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Cognitive Emotion Regulation Strategies as Mediators of Shame

Following Sexual Assault

Danielle Cummings

A thesis

submitted in partial fulfillment

of the requirements for the degree of

Master of Science in the Department of Psychology

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To the Graduate Faculty:

The members of the committee appointed to examine the thesis of DANIELLE CUMMINGS find it satisfactory and recommend that it be accepted.

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August 1, 2018

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MS 8112

RE: regarding study number IRB-FY2019-21: Cognitive Emotion Regulation Strategies as Mediators of Shame Following Sexual Assault

Dear Ms. Cummings:

Thank you for your responses from a previous expedited review of the study listed above. This is to confirm that I have approved your application.

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You may conduct your study as described in your application effective immediately. The study is subject to renewal on or before August 1, 2019, unless closed before that date.

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Sincerely,

Ralph Baergen, PhD, MPH, CIP
Human Subjects Chair

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Thesis Abstract – Idaho State University (2019)

Following the traumatic event of sexual assault (SA), victims frequently report mental health problems. Treatment models posit that post-traumatic cognitions or affective states (e.g. shame) may serve to increase trauma-related distress. This study examined adaptive (positive reappraisal) and maladaptive (self-blame) cognitive emotion regulation strategies as mediators between alcohol vs. non-alcohol involved SA and levels of traumatic shame. A sample (N = 164) of female-identified college students reported at least one instance of sexual victimization since age 14. Ninety-five women reported alcohol-involved assault. In a double mediation model, neither self-blame nor positive reappraisal mediated the relationship between SA and trauma-related shame. However, self-blame significantly predicted higher levels of shame, and strength of ethnic identity was significantly negatively correlated with traumatic shame. These results suggest that self-blame may be associated with increased shame, whereas stronger ethnic identity may serve as a protective factor. Implications for treatment and future research are discussed.

Key Words: sexual assault, cognitive emotion regulation, shame, self-blame, positive reappraisal

Cognitive Emotion Regulation Strategies as Mediators of Shame Following Sexual Assault

Sexual assault (SA) is defined as forced or coerced unwanted sexual contact, and has been described as a significant public health issue by the Centers for Disease Control (CDC, 2016). According to the National Institute of Justice (2010) and the Center Against Rape and Domestic Violence, SA can encompass a full range of behaviors that meet the legal definition of rape, as well as other non-consensual sexual contact. Because definitions and inclusion criteria of sexual assault differ, prevalence estimates vary between organizations and studies. Additionally, individuals of all gender identities may be perpetrators, but many definitions and statistics of sexual assault focus exclusively on male perpetration and female victimization. In a nationally representative survey of adults, it was estimated that approximately 1 in 5 (18.3%) women and 1 in 71 (1.4%) men experience rape at some time during their lives (CDC, 2016). Further, 5.6% of women and 5.3% men experienced sexual violence other than rape (e.g. sexual coercion, unwanted sexual contact) within the last year of the CDC survey. Several factors have been attributed to the increased attention to SA cases, responses, treatment, and outcomes in recent decades. Feminist activism (Boyle, Barr, & Clay-Warner, 2017) federal actions (e.g. the 1976 passage of Title IX), and, most recently, social and major media attention (e.g., #metoo, Kamenetz, 2014; Bennett, 2017) are suggested to have increased reporting.

Concurrently, research into prevalence rates, risk factors, and negative outcomes has increased notably in the past several years. The link between SA and poor mental health outcomes is well established (see Campbell, Dworkin, & Cabral, 2009 for a review). In an updated meta-analytic review, Dworkin and colleagues (2017) found that SA victimization was associated with an increased risk for multiple forms of psychopathology, including post-traumatic stress disorder, depression, anxiety, and substance abuse. Poor psychological

outcomes, including post-traumatic stress disorder (PTSD) are also consistently linked to emotion dysregulation (e.g. Seligowski, Orcutt, Lee, & Bardeen, 2015). For example, in samples of adult sexual assault survivors, difficulties in emotion regulation are shown to be a strong predictor of maladaptive coping strategies, depression, and PTSD (Ullman, Peter-Hagene, & Relyea, 2014). Further, additional negative outcomes, such as shame related to the trauma, are intricately linked to subsequent development of psychopathology (Beck et al., 2011; Saraiya & Lopez-Castro, 2016). Poor emotional regulation is also hypothesized to be related to the development and maintenance of maladaptive beliefs and coping strategies that contribute to psychopathology (Cole, Mitchel, & Teti, 1994). Indeed, treatments such as cognitive processing therapy (e.g. Resick & Schnicke, 1992) and cognitive-behavioral therapy (e.g. Foa, 1997) utilize cognitive restructuring strategies aimed at addressing these post-trauma beliefs.

While treatments often target cognitions, there is a dearth of research examining the specific *cognitive* emotion regulation strategies employed by sexual assault survivors. Information about what people "think" after experiencing negative and traumatic events can inform treatment, and has been implicated in understanding why some SA victims develop psychological distress, while others do not (Brillon, Marchand, & Stephenson, 1999; Anniko, Boersma, & Tillfors, 2018). Understanding specific strategies may provide insight into appropriate treatment targets, thus increasing intervention effectiveness. Few studies have examined sexual assault survivors' use of specific cognitive emotion regulation strategies, and none have related these strategies to the specific nature of the assault (e.g. alcohol-involved or sober) or to the development of assault-related shame. Thus, the present study aims to address this gap in the literature, with implications for assault response and treatment.

Sexual Assault Among the College Population

Because sexual assault presents a problem on both a national and global scale, we look to settings where it appears to be particularly pervasive. Robust literature indicates that female-identified college students report high levels of sexual victimization. Nearly 40% of college women reported varied forms of sexual assault victimization and approximately 20% indicate sexual victimization that specifically includes force through the use of alcohol or other substances (Krebs, Lindquist, Warner, & Fisher, 2009). Although sexual assault experiences are not limited to college samples, Black et al. (2011) found that individuals of traditional college ages have increased vulnerability: 79.5% of female victims of completed rape were first raped between the ages of 18-25. It is important to note that these numbers may differ from those of official reporting agencies (e.g. campus or local police departments), as between 80-90% of rape and sexual assault victims in this age range do not report the incident(s) to authorities (e.g. dormitory RA's, advisors, etc.) or the police (Fisher, Daigle, Cullen, & Turner, 2003; Sinozich & Langton, 2014).

Advocates both on and off college campuses have increased policy efforts to direct university prevention and responses in regards to SA. For example, in response to several high-profile SA cases, President Barack Obama established the White House Task Force to Protect Students from Sexual Assault in 2014. The most recent Task Force report was published in January of 2017 and provides evidence-based recommendations for SA prevention and response on campuses. Researchers have further called upon colleges to consider factors that provide evidence of encouraging or exacerbating sexual assaults, including lax social regulations coupled with experimentation of risky behaviors (Richardson & Shields, 2015), the presence of Greek

life (Gray, 2014), campus "hookup culture" (Flack et al., 2007; Sutton & Simons, 2015), and high consumption of alcohol (e.g. Howard, Griffin, & Boekeloo, 2008; White & Hingson, 2013).

Alcohol-Involved Assault

Both alcohol-involved sexual assaults and assaults that do not involve alcohol have similar characteristics. Nearly 90% of university women report that they knew the perpetrator, though alcohol-involved assaults are more likely to involve men and women who only know each other on a casual basis (acquaintances, early relationship dates, etc.) (Abbey, Zawacki, Buck, Clinton, & McAuslan, 2004). In addition, alcohol-involved assault is more often preceded by the context of a major social gathering, party, or meeting at a bar (Abbey, Ross, McDuffie, & McCauslan, 1996a). In one study of male and female sexual assault survivors, voluntary alcohol consumption was one of the most widely cited attributions for why sexual coercion or sexual assault occurred (Flack et al., 2007). Alcohol consumption, and as a consequence, alcohol-involved sexual assault, may be particularly relevant for adolescent and college-aged populations. In the state of Idaho, the Pacific Institute for Research and Education found that among nearly 50,000 high school students surveyed between 1991-2015, 60% had consumed at least one drink in their lifetimes, 15% had consumed their first drink before age 13, and 30% had consumed alcohol within the last 30 days of the survey (2015).

Both consensual and nonconsensual sexual activity is frequently preceded by alcohol consumption (Lewis, Granato, Blayney, Lostutter, & Kilmer, 2012). Alcohol use causes varying degrees of incapacitation, and is consistently considered one of the highest risk factors for SA (Tharp et al., 2013). It is suggested to increase risk through both pharmacological (e.g. increasing impulsivity) and psychological (e.g. biased interpretations of another's actions) mechanisms

(Abbey, 2002; Curtin & Fairchild, 2003; Peterson, Rothfleisch, Zelazo, & Pihl, 1990). Alcohol can also be a delivery agent for various date rape drugs, such as Rohypnol (Krebs et al., 2009).

Conservative estimates indicate that approximately one-half of sexual assault victims report drinking at the time of the assault (Abbey, Ross, & McDuffie, 2001), and between 30-75% of sexual assault incidents involve both the perpetrator and victim drinking (Abbey, 2011). Consumption by the victim may be frequently voluntary: Lawyer et al. (2010) found that voluntary alcohol incapacitation by victims preceded nearly 85% of alcohol and drug-related assaults in a female college sample. In another study of 179 college women, risk of sexual assault is up to 19 times higher on days in which women engage in heavy drinking (Parks, Hseih, Bradizza, & Romosz, 2008). However, at least one study to date found that the victim's alcohol consumption did not predict sexual assault (Testa & Livingston, 2009), highlighting the need for further research into this risk factor. Frequent drinking before sexual activity is also shown to be related to a more severe incapacitated sexual assault history (Bird et al., 2016). Alcohol may lead to incapacitation, and then victimization results from the decision by the perpetrator to engage in sex with someone who is unable to consent (RAINN, 2018).

The interaction between alcohol consumption and SA is complex and situational. Abbey and colleagues (1994) posited that alcohol impairs the ability to accurately interpret cues of (dis)interest, and can also increase aggression (Parks et al., 2008). The victim is also less able to resist if motor skills are impaired (Abbey et al., 1994; Koss & Dinero, 1988). Perceptions of assault may be mitigated by *how* alcohol was involved with the victim. For instance, alcohol or drug consumption may have been forced or unknown, or drinking may have been voluntary by one or both parties, as is common in social situations in which SA commonly occurs (Abbey et al., 2002; Muehlenhard, Humphreys, Jozkowski, & Peterson, 2016).

Little is known about the cognitive coping styles or emotion regulation strategies used in relation to whether alcohol was involved in the SA, though past work has indicated that distress and coping among victims differs depending on alcohol use (Littleton, Grills, & Axsom, 2009). Given the multi-faceted nature of alcohol-involved assault, victims may appraise the event in different ways. SA victims frequently attempt to assign blame to the event, including to the perpetrator, situational factors, chance, and the self (Breitenbecher, 2006; Donde, 2017). Alcohol may negatively impact the strategies used. For example, in interviews conducted by Abbey and colleagues (1996b), one rape victim remarked that "For years I believed it was my fault for being too drunk." Thus, alcohol-involved assault may indirectly lead to more negative psychological outcomes, such as self-blame, shame, and disorders such as PTSD (see Duncan & Cacciatore, 2015 for a review).

Conversely, alcohol-involved assaults may lead to more adaptive cognitive emotion strategies. It is possible that knowledge about the cognitive impairments of alcohol, such as lower awareness of sexual risk (Muehlenhard et al., 2016) may allow the victim to reappraise the event (e.g., "I think that I can learn something from the event") in terms of personal growth, or seeking a positive side to the event. For example, SA victims may feel that they have learned something, believe that it could have been worse given the alcohol intoxication, or resolve to attempt to reduce risky behaviors such as drinking.

