Rowan University
Rowan Digital Works

Theses and Dissertations

7-9-2007

Does alcohol inhibit posttraumatic stress symptomology in victims of sexual assault?

Sandra Hargesheimer
Rowan University

Follow this and additional works at: https://rdw.rowan.edu/etd

 Part of the Psychology Commons

Recommended Citation

Hargesheimer, Sandra, "Does alcohol inhibit posttraumatic stress symptomology in victims of sexual assault?" (2007). *Theses and Dissertations*. 776.
https://rdw.rowan.edu/etd/776

This Thesis is brought to you for free and open access by Rowan Digital Works. It has been accepted for inclusion in Theses and Dissertations by an authorized administrator of Rowan Digital Works. For more information, please contact graduateresearch@rowan.edu.

www.manaraa.com

DOES ALCOHOL INHIBIT POSTTRAUMATIC STRESS SYMPTOMOLOGY IN VICTIMS OF SEXUAL ASSAULT?

by
Sandra Hargesheimer

A Thesis

Submitted in partial fulfillment of the requirements of the
Master of Arts Degree
of
The Graduate School
at
Rowan University
05/03/07

Approved by

Advisor

Date Approved 7/9/2007

© 2007 Sandra Hargesheimer

ABSTRACT

Sandra Hargesheimer
DOES ALCOHOL INHIBIT POSTTRAUMATIC STRESS SYMPTOMOLOGY IN VICTIMS OF SEXUAL ASSAULT?
2006/07
Dr. D.J. Angelone
Master of Arts in Mental Health Counseling and Applied Psychology

The current study examines whether or not alcohol consumption during a sexual assault suppresses PTSD symptomology as well as the subjective impact of the assault. One hundred and fifty-one women participated in the study. The first hypothesis was that women in the alcohol condition would endorse less PTSD symptoms on a PTSD measure than women who were not consuming alcohol at the time of their assault experience. The second hypothesis was that women who were consuming alcohol at the time of their assault would subjectively rate the impact of the assault as having less of an impact than women who were not consuming alcohol at the time of their assault experience. The women were given a survey packet with various psychological measures to complete. The data was analyzed using ANCOVA, independent t-test, and post-hoc correlational analyses. Results indicated that there were no significant differences between the alcohol and no alcohol conditions on PTSD symptomology, but significant differences did exist on the subjective impact ratings of the event. The implications for these findings are discussed.

ACKNOWLEDGEMENTS

First and foremost I would like to thank Dr. D. J. Angelone for his guidance, feedback, and endless meetings to discuss this project. I would also like to thank my research lab group for all of their input and feedback. I would specifically like to thank Matt Graifer and Orin Redmond for their assistance with data collection for this project. I would also like to thank Dr. Jim Haugh for reviewing this project and offering guidance. I would also like to thank Kara Fetter, Jennifer Ingegneri, and Jeremy Zane for endless support, feedback, and help through out my graduate school career. Most importantly, I would like to thank all of my research participants, especially the young women who were brave enough to reveal their assault experiences. I can only hope that in some way this research and other research on the area of assault and PTSD can shed some light on the best ways to educate, deter, or treat the victimization of so many young women.

TABLE OF CONTENTS

LIST OF TABLES

CHAPTER 1

Introduction

Statement of the Problem

Sexual victimization, including sexual assault, is a pervasive problem among women. In fact, fifty four percent of women across the United States reported experiencing some form of sexual victimization in their lifetime. Among their experiences, 15.4% of these women reported experiencing rape, 12.1% reported experiencing an attempted rape, 11.9% reported experiencing sexual coercion, and 14.4% reported experiencing some form of unwanted sexual contact (Koss, Gidycz, & Wisniewski, 1987). In addition, approximately 28% of women reported experiencing adolescent sexual coercion, and 23% reported experiencing adult sexual coercion. Women also reported experiencing childhood sexual abuse (12.8%), adolescent sexual assault (6.5%), and adult sexual assault (5.7%) (Bernat, Ronfeldt, Calhoun, & Arias, 1998). In one statewide study, approximately 15% of women reported experiencing an attempted or completed sexual assault in their lifetime (Kilpatrick et al., 1985).

In addition to the high prevalence rates for sexual victimization, another concern for women is alcohol consumption in relation to sexual assaults. Alcohol intoxication is commonly linked with women experiencing sexual assaults. Victims of sexual assault admitted to using intoxicants in 55% of any unwanted sexual episodes. In addition, heavy alcohol consumption is often associated with the college experience. Ten percent of college-aged men reported that they have attempted to obtain intercourse through intentional intoxication. Five percent of women reported experiencing rape after

intentional intoxication (Koss, Gidycz, & Wisniewski, 1987). In a sample of women who were hospitalized due to their assault, 67% had alcohol or drugs in their system (Roy-Byrne et al., 2004). In addition, 79% of women who reported being victims of a sexual assault reported that they were using alcohol at the time of their assault (Clum, Nishith, and Calhoun, 2002). Overall, victims of sexual assault are more likely to be drinking than victims of physical assaults of a non-sexual nature. Of those victims, those adults between the ages of 18-25 are more likely to be drinking at the time of their assault than adults over the age of 35 (Felson & Burchfield, 2004).

Despite the prevalence of sexual assaults experienced by women, most of these assaults remain unreported and the victims do not seek treatment. For example, of women who experienced attempted or completed sexual assault, only 29% reported the assault to the police (Kilpatrick et al., 1985). In another study of women who were sexually assaulted, 42% told no one about the experience, 8% reported the incident to police and only 8% of the women sought counseling at a crisis center (Koss, Gidycz, & Wisniewski, 1987). These statistics are alarming since experiencing a sexual assault can be a traumatic event in which, if left untreated, could result in the development of Posttraumatic Stress Disorder (PTSD). PTSD is an anxiety disorder that may occur when an individual is exposed to a traumatic event (e.g., a natural disaster, military combat, motor vehicle accident, or sexual assault) that involves actual or threatened death, injury, or threat to the physical integrity of the individual or another person. This event experience is also coupled with an intense fear response or the feelings of helplessness or horror. Some common symptoms of PTSD include: recurrent dreams of the event, recurrent flashbacks of the event, insomnia, irritability, difficulty concentrating,

hypervigilance, exaggerated startle response, and avoidance of stimuli that may remind the individual of the event (American Psychiatric Association, 2000).

