8-2001

The Effect of Alcohol Consumption and Alcohol Expectancy on Women's Responses to a Date Rape Analogue

Beth A. Lewis

Follow this and additional works at: https://commons.und.edu/theses

Part of the Psychology Commons

Recommended Citation
Lewis, Beth A., "The Effect of Alcohol Consumption and Alcohol Expectancy on Women's Responses to a Date Rape Analogue" (2001). Theses and Dissertations. 899.
https://commons.und.edu/theses/899

This Dissertation is brought to you for free and open access by the Theses, Dissertations, and Senior Projects at UND Scholarly Commons. It has been accepted for inclusion in Theses and Dissertations by an authorized administrator of UND Scholarly Commons. For more information, please contact zeinebyousif@library.und.edu.
THE EFFECT OF ALCOHOL CONSUMPTION AND ALCOHOL EXPECTANCY ON WOMEN'S RESPONSES TO A DATE RAPE ANALOGUE

by

Beth A. Lewis

Master of Arts, University of North Dakota, 1998

A Dissertation

Submitted to the Graduate Faculty

of the

University of North Dakota

in partial fulfillment of the requirements

for the degree of

Doctorate of Philosophy

Grand Forks, North Dakota

August

2001
This dissertation, submitted by Beth A. Lewis in partial fulfillment of the requirements for the Degree of Doctorate of Philosophy from the University of North Dakota, has been read by the Faculty Advisory Committee under whom the work has been done and is hereby approved.

[Signatures]

This dissertation meets the standards for appearance, conforms to the style and format requirements of the Graduate School of the University of North Dakota, and is hereby approved.

[Signature]
Dean of the Graduate School

[Date]
10-16-00
PERMISSION

Title: The Effect of Alcohol Consumption and Alcohol Expectancy on Women's Responses to a Date Rape Analogue

Department: Psychology

Degree: Doctorate of Philosophy

In presenting this dissertation in partial fulfillment of the requirements for a graduate degree from the University of North Dakota, I agree that the library of this University shall make it freely available for inspection. I further agree that permission for extensive copying for scholarly purposes may be granted by the professor who supervised my dissertation work or, in her absence, by the chairperson of the department or the dean of the Graduate School. It is understood that any copying or publication or other use of this dissertation or part thereof for financial gain shall not be allowed without my written permission. It is also understood that due recognition shall be given to me and to the University of North Dakota in any scholarly use which may be made of any material in my dissertation.

Signature: B. Lewis

Date: 10/13/2000
# TABLE OF CONTENTS

LIST OF TABLES .............................................................................................................. vi

ACKNOWLEDGMENTS ................................................................................................. vii

ABSTRACT...................................................................................................................... viii

CHAPTER

I. INTRODUCTION ........................................................................................................... 1
   Prevalence of Rape ............................................................................................. 2
   The Psychological Impact of Rape .................................................................... 5
   Feminist/Socio-Cultural Perspective of Rape .................................................. 6
   Risk Factors Associated with Adult Sexual Victimization ............................ 8
   Alcohol and Sexual Behavior Appraisal Studies ........................................... 23
   Summary and Conclusions ........................................................................... 30
   Overview of Study .......................................................................................... 31
   Hypotheses ....................................................................................................... 32

II. Method ...................................................................................................................... 35
   Participants and Inclusion Criteria ................................................................ 35
   Screening Measures ......................................................................................... 36
   Experimental Questionnaires ........................................................................ 41
   Apparatus ......................................................................................................... 42
Procedure ........................................................................................................... 43
Data Analysis ...................................................................................................... 48

III. Results ........................................................................................................... 49
   Blood Alcohol Levels and Intoxication Ratings ......................................... 50
   Response Latencies to the Date Rape Scenario ...................................... 52
   Resistance Measures ................................................................................... 52
   Psychophysiological Measures .................................................................... 54
   Supplementary Analyses ............................................................................ 56

IV. Discussion ....................................................................................................... 59
   Response Latencies to the Date Rape Scenario ...................................... 60
   Resistance Strategies ................................................................................... 64
   Psychophysiological Reactions .................................................................... 66
   Supplementary Analyses ............................................................................ 67
   Summary and Future Directions ................................................................. 68
   Limitations ..................................................................................................... 70

APPENDICES ........................................................................................................ 72
REFERENCES ......................................................................................................... 93
# LIST OF TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Demographic Characteristics</td>
<td>49</td>
</tr>
<tr>
<td>2.</td>
<td>Number of Participants in Each of the Sexual Assault Categories</td>
<td>50</td>
</tr>
<tr>
<td>3.</td>
<td>Descriptive Statistics for Subjective Intoxication Ratings as a Function of Beverage Content</td>
<td>51</td>
</tr>
<tr>
<td>4.</td>
<td>Descriptive Statistics for Alcohol by Sexual Assault on Response Latencies to the Audiotape</td>
<td>53</td>
</tr>
<tr>
<td>5.</td>
<td>Summary of Linear Regression Analysis for Variables Predicting Response Latencies to the Audiotape</td>
<td>56</td>
</tr>
<tr>
<td>6.</td>
<td>Summary of Linear Regression Analysis for Variables Predicting Unassertive Resistance Strategy Use</td>
<td>57</td>
</tr>
<tr>
<td>7.</td>
<td>Summary of Linear Regression Analysis for Variables Predicting Overwhelmed Reactions to the Scenario</td>
<td>58</td>
</tr>
</tbody>
</table>
ACKNOWLEDGMENTS

