily prevent or reduce psychological distress, allowing the victims to go about daily activities. However, paradoxically, this deliberate avoidance increases psychological distress among sexual assault victims (Hayes et al, 1996). Further, the aversive nature of shame often motivates individuals to hide their flawed self with the aid of avoidant coping strategy (Barrett, Zahn-Waxler, & Cole, 1993; Tangney, 1995). Consistent with this, Gibson and Leitenberg (2001) found that feelings of shame mediated the relation between sexual revictimization and avoidant coping strategies. Moreover, preliminary research suggests that experiential avoidance mediates the relation between shame related to traumatic memories and depressive symptoms (Carvalho, Dinis, Pinto-Gouveia, & Estanqueiro, 2015).

Research also suggests a relation between experiential avoidance and rumination. An empirical study show a significant association between rumination, experiential avoidance, and depression in a non-clinical sample (Cribb, Moulds, & Carter, 2006). Further, another study examined cross-sectional associations among rumination, experiential avoidance, and depression in two different samples of college students (Bjornsson et al., 2010). Experiential avoidance and rumination not only predicted depressive symptoms, but experiential avoidance moderated the relation between rumination and depression symptoms. There was no association between rumination and depressive symptoms when experiential avoidance was low. However, an increase in rumination was strongly associated with higher depressive symptoms when experiential avoidance was high. However, in a longitudinal examination of this relation over time (utilizing a subsample drawn from their previous sample) this relation did not hold. Specifically, the authors examined whether rumination, experiential avoidance, and the interaction between them, measured at Time 1, significantly predicted depressive symptoms measured at Time 2 (8-12 weeks later). Neither rumination nor experiential avoidance significantly predicted depression at Time 2 after controlling for Time 1 depression. Nevertheless, significant cross-sectional interactions between rumination and experiential
avoidance predicted depression at Time 1 and Time 2. Therefore, cross-sectional results suggest that experiential avoidance moderated the relation between rumination and depression in two different samples. However, this significant interaction was not replicated in a longitudinal study. The authors postulate that small sample size (n = 72) may be one of the reason for non-significant interaction in the longitudinal study and more power may be needed to detect the interaction over time.

In another longitudinal study utilizing a community sample, Spinhoven and colleagues (2016) examined the role of experiential avoidance and rumination in predicting depression across three time points. The authors reported significant associations between experiential avoidance, measured at Time 1, and rumination and depression, measured at Time 2 (two years later), but did not test moderation given their adherence to particular analytic approach. The authors used the MacArthur approach (Kraemer et al., 2001, 2008) to examine moderation, which posits that a moderator should temporally precede, but not be associated with, the predictor. When these strict guidelines were applied, the significant association between experiential avoidance and rumination precluded any further test of an interaction. Thus, it is unknown whether experiential avoidance moderated the impact of rumination on depression in a conventional sense (Hayes, 2013). Taken together, previous studies have shown inconsistent results regarding the moderating role of experiential avoidance in the context of rumination and depression, although evidence of moderation is consistently strong in studies utilizing cross-sectional designs. Moreover, research also suggests that experiential avoidance mediates the relation between shame and depressive symptoms (Carvalho et al., 2015). However, these studies have not assessed for sexual assault history and consequently, focus on generalized rumination as opposed to assault-related rumination.

**Present Study**

Previous research has shown that shame, rumination, and depression are common post-assault outcomes among rape victims (Campbell et al., 2009; Conway et al., 2004; Wilson, 2006). Furthermore, revictimized women report greater levels of assault-related shame and assault-related rumination compared to individuals who experienced only ASA or only CSA (Aakvaag et al., 2016; Conway et al., 2004). Previous research also suggests that assault-related shame contributes to depression, and the relation between generalized shame and depression is mediated by rumination (Aakvaag et al., 2016; Cheung et al., 2004). Earlier work indicates a
significant association between rumination and experiential avoidance, and suggests that high ruminators engage in more experiential avoidance and consequently, their negative affect increases (Cribb et al., 2006; Smith & Alloy, 2009). Victims of lifetime sexual violence often experience high levels of assault related-shame that includes a pervasive sense of unworthiness and leads to isolative behaviors (Deblinger & Runyon, 2005; Vidal & Petrak, 2007). This negative self-evaluation and hampered need of belongingness then elicits rumination (i.e., repeated passive engagement in thoughts related to sexual event; Gold & Wegner, 1995). Both shame and rumination are often elevated among revictimized individuals (Aakvaag et al., 2016; Conway et al., 2004). Hence, the relation between assault-related shame and assault-related rumination in adult rape victims would likely be higher among those with a history of CSA. Sexual assault-related rumination impairs active and externally-oriented problem-solving and enhances negative thinking, consequently leading to increased depression among sexual assault victims (Sarin & Nolen-Hoeksema, 2010). However, ruminators who engage in more experiential avoidance also experience worse negative outcomes (Smith & Alloy, 2001). Previous research suggests that both rumination and experiential avoidance independently mediates the relation between shame and depressive symptoms (Cheung et al., 2004; Carvalho et al., 2015). Hence, both experiential avoidance and assault-related rumination may mediate the relation between assault-related shame and depressive symptoms. Yet, based on previous research (e.g., Bjornsson et al., 2010) the relation between assault-related rumination and depression may more likely be moderated by experiential avoidance among adult rape victims.