PTSD is prevalent among those experiencing some type of traumatic event. In one study, 67% of men and women reported experiencing at least one traumatic event (including natural disasters, serious accident, adult sexual coercion, and child sexual abuse) in their lifetime. Of those individuals experiencing trauma, 12% met PTSD criteria during the previous week (Bernat, Ronfeldt, Calhoun, & Arias, 1998).

PTSD development is also prevalent in those women specifically experiencing a traumatic sexual assault. In fact, of women who experienced either physical (hitting only) or sexual assault, 56.5% had PTSD symptomology at either a one or three month assessment. Of the victims that had experienced PTSD symptomology, 30.4% still met PTSD criteria at the three month assessment (Roy-Byrne et al., 2004). Another study of women who reported experiencing either traumatic loss, physical assault, sexual assault, or a history of abuse found that 8% of the sample met the criteria for lifetime PTSD (Green et al., 2005).

Although PTSD symptomology can occur among those who experience sexual assault, it still is unknown why some individuals develop PTSD while most do not. Various risk factors have been identified in the literature that appears to predict increased risk of developing PTSD. Some researchers have found that the biggest risk factors for developing PTSD were factors present either during or after the trauma such as greater trauma severity, lack of social support, and high levels of life stress (Brewin, Andrews, and Valentine, 2000). Other researchers found that high levels of peritraumatic dissociation during the trauma increased the risk of women developing PTSD after an

assault (Ozer, Best, Lipsey, & Weiss, 2003). A study of risk factors specifically for post-rape PTSD development found that a history of clinical levels of depression, a history of alcohol abuse, or experiencing an injury during the rape were the biggest risk factors for increased likelihood of developing PTSD (Acierno, Resnick, Kilpatrick, Saunders, & Best, 1999).

Theories on PTSD Development

Given these aforementioned factors that have been associated with PTSD symptomology, several theoretical perspectives have been developed for understanding the etiology of PTSD. The literature concerning PTSD etiology tends to support cognitive processing theories that suggest the way in which a traumatic event is processed can lead to chronic PTSD symptomology. One theory is known as emotional processing, which combines learning theory with cognitive processing to explain PTSD development (Foa & Rothbaum, 1998). This theory proposes that three factors influence the development of PTSD: (1) the victim's schema about the world/self prior to trauma; (2) the victim's memory records of the trauma itself; and (3) the victim's memory records of the post-trauma experience. Victims develop PTSD when there is impairment in the emotional processing of the traumatic experience. A victim's memory record of the event is affected by the number of stimulus-danger associations made during the trauma as well as the development of pathological fear during the trauma. Victims that develop PTSD seem to interpret their behavior and emotional responses during the trauma in a way that gives them a negative view about themselves.

A second theoretical perspective is known as information-processing, which links PTSD development to a "disorganization of memory" (Halligan, Michael, Clark, &

Ehlers, 2003). This theory proposes that: (1) surface level, data-driven processing during the trauma with no contextual or elaborative processing occurring contributes to PTSD development; (2) persistent dissociation during the trauma explains the severity of PTSD more than cognitive processing of the event; and (3) memory deficits and excessive negative appraisals of intrusive memories also predict the severity of PTSD symptomology. Some researchers have added that "ex-consequentia" reasoning can contribute to PTSD symptomology. That is, some victims may infer danger from the presence of anxiety or intrusions which may further intensify anxiety responses (Kindt & Engelhard, 2005).

The aforementioned theories of PTSD etiology, as well as the findings from studies on risk factors for PTSD, are heavily grounded in the associations that are made while the assault is occurring. The factors that are present during an assault are known as peritraumatic variables. These peritraumatic variables are the immediate reactions experienced during the time of the trauma such as cognitive processes or physical details present during the trauma. Common peritraumatic factors that have been associated with the development of PTSD include: dissociation, extreme anxiety, panic, trauma severity, and negative emotions (e.g. fear, helplessness, horror, guilt and shame) (Bernat, Ronfeldt, Calhoun, & Arias, 1998; Ozer, Best, Lipsey & Weiss, 2003). Essentially, emotional processing, "ex-consequentia" reasoning, and informational processing theories are all heavily based on what occurs during the trauma. The peritraumatic variables that appear to cause the greatest risk for development of PTSD are those found in the aforementioned studies on PTSD such as: trauma severity, dissociation during the trauma, and fear associations made during the trauma in addition to memory recall or deficits in recall of

the traumatic event. It appears that these factors have a cognitive component such that the victim's subjective processing can play a large role in the development of PTSD symptomology.

Effects of Alcohol Consumption

As discussed earlier, alcohol consumption has been closely linked with experiencing a sexual assault. Alcohol consumption has also been linked with impairments in cognitive and information processes. One study found that alcohol consumption increased the frequency of errors made when high demands were placed on the working memory as well as increase the perseveration of incorrect responses made by subjects who were consuming alcohol indicating some level of impairment on cognitive control (Casbon, Lang, Curtin, & Patrick, 2003). Another study found that alcohol intoxication did not affect working memory processes but did affect how information was processed. That is, alcohol affected the positive and negative biases in information processing. Behaviors that violated what the individual expected to happen were recalled more accurately than behaviors that were consistent with what was expected to occur. However, alcohol appeared to produce a positivity bias in that intoxicated participants tended to put a positive spin on behaviors that violated expectancies by being less likely to update initial positive impressions with new, inconsistent information (Bartholow, Pearson, Gratton, & Fabiani, 2003).

Alcohol has also been demonstrated to weaken anticipatory fear, anxiety, depression, and response inhibition by impairing cognitive-processing capacity. In fact, alcohol myopia theory posits that when an individual is consuming alcohol they tend to process fewer cues in the immediate environment and the cues that are perceived are less

understood. Therefore, an individual who is consuming alcohol has difficulty engaging in controlled processing and it becomes more difficult to process and gain meaning from the information that we do receive (Josephs & Steele, 1990). One study demonstrated impairments in attention to a threat cue and subsequent fear response when the participants who were consuming alcohol engaged in an "attention-dividing task" (Curtin, Patrick, Lang, Cacioppo, & Birbaumer, 2001). Another study demonstrated that the more demanding a distracting task was, the more alcohol tended to reduce anxiety towards a primary task (Steele & Josephs, 1990). One study of sexually assaulted college-aged women found a relationship between alcohol intoxication and reduced perceived severity of an assault. Women who reported drinking alcohol at the time of their sexual assault reported less severe physical reactions to their assault and also rated the subjective severity of their assault lower than those females who were not drinking at the time of their assault (Clum, Nishith, & Calhoun, 2002).