Cognitive-Emotion Regulation Strategies

Emotion regulation is viewed as an adaptive process that guides cognition and contributes to our coping styles (Cole, Mitchel, & Teti, 1994). It can encompass a wide range of biological, social, behavioral, and conscious and unconscious processes (Thompson, 1991). In designing the

widely used Difficulties In Emotion Regulation Scale, emotion regulation was defined as involving:

> "a) awareness and understanding of emotions, b) acceptance of emotions, c) ability to control impulsive behaviors and behave in accordance with desired goals when experiencing negative emotions, and d) ability to use situationally appropriate emotion regulation strategies flexibly to modulate emotional responses as desired in order to meet individual goals" (Gratz & Roemer, 2004).

When emotion regulation becomes maladaptive, the risk for psychopathology increases, particularly after a traumatic event. Emotion dysregulation is a defining feature of many psychological disorders, can impair daily functioning (Cole et al., 1994; Seligowski et al., 2015), and can include non-acceptance of emotions, or difficulty controlling emotional distress (Ullman et al., 2014). For example, Cole and colleagues conceptualized anxiety-related disorders to be associated with difficulties in regulating fear and terror, and post-traumatic stress disorder to be associated with an inability to manage the intense distress related to triggering stimuli. These extreme cognitions may bi-directionally influence avoidance or compensatory behaviors, which then reinforce the maladaptive cognitions.

Research on emotion regulation for sexual assault survivors has been largely limited to victims of childhood sexual assault. In a study of 752 university women, childhood sexual abuse and childhood physical abuse were predictive of emotion dysregulation in adulthood (Messman-Moore, Walsh, & DiLillo, 2010). Adult survivors of childhood sexual assault demonstrate numerous aspects of emotion dysregulation, such as experiential avoidance (Batten, Follette, & Aban, 2001) and difficulty identifying and regulating emotional states (Gratz, Bornovalova, Delaney-Brumsey, Nick, & Lejuez, 2007). Despite the dearth of research on emotion regulation

specific to adult sexual assault survivors, it has been suggested that the negative outcomes (e.g. depressive symptoms, PTSD) faced by adult sexual assault survivors are likely due to deficits in emotion regulation (Ullman et al., 2014).

Within the literature, less attention has been given to the cognitive components of emotion regulation. Cognitive emotion regulation strategies are conscious, mental strategies that individuals use to handle the processing of emotionally rousing information (Garnefski, Kraaij, & Spinhoven, 2001). Previous literature suggests that cognitive appraisals have a determinative role in whether and which emotions are experienced, as well as to what degree (Scherer, Schorr, & Johnstone, 2001; Siemer, Moss, & Gross, 2007; Kring & Sloan, 2010). In designing the Cognitive Emotion Regulation Questionnaire, Garnefski and colleagues identified nine separate categories of these cognitive strategies: positive reappraisal, catastrophizing, self-blame, other-blame, acceptance, rumination, positive refocusing, refocus on planning, and putting into perspective.

Cognitive emotion regulation has been linked to coping strategies, though research has provided little insight into the specific cognitive aspects of coping, *separate* from behavioral strategies (Garnefski, Kraaij, & Spinhoven, 2002). In using cognitive strategies, the individual utilizes "emotion-focused coping," that is aimed at regulating emotions that are associated with a stressor through cognitive means or thought processes (Compas, Orosan, & Grant, 1993). For example, when confronted with stressful stimuli (e.g., a reminder of a traumatic event), an individual may manage these emotions by thinking about what s/he may do to handle the event (e.g., "I will speak with a friend about it this week"). However, this process of emotion regulation through cognitions is not always adaptive. For example, the same stressful stimuli may be managed through rumination about the traumatic event. Rumination has been shown to

temporarily relieve anxious and depressive symptoms through providing a sense of taking action toward these emotions by thinking about them, but may prolong distress symptoms in the long-term (Nolen-Hoeksema, Parker, & Larson, 1994).

Maladaptive cognitions are a frequent target for psychological treatment, and cognitive-specific emotion regulation strategies (e.g. self-blame, rumination, etc.) have been associated with a host of somatic and DSM-5 disorders, notably PTSD (Garnefski et al., 2001; Kaczkurkin et al., 2017). However, other emotion regulation strategies, such as acceptance and positive reappraisal, are associated with lower levels of psychopathology (Garnefski & Kraaij., 2006; Martin & Dahlen, 2005). Thus, by using certain cognitive strategies, individuals may face higher risk of psychopathology. Conversely, the cognitive strategies used may actually offer a protective factor, leading to greater tolerance of negative life events. Few studies have examined this theory in relation to *specific* life events, such as sexual assault (Garnefski & Kraaij, 2009).

It is well documented that some cognitive factors (e.g. post-traumatic cognitions) are consequentially related to psychological outcomes for sexual assault survivors. For example, in a study of 109 female-identified survivors of intimate partner violence, negative emotions and dysfunctional trauma cognitions (e.g. guilt) distinctly predicted depression and anxiety symptoms, while controlling for the frequent comorbid symptoms of PTSD (Beck et al., 2015). In another study of 57 victims of physical or sexual assault, Dunmore and colleagues (2001) found that early cognitive appraisals following the event, such as negative beliefs about the self, were linked to the development and later maintenance of traumatic distress even when controlling for assault severity. These researchers called for further investigation into the identification and treatment of these cognitive factors. Indeed, researchers have used instruments such as the Posttraumatic Cognitions Inventory (PTCI) to measure the extent to which specific

cognitions happen following a traumatic event (Foa et al., 1999). Thus, cognition is a critical, yet understudied, aspect of emotion regulation. Given the propensity of emotions that follow the intimate crime of sexual assault, specific cognitive emotion regulation strategies warrant further investigation.

Self-Blame

Self-blame refers to blaming one's self for past experiences, and is significantly correlated with traumatic life events (Anderson et al., 1994; as cited in Garnefski et al., 2001). This is likely to be particularly salient in sexual assault cases, as few crimes share the extensive and well-documented victim-blame that SA does (Moore & Farchi, 2011; Campbell, 2008). This victim-blaming has been extensively linked to the concept of "rape myth acceptance" (Bohner, Jarvis, Eyssel, & Seibler, 2005). Rape myth acceptance (RMA) is a widely studied phenomenon that includes the belief that the victim "asked for it," shifting blame from the perpetrator(s) to the victim (Payne, Lonsway, Fitzgerald, Chapleau, & Oswald, 2014). Victim blaming resulting from RMA may occur frequently during disclosure to trusted confidantes or authorities, and these reactions can exacerbate distress (Kamdar, Kosambiya, Chawada, Verma, & Kadia, 2017; Greeson, Campbell, & Fehler-Cabral, 2016; Ullman, 2010). Even if a victim does not disclose the assault, internalization of rape culture myths may contribute to blaming the self. Indeed, victims of sexual assault engage in self-blame at higher rates than many other forms of trauma, including combat, vehicle accidents, and severe illnesses (Moor & Farchi, 2010).

Self-blame may begin as a coping strategy through which individuals may perceive some control over their victimization. Previous literature indicates that events that were perceived to be uncontrollable result in greater anxious and distress symptoms (Zvolensky, Lejuez, & Eifert, 2000; Mineka & Kelley, 1989). When negative emotions surround a traumatic event, individuals

may then engage in self-blaming cognitions, which serve to provide post-hoc control over the events that occurred, temporarily reduce distress symptoms, and lower the perceived risk of revictimization (Miller, Markmen, & Handley, 2007). Further, in their review, van de Boss and Maas (2009) posited that self-blame can maintain one's sense that bad things do not happen to good or undeserving individuals because the world is fair. Thus, self-blame cognitions help to restore congruence following the cognitive dissonance of a traumatic experience. In a meta-analysis of sexual assault victims, many attributed the crime to external factors, but retained partial or full blame on themselves for the incident (Brillon, Marchand, & Stephenson, 1999). This self-blame can take the form of blaming their own behavior, or their character in general. While it may begin as a protective factor to give the victim a sense of "control," it can quickly escalate to severe self-reproach (Moor & Farchi, 2010).

As such, self-blame can be a particularly maladaptive coping strategy through both behavioral and cognitive means. Self-blame has been shown to lower the perceived likelihood of avoiding future assaults, especially through decreased sexual assertiveness (Breitenbecher, 2006; Miller et al., 2007). Victims of childhood and adolescent sexual assault who engage in self-blame have also demonstrated higher consumption of alcohol in adulthood (Mokma, Eshelman, Messman-Moore, 2016). Thus, attributing the event to one's self can lead to direct or indirect revictimization through increasing behavioral risk factors associated with sexual assault. Further, in a longitudinal study of 424 university women, emotion dysregulation and self-blame were found to be both consequences and predictors of alcohol-incapacitated sexual assault within a 1 year time frame (Messman-Moore, Ward, Zerubavel, Chandley, & Barton, 2015). As such, there is some evidence that self-blame cognitions may create a cyclical pattern that can increase the likelihood of maladaptive emotion regulation and victimization.

Self-blame also demonstrates a reliable relationship with maintaining or increasing psychological distress (Breitenbecher, 2006). Robust literature has found self-blame as an emotion regulation strategy to be linked to a myriad of poor psychological outcomes (see Brillon, Marchand, & Stephenson, 1999 for a review). Briefly, these outcomes can include depression (e.g. Stikkelbroek, Bodden, Kleinjan, Reijnders, & van Baar, 2016), anxiety (e.g. Martins, Freire, & Ferreira-Santos, 2016), and PTSD (e.g. Ullman, Filipas, Townsend, & Starzynski, 2007). Indeed, several models of PTSD have identified negative thoughts about the self, including self-blame, as a distinct component in both the etiology and maintenance of PTSD symptoms (Beck, Jacobs-Lentz, McNiff, Olsen, & Clapp, 2011).

Self-blame may be particularly salient in alcohol-involved assault. In a laboratory scenario, higher attributions of blame were given to female victims when they accepted alcohol (Romero-Sanchez, Krahe, Moya, & Megias, 2017). Victims of assault are perceived to be "more responsible" by their peers if they were intoxicated at the time of the assault (Abbey, 2002), thus increasing the likelihood of victim-blaming if consumption occurred. Indeed, women tend to feel more responsible for the assault if they had been drinking (Norris, 1994). In one study of 340 non-impaired, impaired, and incapacitated victims of rape during college, victims were similar in levels of post-assault distress, but those who were impaired or incapacitated through alcohol reported higher levels of self-blame and stigma post-assault (Littleton, Grills-Taquechel, & Axsom, 2009).

In addition to blame placed by others, victims may perceive drinking alcohol as a behavior that could or should have been controlled (Abbey, 2002). Littleton and colleagues (2009) posited that this may lead to counterfactual thinking, in which victims repeatedly envision how they could have avoided the assault. In a recent study of 129 rape survivors, self-blame

increased as level of remembered intoxication increased, as survivors felt this intoxication significantly decreased their clarity of refusing sex (Donde, 2017). This can also lead to underreporting, as victims fear being told that they were at fault (Rickert, Weimann, & Vaughan, 2005). Further, alcohol consumption may be perceived to have indirectly or directly led to factors that increased the risk of victimization, such as attending social functions (e.g. Greek life events), or interacting with the perpetrator(s) in ways that would not be commensurate with behaviors while sober (Sutton & Simmons, 2015). Thus, victims of alcohol-involved sexual assault may be more likely to hold guilt surrounding the event(s), and in particular, more likely to engage in self-blame post-trauma.

Positive Reappraisal

Positive reappraisal refers to thinking of or attaching positive meaning to the event(s) in terms of positive growth (e.g., "I think that I can learn something from the situation," "I think that the situation also has its positive sides") (Carver et al., 1989; as cited in Garnefski et al., 2001). As a cognitive emotion strategy, positive reappraisal had empirical roots in Carver et al.'s (1989) Ways of Coping Questionnaire, and Spirito et al.'s (1988) COPE measure, both of which contained measures of "positive reinterpretation and growth." In designing the Cognitive Emotion Regulation Questionnaire, many of the items were based on rephrasing the items in the COPE measure. While this restructuring can be both adaptive and maladaptive (Sakakibara & Endo, 2016), positive reappraisal requires interpreting the negative event with regards to personal strengths and development. Although behavioral changes do not necessarily follow, positive reappraisal may be an important first step to precede change.