**Study Aims**

Based on previous research and theory, the proposed study had two primary aims. The first aim of the study was to examine the indirect relation between rape-related shame\(^1\) and depression through rape-related rumination\(^1\) and the indirect relation between rape-related shame and depression through experiential avoidance in a sample of female victims of adult rape. Specifically, this study tested a parallel mediation model where both experiential avoidance and rape-related rumination were expected to independently mediate the relation between rape-related shame and depressive symptoms (see Figure 1). We further hypothesized that CSA history would moderate the relation between rape-related shame and rape-related rumination such that rape-related shame would lead to greater rape-related rumination for those with a history of CSA.
The second aim of this study was to test a moderated-mediation model in which the relation between rape-related shame and rape-related rumination were expected to be moderated by CSA history, and the relation between rape-related rumination and depression was expected to be moderated by experiential avoidance (see Figure 2). We hypothesized that the relation between rape-related shame and rape-related rumination would be moderated by CSA history such that rape-related shame would lead to greater rape-related rumination for those with history of CSA. We hypothesized that the relation between rape-related rumination and depression would be moderated by experiential avoidance such that the relation between rape-related rumination and depression would be stronger for those who engage in higher levels of experiential avoidance in comparison to those who engage in lower levels of experiential avoidance.

Method

Participants

The initial sample consisted of 491 community women participating in a multi-site study examining mechanisms underlying sexual revictimization. The final sample included only women who endorsed experiencing rape after the age of 18, 32.79% (n = 161) of the total sample. Forty eight percent of the final sample (n = 77) indicated presence of child sexual abuse history. Participants ranged in age from 18 to 25 years (M = 22.22, SD = 2.13). The majority of participants self-identified as White (75.8 %), with one-fifth identifying as African American (23.6%) and the rest identifying as Latina (8.8%), American Indian (3.1%), Asian (2.5%), or another racial/ethnic background (2.5%). The sample was comprised of almost equal number of students and non-students (49.7% non-students, 40.4% full-time students, and 9.9% part-time students), with less than half of the participants (48.1%) reporting some education beyond high school.

Procedures

Young adult women were eligible to participate in the study if they lived in one of four locations (Lincoln and Omaha, Nebraska; Jackson, Mississippi; Oxford, Ohio). Specifically, women between the ages of 18-25 residing within the specified geographic regions, as identified by a survey sampling company (Survey Sampling International), were mailed a letter notifying them of the study. Additional recruitment methods included advertisements in newspapers and Craigslist, flyers posted throughout the community, and university mass emails. Prior to
participation, prospective participants were provided a description and overview of the study, and were screened for a history of sexual violence across the lifespan (all interested participants were eligible if age restrictions were met, and were not recruited based upon victimization history). Participants completed self-report confidential surveys administered on a computer in the laboratory, as well as diagnostic interviews and experimental lab tasks unrelated to the current study. Participants were compensated $75 for the visit to the laboratory, which generally spanned 3-5 hours.

**Measures**

Rape and related variables. The modified Sexual Experiences Survey (SES) (Messman-Moore & Long, 2000; Messman-Moore et al., 2010), an expanded version of the Sexual Experiences Survey (Koss & Gidycz, 1985), was used to assess rape after age 18. The measure includes a series of yes/no questions assessing specific types of attempted and completed unwanted sexual activities (ranging from kissing to fondling to penetration). For each unwanted activity, follow-up questions assessed the frequency and methods of coercion involved. Four methods of coercion were assessed for each act: verbal coercion and pressure; misuse of authority; inability to consent due to alcohol or drug intoxication or impairment; and force or threats of force. Rape was defined as completed oral-genital contact or vaginal/anal penetration due to the inability to consent because of substance impairment (alcohol or drugs) or the use or threat of use of physical force.