Most prominent theories on PTSD incorporate a classical conditioning perspective in which stimuli is paired with anxiety or fear. In most cases, dissociation from the traumatic event occurs and memory of the event is impaired. Theories on alcohol's effect on processing note that alcohol tends to reduce or inhibit anxiety and fear responses. Also, memory recall is known to remain intact while information that is processed tends to be exaggerated in a more positive than negative manner. While theoretically, a rationale exists to understand the mediating influence of alcohol intoxication during a trauma and PTSD symptomology, minimal research has been conducted to investigate the possible relationship between alcohol intoxication and the development of PTSD symptomology.

Purpose of the Study

One study of victims of a tragic ballroom fire that killed and injured many victims found that alcohol consumption and intoxication at the time of the event decreased the odds of PTSD symptomology in the surviving victims. The researchers speculated that this may be a result of alcohol affecting the storage of traumatic memories or possibly altering anxiety associated with experiencing a traumatic event (Maes, Delmeire, Mylle, & Altamura, 2001). Thus far, no research has been conducted to examine the relationship between intoxication and PTSD development in sexual assault victims. While the odds of being trapped in a fire are small, the odds of being the victim of a sexual assault, especially while consuming alcohol, are much more prevalent. Therefore, this study attempts to fill a gap in the literature by examining the relationship between alcohol consumption and sexual assault on PTSD symptomology. Similar to the study examining PTSD in victims of a fire, victims were asked to self-report their sexual assault experiences and psychological reactions in a retrospective format (i.e., within one year). In addition, the current study attempts to build upon the previously mentioned study by utilizing a slightly larger sample size and controlling for lifetime history of sexual assault. The current study also compares victims who were consuming alcohol at the time of their trauma experience to victims who were not consuming alcohol. The ballroom fire victims were assessed using a structured clinical interview that appeared to assess more specific details of the trauma and not diagnostic criteria specific to PTSD (e.g. "The subject felt the heating of the ballroom"). The current study uses the Post-traumatic Stress Checklist (PCL) in order to assess the specific symptoms set fourth by the American Psychological Association to diagnose PTSD.

Given the lack of research about the effects of alcohol consumption on the development of PTSD symptomology following a sexual assault, the goal of the current study is to examine the role of alcohol consumption during a sexual assault and its effects on subsequent PTSD symptomology. The research will examine the possibility that alcohol consumption inhibits PTSD symptomology in sexual assault victims as well as decreases the victim's subjective perception of how much the event impacted her. It is hypothesized that women who are intoxicated at the time of their assault will subjectively rate their trauma experience as less severe than those who were not intoxicated at the time of their assault. Secondly, women who are intoxicated at the time of their assault are less likely to develop PTSD symptomology compared to women who were not intoxicated during their sexual assault experience.

CHAPTER 2

Methodology

Participants

The participants were 189 female college students participating in the study on a volunteer basis for college research credits. The women ranged in education level from freshman to senior level undergraduate students with an age range of 18-47 ($M = 19.6$). The sample was largely Caucasian (78.3%). The following ethnic groups were also represented: Hispanic (8.5%), African-American (7.9%), Asian (1.1%) and "other" (4.2%). Women who reported a lifetime history of rape or sexual abuse ($n = 38$) were not included in the study due to the potential confound this may cause regarding levels of PTSD symptomology. When these women were excluded, the sample size for the current study yielded 151 participants.

Instrumentation

Marlowe-Crowne Social Desirability Scale (SDS). The SDS is a 33 item true/false questionnaire that assesses for individuals who may tend to respond in an "overly culturally appropriate and acceptable manner." Individuals may tend to respond in a socially desirable manner to questions regarding sexual experiences, therefore, this measure was used to factor out those women who were potentially responding in socially desirable ways. The SDS has demonstrated good internal consistency (.88) and test-retest reliability (.89) (Cook, 2002; Crowne & Marlowe, 1960).

Posttraumatic Stress Disorder Checklist (PCL-C). PTSD symptomology experienced within the past year was measured using the PCL. The PCL-C is a 17-item

checklist that covers all of the DSM-IV diagnostic criteria for PTSD. This version has been standardized on a college sample and was therefore deemed appropriate by the current researcher for this particular sample. The PCL-C has demonstrated good test-retest reliability (.88) and convergent validity ($r > .75$) when correlated with two other measures of PTSD symptomology (Ruggerio, Del Ben, Scotti, & Rablais, 2003).

Sexual Experiences Survey (SES). The SES is a 10 item questionnaire used to assess the presence of any sexual assault experiences within the past year as well as a history of sexual abuse. Sexual assault, as measured by the SES, reflects various degrees of sexual aggression and victimization. The SES has been standardized for college-aged students and has demonstrated good internal consistency (.74). The SES as a self-report measure when compared to an actual interview has a correlation of $r = .73$ ($p = < .001$) (Koss & Gidycz, 1985).

Some modifications to the SES were made by the current researcher. Two of the original 10 SES questions were removed due to potential redundancy. In addition, several additional items were added to assess for drinking behavior, subjective level of intoxication, and the subjective impact for each of the remaining eight behaviorally specific items. After each original SES question three additional items were included. The first question was, "If this occurred, please rate the degree of impact the experience had on you by circling the corresponding number on the scale below" which was followed by a Likert scale ranging from 1 ("no impact") to 7 ("severe impact"). This question was added to assess the subjective impact of the event. The second question was "Were you drinking alcohol during any occasion in which the above incident occurred?" in which the participants could then circle a "yes," "no," or "sometimes"

response. This question was added to determine if the individual was consuming alcohol at the time of her assault. The third question was "If yes, please rate your level of intoxication *during the last incident* by circling the corresponding number on the scale below" which was followed by a Likert scale ranging from 1 ("perfectly sober") to 7 ("loss of consciousness, blackout"). This question was added to assess the subjective level of intoxication at the time of the assault. At the end of the SES, the participants were asked if they have ever experienced sexual abuse or rape in their lifetime, what the duration of the abuse was, and how long ago the abuse occurred. This was asked so that women with a lifetime history of abuse or rape could be removed from the study due to the potential confound of lifetime history on PCL scores.