Following trauma, victims are left to evaluate and interpret the event. Many treatments, including cognitive and cognitive-behavioral models, have emphasized the role of *negative*

appraisals in the development and maintenance of psychopathology, including PTSD (Ehlers & Clark, 2000; Beck et al. 2011). Negative appraisals may function in cyclical fashion, with appraisals leading to perpetuations of guilt, ruminations, etc., which then in turn bias memories and lead to further negative appraisals. These models posit that the way an event is thought about or given meaning determines the extent to which symptoms may be experienced.

By contrast, embedded in many of these treatments are techniques such as reframing (e.g. Moore, Varra, Michael, & Simpson, 2010) that are linked to positive reappraisal, and can result in symptom reduction for trauma survivors. In order to manage the emotional demands of trauma, positive reappraisal has been consistently viewed as a protective and adaptive strategy (e.g. Cann, Calhoun, Tedeschi, & Solomon, 2010; Aldao & Nolen-Hoeksema, 2010). For SA survivors, positive reappraisal refers to finding meaning in the *recovery* process (e.g., by acknowledging resiliency in the aftermath of trauma), rather than the event itself. Higher use of positive reappraisal has demonstrated an inverse relationship with PTSD (Thompson & Waltz, 2010; Garnefski et al., 2001), although at least one study to date has found no significant effect of positive reappraisal on PTSD symptoms, highlighting the need for more research in this area (Seligowski et al., 2015). Reappraisal may lend itself to a stronger sense of control over recovery, which has been correlated with positive life changes (e.g. reducing risky sexual behaviors) following sexual assault (Frazier, Tashiro, Berman, Steger, & Long, 2004). Thus, positive reappraisal may be a particularly important goal of intervention among SA victims.

While extant literature has examined reframing and reappraisal in terms of general trauma, to date few researchers have addressed the use (or lack thereof) of positive reappraisal as a cognitive emotion regulation strategy among sexual assault victims. The present study aims to explore the use of positive reappraisal among SA victims, with regards to the presence or

absence of alcohol during the event(s). Because alcohol-related SA is complex, victims may appraise the event in many ways. For example, given the well-known impairments that follow alcohol consumption, it is possible that victims may believe that "it could have been worse," given their level of intoxication. Individuals may also view alcohol as a controllable behavior and attempt to reduce this in the future. Conversely, it is also possible that victims who were incapacitated by alcohol may struggle to attach positive meaning to the event, especially if cognitive or behavior changes or growth may mean eliminating or reducing social contacts (e.g., no longer engaging with the perpetrator), attendance at events (e.g., Greek functions, etc.), or behaviors that were once, or remain, enjoyable (e.g., drinking).

Thus, the examination of positive reappraisal in this study is exploratory in nature to determine a) the extent to which SA victims engage in positive reappraisal post-assault, and b) whether there are differences in positive reappraisal if the victim was incapacitated by alcohol at the time of the incident.

Shame

Shame is an affective experience that can encompass painful self-consciousness and anxiety about negative judgment, unwanted exposure, inferiority, defeat, and/or failure (Gilbert, 2003). The experience of shame may be internally driven (e.g., reflexive self-criticism), externally driven (e.g., through a perceived critical audience), or both (Budden, 2009), ultimately leading to a negative evaluation of the global self. Thus, shame has been described as a "synthesis of perceptions of social threat and [of] individuals' own self-appraisal" (DeCou, Cole, Lynch, Wong, & Matthews, 2017, p. 167).

Shame may originate as a protective strategy to anticipate negative evaluation – whether by the self or others – triggering avoidance behaviors that aim to minimize threat (Carvalho,

Dinis, Pinto-Gouveai, & Estanqueiro, 2015). However, when shame becomes a dominant experience for an individual, it is intricately linked to maladaptive outcomes. In addition to potentially maladaptive avoidance behaviors, shame is typically associated with feelings of worthlessness and powerlessness (Duncan & Cacciatore, 2015). These feelings have been described as a "global, painful, and devastating experience … [of] the self" (Tangney & Dearing, 2002), and a plethora of studies have linked shame with poorer interpersonal outcomes and psychopathological symptoms (e.g., Averill, Deifenbach, Stanley, Breckenridge, & Lusby, 2002; Duncan & Cacciatore, 2015; Tangey & Dearing, 2002), and disorders such as depression (Alexander, Brewin, Vearnals, Wolff, & Leff, 1999; Cheung, Gilbert, & Irons, 2004), eating disorders (Goss & Allen, 2009; Keith, Gillanders & Simpson, 2009), anxiety (Fergus, Valentiner, McGrath, & Jencius, 2010), and PTSD (Robinaugh & McNally, 2010; Wekerle et al., 2009).

Shame and Trauma

Social Self-Preservation Theory posits that shame emerges as a consequence of perceived or actual threat to the self (Gruenewald, Kemeny, Aziz, & Fahey, 2004). As such, shame has demonstrated an intricate and reliable relationship with traumatic experiences. As Wall (2012) stated, shame following trauma can incorporate a sense of disgust and humiliation, and lead the victim to feel alienated, stigmatized, or worthless. It is not surprising, for example, that feelings of shame have been reported by survivors of child sexual and physical abuse (Aakvaag et al., 2016), combat exposure (Jetly et al., 2015 Frazier, Frankfurt, & Engdahl, 2017), chronic illness (Hutchinson & Dhairyawan, 2018) natural disasters (Carmassi et al., 2017), terrorist attacks (Aakvaag, Thoresen, Wentzel-Larsen, Roysamb, & Dyb, 2014), intimate partner violence (e.g., McCleary-Sills et al., 2016) and sexual assault (e.g., Sheikh & McNamara, 2014).

In developing the Post-Traumatic Cognitions Inventory, Foa et al. (1999) argued that maladaptive post-trauma appraisals prompt dysfunctional cognitive and affective responses, including shame and anger. These responses may reduce distress in the short-term, but also serve to prevent cognitive change long-term, thus maintaining disorders such as PTSD (1999). Beck et al. (2015) posited that, from the cognitive perspective of psychopathology, negative appraisals of the event serve to "foster a persistent sense of threat, which perpetuates symptoms such as re-experiencing the trauma … avoidance …and hypervigilance" (p. 3). Such symptoms can be perpetuated and maintained by this perception of external (e.g., the world is unsafe) or internal (e.g., view of the self as inadequate) threat, central to the experience of shame. Indeed, feelings of shame were included in the DSM-5 criteria (D) for PTSD (APA, 2013). However shame remains a relatively understudied reaction to trauma (Platt & Freyd, 2011). In a meta-analysis linking shame and PTSD, the findings of Saraiya and Tonya (2016) suggest that unaddressed feelings of shame may partially explain difficulties in PTSD recovery, implicating shame as a possible, specific treatment target in individuals with PTSD.

Because of this, scholars have argued for conceptual models of shame that are specifically related to one's traumatic experiences, such as posttraumatic shame (Wilson, Drozdek, & Turkovic, 2006), traumatic shame (Budden, 2009), and shame-based PTSD (Lee et al., 2001; as cited in Vidal & Petrak, 2007). Across these models, shame manifests as a consequence of the real or perceived threats to the self, and then later uniquely contributes to the development of PTSD. For example, in the shame-based PTSD model proposed by Lee and colleagues, shame can occur through schema congruence, or schema incongruence, dependent on how an individual has come to understand shame. In schema-congruent pathways, the traumatic event confirms shame-based evaluations of the self (e.g., "I knew I was a bad person"), which

will lead to shame-based processing of the event. In schema-incongruent pathways, the sense of self is "attacked but not defeated," but positive beliefs cannot override new, maladaptive beliefs (p. 160). Shame, by these models, contributes to ongoing distress by constantly reinforcing a sense of ongoing threat (2015).

The literature thus far suggests that the experience of shame is likely preceded by an individual's cognitions and emotions surrounding the traumatic event. Seligowski, Lee, Bardeen, and Orcutt (2015) further posited that shame is direct and indirect consequence of emotion regulation difficulties. The authors argued that, following a traumatic event, there are increased demands on emotion regulation efforts. The overload of these demands may lead to the more chronic experiences of negative emotions, guilt, and shame (Resick & Schnicke, 1992; as cited in Seligowski et al., 2015). However, the specific nature of these emotion regulation difficulties warrants further investigation, and it is unknown whether these difficulties are directly related to the circumstances surrounding the traumatic event.

Shame and Sexual Assault

Among traumatic experiences, shame demonstrates a reliable relationship with sexual assault. Dyer and colleagues (2017) argued that shame is particularly likely to follow events that involve threats to self-appraisals and self-image – most notably, sexual assault. Previous research has found that feelings of shame are higher in survivors of interpersonal trauma than in non-interpersonal trauma (Amstadter & Vernon, 2008), and the literature is indicative of shame's pervasiveness following SA. In a study of 25 female survivors of adult sexual assault, nearly 75% of women reported feeling ashamed about themselves post-assault (Vidal & Petrak, 2007). Byers and Glenn (2012) examined 140 men and women who had experienced sexual coercion since age 14, and found that over 90% of the sample experienced feelings of shame related to the

incident(s). Aspects of the assault may also contribute to the development of shame. For example, feelings of shame are further magnified when sexual assault is perpetrated by an intimate partner, rather than a stranger (Bennice & Resick, 2003; Temple, Weston, & Rodriguez, 2007, as cited in Wall, 2012).

There is also evidence to suggest that feelings of shame following sexual assault may be gendered in nature. Kernsmith and Kernsmith (2009) found that male victims of sexual assault reported neutral and even positive reactions to the event, while Brown et al. (2009) found that women were more likely to report negative emotions, including shame and helplessness. However, it should be noted that in the Byers and Glenn (2012) sample, feelings of shame did not differ among male and female participants. Wall (2012) speculated that these feelings of shame among women stem from societal factors such as female victim-blaming, misapprehensions about the causes and experiences of sexual violence, and an internalized sense of sexual obligation.

Because sexuality and sexual behaviors occur within the context of a broader society and cultural realm, shame may also be significantly impacted by one's ethnic identity. Discourse around sexual health and sexual behaviors varies among geographical and cultural locations, with some groups commending and appreciating open conversations about sexuality, and others may view the same topics as "taboo" or disrespectful. Much like factors such as "rape myth acceptance" within the United States, these messages may be espoused by one's ethnic group and later internalized by the victim (Rawson & Liamputtong, 2010). Scholars have argued that the emotions of sexual violence victims are shaped by culture and identity, and sexual assault can impact the perceived dignity of the family or social unit, or the individual him/herself, dependent on the emphases of one's group (Kalra & Bugra, 2013). Among women, discourses around

sexual duty, autonomy in sexual situations, and consent can heavily impact reactions to the event, whether consensual or non-consensual (Ussher et al., 2017). For example, in one study of Latina-identified women, narrative analyses revealed themes of shame and guilt surrounding experiences of sexual violence and interpersonal violence. The women attributed these feelings broadly to a patriarchal culture, taboos against talking about sex, gender role ideologies, respect for authority, and lack of community resources (Ahrens, Rios-Mandel, Isas, & del Carmen Lopez, 2010). These authors conceptualized these culture and ethnicity-informed negative beliefs and attitudes toward sexual assault as stigma, and asserted that this stigma may be public or private. Many scholars have posited that public stigma, or the social aspects of stigma (e.g., disbelief in reporting, unfair treatment) lead to self-stigma, or an internalization of the group's beliefs. When these thought patterns are internalized, they may frequently manifest in feelings of devaluation, humiliation, and shame (Mickelson, 2001; Deitz, Williams, Rife, & Cantrell, 2015).

These feelings of shame may also contribute to action or inaction following an assault. In a study of 284 survivors of sexual assault while in college, shame regarding the incident was listed as one of the primary reasons that women did not report to formal authorities (Holland & Cortina, 2017). This finding is not unique, as many researchers have found shame to be a preventative force when it comes to both formal (e.g., police) and informal (e.g., friends and family) reporting (Sable, Danis, Mauzey, & Gallagher, 2006; Moore, 2009; Yamawaki, 2008; Weiss, 2012). While reporting formally or informally is not always a positive experience (e.g., Ullman, 1996b), it can open access to medical attention, mental health treatment, and social support that may lend itself to posttraumatic growth (Borja, Callahan, & Long, 2006). Shame, then, can be a hurdle to recovery. In addition to its negative affective experience, it ensures that victims remain silent about their trauma (Wall, 2012).