I wish to express my sincere appreciation to my advisor, Dr. Nancy Vogeltanz-Holm, for her guidance and support on this project and my graduate education in general. The many contributions of Dr. Jeffrey Holm, Dr. Tom Petros, Dr. Alan King and Dr. Richard Wilsnack as my advisory committee members are greatly appreciated. I would also like to thank Kristin Vickers Douglas for her assistance with this project. Additionally, I wish to thank my husband, Mike, for his incredible support and encouragement during my graduate training and for his willingness to move across the country in the interests of my career. Finally, I thank my parents and brothers for their love and support through the years.
ABSTRACT

Research indicates that two factors, alcohol consumption and having a sexual assault history, increases a woman’s risk of being sexually assaulted; however, the mechanism underlying this relationship is not yet fully understood. The majority of studies in this area of research have relied on self-report data or vignettes studies in which the effect of alcohol is examined by manipulating the content of the character’s beverage. The purpose of the present study was to better understand the effects of alcohol consumption and sexual assault history on perceptions of sexual assault by conducting a laboratory study in which 80 female participants consumed an alcoholic or nonalcoholic beverage and responded to an audiotaped date rape scenario. The audiotape scenario depicted a man and a woman engaging in a sexual interaction that began with consensual sexual contact and progressed to date rape. Participants were instructed to indicate when the male character should stop his sexual advances and answered a series of questions examining how likely they would be to use particular resistance strategies in response to the fictitious date rape. Contrary to our hypothesis, participants who drank alcohol did not wait significantly longer to indicate when the man should stop his sexual advances than participants not consuming alcohol. Nor were there response latency differences among victimized and non-victimized participants. Results of the analyses examining resistance strategies indicated that of the participant reporting a sexual assault history.
those who consumed alcohol were more likely to report that they would use unassertive resistance in response to a sexual assault than participants who did not consume alcohol. We also found that participants who consumed alcohol were more likely to report that they would feel overwhelmed if they were in the situation depicted in the scenario than participants who did not consume alcohol. Findings will be discussed in terms of implications for sexual assault awareness and prevention programs.
CHAPTER I
INTRODUCTION

Rape refers to using physical or verbal threats to force an individual to engage in sexual intercourse without their consent (Benson, Charlton, & Goodhart, 1992); and is usually classified as either stranger or acquaintance rape (Koss, 1985; Koss & Harvey, 1987). Stranger rape refers to nonconsenting sexual intercourse between two people who do not know each other. Acquaintance rape is nonconsenting sexual intercourse between individuals who were acquainted with one another prior to a sexual assault (Bechhofer & Parrot, 1991). Thus, acquaintance rape can occur in a wide range of relationships including between individuals who recently met, are platonic friends, dating, married to one another, or belong to the same family. Date rape is often equated with acquaintance rape (Bechhofer & Parrot, 1991), however, date rape (i.e., rape that occurs among people who are dating) is a type of acquaintance rape rather than an equivalent of acquaintance rape.

Acquaintance and stranger rape differ in that historically victims of acquaintance rape were less likely to report a rape to the police than victims of stranger rape. Because victims of acquaintance rape know the offender, they may be less likely than victims of stranger rape to perceive the sexual assault as constituting rape. When compared to victims of stranger rape, acquaintance rape victims are also less likely to feel like they

1
have been a victim. Additionally, rape offenders that know the victim are less likely to perceive that harm has occurred compared to rape offenders that do not know the victim. Finally, stranger rape is more likely to be premeditated than acquaintance rape (Bechhofer & Parrot, 1991).