Alcohol Use Disorders Identification Test (AUDIT). The AUDIT is a 10-item scale that measures the presence of alcohol misuse and the detection of early drinking problems using the criteria from the DSM-III. In a college sample, the AUDIT demonstrated good test-retest reliability (.80) and convergent validity (.84) when compared to DSM-III criteria. A cut-off score of 13 was recommended for a college student sample (Fleming, Barry, & MacDonald, 1991). Because alcohol abuse and dependence has been cited as a possible risk factor for the development of PTSD, those women with alcohol dependence or the detection of early drinking problems were factored out of the analysis.

Procedure

Participants were asked to volunteer for a study entitled "Sexual Experiences, Alcohol Use, and Psychological Symptoms." Various dates and times were offered to participate in the research and up to 30 women could volunteer at one time. Volunteers

were asked to report to a specific classroom in the psychology department. The groups of women were given an informed consent form which was verbally explained by the researcher prior to the beginning of the study. The women were then given a survey packet (see Appendix A) that included a demographic questionnaire (age, ethnicity, year in school, and sexual orientation) and all of the measures in the following order: SDS, PCL, SES, and AUDIT. When an individual completed her packet she was instructed to place the questionnaires in an envelope and place it on the front corner of the desk to ensure anonymity. The individual would then receive a debriefing statement and another copy of the informed consent for her own records which included information about and the phone number of the university's counseling center in case any distress occurred relating to the recall of sexually traumatic experiences.

CHAPTER 3

Results

Descriptives

Similar to the high prevalence rates for experiencing a sexual assault reported in other studies, 59.8% of participants in the current study reported a lifetime experience of sexual assault and 49.6% experienced at least one sexual assault within the last year as defined by the SES. Table 1 demonstrates the percentage of women who endorsed experiencing the 8 sexual assault experiences as defined by the SES (see Table 1). In addition, 65% of those women who reported experiencing a sexual assault within the past year reported consuming alcohol during at least one sexual assault experience. These findings about sexual assault experiences and alcohol consumption are consistent with previous research.

A Priori Analysis

Participants completed four measures to assess for PTSD symptomology and sexual assault experienced within one year as well as a history of sexual abuse, history of alcohol abuse, and socially desirable responding. The responses on these surveys were categorized in to four exclusive groups: (1) no sexual assault experiences (n = 76); (2) sexual assault experiences with no alcohol consumption (n =26); (3) sexual assault experiences while intoxicated (n = 21); and (4) sexual assault experiences with mixed incidences of alcohol consumption (sometimes drinking and sometimes not drinking) (n = 28). The dependent variable is the PCL score.

To test the hypothesis that women who were consuming alcohol at the time of their assault would have less PTSD symptomology compared to women who were not consuming alcohol, an analysis of covariance (ANCOVA) was performed. Factors included in the ANCOVA were the PCL as the dependent measure, the four groups of women as mentioned above as the independent groups, and the SDS and AUDIT scores as covariates. Table 2 shows group means on the PCL. The results indicate that there was no significant difference between the groups on the PCL ($F = .80, p \leq .50, \eta^2 = .02$) indicating no differences in PTSD symptomology. Therefore, the first hypothesis was not supported.

To test the hypothesis that women in the alcohol condition would differ from women in the no alcohol condition on subjective impact ratings, an independent t-test was performed between these two groups. Because the research was more interested in examining the relationship between alcohol consumption and impact rating and not necessarily revictimization and impact rating, women in group 4 who experienced multiple assaults with mixed incidences of alcohol consumption were not included in this analysis due to their higher rates of revictimization. Therefore, the independent t-test compared only the women in group 2 and group 3. Results indicate that there was a significant difference between these two groups indicating that women who consumed alcohol at the time of their assault viewed the assault as having less of an impact on them than women who were not consuming alcohol at the time of their assault ($t = 2.12, p = .04$). Therefore, the second hypothesis was supported.

Post-hoc Exploratory Analyses

Given that the nature of this research is to explore and better understand the relationship between alcohol consumption during a sexual assault and subsequent PTSD symptomology, a correlation analysis was conducted to determine if any relationships exist among some of the variables included in the current research. The correlation between PCL scores and subjective impact rating was significant ($r = .44$, $p \leq .01$) indicating that women who rated their sexual assault experience as having more of an impact had higher PTSD symptomology across all groups. In examining the alcohol condition only (group3), the relationship between woman's subjective rating of intoxication at the time of the assault and PTSD symptomology as measured by scores on the PCL approached significance ($r = -.42$, $p = .057$). This indicates that as the victim's subjective feelings of intoxication increases, PTSD symptomology decreases. However, in this group of women the subjective level of intoxication was not significantly correlated with subjective impact rating. Subjective impact rating was also not significantly correlated with PTSD symptomology.

CHAPTER 4

Discussion

Summary and Conclusions

The repercussions of experiencing a sexual assault can be devastating for any woman, even if PTSD does not develop. However, it is important to identify any factors that may be associated with subsequent PTSD so that mental health professionals, police personnel, and hospital staff, among others, may intervene appropriately when necessary to potentially diffuse the development of PTSD. Empirical research has not yet come to a general consensus concerning the factors associated with PTSD development in sexual assault victims. Given the high prevalence of alcohol consumption prior to experiencing sexual assault, it is important to examine this relationship so that the effects of alcohol consumption on the after effects of sexual assault can be better known and understood. This relationship can have important implications for treatment, intervention, and education.

The goal of this study was to determine if alcohol consumption during a sexual assault would inhibit the development of PTSD symptomology. Unlike the victims of the ballroom fire where alcohol consumption was found to be factor in hindering PTSD symptomology (Maes, Delmeire, Mylle, & Altamura, 2001), victims of sexual assault were found to show no significant differences in PTSD symptomology whether they were consuming alcohol at the time of the trauma or not. There are many possible reasons for these findings. The most basic reasons could be the inherent flaws in the experimental design of the current study. When the sample was divided into experimental

groups, group comparisons were made among a very small sample with 21-28 women per group. These comparisons were made against a control group of 76 women. Therefore, unequal samples sizes could impact the power and robustness of the ANCOVA model. However, a closer look at the mean PCL scores indicated that they appear to be heading in the predicted direction of hypothesis one. Thus, a larger sample size and equal groups may potentially increase the power of the findings.

A second reason for these findings may be that the control group showed similar levels of PTSD symptomology when compared to the other groups. Whereas, the study conducted on the ballroom fire victims controlled for prior PTSD history and other trauma experience, this study did not assess for any other trauma that may have been experienced by the women aside from assault and lifetime history of abuse. This study also did not assess for a history of PTSD prior to the past year. Therefore, the control group may have had other trauma experiences that could have accounted for their similar levels of PTSD symptomology. Further research should include a measure assessing for other types of trauma experienced by the women so that a more pure examination of PTSD specifically related to sexual assault experience can be employed. A potential solution may be to track women longitudinally in a hospital setting to specifically trace PTSD symptomology in relation to a sexual assault and examine how alcohol consumption at the time of the assault relates to the development of the symptoms.