Shame and Self-Blame

Previous literature suggests that shame may have roots in self-blame. In distinguishing the cognitive experiences of shame from guilt, Lewis (1971; as cited in Parker & Thomas, 2009) argued that experiences of shame involve aspects of greater self-consciousness, body awareness, and self-imaging which frequently accompany self-blame. Kubany and Watson (2003) described self-blame as having two distinct components: cognitive and affective. Beliefs that one should have behaved differently engender cognitive attributions, while unpleasant negative emotions follow these thoughts to create an affective experience, such as that of shame (2003). To this end, Sheikh and McNamara (2014) built upon Tagney and Dearing's (2002) work that considered shame to be an "[emotion] of self-blame" (p. 241). In their commentary, the authors argued that self-blame emerges from the perceived causes of the SA, the perceived obligations of the victim, and perceived capacity to have prevented the event. This blame, in their view, manifests itself as the unpleasant and "pernicious" experience of shame and escalates from blame to actual derogation of the self (p. 238). Ullman and colleagues (2014) have described self-blame after SA to be "harder to change than other attributions," in part because self-blame escalates into negative characterological evaluations and self-conscious affect, including shame.

There is evidence that shame may be temporally preceded by an individual's use of self-blame for emotion regulation. Inasmuch as sexual assault is perceived as a betrayal, Martin, Cromer, DePrince, and Freyd (2010) found that betrayal emerged as a significant predictor of posttraumatic appraisals of self-blame, which then went on to predict negative emotions (including shame) as well as dissociation and depression in a sample of 428 undergraduate students. As an emotion regulation strategy, self-blame has also been shown to increase shame-proneness following trauma (Szentagotai-Tatai and Miu, 2016). In Vidal and Petrak's (2007)

sample of 25 female survivors of adult sexual assault, women who felt more self-blame for their assaults had significantly higher levels of all three areas of shame measured: bodily, behavioral, and characterological shame.

Shame and Positive Reappraisal

To date, there is a dearth of empirical research linking positive reappraisal and shame. However, previous work suggests that using positive reappraisal as a cognitive emotion regulation strategy may be a protective factor against the more negative, ongoing affective experience of shame. Research frequently focuses on negative outcomes following SA, though some work to date has found positive outcomes can and do follow sexual assault, including a greater appreciation for life, improved relationships, greater sense of personal strength, and spiritual development (e.g., Tedeschi & Calhoun, 1995; Linley & Joseph, 2004), and these outcomes could be conceptually brought upon by the use of positive reappraisal. For example, Frazier et al. (2001) found that some victims of sexual assault experienced a greater appreciation for life as early as 2 weeks following victimization, and this appreciation was mediated by positive post-traumatic appraisals. Follow up analyses three years later (Frazier et al., 2004) indicated that these appraisals were predictive of lower psychological distress.

Based on the reviewed literature, positive reappraisal consistently presents itself as an adaptive cognitive emotion regulation strategy that may be engaged following sexual assault. It follows that shame may decrease or fail to develop following the use of positive reappraisal, given that more negative cognitions act as precursors to the development and maintenance of shame. According to Lee et al.'s (2001) shame-based PTSD model, shame arises as a direct consequence of being unable or unwilling to utilize one's positive beliefs about the world and one's situation. Indeed, in an adolescent sample of childhood trauma survivors, Szentagotai-Tatai

and Miu (2016) found that higher use of positive reappraisal was negatively associated with shame-proneness. In this light, shame may hold an inverse relationship with the use of positive reappraisal for emotion regulation, with positive reappraisal holding a possibly preventative role in the development of shame as a poor psychological outcome.

Current Study

Following the traumatic event of sexual assault, many victims struggle to make sense of and find meaning in the event. This leads to a search for perceived control over the trauma, and both positive reappraisal and self-blame have been implicated as inversely-related appraisals through which survivors may take "control" (Frazier et al., 2004). In a review of the literature, Frazier and colleagues found that present control over the current impact of the trauma, such as through positive reappraisal, was the most adaptive. Self-blame, conceptualized as "control over the past event," hindered or had no relation to positive outcomes (e.g., reduced distress symptoms) among trauma survivors (p. 21). Further, Bahrami and colleagues (2017) conducted a study of 156 individuals with a recent cancer diagnosis, and found that adaptive and maladaptive cognitive emotion regulation strategies mediated patients' subjective quality of life post-diagnosis. Thus, cognitive emotion regulation strategies are an understudied and potentially important contributor to outcomes following a stressful or traumatic event.

Shame and its associated negative sequelae may be thought of as one such negative outcome that may or may not occur depending on post-traumatic cognitions. Although Littleton et al. (2009) found that post-traumatic cognitions differ depending on whether alcohol was involved during sexual assault, to date no literature has examined whether these cognitions impact the development of shame. With the host of poor consequences and mental health outcomes that shame precedes or maintains, it is thus important to determine how shame may be

lessened or *increased*. Two such proposed mechanisms, then, are decreasing self-blame while increasing positive reappraisal as cognitive emotion regulation strategies following SA.

To date there is a dearth of literature with regards to cognitive emotion regulation strategies and specific traumas, such as SA. More so, it is also unclear the extent to which post-traumatic cognitive emotion regulation strategies differ with regards to specific aspects of the assault (e.g., alcohol-involved assault). The current study builds on the current literature by examining these identified gaps. This will be the first study to investigate the associations between SA characteristics (alcohol-involved assault and no alcohol-involved assault), two specific cognitive emotion regulation strategies (positive reappraisal and self-blame), and trauma-related shame severity. See Figure 1 for an outline of the proposed sexual assault, emotion regulation, and shame factors examined in the current study.

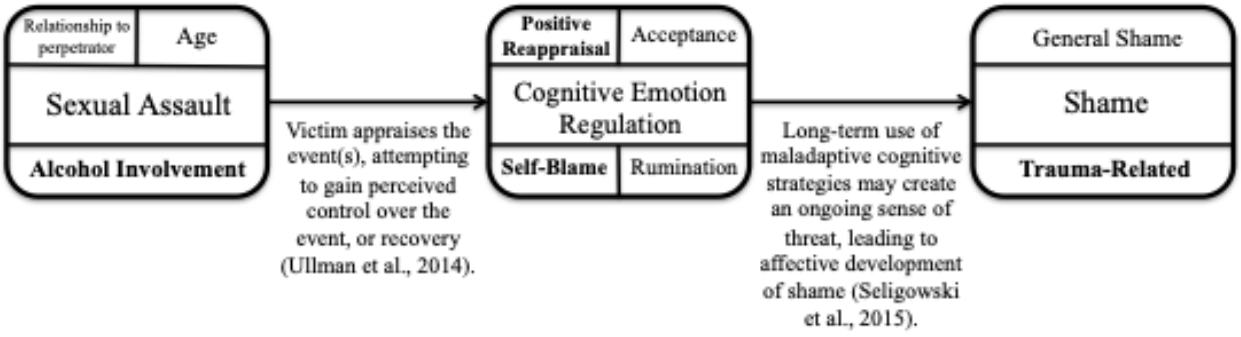

Figure 1

Hypothesis 1: Positive reappraisal and self-blame will independently mediate the relationship between alcohol and non-alcohol involved sexual assault and assault-related shame in a sample of female-identified college students (See Fig. 2).

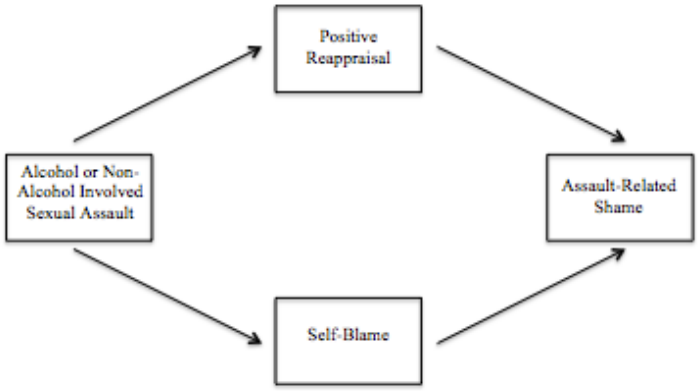

Figure 2

Hypothesis 2: Participants who experienced alcohol-involved assault will report increased usage of self-blame, lower usage of positive reappraisal, and higher experiences of assault-related shame when compared to non alcohol-involved sexual assault victims.

Method

Participants

Participants consisted of 164 female-identified undergraduate students who reported at least one experience of sexual assault since age 14, taken from a larger sample of 380 students at Idaho State University. Participants were considered sexual assault survivors if they answered "yes" to at least one instance of attempted or completed non-consensual sexual contact on the Sexual Experiences Survey – Short Form Version (SES-SFV). Furthermore, 95 (57.9%) reported alcohol-involved assault whereas 69 (42.1%) did not report alcohol incapacitation at the time of the assault(s). This was determined by an affirmative response to at least one occurrence of non-consensual sexual contact when the participant was "too drunk or out of it to stop what was happening" on the SES-SFV.

Participant ages ranged from 18-65 (M = 23.51, SD = 7.56). The majority of students reported being of freshman status (n = 57, 34.8%), while the fewest reported being of senior (n = 18, 11%), or non-degree seeking status (n = 3, 1.8%). Nearly 80% of the sample identified as

Caucasian (n = 131), and 11% identified as Latina (n = 18). See Table 1 for additional demographic information.

Table 1
Descriptive Results from Demographics Questionnaire.

Item	M (SD)	Min-Max	N	%
Age	23.51 (7.76)	18-65		
Education				
Freshmen			57	34.8
Sophomores			48	29.3
Juniors			32	19.5
Seniors			18	11.0
Non-Degree Seeking			3	1.8
Relationship Status				
Single			58	35.4
In Relationship			61	37.1
Married			33	20.1
Divorced/Separated			8	4.9
Sexual Orientation				
Heterosexual			150	91.5
Gay/Lesbian			3	1.8
Bisexual			7	4.3
Ethnic Identity				
Caucasian			131	79.9
Latina			18	11.0
Native American			2	1.2
Asian/Pacific Islander			3	1.8
African-American			3	1.8
Other			7	4.3

Measures

Socio-demographics form: A sociodemographics form was used to gather basic demographic information such as age, gender, ethnicity, academic class standing, GPA, and sexual orientation.

Multi-group Ethnic Identity Measure – Revised (MEIM-R): The MEIM-R (Phinney & Ong, 2007) is a 6-item self-report measure that assesses the extent to which one identifies with their ethnic or cultural group. The measure includes two subscales of exploration of (e.g., “I have

spent time trying to find out more about my ethnic group, such as its history, traditions, and customs") and commitment to (e.g., "I have a strong sense of belonging to my own ethnic group") one's ethnic identity. Subjects rate the applicability of each statement utilizing a 4-point Likert scale, ranging from 1 (*strongly disagree*) to 4 (*strongly agree*). The current study utilized total scores for all items strength of ethnic identification, obtained by summing the individual items, with higher scores indicative of a greater sense of ethnic identity. Phinney and Ong (2007) reported an internal consistency for total scores of the measure of .81, as well as good construct validity. Additional validation studies have found similar results, and support the use of the measure in diverse groups (Else-Quest & Morse, 2015; Yoon, 2011). For the current sample, Cronbach's alpha was .897.

