



Longitudinal Effects of Sexual Assault Victims' Drinking and Self-Blame on Posttraumatic Stress Disorder

Liana C. Peter-Hagene and Sarah E. Ullman

Department of Criminology, Law & Justice, University of Illinois at Chicago

Abstract

Alcohol plays a major role in sexual assaults, but few studies have examined its impact on recovery outcomes, particularly in longitudinal studies. In a longitudinal study of 1,013 adult sexual-assault survivors, we investigated the effects of victim drinking on PTSD, as well as the mediating role of characterological and behavioral self-blame attributions. In line with some prior research, victims who were drinking before their assault experienced less PTSD, but more self-blame, than those who were not. Characterological, but not behavioral self-blame was related to increased PTSD symptoms. Thus, although drinking was overall related to less PTSD, it was also associated with increased PTSD via self-blame attributions, highlighting the danger of blaming victims of alcohol-related rapes for their assaults. Implications for future research and clinical work with survivors of alcohol-related sexual assaults are drawn.

Keywords

sexual assault; drinking; PTSD; self-blame; longitudinal

Many sexual assault survivors experience posttraumatic stress disorder (PTSD) symptoms long after the assault (Resnick, Kilpatrick, Dansky, Saunders, & Best, 1993). There seems to be a robust relationship between some assault characteristics (i.e., physical violence) and PTSD symptoms (Brown, Testa, & Messman-Moore, 2009; Koss, Figueredo, & Prince, 2002; Zinzow et al., 2010), yet the relationship between other characteristics (i.e., victims' drinking at the time of the assault) and PTSD is less straightforward. On the one hand, alcohol-related assaults often involve less physical violence (Brown Testa, & Messman-Moore, 2009; Zinzow et al., 2010; Peter-Hagene & Ullman, 2015), and thus could be related to less PTSD. On the other hand, alcohol-related assaults result in more negative social reactions, self-blame, and maladaptive coping, and these psycho-social mediators can contribute to increased PTSD (Peter-Hagene & Ullman, 2015). Examining only the direct relationship between victim drinking and PTSD might therefore not capture the mechanisms through which societal beliefs about alcohol-related assaults contribute to higher PTSD levels.

Society tends to blame sexual-assault victims when they engage in risky behaviors such as drinking (e.g., Schuller & Wall, 1998), and internalizing the blame can have detrimental effects on recovery. For example, women who were drinking (versus not) before the assault tend to blame themselves more (Brown et al., 2009; Donde, 2015; Macy, Nurius, & Norris, 2007; Nurius et al., 2004), perhaps because they believe being intoxicated facilitated the assault (Macy et al., 2007). In turn, victims who blame themselves have a difficult time recovering from the assault and may face increased risk of revictimization (Breitenbecher, 2006; Frazier, 2003; Koss et al., 2002; Miller, Markman, & Handley, 2007). Some research supports the possibility that, although alcohol-related assaults are less violent, they might contribute to PTSD via self-blame attributions. In a cross-sectional study, Littleton, Grills-Taquechel, & Axsom (2009) examined data from 340 college sexual assault victims who drank prior to assault and found that those who were impaired or incapacitated reported feeling more stigma and self-blame than those who were not. A cross-sectional community study also showed that victims who were drinking prior to the assault reported greater self-blame for the assault than nondrinking victims (Ullman & Najdowski, 2010). In turn, self-blame is related to more psychological distress and risk of revictimization (Breitenbecher, 2006; Miller, Markman, & Handley, 2007), and certain types of self-blame attributions mediated the effect of negative social reactions on problem drinking (Sigurvinsdottir & Ullman, 2015).

Further, it is important to distinguish between two types of self-blame attributions: behavioral and characterological (Janoff-Bulman, 1979). Behavioral self-blame attributions are situational, specific beliefs about one's actions before/during the assault. For example, women might blame themselves for drinking the day the assault happened, or trusting the person who assaulted them, specifically. These attributions are less detrimental to recovery because they may give victims a sense of control over their actions – for example, victims might think that, by avoiding specific behaviors (e.g., drinking), they can avoid future victimization.