Another limitation to this study is that the true nature of the effect that alcohol consumption has on our cognitive and informational processing is not clearly known. Alcohol may have suppressed anxiety or the development of pathological fear in the victims of the ballroom fire and therefore hindered the development of PTSD

symptomology. However, a sexual assault is a much more personal trauma that may be internalized and self-blame may be easily attributed to the event. Victims of a ballroom fire can feel assured that they did not cause the fire. However, given the personal nature of experiencing a sexual assault, there is more room for negative self appraisals as well as the potential stigma society often places on victims of sexual assaults. So while alcohol may affect the processing of cues during the event or the cognitive processes that are occurring, alcohol may not effect the emotional processing of the event. It could be that for sexual assault victims the emphasis may not be on peritraumatic variables, but their post-trauma evaluation of the experience that leads to PTSD. Therefore, it seems likely then that future research should study alcohol consumption during a sexual assault in the context of emotional processing theory (Foa & Rothbaum, 1998). In this context, alcohol consumption during a sexual assault should be evaluated in relation not just to its effects on peritraumatic variables but also in relation to the victim's memory recall of the event and the victim's evaluation of the post-trauma experience.

Consistent with previous research that found women who were drinking during the time of their assault as rating the severity of the assault as lower than women who were not drinking (Clum, Nishith, & Calhoun, 2002), significant differences were found on the subjective impact rating of the trauma experience between women who were drinking at time of the assault and women who were not. Women who were consuming alcohol found the event to have less of an impact on them, on average, than women who were not drinking. The context in which alcohol consumption during a sexual assault affects the victim's subjective impact rating is unknown. It may be that the development pathological fear during the assault is suppressed and therefore, women perceive the

event as being less of a threatening situation. Because we did not examine who committed the sexual perpetration in this study, it is unknown what percentages of these assaults were committed by acquaintances or could be categorized as date rapes. Because many of these assaults could have occurred at the hands of an acquaintance, it is possible that consistent with research conducted by Bartholow et. al. (2003), victims who were consuming alcohol at the time of their assault failed to update initial positive impressions of their acquaintance with new, inconsistent information that violated their expectancies of the perpetrator thus leading them to rate the experience as having less of an impact upon them. Coupled with the aforementioned findings, this could have implications for women experiencing assault in the context of reporting the assault and seeking counseling. Women who are consuming alcohol are not viewing the incident as traumatic. However, they are displaying close to the same levels of PTSD symptomology as women who were not drinking. It could be that these are the women who are not seeking out counseling to help them cope with the trauma. Also, it could also be that these women are downplaying the impact that the trauma had because they believe their alcohol consumption contributed to the event taking place, therefore, justifying the perpetrator's actions.

Correlational data in this study yielded some interesting findings. The subjective impact that the assault had on the victim was significantly correlated to PTSD symptomology. However, the subjective impact only accounted for 19% of the variance in PTSD symptomology indicating that there are many other factors contributing the development of PTSD aside from how the victim felt the assault impacted her. Within the group that was consuming alcohol at the time of their assault, a negative correlation

between subjective level of intoxication and PTSD symptomology approached significance. This potentially indicates that the higher a woman's perceived level of intoxication, the lower her PTSD symptomology. Interestingly, in this group of women, the level of intoxication was not significantly correlated to the subjective impact of the event. However, when comparing alcohol conditions, the group that was drinking rated the subjective impact as lower than women who were not consuming alcohol. This could indicate that subjective impact and PTSD symptomology are two very different constructs that are affected by alcohol consumption in different ways. Alcohol may work to suppress the processes under which fear and anxiety develop, but have no impact upon a woman's overall view of the event. Oddly, across conditions the subjective impact was found to be correlated to PTSD symptomology indicating this may be one component of PTSD development that may not be affected by alcohol consumption at the time of the assault. However, this does not account for why the two alcohol conditions significantly differed on subjective impact ratings. Future research could benefit from examining this relationship further.

The prevalence of sexual assault is troubling and a problem for society. Given the prevalence of these assaults taking place while women are consuming alcohol, it is important to examine the role alcohol consumption may play in victims of sexual assault. Also, given the prevalence of PTSD in women who do experience a sexual assault, it is equally important to examine the role alcohol plays, if any, on PTSD symptomology. This information may be useful for intervention in that crisis teams who are working with victims of a sexual assault may immediately employ various relaxation techniques in attempt to suppress the development of pathological fear, anxiety surrounding the event,

or negative danger-stimulus associations that cause anxiety arousal. This research is also useful in educating women, especially those in a university setting, about the risks associated with alcohol consumption and victimization. It may be important to stress to these women that although classic symptoms of PTSD may not develop, counseling in order to process the assault in a healthy manner should still be utilized.

Recommendations

To summarize suggestions for replication and future research, future research should include a global measure of trauma in order to rule out PTSD symptomology associated with trauma experiences other than sexual assault. Future research should also obtain a larger sample size to assure larger and more equal groups. Possibly, a longitudinal study of victims could be conducted to track PTSD development in victims who were and were not consuming alcohol at the time of their assault to fully assess whether or not any differences exist. Also, future research could benefit from being conducted in the context of emotional processing considering the relationship examined in this study between alcohol consumption, subjective impact, and PTSD symptomology.

REFERENCES

American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders revised* (4th ed.). Washington, DC: Author.

Acierno, R., Resnick, H., Kilpatrick, D. G., Saunders, B., & Best, C. L. (1999). Risk factors for rape, physical assault, and posttraumatic stress disorder in women: Examination of differential multivariate relationships. *Journal of Anxiety Disorders, 13,* 541-563.

Bartholow, B. D., Pearson, M. A., Gratton, G., & Fabiani, M. (2003). Effects of alcohol on person perception: A social cognitive neuroscience approach. *Journal of personality and social psychology, 85,* 627-638.

Bernat, J. A., Ronfeldt, H. M., Calhoun, K. S., & Arias, I. (1998). Prevalence of traumatic events and peritraumatic predictors of posttraumatic stress symptoms in a nonclinical sample of college students. *Journal of Traumatic Stress, 11,* 645-664.