If a participant affirmatively answered any question indicating unwanted penetration (oral, vaginal, or anal) due to any method of coercion, she was directed to answer additional follow-up questions about her most distressing experience. Additional details pertaining to the context of the most distressing unwanted sexual experience were assessed, including: type of unwanted sexual act(s), method of coercion used (e.g., force, threats of force), identity of the perpetrator (e.g., acquaintance, romantic partner, etc.), time since assault, and level of intoxication/impairment of the victim. This information was utilized to identify experiences of rape as defined above.

Rape-related shame. Within the set of follow-up questions described above, participants also were asked to indicate the degree to which they currently experienced several different emotions in relation to the unwanted sexual experience (i.e., rape). The intensity of emotion was rated on a 5-point Likert-type scale ranging from 1 (very slightly/not at all) to 5 (extremely).
**Rape-related rumination.** Similarly, participants were asked to indicate the frequency of thoughts related to the unwanted sexual experience (i.e., rape) endorsed on the MSES. The participants responded on a 6-point Likert-type scale ranging from 1 (*never*) to 6 (*very frequently*).

**Child sexual abuse history.** The Childhood Trauma Questionnaire-Short Form is a 28-item self-report measure of five categories of childhood maltreatment: Emotional, Sexual and Physical Abuse, and Emotional and Physical Neglect (Bernstein et al., 2003). Each subscale comprises of 5 items and requires respondents to rate statements on a 5-point Likert-type scale ranging from 1 (*never true*) to 5 (*very often true*); items are then summed for a total subscale score. For the purpose of the study, only the child sexual abuse subscale was used. Cut-off score of 5 on the child sexual abuse was used to differentiate between the absence and presence of CSA history (Bernstein & Fink, 1983), which was then coded dichotomously (0 = absence of CSA, 1 = presence of CSA).

**Experiential avoidance.** Experiential avoidance was assessed with the nine-item Acceptance and Action Questionnaire (AAQ; Hayes et al., 2004). Example items include: “I’m not afraid of my feelings” (reverse scored) and “Anxiety is bad.” Participants rate the degree to which each statement applies to them on a 7-point Likert-type scale ranging from 1 (*never true*) to 7 (*always true*). Items are then summed for a total score and higher score indicates higher levels of experiential avoidance. The AAQ demonstrates good concurrent validity with relevant constructs such as thought suppression and mental health symptoms (Hayes et al., 2004). Internal consistency in the current study was .62.

**Depression.** The Depression Anxiety and Stress Scale (DASS-21) is a 21-item self-report questionnaire that measures psychopathological symptoms on three dimensions: depression, anxiety, and stress (Lovibond & Lovibond, 1995). Participants rate each statement on a 4-point Likert–type scale ranging from 0 (*did not apply to me at all*) to 3 (*applied to me very much, or most of the time*); items are then summed for a total score. For the purpose of the study, only the 7-item depression subscale was used. The depression subscale’s internal consistency in the current study was .88.

**Results**

Descriptive statistics of key study variables are presented in Table 1. Rape characteristics (i.e., time since assault and perpetrator type) and demographic variables (i.e., age and race) were
not associated with rape-related rumination or depressive symptoms. Bivariate correlations revealed significant associations between all primary variables of interest, except for rape-related rumination and CSA history ($r = .09, p = .252$; see Table 1). Bivariate correlations also suggest that the victim’s level of intoxication during the rape incident was not related to rape-related shame, rape-related rumination, experiential avoidance, or depressive symptoms. However, the victim’s level of unconsciousness was significantly related to rape-related shame, but not related to rape-rumination, experiential avoidance, or depressive symptoms. Over half of the participants ($n = 81, 51.1\%) endorsed elevated depressive symptoms on the DASS-21 (i.e., scores $\geq 10$, classified as mild through extremely severe; Lovibond & Lovibond, 1995).