Sexual Experiences Survey – Short Form Victimization (SES-SFV): The SES-SFV (Koss et al., 2007; Koss & Oros, 1982) consists of 10 self-report items that assess experiences of unwanted sexual contact, sexual coercion, attempted sexual coercion, rape, and attempted rape. Participants indicate how many times (0, 1, 2, or 3+) a given experience occurred a) since age 14, and b) within the previous 12 months. This measure demonstrates good psychometric properties. In creating the measure, Koss and colleagues found an internal consistency of .74, with 93% agreement across two administrations. More recently, Johnson, Murphy, and Gidycz (2017) found an internal consistency of .92 with 70% agreement across three administrations. Consistent with previous research (e.g., Ullman & Brecklin, 2002) the SES-SFV also demonstrates good predictive validity for trauma symptomatology; the SES-SFV significantly predicted dissociation (partial $\eta^2 = .04$), anxiety (partial $\eta^2 = .04$), depression (partial $\eta^2 = .04$), and sleep disturbances (partial $\eta^2 = .05$).

Scoring for this measure can render either categorical or continuous outcome responses. The revised SES-SFV (2007) includes scoring for both frequency (i.e., no victimization to up to 15 instances of victimization) and severity (i.e., in order of unwanted sexual contact, attempted or completed coercion, attempted rape, and completed rape). The measure may also be used to categorize individuals as victims or non-victims (e.g., Gidycz, Orchowski, King, & Rich, 2008). For the purposes of this study, victimization is represented as a binary categorical variable; whereby a participant has either experienced an alcohol-involved assault or a non-alcohol-involved assault.

Cognitive Emotion Regulation Questionnaire (CERQ): The CERQ (Garnefski, Kraaij, & Spinhoven, 2001) is a 36-item self-report questionnaire measuring conscious, self-regulating cognitive coping strategies following negative events or experiences. The questionnaire consists of 9 distinct subscales of four questions each. For this study, only the self blame (e.g. "I feel that I am the one who is responsible for what happened") and positive reappraisal (e.g. "I think that I can learn something from the situation") subscales will be examined. Subjects rate the frequency in which they utilize each cognitive coping strategy on a 5-point Likert scale, ranging from 1 (*almost never*) to 5 (*almost always*). Subscale scores are obtained by summing the individual items corresponding to that subscale, with higher scores representing greater use of a given strategy. The psychometric properties of the CERQ are generally acceptable to good, with internal consistencies for the positive reappraisal and self-blame subscales at .75 and .85, respectively, acceptable test-retest correlations, and factorial and criterion-related validity (2001). For this study, alpha levels were .814 for the self-blame subscale, and .853 for the positive reappraisal subscale.

Trauma Related Shame Inventory (TRSI): The TRSI (Langkaas et al., 2014) is a 24-item self-report measure that assesses one's experiences of internally and externally driven shame related a traumatic experience (e.g., "As a result of my traumatic experience, I have lost respect for myself"). Subjects rate the applicability of each statement on a 4-point Likert scale, ranging from 0 (*not true of me*) to 3 (*completely true of me*). Test developers conducted a series of validation studies, which demonstrated that internal and external shame were highly correlated at .90, supporting a general component of trauma-related shame (2014). The measure demonstrated good reliability, with a G-coefficient of .87 and index of dependability of .87. Scores for each item are summed, and higher scores represent greater experiences of trauma-related shame. In the current sample, Cronbach's alpha was .961.

Procedure

The Idaho State University Human Subjects Committee approved the original study examining stressful life events, psychological distress, and coping. Subsequent approval was obtained to conduct the current study. Participants were recruited from undergraduate students enrolled in lower division psychology courses that offered participation in the Psychology Department research subject pool. Participants volunteered for the study in exchange for course credit through SONA, an online anonymous recruitment system. Participants were provided a link to a survey administered through SurveyMonkey. Upon opening this link, participants were given an electronic informed consent form. After obtaining consent, participants were directed to complete a series of self-report measures, randomized in presentation order. Because each participant was assigned a unique identifier through SONA, this prevented any individual from taking the survey more than once. To ensure the validity of answers, at the end of the survey

participants were given four items that assessed for reading comprehension and evaluated whether participants responded seriously to all items.

Data Analyses

A power analysis was conducted using Monte Carlo methods, as described by Schoemann, Boulton, & Short (2017). Using these analyses with an *N* of 164, the power to detect self-blame as the first mediator (a_1b_1) was 0.10. The power to detect positive reappraisal as the second mediator (a_2b_2) was 0.02, and the difference was calculated to be 0.07. While these power estimates appear small, Hayes and Scharkow (2013) recommend using bias-corrected bootstrapping methods in the event that power is a concern. Bootstrapping, a non-parametric method that utilizes resampling with replacement (e.g., 10,000 times), generates a sampling distribution for comparison (Kenny, 2018). Because the mean of the sampling distribution often does not equal the indirect effect(s), the PROCESS macro within SPSS generates a correction for bias (Hayes, 2012). This method has been shown to reduce risk of Type 1 error, and the likelihood that outliers will affect the means during analysis (Hayes and Scharkow, 2013; Efron & Tibshirani, 1994).

Hypothesis 1 was examined using a multiple-mediation model. The product of coefficients approach was used to test for the unique effect of each mediator (positive reappraisal, self-blame) on shame. Analyses for each variable controlled for the other mediator to examine the specific and unique mediation effects. The “a” and “b” paths for each mediator were calculated, along with their respective standard errors. The coefficients were multiplied (a*b) to get each indirect effect. Within the sampling distribution calculated by the bias-corrected bootstrapping, asymmetric confidence intervals were calculated and used to test for the significance of the indirect effects. Each indirect effect was considered significant if their

respective confidence intervals did include zero. The product of coefficients approach was selected based on its direct test of significance of the mediated effect. This method maintains sufficient power and has fewer Type 1 error rates, and asymmetric confidence intervals account for the non-normality of a*b (Fritz & MacKinnon, 2007).

To compare levels of self-blame, positive reappraisal, and shame between the alcohol-involved and no alcohol-involved samples, Hypothesis 2 was examined using a one-way MANCOVA. This method includes a multivariate test to determine whether levels differ depending on assault characteristics, and also incorporates univariate *F* tests to determine the significance of each respective effect, if applicable (Stahle & Wold, 1990). This method has been shown to be preferable to conducting series of ANOVAs, as MANCOVA reduces the risk of Type I error and allowed for the inclusion of strength of ethnic identity as a covariate, given its relation to the dependent variable of shame (French, Macedo, Poulsen, Waterson, & Yu, 2010). SPSS and PROCESS were used to conduct all analyses.

Results

In this sample of 164 women who indicated a prior experience of sexual assault, 95 (57.9%) reported at least once incidence of sexual assault during which they were "too drunk or out of it to know what was happening," and 69 (42.1%) did not report alcohol at the time of sexual assault(s).

Normalcy of Data

Each identified variable was examined for normality. The measure of trauma related shame, the TRSI, was positively skewed due to the large number of zeroes within the data (see Table 2). However, this variable remained within acceptable limits of normal distribution

(George & Mallery, 2010), and analyses utilizing a square root transformation for the TRSI did not yield different results. For this reason, the original shame variable was used in all analyses.

Table 2
Descriptive Statistics for Variables

Item	Mean	SD	Min-Max	Skewness	Kurtosis
CERQ SB	10.09	3.60	4-20	.67	-.01
CERQ PR	12.29	4.27	4-20	.11	-1.06
TRSI	14.08	14.94	0-56	1.09	.221

Note. CERQ SB = Cognitive Emotion Regulation Questionnaire, Self-Blame Subscale; CERQ PR = Cognitive Emotion Regulation Questionnaire, Positive Reappraisal Subscale; TRSI = Trauma Related Shame Inventory

Pearson's *r* correlations and independent t-tests were used to assess for demographic differences associated with the outcome variables. Although the majority of participants identified as Caucasian, a number of women identified as ethnic minorities, therefore women were divided into two groups to examine associations between ethnicity and key study variables. (Women of Color as "0," $n = 33$ and Caucasian as "1," $n = 131$). Ethnicity was not associated with positive reappraisal, self-blame, or shame in a series of independent samples t-tests using equal variances not assumed (See Table 4). However, these groups differed in strength of ethnic identity, whereby women of color reported significantly stronger levels of identification with their respective ethnic groups (See Table 3).

Pearson's *r* correlations also examined whether strength of ethnic identity, as measured by the Multi-group Ethnic Identity Measure (MEIM), was associated with outcome variables. There was one significant negative correlation between strength of ethnic identity and levels of trauma-related shame, such that increases in strength of ethnic identity were associated with decreases in trauma-related shame (see Table 5). Thus, strength of ethnic identity was included as a covariate in the model.

Table 3
Independent T-tests for Ethnicity

	Mean	SD	t	df	sig. (two-tailed)
CERQ SB	10.18	3.86	.166	160	.868
CERQ PR	12.54	4.51	.379	162	.702
TRSI	14.67	15.59	-.247	156	.810
MEIM	20.20	6.64	-2.78	157	.006**

**Correlation is significant at the .01 level
Note: CERQ SB = Cognitive Emotion Regulation Questionnaire, Self-Blame Subscale; CERQ PR = Cognitive Emotion Regulation Questionnaire, Positive Reappraisal Subscale; TRSI = Trauma-Related Shame Inventory; MEIM = Multigroup Ethnic Identity Measure

Table 4
Correlations Between Strength of Ethnic Identity and Outcome Variables

Item	MEIM	sig. (two-tailed)
1. CERQ SB	-.115	.117
2. CERQ PR	.037	.634
3. TRSI	-.187	.021*

*Correlation is significant at the .05 level
Note. MEIM = Multi-group Ethnic Identity Measure; SES-SFV = Sexual Experiences Survey – Short Form Version; CERQ SB = Cognitive Emotion Regulation Questionnaire, Self-Blame Subscale; CERQ PR = Cognitive Emotion Regulation Questionnaire, Positive Reappraisal Subscale; TRSI = Trauma Related Shame Inventory

Associations Among Identified Variables

With regard to associations among the key study variables, self-blame (CERQ SB) was significantly positively correlated with trauma-related shame (TRSI) ($r = .567$, $p < .001$). This was consistent with the hypothesis that self-blame would be related to shame, and warranted further investigation into whether self-blame may mediate the development of trauma-related shame. No other significant associations among study variables were found (see Table 5).

Table 5
Correlations Between Identified Variables

Item	1	2	3
1. CERQ SB	-	-	-
2. CERQ PR	-.098	-	-
3. TRSI	.567**	-.129	-

**Correlation is significant at the .01 level
Note. SES-SFV = Sexual Experiences Survey – Short Form Version; CERQ SB = Cognitive Emotion Regulation Questionnaire, Self-Blame Subscale; CERQ PR = Cognitive Emotion Regulation Questionnaire, Positive Reappraisal Subscale; TRSI = Trauma Related Shame Inventory

Mediation Analysis

The data were examined to assess for potential bias with regards to missing data. This dataset had relatively low numbers of missing data, such that 1.2% (n = 2) of participants were missing data for the CERQ self-blame subscale, and 3.7% (n = 6) of participants were missing data for the Trauma-Related Shame Inventory. The missing data appeared to be non-systematic, and did not appear to be related to specific items or measures (Little's MCAR test $\chi^2 = 9.18$, p = .06). Because the data were missing at random, expectation maximization (EM) was used to impute missing values on these variables.

Hypothesis 1

Regression analyses were used to test the hypothesis that the cognitive regulation strategies of self-blame and positive reappraisal would mediate the relationship between assault characteristics and trauma-related shame. Strength of ethnic identity was controlled for within the model given its significant association with shame. Unstandardized betas are reported, as standardized coefficients are not recommended for mediation analyses with a dichotomous predictor variable (Hayes, 2017). Assault characteristics (alcohol-involved or no alcohol-involved) were not significantly correlated with greater usage of self-blame strategies (b = .225, SE = .568, p = .69). However, higher usage of self-blame as an emotion regulation strategy significantly predicted greater experiences of shame (b = 2.29, SE = .266, p < .001) (see Figure 2). Next, assault characteristics were not associated with the use of positive reappraisal (b = -.573, SE = .679, p = .40), and lower levels of positive reappraisal were not significantly associated with assault-related shame (b = -.255, SE = .222, p = .253). See Figure 3.