Brewin, C. R., Andrews, B., & Valentine, J. D. (2000). Meta-Analysis of risk factors for posttraumatic stress disorder in trauma-exposed adults. *Journal of Consulting and Clinical Psychology, 68,* 748-766.

Casbon, T. S., Lang, A. R., Curtin, J. J., & Patrick, C. J. (2003). Deleterious effects of alcohol intoxication: Diminished cognitive control and its behavioral consequences. *Journal of Abnormal Psychology, 112,* 476-487.

Clum, G. A., Nishith, P., & Calhoun, K. S. (2002). A preliminary investigation of alcohol use during trauma and peritraumatic reactions in female sexual assault victims. *Journal of Traumatic Stress, 15,* 321-328.

Cook, S. L. (2002). Self-reports of sexual, physical, and nonphysical abuse perpetration.

Violence Against Women, 8, 541-565.

Crowne, D. P., & Marlowe, D. (1960). A new scale of social desirability independent of psychopathology. *Journal of Consulting and Clinical Psychology, 24,* 349-354.

Curtin, J. J., Patrick, C. J., Lang, A. R., Cacioppo, J. T., & Birbaumer, N. (2001). Alcohol effects emotion through cognition. *Psychological Science, 12,* 527-531.

Felson, R. B., & Burchfield, K. B. (2004). Alcohol and the risk of physical and sexual assault victimization. *Criminology, 42,* 837-859.

Fleming, M. F., Barry, K. L., & MacDonald, R. (1991). The Alcohol Use Disorders Identification Test (AUDIT) in a college sample. *International Journal of the Addictions, 26,* 1173-1185.

Foa, E. B., & Rothbaum, B. O. (1998). Theoretical bases for PTSD and its treatment. In *Treating the Trauma of Rape: Cognitive-Behavioral Therapy for PTSD* (pp. 68-88). New York: Guilford Press.

Green, B. L, Krupnick, J. L., Stockton, P., Goodman, L., Corcoran, C., & Petty, R. (2005). Effects of adolescent trauma exposure on risky behavior in college women. *Psychiatry, 68,* 363- 375.

Halligan, S. L., Michael, T., Clark, D. M., & Ehlers, A. (2003). Posttraumatic stress disorder following assault: The role of cognitive processing, trauma memory, and appraisals. *Journal of Consulting and Clinical Psychology, 71,* 419-431.

Josephs, R. A., & Steele, C. M. (1990). The two faces of alcohol myopia: Attentional mediation of psychological stress. *Journal of Abnormal Psychology, 99,* 115-126.

Kilpatrick, D. G., Best, C. L., Veronen, L. J., Amick, A. E., Villeponteaux, L.A., & Ruff, G. A. (1985). Mental health correlates of criminal victimization: A random

community survey. *Journal of Consulting and Clinical Psychology, 53,* 866-873.

Kindt, M., & Engelhard, I. M. (2005). Trauma processing and the development of posttraumatic stress disorder. *Journal of Behavior Therapy and Experimental Psychiatry, 36,* 69-76.

Koss, M. P., & Gidycz C. A. (1985). Sexual experiences survey: Reliability and validity. *Journal of Consulting and Clinical Psychology, 53,* 422-423.

Koss, M. P., Gidycz, C. A., & Wisniewski, N. (1987). The scope of rape: Incidence and prevalence of sexual aggression and victimization in a national sample of higher education students. *Journal of Consulting and Clinical Psychology, 55,* 162-170.

Maes, M., Delmeire, L., Mylle, J., & Altamura, C. (2001). Risk and preventive factors of post-traumatic stress disorder (PTSD): Alcohol consumption and intoxication prior to a traumatic event diminishes the relative risk to develop PTSD in response to that trauma. *Journal of Affective Disorders, 63,* 113-121.

Ozer, E. J., Best, S. R., Lipsey, T. L., & Weiss, D. S. (2003). Predictors of posttraumatic stress disorder and symptoms in adults: A meta-analysis. *Psychological Bulletin, 129,* 52-74.

Roy-Byrne, P. P., Russo, J., Michelson, E., Zatzick, D., Pitman, R. K., & Berliner, L. (2004). Risk factors and outcome in ambulatory assault victims presenting to the acute emergency department setting: Implications for secondary prevention studies in PTSD. *Depression and Anxiety, 19,* 77-84.

Ruggerio, K. J., Del Ben, K., Scotti, J. R., & Rablais, A. E. (2003). Psychometric properties of the PTSD checklist – civilian version. *Journal of Traumatic Stress, 16,* 495-502.

Steele, C. M., & Josephs, R. A. (1990). Alcohol myopia: Its prized and dangerous effects. *American Psychologist, 45,* 921-933.

Table 1

Women's Sexual Assault Experiences

SES Question	% who endorsed experience
1. Given in to sex play (fondling, kissing, or petting, but not intercourse) when you didn't want to because you were overwhelmed by a man or woman's continual arguments and pressure?	43.8%
2. Had sex play (fondling, kissing, or petting, but not intercourse) when you didn't want to because a man or woman threatened or used some degree of physical force (twisting your arm, holding you down, etc.) to make you?	2.7%
3. Had a man or woman attempt sexual intercourse (get on top of you, attempt to insert penis, etc.) when you didn't want to by threatening or using some degree of force (twisting your arm, holding you down, etc.), but intercourse did not occur?	0.7%
4. Given in to sexual intercourse when you didn't want to because you were overwhelmed by a man or woman's continual arguments and pressure?	19.9%
5. Had a man or woman attempt sexual intercourse (get on top, attempt to insert penis) when you didn't want to by giving you alcohol or drugs, but intercourse did not occur?	4.6%
6. Had sexual intercourse when you didn't want to because a man or woman gave you alcohol or drugs?	4.7%
7. Had sex acts (anal or oral intercourse or penetration by objects other than the penis) when you didn't want to because a man or woman threatened or used some degree of physical force (twisting your arm, holding you down, etc.) to make you?	2.0%
8. Had sexual intercourse when you didn't want to because a man or woman threatened or used some degree of physical force (twisting your arm, holding you down, etc.) to make you?	2.0%

Note: percents do not add up to 49.6% due to item overlap

Table 2

Group Means on the PCL

Groups	Mean	SD	N
No Sexual Assault Experience	37.32	11.73	76
Assault Experience and No Alcohol	37.58	12.04	26
Assault Experience and Alcohol	36.14	11.51	21
Multiple Assaults with mixed Alcohol and No Alcohol	44.87	13.86	28

APPENDIX A

Demographic Questionnaire

Demographic Sheet

Please answer the following questions.