Characterological self-blame attributions are dispositional beliefs about one's own character, and they can be extremely detrimental to recovery because they reflect beliefs that certain aspects of women's own personality would always predispose them to victimization. They also reflect beliefs that the assault was a result of who the victim was as a person, or that the assault was deserved. For example, women might blame themselves for drinking too much, or being too trusting toward men, in general. In addition, characterological attributions signal a lack of control over one's life, beliefs that one cannot change, and fundamental flaws in one's character (e.g., Breitenbecher, 2006; Koss, Figueredo, & Prince, 2002). Whether women make behavioral or characterological attributions after they suffer an assault is perhaps determined in part by their individual attribution style, the social reactions they receive upon disclosure, or pervasive messages in the larger culture. Whatever their source, these attributions have important consequences for recovery.

Although both behavioral and characterological self-blame have been associated with poorer adjustment, most researchers agree that characterological self-blame attributions have stronger negative effects (Breitenbecher, 2006; Frazier, 2003; Koss et al., 2002; Littleton & Breitkopf, 2006; Sigurvinsdottir & Ullman, 2015). Thus, not all types of self-blame

attributions can be expected to affect PTSD symptomatology in the same way. These past studies, however, have not examined the nature of the assault to determine whether pre-assault drinking influenced self-blame and PTSD recovery. For example, if victims believe the assault was in part due to their drinking on that particular day, they might reason that, if they do not repeat the behavior (i.e., drinking), they would be safe in the future. In contrast, characterological self-blame in response to drinking at the time of the assault is likely to be extremely detrimental to recovery. If victims believe the assault was in part due to their characterological propensity for drinking, they might believe that they deserved to be victimized, and that their character would always expose them to potential danger. It is not surprising that these types of attributions are associated with lower sense of control, lower self-esteem, and contribute to distress and increased PTSD symptomatology (Ullman, Filipas, Townsend, & Starzynski, 2007; Peter-Hagene & Ullman, 2015).

We hypothesized that victims who were drinking (versus not) before their assault would endorse higher levels of behavioral self-blame and characterological self-blame, because society in general blames victims for non-normative behaviors that facilitate sexual victimization (e.g., Ullman, 2000). In turn, however, we expected that characterological self-blame (but not necessarily behavioral self-blame) would relate to increased PTSD and thus would mediate the effect of alcohol consumption on PTSD. We expected behavioral self-blame to contribute to PTSD to a lesser extent over time, because behavioral self-blame has not been associated with the same pernicious effects as characterological self-blame on victims' feelings of safety and ability to move past the assault.

Method

Sample

Women sexual assault survivors from a metropolitan area volunteered to participate in our study in response to ads and fliers in local newspapers, Craigslist, email listservs, and community agencies. Interested women called the research office and were screened for eligibility with the following criteria: a) unwanted sexual experience at age 14 or older, b) 18 or older at the time of study, and c) previously told someone about unwanted sexual experience. This prior disclosure criteria was used because the larger study was focused on social reactions to victims and recovery. Eligible participants were sent survey, informed consent sheet, community resources information, and a stamped return envelope for the completed survey. Participants were paid \$25 for completing each survey. The university Institutional Review Board approved the study. Women ($N = 1,013$) completed 3 mail surveys (each 1 year apart; response rates: W1: 85%, W2: 76%, W3: 56%) about their most serious sexual assault after age 14 (age 18 to 71, $M=37.89$, $SD=12.72$; 47% African-American, 35% White, 2% Asian, 10% other, 6% multiracial; 14% Hispanic).