**Skewness, Kurtosis, and Missing Data**

The skewness and kurtosis of continuous variables were examined. All continuous variables were normally distributed and had a skewness value less than the absolute value of 2 and a kurtosis value less than the absolute value of 4. Further, Missing Value Analysis (MVA) in SPSS revealed that missing values ranged from .6\% to 1.2\% across key study variables (i.e., rape-related shame, rape-related rumination, experiential avoidance, depressive symptoms, CSA history). Little’s MCAR test (Little, 1988) indicated that the data were not significantly different from the missing completely at random pattern, $\chi^2 (11) = 13.732, p = .248$. Following current guidelines for managing less than 2\% missing data (Widaman, 2006, p.61), single imputation (SI) was used. As a result of this imputation, one participant with a missing value on the dichotomous CSA history variable was assigned a value of .74. This participant was removed from the dataset. However, the results reported below did not change when the participant was retained with the imputed value rounded up to 1.

**Parallel Mediation Model**

Regression analyses in SPSS were used to test individual paths in the parallel mediation model. Results suggest that rape-related shame was significantly associated with both rape-related rumination ($a_1$ path; $b = .21, p < .001, R^2 = .076$; see Figure 5) and experiential avoidance ($a_2$ path; $b = 1.81, p < .001, R^2 = .154$). However, CSA history did not moderate the relation between rape-related shame and rape-related rumination ($b = -1.32, p = .285$) nor the relation between rape-related shame and experiential avoidance ($b = -1.12, p = .109$). Hence, CSA history was dropped from further analysis. Rape-related rumination, in turn, was significantly associated with depressive symptoms ($b_1$ path; $b = 1.77, p = .004, R^2 = .269$), over and above
rape-related shame and experiential avoidance. Similarly, experiential avoidance was significantly associated with depressive symptoms ($b_2 \text{ path; } b = .58, p < .001, R^2 = .269$), over and above rape-related shame and rape-related rumination. The total effect of rape-related shame on depressive symptoms was significant ($c \text{ path; } b = 1.85, p < .001$). However, the direct effect of rape-related shame on depressive symptoms was not significant ($c' \text{ path; } b = .43, p = .39$). Consistent with recent recommendations (Hayes, 2013), indirect effects were tested using PROCESS macro (Model 4; Hayes, 2013) and bootstrapping technique was used to create biased corrected confidence intervals around the indirect effects. The indirect effect of rape-related shame on depressive symptoms through rape-related rumination was significant ($ab = .38, 95\% \text{ CI} = .10 \text{ to } .86$). Similarly, the indirect effect of rape-related shame on depressive symptoms through experiential avoidance was also significant ($ab = 1.05, 95\% \text{ CI} = .61 \text{ to } 1.63$).

**Moderated-Mediation Analysis**

Regression analyses in SPSS were used to test individual paths in the moderated-mediation model. Rape-related shame significantly predicted rape-related rumination ($a \text{ path; } b = .21, p < .001, R^2 = .076$; see Figure 6). Rape-related rumination was significantly associated with depressive symptoms, with rape-related shame in the model ($b \text{ path; } b = 1.63, p = .007, R^2 = .297$). Further, experiential avoidance (centered at mean) moderated the relation between rape-related rumination (centered at mean) and depressive symptoms ($b = 1.73, p = .003$; See Figure 3). Hence, rape-related rumination was significantly associated with depressive symptoms at mean levels of experiential avoidance. The significant interaction between rape-related rumination and experiential avoidance was probed further at minus one and plus one standard deviation from mean level of experiential avoidance (Cohen, Cohen, West, and Aiken, 2003). Probing revealed that rape-related rumination was not significantly associated with depressive symptoms at low levels of experiential avoidance ($b = .32, S.E. = .85, p = .70$). However, rape-related rumination was significantly associated with depressive symptoms at plus one standard deviation from mean levels of experiential avoidance ($b = 3.14, S.E. = .76, p < .001$). The Johnson-Neyman technique (Bauer & Curran, 2005; Johnson & Neyman, 1936) showed that the relation between rape-related rumination and depressive symptoms was significant at and above 34.15 units of experiential avoidance, which is 0.34 standard deviation away from mean (see Figure 4). The total effect of rape-related shame on depressive symptoms was significant ($c \text{ path; } b = 1.85, p < .001$).
\( b = 1.85, p < .001 \)). However, the direct effect of rape-related shame on depressive symptoms was not significant (c’ path; \( b = .37, p = .44 \)).