The indirect effect of positive reappraisal as a mediator of assault characteristics and trauma-related shame was not significant, as the CI included 0, (b =.146, SE = .282, 95% CI [-

.287, .858]). The indirect effect of self-blame as a mediator was also not significant, (b = .515, SE = 1.33 95% CI [-2.26, 3.05]), and the direct effect of sexual assault characteristics on trauma-related shame was also not significant, (b = -.762, SE = 1.92, 95% CI [-4.54, 3.02]).

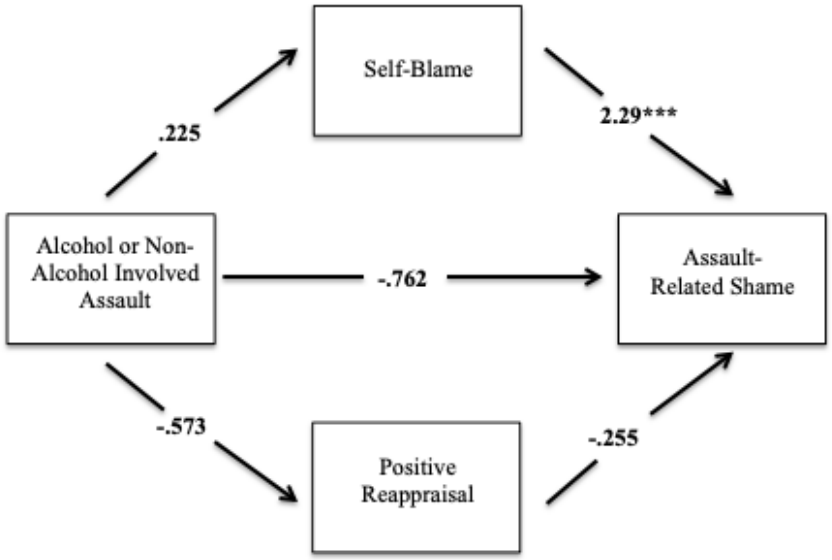

Figure 3

Table 6

Model Summary

R	R^2	F	df1	df2	p
.592	.351	21.27	4	159	.000

Direct and Indirect Effects

	Coefficient	SE	LLCI	ULCI
SES-SFV (Direct)	-.762	1.91	-4.54	3.02
CERQ SB (Indirect)	.146	.282	-.287	.858
CERQ PR (Indirect)	.515	1.33	-2.26	3.05

One-Way MANCOVA Analysis

Hypothesis 2

Because strength of ethnic identity was added as a covariate to the model, a one-way MANCOVA examined differences in levels of self-blame, positive reappraisal, and trauma-related shame between the alcohol and no-alcohol involved assault samples. Assault characteristics were entered as the predictor variable, while self-blame, positive reappraisal, and trauma-related shame were entered as the dependent variables, with strength of ethnic identity included as the covariate. Preliminary analyses revealed that the Box M test was not significant, $F(6, 147588) = 1.01$, $p = .42$, indicating that the covariance matrices among the alcohol and no-alcohol groups were equal across the dependent variables. Levene's Test was also not significant, self-blame: $F(1, 162) = .512$, $p = .475$; positive reappraisal: $F(1, 162) = .688$, $p = .408$; shame: $F(1, 162) = 2.95$, $p = .088$, indicating that the error variance across groups was approximately equivalent.

Within the multivariate tests, strength of ethnic identity trended toward significance, $F(3,159) = 2.37$, Pillai's trace = .033, Wilk's $\lambda = .967$, Hotelling's trace = .034, $p = .147$. There were no significant associations for the alcohol vs. no alcohol assault condition with self-blame, positive reappraisal, or trauma-related shame ($F(3,159) = .321$, Pillai's trace = .006, Wilk's $\lambda = .994$, Hotelling's trace = .006, $p = .810$). Finally, univariate analyses found a significant difference in trauma-related shame based on strength of ethnic identity, $F(1,161) = 5.42$, $p = .021$. No significant differences due to assault characteristics were found for positive reappraisal, $F(1,161) = .710$, $p = .401$, self-blame, $F(1,161) = .156$, $p = .693$, or trauma-related shame $F(1,161) = .002$, $p = .965$.

Discussion

This study examined emotional coping and outcomes following sexual assault among female-identified college students. This population has previously been found to be "at-risk" for various forms of interpersonal violence, and by some estimates, between 10-30% of university women have experienced sexual assault during their educations (Krebs, Lindquist, Berzofsky, Shook-Sa, & Peterson, 2016; Beaver, 2017). In particular, findings from the current sample indicate a high prevalence of sexual assaults that involved alcohol, with nearly 60% of participants indicating at least one instance of alcohol-involved assault. These findings corroborate previous studies regarding the prevalence of alcohol-involved assault (Krebs et al., 2009; Lawyer et al., 2010) Because coping has been found to differ depending on alcohol consumption at the time of the assault (Littleton et al., 2009), this warranted further investigation into specific coping strategies and outcomes following SA with and without alcohol involvement. While neither self-blame nor positive reappraisal mediated the association between sexual assault with and without alcohol and shame, self-blame was associated with increased shame in this sample of sexual assault survivors. Further, the results of the current model suggest a significant degree of the variance in shame scores was accounted for by alcohol involvement and emotion regulation strategies ($R^2 = .351$).

Cognitive Emotion Regulation and Assault Characteristics

The current study examined potential differences in the use of two cognitive emotion regulation strategies following sexual assault: positive reappraisal (adaptive), and self-blame (maladaptive). Social-cognitive theories of anxiety frequently posit that conscious cognitions, if maladaptive, underlie anxiety, avoidance, and other psychological distress (Williams, 2016). This indicates that how we process an event can significantly impact psychological health.

Across the entire sample, participants endorsed relatively low usage of both strategies (Self-Blame M = 10.09, SD = 3.60, Positive Reappraisal M = 12.29, SD 4.27), and one-way MANCOVA analyses did not find any significant differences in the usage of these strategies between the alcohol-involved and non-alcohol involved assault samples.

Self-Blame Among the Current Sample

Littleton et al. (2009) and Donde (2015) previously found that self-blame cognitions post-assault increased as a function of the victim's alcohol consumption at the time of the assault by providing some element of control. It was hypothesized that self-blame would be higher among the alcohol-involved assault group, given societal factors such as victim-blaming and rape myth acceptance (e.g., Romero-Sanchez, Krahe, Moya, & Megias, 2017) and previous research that has indicated that consumption of alcohol by the victim is frequently voluntary (Lawyer et al., 2010). While the current sample indicated some usage of self-blame, levels of this emotion regulation strategy were generally low, regardless of whether alcohol was involved at the time of the event, and this finding may have been impacted by a restriction of range of scores (4-20) in this sample on the CERQ.

Based on the current study's results, it is possible that attributions of blame do not differ across some samples. Within the current sample, levels of self-blame were generally low (M = 10.09, SD = 3.06), and these numbers were comparable to community samples. In Garnefski and Kraaij's (2007) sample from a general population (N = 611), self-blame usage was similar to the current sample (M = 8.22, SD = 2.96). This may warrant future research into resilience factors that may have contributed to the low levels of self-blame found in the current study. Relatedly, although characteristics of the assault (e.g., physical harm, degree of relationship with the perpetrator) have shown a relationship with post-assault attributions (Donde, 2017), it is also

possible that the specific characteristic of alcohol consumption does not matter so much as the *severity* of sexual assault, or the *type* of trauma itself. SA has been linked to frequent endorsements of self-blame, but this response may differ from experiences of other forms of trauma (e.g., physical assault, combat, natural disasters). While all forms of trauma can be distressing, the literature has noted that type of trauma is associated with the extent of negative outcomes (Moore & Farchi, 2011). Sexual assault represents an intimate and often personal crime, and self-blame is linked to a host of psychological distress symptoms and may serve as a barrier to engaging in help-seeking behaviors (e.g., Ullman et al., 2007; Kennedy & Prock, 2016). Future research may examine self-blame among a more distressed sample, assess levels of self-blame in association with the severity of sexual assault, as well as examine broader experiences of trauma compared with SA in order to determine post-traumatic presentations and applicable treatments.

Positive Reappraisal Among the Current Sample

Levels of positive reappraisal usage did not differ between the alcohol and non-alcohol involved assault samples, and appeared to be impacted by the same restriction of variance as the self-blame variable. Given the exploratory nature of the positive reappraisal variable, it is possible that alcohol intoxication during assault is unrelated to the subsequent use of this strategy. Positive reappraisal was not significantly related to alcohol vs. non-alcohol assault, but may be more broadly dependent on trauma type, rather than the use of alcohol or not, and to date no literature has examined this question.

The literature on positive reappraisal is nascent, but work thus far suggests that positive reappraisal may serve as a protective factor against more negative outcomes (Linley & Joseph, 2004). More work is necessary to determine whether the use of positive reappraisal differs

between SA and other forms of traumatic experiences, and to what extent positive reappraisal may truly "protect" against negative psychological and physical outcomes. Cognitive models of therapy have long incorporated techniques such as reframing cognitions, and positive reappraisal has been evaluated as one mechanism of change behind the positive effects of general mindfulness treatments among trauma survivors (Garland, Gaylord, & Frederickson, 2011; Hanley, Garland, & Tedeschi, 2017). For sexual assault victims, positive reappraisal would emphasize exploring and shifting survivors' perspectives on their resiliency after trauma, rather than reinterpretation of the traumatic event(s). However, further research is needed to determine the usage and applicability of these strategies for SA survivors.

Development of Shame

Shame is a notable and frequently negative experience that is common to sexual assault victims (Dyer et al., 2007). Given its preponderance among trauma survivors, the current study aimed to understand whether the development of shame was associated with alcohol consumption prior to SA, as well as explore whether different cognitive strategies might decrease or increase feelings of trauma-related shame. Alcohol-involved assault did not significantly impact the development of shame, and overall this sample endorsed low levels of trauma-related shame (M = 14.08, SD =14.94, Range = 0-56). However, preliminary analyses revealed that strength of ethnic identity was significantly *negatively* associated with trauma-related shame, such that greater sense of ethnic identity was associated with significantly lower levels of shame, and was thereby included as a covariate for subsequent analyses. Thus, one unexpected finding of this study was that strength of ethnic identity may actually serve as a *protective* factor against the development of trauma-related shame for women of color, who endorsed significantly higher strength of ethnic identity than Caucasian women.

Strength of ethnic identity can include exploration of one's identity, resolution of one's identity (e.g., commitment to learning more), and affirmation (e.g., positive feelings associated with being a member of a group) (Umana-Taylor, Yazedijan, & Bamaca-Gomez, 2004). Inasmuch as these factors can be related to social processes (e.g., cultural practices), it follows that the development of shame is at least partially socially facilitated. Under the current definition, the affective experience of shame features self-consciousness, anxiety about negative judgment, and feelings of inferiority, defeat, and/or failure (Gilbert, 2003). These cognitions and behaviors inherently include the key aspect of comparison with others, and that can include members of one's ethnic group. Budden (2009) posited that shame may begin externally through perceived or true critical audiences, and these beliefs are then internalized to reinforce a process of internally driven shame, such as through reflexive self-criticism. Researchers have related this process to the concept of stigma, whereby disgrace may be associated with a particular quality, circumstance, or person (Ahrens et al., 2010).

The literature, in part, suggests that those who experience perceived or actual social stigmatization (e.g., related to sexual behaviors/occurrences) emotionally respond by developing a sense of shame about their bodies, characters, or general selves (Schmader & Lickel, 2006). Additionally, feelings of shame appear to be more intense if the stigmatization comes from one's *own* ethnic in-group (2006), and certain ethnic groups appear to be more at risk for shame-based experiences (e.g., Udwin & Palmer, 2018; Schaefer et al., 2017). Stigma experienced may relate to one's cultural group, and those who experience stigma have shown decreased distress tolerance and reduced recovery (Wood & Irons, 2017). Specifically for sexual assault survivors, cultural stereotypes may include explicit or implicit messages about SA, including victim-blaming, or the assumption that victims bring the assault upon themselves (Corrigan, Watson, &

Barr, 2006; Ullman, Filipas, et al., 2007). Deitz et al. (2015) posited that these public messages create the possibility for devaluation and degradation within one's group, and found that reported internalized (self) stigma led to significantly higher trauma symptoms and qualitative reports of shame, indicating a possible mechanism between SA and distress. However, it should be noted that the Multigroup Ethnic Identity Measure used in the current study focuses on positive aspects of ethnic identity, such as affirmation and commitment to one's identity, which may explain the current findings that ethnic identity may serve in a protective capacity. Within the current sample, it is also possible that women of color experienced lower levels of stigmatization compared with Caucasian women, and thus experienced lower levels of shame.