Measures

Sexual victimization—Sexual victimization in both childhood (prior to age 14) and adulthood (at age 14 or older) was assessed using the revised Sexual Experiences Survey, SES-R; (Testa, VanZile-Tamsen, Livingston, & Koss, 2004) assessing various forms of sexual assault including: unwanted sexual contact, verbally coerced intercourse, attempted

rape, and rape resulting from force or incapacitation (e.g., from alcohol or drugs). The revised 11-item SES measure had good reliability ($\alpha = .73$); similar reliability was found in our sample ($\alpha = .78$). At Wave 1, most women experienced completed rape (80%), followed by attempted rape (7%), sexual coercion (8%) and unwanted contact or some other unwanted experience (5%). Most victims were young at the time of the assault, $M = 21.49$, $SD = 8.15$, and 64% of them had a history of child sexual abuse (CSA), assessed with the Sexual Experiences Survey-Revised for experiences prior to age 14.

Pre-assault drinking—Women indicated whether they had been drinking at the time of the assault (31% yes, 69% no). We also assessed incapacitation: Out of the women who had been drinking, 41% were not incapacitated, 3% had difficulty speaking, 7% difficulty moving limbs, 13% difficulty walking, 11% were asleep, and 25% were unconscious.

Posttraumatic stress symptoms—PTSD symptoms were assessed with the Posttraumatic Stress Diagnostic Scale (PDS; Foa, 1995), a standardized 17-item instrument based on DSM-IV criteria. Women rated how often they experienced each symptom in the past 12 months, in relation to their most serious sexual assault. The 17 items were summed to assess the extent of symptomatology (0, *Not at all*, to 3, *Almost always*, $M_{\text{Time1}} = 20.33$, $SD_{\text{Time1}} = 12.72$; $M_{\text{Time2}} = 16.02$, $SD_{\text{Time2}} = 11.88$; $M_{\text{Time3}} = 15.76$, $SD_{\text{Time3}} = 12.39$; $\alpha = .93$). In this sample, 63% of women met criteria for PTSD at Wave 1, 40% at Wave 2, and 28% at Wave 3.

Self-blame attributions—Two 5-item subscales of the Rape Attribution Questionnaire (Frazier, 2003) assessed *behavioral* (e.g., “I should have resisted more”) and *characterological* (e.g., “I am a careless person”) self-blame (1, *strongly disagree*, to 5, *strongly agree*). Both scales were reliable: behavioral self-blame, $M_{\text{Time1}} = 3.37$, $SD_{\text{Time1}} = 1.12$; $M_{\text{Time2}} = 2.93$, $SD_{\text{Time2}} = 1.18$; $M_{\text{Time3}} = 2.81$, $SD_{\text{Time3}} = 1.22$; $\alpha = .83$; characterological self-blame, $M_{\text{Time1}} = 2.56$, $SD_{\text{Time1}} = 0.96$; $M_{\text{Time2}} = 2.33$, $SD_{\text{Time2}} = 0.96$; $M_{\text{Time3}} = 2.25$, $SD_{\text{Time3}} = 0.99$; $\alpha = .76$.

Results

In all analyses, we controlled for age, race, education, time since the assault, and victims’ perceptions that their lives were in danger when the assault happened. We used hierarchical linear models to predict changes in PTSD, behavioral self-blame, and characterological self-blame with Time as a Level 1 predictor (centered at Time 1) and victim drinking as a Level 2 predictor (dummy-coded, 1=yes), $Y_{ij} = \gamma_{00} + \gamma_{01}(\text{Alcohol}) + \gamma_{10}(\text{Time}) + \gamma_{11}(\text{Alcohol} * \text{Time}) + u_{0j} + u_{1j}(\text{Time}) + e_{ij}$. We found that PTSD ($B = -2.85$, $b = -.18$, $SE = .22$, $p < .001$) declined over time, indicating overall recovery from the assault. Victims who were drinking at the time of the assault had fewer and less intense PTSD symptoms ($B = -1.51$, $b = -.06$, $SE = .67$, $p = .04$), which is not surprising given that alcohol-related assaults are usually less violent and that physical violence is such a strong predictor of PTSD. The interaction between drinking and time was not significant ($B = -.05$, $SE = .03$, $p = .17$), indicating that the difference between victims who were drinking (versus not) at the time of the assault did not diminish over time.