Conditional indirect effects were tested using the PROCESS macro (Model 14; Hayes, 2013). First, the index of moderated-mediation (Hayes, 2015) was used to examine the conditional indirect effects. Hayes (2015) suggests that the indirect effects of one variable on the other through the mediator, can be expressed as a linear function of the moderator in the model. The index of moderated-mediation is the parameter of the function relating the indirect effects to values of a moderator. Further, bootstrapping techniques can be used to create biased corrected confidence intervals around this parameter. In this study, the index of moderated-mediation was significant (index = .04, 95% CI = .01 to .09), suggesting that the indirect relationship between rape-related shame and depressive symptoms through rape-related rumination varied significantly across different levels of experiential avoidance. Then, significant conditional indirect effects were probed at 10th, 25th, 50th, 75th, and 90th percentiles of experiential avoidance (Hayes, 2013). Conditional indirect effects were significant only at the 50th percentile (\( ab = .36, 95\% CI = .09 \) to .79), 75th percentiles (\( ab = .57, 95\% CI = 0.2 \) to 1.14), and 90th percentile (\( ab = .74, 95\% CI = .27 \) to 1.45) of experiential avoidance. The values that correspond to 50th, 75th, and 90th percentile on the AAQ are 37, 42, and 46, respectively.

Since rape-related rumination was associated with depressive symptoms at mean and higher levels of experiential avoidance, mean of experiential avoidance in the current study was compared to mean of experiential avoidance in previous studies. The mean levels of experiential avoidance as measured by the nine-item version of AAQ in this sample is significantly higher than mean in another sample of female victims of adult interpersonal victimization (\( M = 34.41, SD = 7.30; t(250) = 2.325, p = 0.02; \) Palm & Follette, 2011) as well as female undergraduate students (\( M = 30.81, SD = 7.46; t(235) = 5.779, p < .001; \) Palm & Follette, 2008). Bjornson and colleagues (2010) also report significantly lower levels experiential avoidance on the nine-item version of AAQ mean in three samples of undergraduate students (\( M_1 = 32.40, SD_1 = 6.33, t_1(900) = 7.429, p_1 < .001; M_2 = 32.56, SD_2 = 6.51, t_2(1045) = 7.104, p_2 < .001; M_3 = 32.38, SD_3 = 6.03, t_3(223) = 4.208, p_3 < .001 \)).

**Discussion**

The current study examined the indirect relation between rape-related shame and depressive symptoms among female adult rape victims. Consistent with our hypothesis and
previous research (Carvalho et al., 2015; Cheung et al., 2004; Orth et al., 2006), both rape-related related rumination and experiential avoidance independently mediated the relation between rape-related shame and depressive symptoms. Furthermore, in line with previous cross-sectional research (Bjornsson et al., 2010), experiential avoidance moderated the relation between rape-related rumination and depressive symptoms such that rape-related rumination was significantly associated with depressive symptom only at mean and higher levels of experiential avoidance, but not at lower levels of experiential avoidance. Moreover, the indirect relation between rape-related shame and depressive symptoms through rape-related rumination was significant only at mean and higher levels of experiential avoidance, but not at lower levels of experiential avoidance. These results suggest not only that rape-related rumination and experiential avoidance are uniquely related to depressive symptoms, but also that these variables also have a combined influence such that rape-related rumination is related to depressive symptoms only at mean and higher levels of experiential avoidance.

Consistent with previous studies (Aavkarg et al., 2016; Fiering et al., 2002), rape-related shame was associated with depressive symptoms in the current study. However, the significant relation between rape-related shame and depressive symptoms disappeared when rape-related rumination and experiential avoidance were introduced as parallel mediators, with similar results for the moderated-mediation model. Further, the results of the study suggest that the relation between rape-related shame and depressive is not straightforward and direct. As a matter of fact, findings suggest important factors, such as rape-related rumination and experiential avoidance, explain the relation between rape-related shame and depression, as the direct relation disappears when rape-related rumination and experiential avoidance is considered.