Previous researchers have also posited that experiences of shame may be impacted by one's perception of justice and/or fairness. Brockner (2002) argued that, in the face of unfavorable outcomes or negative experiences, individuals process the event based on previous experiences. When perceptions of a just and fair world are low, individuals are less likely to internalize degradation for their actions or character, and it becomes easier to externalize the blame for negative experiences. When individuals hold others, or a larger sociocultural context, responsible, the outcome of experiencing an event like SA has lower impact on self-evaluations (Weiner, 1985; Hegtvedt, Clay-Warner, & Johnson, 2003). It is well-documented that, within the United States, individuals of color experience higher levels of perceived or real marginalization and injustice when compared with Caucasians (Young, 2002; Downey & Hawkins, 2008; Woolard, Harvell, & Graham, 2008), and may thus be more likely to externalize their attributions and negative emotions around SA to a broader climate of unfairness and inequality.

Additionally, while ethnic and cultural groups can influence negative outcomes for the individual, they can also be positive forces of coping. As a whole, the current sample reported

low levels of distress with regards to trauma-related shame. However, the finding that strength of ethnic identity was negatively correlated with shame replicates previous findings that strong identification with one's ethnic or cultural group is linked to greater well being and lower psychological distress (Dong, Li, Lin, Dou, & Zhou, 2015; Liebkind, 2006). Several explanations for this relationship exist in the literature. Phinney and colleagues (1992) argued that strong identification with one's ethnic group provides a needed basis for emotional stability, personal security, and positive self-concept. Studies have also found that cultural identity generally maintains a positive relationship with higher levels of self-esteem and greater quality of life (Chae & Foley, 2010; Utsey, Chae, Brown, & Kelly, 2002; Juang, Nguyen, & Lin, 2006). Ethnic and cultural affiliation can also provide affiliations such as religion, spirituality, practical living skills, support of immediate and extended family, and traditions that can be foundational in adaptive living (Hays, 2009).

Thus, it is also possible that strength of ethnic identity, by potentially providing a strong sense of meaning and connection with a group, leads to a stronger sense of self that is more impervious to threats, such as shame. This has been indicated among college students, where stronger ethnic identity, particularly identity affirmation (e.g., positive feelings about one's ethnic identity), is associated with fewer depressive and anxiety symptoms (Brittian et al., 2013). Importantly, in line with the current study, Brittain et al.'s results were stronger for members of ethnic minority groups (Latino/a, Asian-American, and African-American), highlighting the potentially powerful protective factors of ethnicity and culture. Few studies to date have examined the role of ethnic identity specifically with regards to traumatic events like sexual assault, and future research may continue to explore the relationship between the nature of ethnic

identity as it relates to shame and other forms of psychological distress, and would likely benefit from using a more diverse sample.

Mediation Analysis

Trauma-related shame has been found to differ depending on assault characteristics, such as age at the time of the trauma, and tactics used during assault (Laaksonen, 2016). Alcohol involvement at the time of the assault did not appear to be related to trauma-related shame in this sample of women in college. Previous data indicate that subjective factors (general appraisal, self-blame) contribute twice as much to the magnitude of psychological distress associated with interpersonal violence as do objective factors (Weaver & Clum, 1995; Brillon et al., 1999). Below I discuss findings regarding associations between self-blame and shame and positive reappraisal and shame in the absence of significant mediation analyses.

Self-Blame

No significant mediation was found using self-blame as a mediator between alcohol/no alcohol involved assault and shame. However, while not dependent on whether SA was alcohol-involved, self-blame was significantly related to trauma-related shame within the current sample, such that greater levels of self-blame led to greater experiences of trauma-related shame (e.g., the b_1) path. This is unsurprising, given that self-blame and shame are frequently observed together. Sheikh and McNamara (2014) argued that the ongoing use of self-blame escalates into degradation of the self, resulting in the more chronic experience of shame. Self-blame is not only evident among SA victims, but literature suggests that SA survivors may utilize self-blame to a greater degree due to individual factors (e.g., voluntary interactions with the perpetrator) and societal factors (e.g., victim-blaming culture) (Bohner et al., 2005). Internalized victim blaming attitudes could lead to self-blame cognitions, such as regret over the decision to attend the social

function, converse with the perpetrator, consume alcohol/drugs, etc. As previously mentioned, such cognitions can initially serve as distress relief, by providing the victim with a sense of control over the trauma. However, this can also create a sense of being vulnerable and increased sensitivity to threats to the self (e.g., Gilbert & Miles, 2000). Shame, as an affective experience that results from perceived threats to the self, may be one consequence of this emotion regulation strategy.

Research into shame, and particularly trauma-related shame, is still relatively new. Because of the negative sequelae of psychological distress that is associated with shame, it is important to understand the events and cognitions that can precede its development. Based on the current study, one such mechanism may be self-blame. Indeed, shame and self-blame are considered separate but related constructs, particularly for individuals who have experienced trauma (Deblinger & Runyon, 2005). These findings might have important implications for treatment, given that shame is intricately tied with distress such as depression, anxiety, and PTSD. In particular, it is argued that self-blame and shame, as injuries to the "self," must be addressed among sexual assault victims (Moor, 2007). As such, two main components of treatment have been recommended to alleviate or remove the self-attributions and degradation that follow SA: therapeutic empathy and cognitive reprocessing (2007).

Therapeutic empathy is thought to be one way to address the self-devaluation by providing a therapeutic relationship that conveys understanding, attunement, and validation of survivors' experiences (Paivio & Laurent, 2001, as cited in Moor, 2007). This may build the foundation for survivors to question those self-blaming thoughts, validate that these experiences are common, and help victims with the distress of trauma treatment (e.g., exposure to the traumatic memories). Providing an empathic relationship is included across many, if not most,

treatment modalities (Wampold, 2015), but clinicians may focus on emphasizing this factor with SA survivors.

In addition, cognitive reprocessing is considered to be a core component in addressing the cognitive distortions about the self and one's place in the world, making this treatment process adept at addressing self-blame and shame-related cognitions. Clinicians may provide corrective information when needed that can bring about meaningful cognitive shifts using techniques such as reframing, reality testing, and information provision (Moor, 2007). In Moor's view, cognitive reprocessing becomes relevant after empathy has been established, when the "main objective becomes restructuring of the unfounded views of the self as culpable and [therefore] shameful" (p. 28). It should be noted that self-blame has shown resistance to treatment, in that if victims relieve themselves of all blame for the incident, they perceive a lower ability to prevent an assault in the future (Koss & Harvey, 1991). Clinicians are thus encouraged to continue cognitive reprocessing in an empathic way and to emphasize the victim's strengths and abilities to recognize danger in the future. Although it is expected that shame-based cognitions reduce following the targeting of self-blame, specific strategies may continue to target shame in treatment, such as engaging in reality testing (e.g., "Did you do anything bad? Did you hurt anyone? Then why should you [feel] ashamed?) (Moor, 2007, p. 30). Many treatments incorporate these cognitive coping skills to help cope with, or dispute, self-blame attributions and shameful degradations, such as cognitive-processing therapy (e.g., Resick & Schnicke, 1992), acceptance and commitment therapy (e.g., Orsillo & Batten, 2005), and cognitive-behavioral therapy (e.g., Foa, 1997).

Positive Reappraisal

Recognizing that positive outcomes may follow SA, it was hypothesized that greater use of positive reappraisal would result in lower levels of trauma-related shame among sexual assault survivors, given previous literature that suggested positive reappraisal to be a strong adaptive mechanism against psychological distress, particularly following trauma (Cann et al., 2010; Aldao & Nolen-Hoeksema, 2010; Garnefski et al., 2001). Whereas self-blame may be conceptualized as a form of "past" control, positive reappraisal may be used as a form of "current control" (Frazier et al., 2005). Positive reappraisal has been linked to reduced shameness among childhood trauma survivors (Szentágotai-Tătar & Miu, 2017), and at least one study to date found that positive reappraisal, as a form of cognitive restructuring, mediates the relationship between perceived control after sexual assault and subsequent psychological distress (2005). However, like self-blame, no significant mediation was found using positive reappraisal as a mediator between SA and shame in the current model.

One explanation for this is that, as a whole, the sample endorsed generally low usage of positive reappraisal (M = 12.29, SD = 4.27). In addition, all participants of the current study were female-identified college students enrolled in lower-division psychology courses. Though longitudinal data suggest that psychological distress and psychopathology among university students has been increasing in recent decades, students are typically better adjusted than clinical and non-clinical samples (Erdur-Baker, Aberson, Barrow, & Draper, 2006). Importantly, these students willingly (albeit anonymously) discussed their traumatic experiences, which could suggest a degree of security with talking about the assault(s). Although not measured in the current study, many university students are also more willing to seek out psychological services, compared to community samples (2006). For some women in this sample, several years had

passed since the SA occurrence. Thus, the passage of time and/or utilization of resources may have rendered the need for strategies like positive reappraisal unnecessary.

Implications and Limitations

Although sexual assault can be life altering, it's important to note that not all victims will go on to develop psychological problems. The current study suggests that one type of post-traumatic appraisal, self-blame, may be linked to greater distress in the form of traumatic shame and may represent a prominent target for treatment. However, given that several post-traumatic cognitions (e.g., Beck et al., 2015) have been implicated in the presence or absence of recovery, more work needs to be done to determine the specific correlates of negative and positive cognitions. Future research may broadly examine the type and severity of different traumas in relation to the use of cognitive emotion regulation strategies and shame, with specific focus on the impact of strength of ethnic identity. Understanding the specific cognitions that precede shame and potentially psychopathology could have an important impact on understanding responses after trauma, as well identify effective treatments.

This study offered some preliminary findings in a growing area of literature, but it should also be noted that several limitations exist. Due to the cross-sectional nature of the data, cause and effect relationships cannot be determined. Temporal order of the examined variables could be established by utilizing a longitudinal design that follows trauma survivors over time. This study utilized a convenience sample of college-level women who are functioning well enough to attend university and may not be generalizable to individuals what have not had the opportunity to pursue higher education. Additionally, the current sample was roughly representative of the regional population, and was primarily Caucasian and rural. The results may not generalize to

more diverse groups. Future research would benefit from an expanded study population in order to better understand specific components of emotional functioning and coping following trauma.

This preliminary data offered important information about at least one target for treatment: self-blame. Many empirically supported approaches include a component of emotion regulation, but often focus more heavily on techniques such as exposure, rather than specific emotion regulation strategies (National Center for PTSD, 2016). Moor (2007) provided treatment recommendations that focus specifically on targeting the self-degrading and shameful experiences common among sexual assault and interpersonal violence survivors. These include a strong emphasis on empathy with the survivor, as well as cognitive restructuring to specifically target self-blaming and shameful cognitions. In light of the current findings, these approaches may show promise in the treatment of two salient experiences for survivors.

Importantly, results of this study also suggest that strength of ethnic identity may play a role in posttraumatic adjustment. The sense of acceptance, identification, and meaning that can be provided by membership within an ethnic or cultural circle may hold important implications for treatment. Ethnic minorities are frequently underrepresented in current treatment samples (Alvidrez, Azocar, & Miranda, 1996; as cited in Horrell, 2008). Nonetheless, the American Psychological Association continues to push for evidence-based, multicultural, and culturally competent psychological treatments (APA, 2017). Future research should aim toward a greater understanding of the mechanisms that underlie the relationship between SA (and trauma exposure broadly) and positive and negative mental health outcomes across all populations and explore the potential protective factor stronger ethnic identity may offer. This may not only serve to alleviate symptoms, but also encourage post-traumatic growth for trauma survivors.