Behavioral Self-Blame ($B = -.29$, $b = -.20$, $SE = .02$, $p < .001$) and Characterological Self-Blame ($B = -.16$, $b = -.13$, $SE = .01$, $p < .001$) also decreased over time. Women who had been drinking at the time of the assault reported more behavioral self-blame ($B = .42$, $b = .17$, $SE = .05$, $p < .001$) and characterological self-blame ($B = .11$, $b = .05$, $SE = .05$, $p = .003$), as we expected. Although the effect of drinking on characterological self-blame was less strong than its effect on behavioral self-blame, it was more consistent over time. Specifically, the Time \times Drinking interaction was significant and negative for behavioral self-blame ($B = -.09$, $SE = .05$, $p = .04$), which indicates that the effect of drinking on behavioral self-blame diminished over time. The interaction was not significant for characterological self-blame ($B = -.05$, $SE = .03$, $p = .17$), indicating that the small effect of drinking was maintained over time. This provides some initial evidence that characterological self-blame attributions in response to drinking might in fact be more lasting than behavioral attributions.

Although the total effect of drinking on PTSD was negative, we hypothesized a mediating path via self-blame with a positive indirect effect. To test this hypothesis we fixed all self-blame scores at Time 1 values, thus testing the effect of initial self-blame on later PTSD to allow for causal inferences (i.e., ensuring that the self-blame scores preceded PTSD scores). We found that more characterological self-blame ($B = 4.90$, $b = .38$, $SE = .33$, $p < .001$) but not behavioral self-blame ($B = -.22$, $b = .02$, $SE = .28$, $p = .44$) was related to more PTSD, as predicted. To test our mediation hypothesis we employed an online tool for generating confidence intervals for indirect effects with Monte Carlo simulations (Selig & Preacher, 2008) using the path coefficients from drinking to self-blame (a-paths) and from self-blame to PTSD (b-paths, see Figure 1). The indirect effect is deemed significant if its 95% confidence intervals do not include 0. Behavioral self-blame did not mediate the effect of drinking on PTSD, 95% CI $[-.32, .13]$, but, as predicted, characterological self-blame did, 95% CI $[.20, 1.18]$. The pattern of results was the same controlling for race, age, education, and time since assault.

Discussion

The present study is the first to examine how women's drinking at the time of the assault related to PTSD over time, accounting for the role of self-blame attributions, in a large diverse sample. Victim drinking at the time of the assault was directly related to lower, not higher, levels of PTSD over this three-year study. Given that physical violence is the strongest predictor of PTSD symptoms, and alcohol-related assaults involve less physical violence (Brown et al., 2009; Zinzow et al., 2010), this is not that surprising. Of importance is the positive, *indirect* effect of drinking on PTSD via characterological self-blame. Rape victims are often blamed for the assault, especially in acquaintance/date rapes where victims' behavior is perceived as inviting or not cautious enough. Alcohol is most often involved in these scenarios (e.g., Peter-Hagene & Ullman, 2015) that elicit victim-blaming, and drinking itself is a primary reason why victims get blamed (Relyea & Ullman, 2015). Thus, drinking was related to both behavioral and characterological self-blame. A crucial difference, however, was whether victims attributed the assault to their specific behavior at the time – in which case drinking did not hinder recovery – or to *perceived* general character flaws that could leave them vulnerable to further victimization.

Although drinking is a specific behavior, its link to characterological self-blame might be driven by strong societal stereotypes about drinking women who tend to be viewed as more sexual, loose, bad women, and deserving targets of punishment (George, Cue, Lopez, Crowe, & Norris, 1995; Norris & Cubbins, 1992). Sexual assault victims blamed themselves more for the assault if they had been drinking at the time, and characterological self-blame, but not behavioral self-blame attributions resulted in increased PTSD symptoms. Therefore, interventions are needed with drinking victims post-assault to contradict self-blame attributions, particularly dispositional ones. Unfortunately, it appears that the effect of drinking on characterological self-blame is less likely to diminish over time, but future research should investigate the moderating role of counseling and therapy services on this relationship.