Contrary to our hypothesis, child sexual abuse (CSA) history did not moderate the relation between rape-related shame and rape-related rumination. Furthermore, CSA history was not significantly associated with rape-related rumination. This suggests that revictimization did not impact the relation between rape-related shame and rape-related rumination, and that the relations reported here hold regardless of a rape victim’s prior history of CSA. The failure to find evidence of a revictimization effect may be due to the measurement of rape-related shame and rape-related rumination. In this study, both constructs were tied to a specific experience of adult rape as participants were asked to indicate the extent to which they experienced feelings of shame regarding their unwanted sexual experience as well as the frequency of the thoughts they
had regarding the events. One may therefore conclude that revictimization may not affect experiences of shame or rumination related to specific events, but may rather affect generalized shame and rumination. However, previous research reported a graded relation between trauma-related shame and sexual assault experiences such that revictimized participants endorsed higher levels of trauma-related shame when compared to participants who experienced only CSA or only ASA (Aavkarg et al., 2016). Although the relation between CSA history and rape-related rumination is largely ignored, previous research also reported a graded relation between assault history and generalized rumination such that revictimized participants endorsed higher levels of rumination when compared to participants who experiences only CSA or only ASA (Conway et al., 2004). These studies suggest that revictimization may have an impact on shame tied to specific events but not on rape-related rumination. The results of previous studies (Aavkarg et al., 2016; Conway et al., 2004) may also suggest that cumulative impact of trauma (experiencing multiple rapes in adulthood), rather than revictimization (CSA and rape), influences the relation between rape-related shame and rape-related rumination. Therefore, the number of assault incidents an individual experienced, as opposed to experiencing both CSA and ASA, may have an impact on the relation between rape-related shame and rape-related rumination, and should be examined in future investigations.

Our findings suggest that experiential avoidance, either at mean or higher levels, impacts the relation between rape-related rumination and depression. It is notable that the mean levels of experiential avoidance in our sample is significantly higher than the mean in a sample of female victims of adult interpersonal victimization (Palm & Follete, 2011) and another sample of female undergraduate students (Palm & Follete, 2008). Bjornson and colleagues (2010) also reported significantly lower levels of experiential avoidance in all three samples of undergraduate students. This suggests that our sample demonstrates significantly higher levels of experiential avoidance when compared to samples used in previous studies. Further, the current results suggest that rumination is related to depressive symptoms at most levels of experiential avoidance.

**Strengths, Limitations, and Future Directions**

The current study examined mechanisms linking rape-related shame and depressive symptoms among female adult rape victims. Earlier studies have examined the relation between assault-related shame and depressive symptoms (e.g., Aavkarg et al., 2016), assault-related
rumination and depressive symptoms (e.g., Michael et al., 2007), and experiential avoidance and rumination (e.g., Cribbs et al., 2006). Previous research has also examined the mediating role of rumination in the relation between shame and depression (Cheung et al., 2004; Orth et al., 2006), as well as the moderating role of experiential avoidance in the relation between rumination and depressive symptoms (Bjornson et al., 2010). However, earlier research has largely overlooked examining a comprehensive model by investigating these relations in a single model. Most importantly, earlier research has not examined these models in the context of rape-related shame and rape-related rumination. Although context-specific shame and rumination are related to the general tendencies in these areas, it is important to pinpoint the focus of rumination and shame to increase efficacy of intervention for rape victims.

Although the current study examined factors underlying the relation between rape-related shame and depressive symptoms, the cross-sectional and retrospective nature of the study allow us to neither assume causality nor to establish temporal sequence among variables. Further, we cannot make any conclusions regarding the model accounting for the best fit for the relation between rape-related shame and depressive symptoms. Future longitudinal studies would help to establish the temporal sequence among variables and increase our confidence in the proposed model. Another limitation of the study was the use of one-item, self-report measures of rape-related shame and rape-related rumination. Such self-report measures may be influenced by an individual’s ability to identify and accurately report on such experiences. Currently, there are no psychometrically-based measures of rape-related shame and rape-related rumination. Future studies can focus on developing multiple items measures of rape-related shame and rape-related rumination and utilize them to assess for these experiences.

Although the findings of this study are bolstered by community participants, the majority of the sample self-identified as White. The relatively small sample size limited examination of the impact of race, ethnicity, and other demographic factors on the relations of interest. Given past research suggesting that experiences of shame are influenced by race and age (Orth, Robins, & Soto, 2010), future research should explore the moderating role of these variables in future, larger studies.

Clinical Implications

The results of this study suggest that the relation between rape-related shame and depressive symptoms is not straightforward. Interventions targeting both rape-related rumination
and experiential avoidance may aid in reducing depressive symptoms among female rape victims. However, the results of the moderated-mediation model suggest that rape-related rumination is associated with depressive symptoms at mean and higher levels of experiential avoidance. Therefore, interventions targeting depressive symptoms among female rape victims can improve efficiency if they focus on reducing experiential avoidance. The results of this study also suggest that rape-related shame is a widespread emotional response among female rape victims and it is often associated with negative outcomes. Preliminary studies suggest that compassion-focused interventions aid in reducing shame among sexual assault victims (Au et al., 2016). Future research and clinical efforts should focus on designing compassion-based interventions targeting rape-related shame and subsequent, negative outcomes among rape victims.