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APPENDICES

APPENDIX 1A

DEMOGRAPHICS QUESTIONNAIRE

The biographical information on this page is will be used to generate descriptive information about those who participate in this study without providing details about any one individual.

1. Age: ____

2. Highest level of Education Completed:

___ some college
___ 2 year college degree
___ 4 year college degree
___ some graduate school
___ completed a graduate program
___ technical degree

3. Current Class Standing:

___ freshman
___ sophomore
___ junior
___ senior

4. Estimated GPA: ___

5. Income in the past year (in thousands): _____

6. Number of family members living in your home: _____

7. Sexual Orientation

___ heterosexual
___ homosexual
___ bisexual
___ transgendered
___ transsexual
___ undecided

8. Current marital/relationship status:

___ single
___ in relationship, not living with partner
___ living with partner, unmarried
___ married
___ divorced
___ widowed

APPENDIX 1B

Multi-Group Ethnic Identity Measure – Revised

In this country, people come from many different countries and cultures, and there are many different words to describe the different backgrounds or ethnic groups that people come from. Some examples of the names of ethnic groups are Hispanic or Latino, Black or African American, Asian American, Chinese, Filipino, American Indian, Mexican American, Caucasian or White, Italian American, and many others. These questions are about your ethnicity or your ethnic group and how you feel about it or react to it.

Please fill in: In terms of ethnic group, I consider myself to be _____

Use the numbers below to indicate how much you agree or disagree with each statement.

(4) Strongly agree (3) Agree (2) Disagree (1) Strongly disagree

1. I have spent time trying to find out more about my ethnic group, such as its history, traditions, and customs. _____

2. I have a strong sense of belonging to my own ethnic group. _____

3. I understand pretty well what my ethnic group membership means to me. _____

4. I have often done things that will help me understand my ethnic background better. _____

5. I have often talked to other people in order to learn more about my ethnic group. _____

6. I feel a strong attachment toward my own ethnic group. _____

APPENDIX 1C

Sexual Experiences Survey – Short Form Version

The following questions concern sexual experiences that you may have had that were unwanted. We know that these are personal questions, so we do not ask your name or other identifying information. Your information is completely confidential. We hope that this helps you to feel comfortable answering each question honestly. Place a check mark in the box showing the number of times each experience has happened to you. If several experiences occurred on the same occasion--for example, if one night someone told you some lies and had sex with you when you were drunk, you would check both boxes a and c. The past 12 months refers to the past year going back from today. Since age 14 refers to your life starting on your 14th birthday and stopping one year ago from today.

1. Someone fondled, kissed, or rubbed up against the private areas of my body (lips, breast/chest, crotch or butt) or removed some of my clothes without my consent *(but did not attempt sexual penetration)* by:

	How many times in the past 12 months? 0, 1, 2, 3+	How many times since age 14? 0, 1, 2, 3+
a. Telling lies, threatening to end the relationship, threatening to spread rumors about me, making promises I knew were untrue, or continually verbally pressuring me after I said I didn't want to.		
b. Showing displeasure, criticizing my sexuality or attractiveness, getting angry but not using physical force, after I said I didn't want to.		
c. Taking advantage of me when I was too drunk or out of it to stop what was happening.		
d. Threatening to physically harm me or someone close to me.		
e. Using force, for example holding me down with their body weight, pinning my arms, or having a weapon.		

2. Someone had oral sex with me or made me have oral sex with them without my consent by:

a. Telling lies, threatening to end the relationship, threatening to spread rumors about me, making promises I knew were untrue, or continually verbally pressuring me after I said I didn't want to.		
b. Showing displeasure, criticizing my sexuality or attractiveness, getting angry but not using physical force, after I said I didn't want to.		
c. Taking advantage of me when I was too drunk or out of it to stop what was happening.		
d. Threatening to physically harm me or someone close to me.		
e. Using force, for example holding me down with their body weight, pinning my arms, or having a weapon.		

3. If you are a male, check box and skip to item 4
A man put his penis into my vagina, or someone inserted fingers or objects without my consent by:

	How many times in the past 12 months? 0, 1, 2, 3+	How many times since age 14? 0, 1, 2, 3+
a. Telling lies, threatening to end the relationship, threatening to spread rumors about me, making promises I knew were untrue, or continually verbally pressuring me after I said I didn't want to.		
b. Showing displeasure, criticizing my sexuality or attractiveness, getting angry but not using physical force, after I said I didn't want to.		
c. Taking advantage of me when I was too drunk or out of it to stop what was happening.		
d. Threatening to physically harm me or someone close to me.		
e. Using force, for example holding me down with their body weight, pinning my arms, or having a weapon.		

4. A man put his penis into my butt, or someone inserted fingers or objects without my consent by:

a. Telling lies, threatening to end the relationship, threatening to spread rumors about me, making promises I knew were untrue, or continually verbally pressuring me after I said I didn't want to.		
b. Showing displeasure, criticizing my sexuality or attractiveness, getting angry but not using physical force, after I said I didn't want to.		
c. Taking advantage of me when I was too drunk or out of it to stop what was happening.		
d. Threatening to physically harm me or someone close to me.		
e. Using force, for example holding me down with their body weight, pinning my arms, or having a weapon.		

5. Even though it didn't happen, someone TRIED to have oral sex with me, or make me have oral sex with them without my consent by:

a. Telling lies, threatening to end the relationship, threatening to spread rumors about me, making promises I knew were untrue, or continually verbally pressuring me after I said I didn't want to.		
b. Showing displeasure, criticizing my sexuality or attractiveness, getting angry but not using physical force, after I said I didn't want to.		
c. Taking advantage of me when I was too drunk or out of it to stop what was happening.		
d. Threatening to physically harm me or someone close to me.		
e. Using force, for example holding me down with their body weight, pinning my arms, or having a weapon.		

6. If you are male, check this box and skip to item 7.
Even though it didn't happen, a man TRIED to put his penis into my vagina, or someone tried to stick in fingers or objects without my consent by:

	How many times in the past 12 months? 0, 1, 2, 3+	How many times since age 14? 0, 1, 2, 3+
a. Telling lies, threatening to end the relationship, threatening to spread rumors about me, making promises I knew were untrue, or continually verbally pressuring me after I said I didn't want to.		
b. Showing displeasure, criticizing my sexuality or attractiveness, getting angry but not using physical force, after I said I didn't want to.		
c. Taking advantage of me when I was too drunk or out of it to stop what was happening.		
d. Threatening to physically harm me or someone close to me.		
e. Using force, for example holding me down with their body weight, pinning my arms, or having a weapon.		

7. Even though it didn't happen, a man TRIED to put his penis into my butt, or someone tried to stick in objects or fingers without my consent by:

a. Telling lies, threatening to end the relationship, threatening to spread rumors about me, making promises I knew were untrue, or continually verbally pressuring me after I said I didn't want to.	
b. Showing displeasure, criticizing my sexuality or attractiveness, getting angry but not using physical force, after I said I didn't want to.	
c. Taking advantage of me when I was too drunk or out of it to stop what was happening.	
d. Threatening to physically harm me or someone close to me.	
e. Using force, for example holding me down with their body weight, pinning my arms, or having a weapon.	

8. I am: Female Male My age is _____ years and _____months.

9. Did any of the experiences described in this survey happen to you 1 or more times?
Yes No

What was the sex of the person or persons who did them to you?
Female only
Male only
Both females and males
I reported no experiences

10. Have you ever been raped? Yes No

APPENDIX 1D

Cognitive Emotion Regulation Questionnaire

How do you cope with events?

Everyone gets confronted with negative or unpleasant events now and then and everyone responds to them in his or her own way. By the following questions you are asked to indicate what you generally think, when you experience negative or unpleasant events.

1	2	3	4	5
(almost) never	**sometimes**	**regularly**	**often**	**(almost) always**

1. 1 feel that I am the one to blame for it	1	2	3	4	5
2. I think that I have to accept that this has happened	1	2	3	4	5
3. I often think about how I feel about what I have experienced	1	2	3	4	5
4. I think of nicer things than what I have experienced	1	2	3	4	5
5. I think of what I can do best	1	2	3	4	5
6. I think I can learn something from the situation	1	2	3	4	5
7. I think that it all could have been much worse	1	2	3	4	5
8. I often think that what I have experienced is much worse than what others have experienced	1	2	3	4	5
9. I feel that others are to blame for it	1	2	3	4	5
10. I feel that I am the one who is responsible for what has happened	1	2	3	4	5
11. I think that I have to accept the situation	1	2	3	4	5
12. I am preoccupied with what I think and feel about what I have experienced	1	2	3	4	5
13. I think of pleasant things that have nothing to do with it	1	2	3	4	5
14. I think about how I can best cope with the situation	1	2	3	4	5
15. I think that I can become a stronger person as a result of what has happened	1	2	3	4	5

16. I think that other people go through much worse experiences	1	2	3	4	5
17. I keep thinking about how terrible it is what I have experienced	1	2	3	4	5
18. I feel that others are responsible for what has happened	1	2	3	4	5
19. I think about the mistakes I have made in this matter	1	2	3	4	5
20. I think that I cannot change anything about it	1	2	3	4	5
21. I want to understand why I feel the way I do about what I have experienced	1	2	3	4	5
22. I think of something nice instead of what has happened	1	2	3	4	5
23. I think about how to change the situation	1	2	3	4	5
24. I think that the situation also has its positive sides	1	2	3	4	5
25. I think that it hasn’t been too bad compared to other things	1	2	3	4	5
26. I often think that what I have experienced is the worst that can happen to a person	1	2	3	4	5
27. I think about the mistakes others have made in this matter	1	2	3	4	5
28. I think that basically the cause must lie within myself	1	2	3	4	5
29. I think that I must learn to live with it	1	2	3	4	5
30. I dwell upon the feelings the situation has evoked in me	1	2	3	4	5
31. I think about pleasant experiences	1	2	3	4	5
32. I think about a plan of what I can do best	1	2	3	4	5
33. I look for the positive sides to the matter	1	2	3	4	5
34. I tell myself that there are worse things in life	1	2	3	4	5
35. I continually think how horrible the situation has been	1	2	3	4	5
36. I feel that basically the cause lies with others	1	2	3	4	5

APPENDIX 1E

Trauma-Related Shame Inventory

Individuals who experience traumas often have many different types of reactions. Below are a number of statements that describe thoughts and feelings that people sometimes have about themselves. Please read each statement carefully, and decide how much it applies to you check the option that best describes how much the statement is true for you over the past week

	Not True of Me	Somewhat True of Me	Mostly True of Me	Completely True of Me
As a result of my traumatic experience, I have lost respect for myself				
Because of what happened to me, others find me less desirable				
I am ashamed of myself because of what happened to me				
As a result of my traumatic experience, others have seen parts of me that they want nothing to do with				
As a result of my traumatic experience, I cannot accept myself				
If others knew what happened to me, they would view me as inferior				
If others knew what happened to me, they would be disgusted with me				
I am ashamed of the way I behaved during my traumatic experience				
I am so ashamed of what happened to me that I sometimes want to escape from myself				
As a result of my traumatic experience, I find myself less desirable				
I am ashamed of the way I felt during my traumatic experience.				
If others knew what had happened to me, they would look down on me				
As a result of my traumatic experience, there are parts of me that I want to get rid of				
If others knew what happened to me, they would not like me				

Because of my traumatic experience, I feel inferior to others				
If others knew what happened to me, they would be ashamed of me				
If others knew what happened to me, they would find me unacceptable				
As a result of my traumatic experience, a part of me has been exposed that others find shameful				
If others knew how I behaved during my traumatic experience, they would be ashamed of me				
My traumatic experience has revealed a part of me that I am ashamed of				
As a result of my traumatic experience, I don't like myself				
If others knew how I felt during my traumatic experience, they would be ashamed of me				
Because of what happened to me, I am disgusted with myself				
I am so ashamed of what happened to me that I sometimes want to become invisible to others				