This study helps to illuminate why characterological self-blame has been found to be related to worse recovery outcomes (Koss et al., 2002; Frazier, 2003; Ullman et al., 2007) than behavioral self-blame. It also challenges the notion that behaviors like drinking that are more modifiable will only affect behavioral self-blame, when in fact they appear to impact characterological self-blame which is more strongly related to PTSD over time. Although telling victims it was not their fault no matter what they did is helpful and tantamount to positive emotional support (Ullman, 2000), this may not preclude victims from feeling like they are a bad person, especially given harsh cultural stereotypes of drinking women as “loose,” immoral,” and “fair game.” (George et al., 1995; Norris & Cubbins, 1992). If women adhere to such stereotypes, they may believe they are “bad women” if raped when drinking, even though that behavior is changeable in the future. This is complicated by the fact that behavioral factors such as drinking can indeed place victims at risk, because some perpetrators target drinking women (Abbey, 2011). The difficult task therefore is to allow victims to understand and accept that alcohol consumption might have facilitated the assault, without blaming their character.

More research is needed to replicate these findings in representative college and community samples. Our sample was diverse, yet nonrepresentative and volunteer in nature. In particular, because one of the main questions of the current project were focused on social reactions to disclosure, the sample was limited to women who had disclosed the assault to at least one person, although we did not limit when and to whom disclosures were made. Still, this selection criterion could limit the generalizability of our findings, given that many victims never disclose, and that non-disclosers are likely to differ from disclosures in important ways.

We relied on the most widely-used, well-validated multi-item measure of self-blame (Frazier, 2003), but it is possible there may be alcohol-specific forms of self-blame, so such measures are needed to further research in this area. Other related constructs like shame and guilt should also be examined in future work, particularly in relationship to the newer cognitive criteria in DSM-V PTSD. Given how common alcohol-related sexual assaults are, it is vital to reduce women’s risky drinking in situations where they are likely to be targeted by motivated perpetrators (e.g., bars, parties). Clinicians may wish to explain to women that their feelings of characterological self-blame (e.g., “I am a bad person”) emerge from societal stereotypes that view drinking women as bad women who are legitimate targets for

sexual assault and thus blameworthy due to their irresponsible behavior. Telling them that this does not mean they are a bad person as the perpetrator took advantage of them, may help to shift their attributions of blame away from themselves over time to offenders and ultimately to society, in which, unfortunately, women are not yet free to drink without risk of being sexual assaulted.

Acknowledgments

This research was supported by grant AA 17429 from the National Institute on Alcohol Abuse and Alcoholism to Dr. Sarah Ullman. Its contents are solely the responsibility of the authors and do not necessarily represent the official views of NIAAA. We thank Cynthia Najdowski, Mark Relyea, Amanda Vasquez, Meghna Bhat, Saloni Shah, Susan Zimmerman, Rene Bayley, Farnaz Mohammad-Ali, Gabriela Lopez, Brittany Tolar, Hira Rehman, Edith Zarco, Nava Lalehzari, Joanie Noble, Martin, Rebekkah Martin, Mirjana Abu-Khalil, Sandra Tarasewicz, and Mutaal Khan for assistance with data collection.