1) What is your age? _____

2) Please circle the response that corresponds to your race or ethnicity.

1 African-American/Black
2 Hispanic/Latino/Latina
3 White/Non-Hispanic
4 Asian/Pacific Islander
5 Native American
6 Other (please specify) _____

3) Please circle the response that corresponds to your academic rank.

1 Freshman
2 Sophomore
3 Junior
4 Senior
5 Graduate student
6 Other (please specify) _____

4) Please circle the response that corresponds to your current marital status.

1 Single (never married)
2 Involved in a serious romantic relationship, but not living with significant other
3 Living with significant other
4 Married
5 Separated
6 Divorced
7 Widowed
8 Other (please specify) _____

5) Please circle the response that corresponds with your sexual orientation.

0 Exclusively heterosexual
1 Predominately heterosexual, only incidentally homosexual
2 Predominately heterosexual, but more than incidentally homosexual

3 Equally heterosexual and homosexual

4 Predominately homosexual, but more than incidentally heterosexual

5 Predominately homosexual, only incidentally heterosexual

6 Exclusively homosexual

APPENDIX B

Marlowe Crowne Social Desirability Scale

Listed below are a number of statements concerning personal attitudes and traits. Read each item and decide whether the statement is mostly true or mostly false as it pertains to you. Circle T for True and F for False.

1. Before voting, I thoroughly investigate the qualities of all the candidates.	T	F
2. I never hesitate to go out of my way to help someone in trouble.	T	F
3. It is sometimes hard for me to go on with my work if I am not encouraged.	T	F
4. I have never intensely disliked anyone.	T	F
5. On occasion I have had doubts about my ability to succeed in life.	T	F
6. I sometimes feel resentful when I don't get my way.	T	F
7. I am always careful about my manner of dress.	T	F
8. My table manners at home are as good as when I eat out in a restaurant.	T	F
9. If I could get into a movie without paying and be sure I was not seen , I would probably do it.	T	F
10. On a few occasions, I have given up doing something because I thought too little of my ability.	T	F
11. I like to gossip at times.	T	F
12. There have been times when I felt like rebelling against people in authority even though I knew they were right.	T	F
13. No matter who I'm talking to, I'm always a good listener.	T	F
14. I can remember "playing sick" to get out of something.	T	F
15. There have been occasions when I took advantage of someone.	T	F
16. I am always willing to admit it when I make a mistake.	T	F
17. I always try to practice what I preach.	T	F
18. I don't find it particularly difficult to get along with loud mouthed, obnoxious people.	T	F
19. I sometimes try to get even, rather than forgive and forget.	T	F
20. When I don't know something, I don't at all mind admitting it.	T	F
21. I am always courteous, even to people who are disagreeable.	T	F
22. At times I have really insisted on having things my own way.	T	F
23. There have been occasions when I felt like smashing things.	T	F
24. I would never think of letting someone else be punished for my wrongdoings.	T	F
25. I never resent being asked to return a favor.	T	F
26. I have never been irked when people expressed ideas very different from my own.	T	F

29. I have almost never felt the urge to tell someone off.	T	F
30. I am sometimes irritated by people who ask favors of me.	T	F
31. I have never felt that I was punished without cause.	T	F
32. I sometimes think when people have a misfortune, they only got what they deserved.	T	F
33. I have never deliberately said something that hurt someone's feelings.	T	F

APPENDIX C

Posttraumatic Stress Disorder Checklist

PCL-C

Instructions: Below is a list of problems and complaints that people sometimes have in response to stressful life experiences. Please read each one carefully, then circle one of the numbers to the right to indicate how much you have been bothered by that problem **in the past year**.

	Not at all	**A little bit**	**Moderately**	**Quite a bit**	**Extremely**
1) Repeated, disturbing memories, thoughts, or images of a stressful experience from the past?	1	2	3	4	5
2) Repeated, disturbing dreams of a stressful experience from the past?	1	2	3	4	5
3) Suddenly acting or feeling as if a stressful experience were happening again (as if you were reliving it)?	1	2	3	4	5
4) Feeling very upset when something reminded you of a stressful experience from the past?	1	2	3	4	5
5) Having physical reactions (e.g., heart pounding, trouble breathing, sweating) when something reminded you of a stressful experience from the past?	1	2	3	4	5
6) Avoiding thinking about or talking about a stressful experience from the past or avoiding having feelings related to it?	1	2	3	4	5
7) Avoiding activities or situations because they reminded you of a stressful experience from the past?	1	2	3	4	5

8) Trouble remembering important parts of a stressful experience from the past?	1	2	3	4	5
9) Loss of interest in activities that you use to enjoy?	1	2	3	4	5
10) Feeling distant or cut off from other people?	1	2	3	4	5
11) Feeling emotionally numb or being unable to have loving feelings for those close to you?	1	2	3	4	5
12) Feeling as if your future will somehow be cut short?	1	2	3	4	5
13) Trouble falling or staying asleep?	1	2	3	4	5
14) Feeling irritable or having angry outbursts?	1	2	3	4	5
15) Having difficulty concentrating?	1	2	3	4	5
16) Being super-alert or watchful or on guard?	1	2	3	4	5
17) Feeling jumpy or easily startled?	1	2	3	4	5

APPENDIX D

Sexual Experiences Survey

1) In the past year, have you given in to sex play (fondling, kissing, or petting, but not intercourse) when you didn't want to because you were overwhelmed by a man or woman's continual arguments and pressure?

Never Once or Twice Several Times Often

a) If this occurred, please rate the degree of impact the experience had on you by circling the corresponding number on the scale below. If this did not occur, please move on to question 2.

1	2	3	4	5	6	7
No Impact		Somewhat of a negative impact		Mostly a negative impact		Extreme negative impact

b) Were you drinking alcohol during any occasion in which the above incident occurred?

yes no sometimes

c) If yes, please rate your level of intoxication *during the last incident* by circling the corresponding number on the scale below.

1	2	3	4	5	6	7
Perfectly Sober						Loss of consciousness, blackout

2) In the past year, have you had sex play (fondling, kissing, or petting, but not intercourse) when you didn't want to because a man or woman threatened or used some degree of physical force (twisting your arm, holding you down, etc.) to make you?

Never Once or Twice Several Times Often

a) If this occurred, please rate the degree of impact the experience had on you by circling the corresponding number on the scale below. If this did not occur, please move on to question 2.