Bernstein, D. P., Stein, J. A., Newcomb, M. D., Walker, E., Pogge, D., Ahluvalia, T., … Zule,


Hayes, S. C., Strosahl, K., Wilson, K. G., Bissett, R. T., Pistorello, J., Toarmino, D., …


female survivors recruited from an East London population. *Sexual and Relationship Therapy, 22*(2), 159–171. doi:10.1080/14681990600784143


Footnote

1Rape is a specific form of sexual assault involving penetration. Assault-related shame and assault-related rumination terminology is used when researchers include sexual assault victims. Rape-related shame and rape-related rumination terminology is used when researchers include only rape victims.
Table 1
Bivariate Correlations and Descriptive Statistics

<table>
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<th>Variable</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>Mean</th>
<th>Range</th>
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<tbody>
<tr>
<td>1. Rape-related Shame</td>
<td>.28***</td>
<td>.26**</td>
<td>.39***</td>
<td>.28***</td>
<td>.10</td>
<td>.28***</td>
<td>3.01</td>
<td>1-5</td>
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<td></td>
<td></td>
<td></td>
<td>(1.54)</td>
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<tr>
<td>2. Rape-related Rumination</td>
<td>-</td>
<td>.09</td>
<td>.16*</td>
<td>.29***</td>
<td>-.003</td>
<td>.15</td>
<td>2.89</td>
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<tr>
<td>3. CSA History</td>
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<td>.19*</td>
<td>.19*</td>
<td>-.07</td>
<td>.01</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<tr>
<td>4. Experiential Avoidance</td>
<td>-</td>
<td>.47***</td>
<td>-.05</td>
<td>.11</td>
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<td></td>
<td>36.59</td>
<td>19-53</td>
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<td>(7.09)</td>
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<td>5. Depressive Symptoms</td>
<td>-</td>
<td>.03</td>
<td>.10</td>
<td></td>
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<td>11.12</td>
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<td></td>
<td></td>
<td>(10.09)</td>
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<tr>
<td>6. Intoxication Level</td>
<td>-</td>
<td>.44***</td>
<td></td>
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<td>1.71</td>
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<td>(2.95)</td>
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<tr>
<td>7. Unconsciousness Level</td>
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<td></td>
<td></td>
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<td>1.56</td>
<td>1-5</td>
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<td></td>
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<td>(2.24)</td>
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</tr>
</tbody>
</table>

* p < .05; ** p < .01; ***p < .001
Figure 1

*Proposed Parallel Mediation Model*

- CSA history
- Rape-Related Shame
- Experiential Avoidance
- Rape-Related Rumination
- Depressive Symptoms
**Figure 2**

*Proposed Moderated-Mediation Model*

- CSA history
- Rape-related Shame
  - Rape-related Rumination
  - Depressive Symptoms
- Experiential Avoidance
Figure 3

Interaction between Rape-related rumination and Experiential Avoidance

Note. Significant interactions indicating the moderating role of experiential avoidance (EA) on the relation between rape-related rumination and depressive symptoms. “High” and “low” reflect the use of experiential avoidance calculated at values +1 and -1 SD from the mean, across the entire sample. The dotted slopes are significant.
Figure 4

Johnson-Neyman Technique

Experiential Avoidance

Conditional Effects of Rape-Related Rumination on Depressive Symptoms

- 95% CI Lower Limit
- 95% CI Upper Limit
- Point estimate
Figure 5
Parallel Mediation Model

Rape-Related Rumination

Rape-Related Shame

Depressive Symptoms

Experiential Avoidance

.21 (.06)***

1.77 (.60)**

1.85 (.51)*** / .43 (.50)

1.81 (.34)***

.58 (.12)***

Note. *p < .05; **p < .01; ***p < .001.
Figure 6

Moderated-Mediation Model

Note. *$p < .05$; **$p < .01$; ***$p < .001$. 

Rape-related Shame

Rape-related Rumination

Experiential Avoidance

Depressive Symptoms

1.85 (.51)*** / .40 (.50)

.22 (.06)***

1.68 (.61)**

.19 (.08)*