References

- Abbey A. Alcohol's role in sexual violence perpetration: Theoretical explanations, existing evidence, and future directions. *Drug and Alcohol Reviews*. 2011; 30:481–489.
- Breitenbecher K. The relationships among self-blame, psychological distress, and sexual victimization. *Journal of Interpersonal Violence*. 2006; 21:597–611. [PubMed: 16574635]
- Brown A, Testa M, Messman-Moore T. Psychological consequences of sexual victimization resulting from force, incapacitation, or verbal coercion. *Violence Against Women*. 2009; 15:898–919. [PubMed: 19502576]
- Donde SD. College Women's Attributions of Blame for Experiences of Sexual Assault. *Journal of Interpersonal Violence*. 2015; Online first. doi: 10.1177/0886260515599659
- Foa, E. *Posttraumatic Stress Diagnostic Scale Manual*. Minneapolis, MN: National Computer Systems, Inc; 1995.
- Frazier PA. Perceived control and distress following sexual assault: A longitudinal test of a new model. *Journal of Personality and Social Psychology*. 2003; 84:1257–1269. [PubMed: 12793588]
- George W, Cue K, Lopez P, Crowe L, Norris J. Self-reported alcohol expectancies and postdrinking sexual inferences about women. *Journal of Applied Social Psychology*. 1995; 25:164–186.
- Janoff-Bulman R. Characterological versus behavioral self-blame: Inquiries into depression and rape. *Journal of Personality and Social Psychology*. 1979; 37:1798–1809. [PubMed: 512837]
- Koss MP, Figueredo AJ, Prince RJ. Cognitive mediation of rape's mental, physical and social health impact: Tests of four models in cross-sectional data. *Journal of Consulting and Clinical Psychology*. 2002; 76:926–941. [PubMed: 12182276]
- Littleton H, Breitkopf CR. Coping with the experience of rape. *Psychology of Women Quarterly*. 2006; 30:106–116.
- Littleton HL, Grills-Taquechel AE, Axsom D. Impaired and incapacitated rape victims: Assault characteristics and post-assault experiences. *Violence and Victims*. 2009; 24:439–457. [PubMed: 19694350]
- Macy RJ, Nurius PS, Norris J. Latent profiles among sexual assault survivors: Implications for defensive coping and resistance. *Journal of Interpersonal Violence*. 2007; 22:543–565. [PubMed: 17429022]
- Miller A, Markman K, Handley I. Self-blame among sexual assault victims prospectively predicts revictimization: A perceived sociolegal context model of risk. *Basic and Applied Social Psychology*. 2007; 29:129–136.
- Norris J, Cubbins L. Dating, drinking, and rape: Effects of victim's and assailant's alcohol consumption on judgements of their behavior and traits. *Psychology of Women Quarterly*. 1992; 16:179–191.

- Nurius P, Norris J, Macy R, Huang B. Women's situational coping with acquaintance sexual assault: Applying an appraisal-based model. *Violence Against Women*. 2004; 10:450–478. [PubMed: 26345173]
- Peter-Hagene L, Ullman SE. Sexual assault characteristics effects on PTSD and psychosocial mediators: A cluster analysis approach to sexual assault types. *Psychological Trauma*. 2015; 7:162–170. [PubMed: 25793692]
- Relyea M, Ullman SE. Measuring social reactions to female victims of alcohol-involved sexual assault: The Social Reactions Questionnaire-Alcohol (SRQ-A). *Journal of Interpersonal Violence*. 2015; 30:1864–1887. [PubMed: 25253018]
- Resnick HS, Kilpatrick DG, Dansky BS, Saunders BE, Best CL. Prevalence of civilian trauma and posttraumatic stress disorder in a representative national sample of women. *Journal of Consulting and Clinical Psychology*. 1993; 61:984–991. [PubMed: 8113499]
- Schuller RA, Wall AM. The effects of defendant and complainant intoxication on mock jurors' judgments of sexual assault. *Psychology of Women Quarterly*. 1998; 22:555–573.
- Selig, JP.; Preacher, KJ. Monte Carlo method for assessing mediation: An interactive tool for creating confidence intervals for indirect effects [Computer software]. 2008 Jun. <http://quantpsy.org/>. Retrieved from <http://quantpsy.org/medmc/medmc.htm>
- Sigurvinsdottir R, Ullman SE. Social reactions, self-blame and problem drinking in adult sexual assault survivors. *Psychology of Violence*. 2015; 5:192–198. [PubMed: 26366320]
- Testa M, VanZile-Tamsen C, Livingston JA, Koss MP. Assessing women's experiences of sexual aggression using the Sexual Experiences Survey: Evidence for validity and implications for research. *Psychology of Women Quarterly*. 2004; 28:256–265.
- Ullman SE. Psychometric characteristics of the social reactions questionnaire. *Psychology of Women Quarterly*. 2000; 24:257–271.
- Ullman SE, Filipas HH, Townsend SM, Starzynski LL. Psychosocial correlates of PTSD symptom severity in sexual assault survivors. *Journal of Traumatic Stress*. 2007; 20:821–831. [PubMed: 17955534]
- Ullman SE, Najdowski C. Understanding alcohol-related sexual assaults: Characteristics and consequences. *Violence and Victims*. 2010; 25:29–44. [PubMed: 20229692]
- Zinzow HM, Resnick HS, McCauley JL, Amstadter AB, Ruggiero KJ, Kilpatrick DG. The role of rape tactics in risk for posttraumatic stress disorder and major depression: Results from a national sample of college women. *Depression and Anxiety*. 2010; 27:708–715. [PubMed: 20602431]