1	2	3	4	5	6	7
No Impact		Somewhat of a negative impact		Mostly a negative impact		Extreme negative impact

d) Were you drinking alcohol during any occasion in which the above incident occurred?

yes no sometimes

e) If yes, please rate your level of intoxication *during the last incident* by circling the corresponding number on the scale below.

1	2	3	4	5	6	7
Perfectly Sober						Loss of consciousness, blackout

3) In the past year, have you had a man or woman attempt sexual intercourse (get on top of you, attempt to insert penis, etc.) when you didn't want to by threatening or using some degree of force (twisting your arm, holding you down, etc.), but intercourse *did not* occur?

Never Once or Twice Several Times Often

a) If this occurred, please rate the degree of impact the experience had on you by circling the corresponding number on the scale below. If this did not occur, please move on to question 2.

1	2	3	4	5	6	7
No Impact		Somewhat of a negative impact		Mostly a negative impact		Extreme negative impact

b) Were you drinking alcohol during any occasion in which the above incident occurred?

yes no sometimes

c) If yes, please rate your level of intoxication *during the last incident* by circling the corresponding number on the scale below.

1	2	3	4	5	6	7
Perfectly Sober						Loss of consciousness, blackout

4) In the past year, have you given in to sexual intercourse when you didn't want to because you were overwhelmed by a man or woman's continual arguments and pressure?

Never Once or Twice Several Times Often

a) If this occurred, please rate the degree of impact the experience had on you by circling the corresponding number on the scale below. If this did not occur, please move on to question 2.

1	2	3	4	5	6	7
No Impact		Somewhat of a negative impact		Mostly a negative impact		Extreme negative impact

b) Were you drinking alcohol during any occasion in which the above incident occurred?

yes no sometimes

c) If yes, please rate your level of intoxication *during the last incident* by circling the corresponding number on the scale below.

1	2	3	4	5	6	7
Perfectly Sober						Loss of consciousness, blackout

5) In the past year, have you had a man or woman attempt sexual intercourse (get on top, attempt to insert penis) when you didn't want to by giving you alcohol or drugs, but intercourse *did not* occur?

Never Once or Twice Several Times Often

a) If this occurred, please rate the degree of impact the experience had on you by circling the corresponding number on the scale below. If this did not occur, please move on to question 2.

1	2	3	4	5	6	7
No Impact		Somewhat of a negative impact		Mostly a negative impact		Extreme negative impact

b) Were you drinking alcohol during any occasion in which the above incident occurred?

yes no sometimes

c) If yes, please rate your level of intoxication *during the last incident* by circling the corresponding number on the scale below.

1	2	3	4	5	6	7
Perfectly Sober						Loss of consciousness, blackout

6) In the past year, have you had sexual intercourse when you didn't want to because a man or woman gave you alcohol or drugs?

Never Once or Twice Several Times Often

a) If this occurred, please rate the degree of impact the experience had on you by circling the corresponding number on the scale below. If this did not occur, please move on to question 2.

1	2	3	4	5	6	7

No Impact	Somewhat of a negative impact	Mostly a negative impact	Extreme negative impact

b) Were you drinking alcohol during any occasion in which the above incident occurred?

yes no sometimes

c) If yes, please rate your level of intoxication *during the last incident* by circling the corresponding number on the scale below.

1	2	3	4	5	6	7
Perfectly Sober						Loss of consciousness, blackout

7) In the past six months, have you had sex acts (anal or oral intercourse or penetration by objects other than the penis) when you didn't want to because a man or woman threatened or used some degree of physical force (twisting your arm, holding you down, etc.) to make you?

Never Once or Twice Several Times Often

a) If this occurred, please rate the degree of impact the experience had on you by circling the corresponding number on the scale below. If this did not occur, please move on to question 2.

1	2	3	4	5	6	7
No Impact		Somewhat of a negative impact		Mostly a negative impact		Extreme negative impact

b) Were you drinking alcohol during any occasion in which the above incident occurred?

yes no sometimes

c) If yes, please rate your level of intoxication *during the last incident* by circling the corresponding number on the scale below.

1	2	3	4	5	6	7
Perfectly Sober						Loss of consciousness, blackout

8) In the past six months, have you had sexual intercourse when you didn't want to because a man or woman threatened or used some degree of physical force (twisting your arm, holding you down, etc.) to make you?

Never Once or Twice Several Times Often

a) If this occurred, please rate the degree of impact the experience had on you by circling the corresponding number on the scale below. If this did not occur, please move on to question 2.

1	2	3	4	5	6	7
No Impact		Somewhat of a negative impact		Mostly a negative impact		Extreme negative impact

b) Were you drinking alcohol during any occasion in which the above incident occurred?

yes no sometimes

c) If yes, please rate your level of intoxication *during the last incident* by circling the corresponding number on the scale below.

1	2	3	4	5	6	7
Perfectly Sober						Loss of consciousness, blackout

9) Have you ever experienced sexual abuse during your lifetime?

_____ Yes _____ No

If yes, how long ago did the abuse occur? _____

If yes, what was the duration of the abuse (e.g., days, months, years)? _____

10) Have you ever experienced rape during your lifetime? _____ Yes _____ No

If yes, how long ago did the rape occur? _____

APPENDIX E

Alcohol Use Disorders Identification Test

Instructions: Below is a list of questions pertaining to alcohol consumption. Please read the questions carefully and circle the answer to the right that best describes you.

1) How often do you have a drink containing alcohol?	Never	Monthly or Less	2-4 times a month	2-3 times a week	4 or more times a week
2) How many drinks containing alcohol do you have on a typical day when you are drinking?	1 or 2	3 or 4	5 or 6	7 to 9	10 or more
3) How often do you have six or more drinks on one occasion?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily
4) How often during the last year have you found that you were not able to stop drinking once you had started?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily
5) How often during the last year have you failed to do what was normally expected of you because of your drinking?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily
6) How often during the last year have you needed a first drink in the morning to get yourself going after a heavy drinking session?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily

7) How often during the last year have you had a feeling of guilt or remorse after drinking?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily
8) How often during the last year have you been unable to remember what happened the night before because of your drinking?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily
9) Have you or someone else been injured because of your drinking?	No		Yes, but not in the last year		Yes, during the last year
10) Has a relative, friend, doctor, or other health care worker been concerned about your drinking or suggested you cut down?	No		Yes, but not in the last year		Yes, during the last year