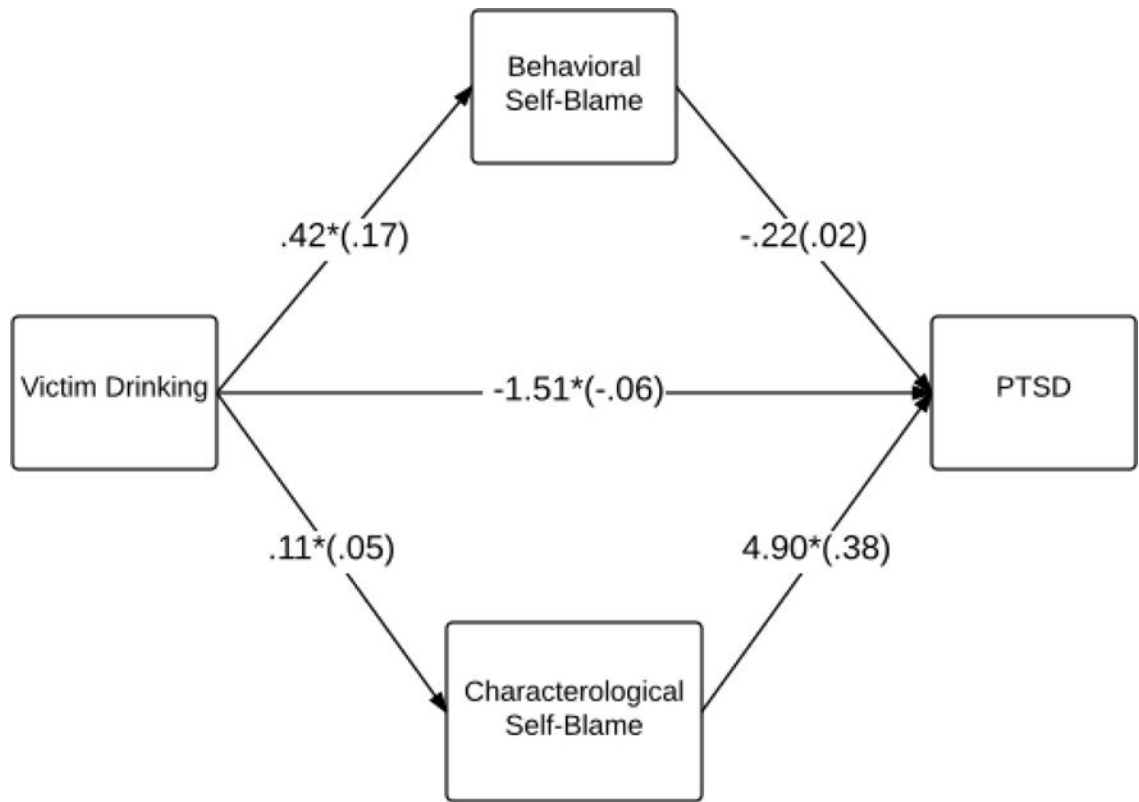


Figure 1. Mediating model of victims' drinking at the time of the assault, self-blame attributions at Time 1, and overall PTSD levels over three years. Standardized coefficients are noted parenthetically.