Prevalence of Rape

In a recent study of 4,838 college students from 148 universities, 20% of college women and 4% of college men reported being forced to engage in sexual intercourse (Brener, McMahon, Warren, & Douglas, 1999). In another study of 3,187 college women, 14.4% reported experiencing forced sexual contact (not involving intercourse), 15.4% reported being rape, and 12.1% reported an attempted rape when asked about sexual victimization since the age of 14. Furthermore, 17% reported being raped or experiencing an attempted rape during the previous 12 months (Koss, Gidycz, & Wisniewski, 1987). In a community sample of 4,000 adult women, Kilpatrick, Edmunds, and Seymour (1992) found that 13% reported being raped at least once and 0.7% reported being raped within the last 12 months. The National Women’s Study (NWS; Resnick, Kilpatrick, Dansky, Saunders, & Best, 1993) found that 12.7% of adult women experienced at least one completed rape during their lifetime. A longitudinal study surveying a national sample of women found that 1.2% of the participants were raped sometime during the two-year study (Kilpatrick, Acierno, Resnick, Saunders, & Best, 1997). Because of the lack of research and low prevalence of rape among men (Brener et al., 1999), only sexual assault experienced by women will be discussed.
Studies indicate that women tend to be sexually victimized at a relatively young age. For example, Brener et al. (1999) found that of the college women in their sample that were raped, 71% experienced the rape before the age of 18. This is consistent with other studies which report that most rapes occur between the ages of 13 and 26 (Koss et al., 1987; Russell, 1984). One problem with these studies is that they included only college students (Brener et al., 1999; Koss et al., 1987) which restricts the age range of the population studied. In a community sample of adult women, however, Kilpatrick et al. (1992) found that women between the ages of 18 to 24 had the highest risk of being raped when compared to other age ranges. Russell (1984) postulated that college-aged women are at a higher risk of date rape than other age groups because they tend to date more than other age groups. In support of this, research indicates that women in this age range are more likely to be exposed to a greater number of potential sexual offenders than women in other age ranges due to their high frequency of dating (Harney & Muehlenhard, 1991).

College women who have been raped report that most of the rapes were perpetrated by someone they knew. For example, Koss et al. (1987) reported that approximately 80% of the rapes that occurred on college campuses were classified as acquaintance rapes and 50% of the rapes occurred during dates. Furthermore, Kanin (1984) interviewed 71 date rapists and found that 82% were college men suggesting that college women have a higher likelihood of being date raped than non-college women.

Research indicates that after a women is raped -- defined by the FBI as, “forcible actual or attempted vaginal intercourse with a woman against consent by force or threat of
force," — only a minority of woman recognize that they have been raped. For example, Koss et al. (1987) reported that only 25% of the women in their study correctly identified a sexual encounter as a rape even though the sexual encounter met the legal definition of rape. College men are even less likely to correctly identify an incident of rape. Among men in the Koss et al. (1987) study that had legally raped one or more individuals, only 7.7% of the men labeled the encounter as rape.

Prevalence studies suggest that there are few ethnic and racial differences among women who have been raped (Brener et al., 1999; Winfield, George, Swartz, & Blazer, 1990; Hall & Flannery, 1984). However, Koss et al. (1987) reported a higher rate of rape among Native American female college students and Nagy, Adcock, and Nagy (1994) reported a higher prevalence of forced sexual intercourse among Black adolescent girls when compared to White adolescent girls. Additional research is needed to examine the prevalence of rape in various ethnic and racial groups.

Several studies suggest that potential rape victims are more likely to escape stranger rape than acquaintance rape (see Ullman & Knight, 1991; Ruback & Ivie, 1988). One study, however, reported that women are more likely to escape acquaintance rape when compared to stranger rape (Quinsey & Upfold, 1985). The latter study was problematic in that their sample included only a few women who reported experiencing acquaintance rape. Additionally, each occurrence of acquaintance rape was documented as a separate data point, regardless of whether the rapes occurred among the same offender and victim or different offenders and victims. Bart and O’Brien (1985) found that women were less likely to escape acquaintance versus stranger rape because victims
of acquaintance rape were less likely to use resistance strategies such as running away or yelling than victims of stranger rape (Bart & O'Brien, 1985). Furthermore, studies indicate that women are more likely to use ineffective resistance strategies and are less likely to resist a rape when the offender is a significant other (e.g., boyfriend, husband) rather than an acquaintance (Ullman & Siegel, 1993; Amick & Calhoun, 1987).

In summary, the prevalence of rape and attempted rape (including stranger and acquaintance rape) are relatively high (Brener et al., 1999; Koss et al., 1987) and studies indicate that the rate has been increasing in recent years (Koss, 1996). It is unclear, however, whether actual rape or the reporting of rape has increased. Koss (1996) reported that surveying methods have improved over the past 20 years which may partially explain why the prevalence of rape has dramatically increased. According to Koss, however, results reported by the International Crime Survey (van Dijk & Mahew, 1993) and the U.S. National Crime Victimization Survey (BJS, 1994) still underestimate the prevalence of stranger and acquaintance rape which results in a lack of social concern for rape and creates an illusion that rape rarely occurs.

The Psychological Impact of Rape

Victims of rape are at an increased risk for suicidal ideation and attempts (Kilpatrick et al., 1992; Riggs, Alario, & McHorney, 1990); post-traumatic stress disorder (Kilpatrick, Saunders, Amick-McMullan, & Best, 1989; Kilpatrick, Saunders, Veronen, Best, & Von, 1987; Steketee & Fca, 1987) and other anxiety disorders (Saunders et al., 1992; Burnam et al., 1988); depression (Saunders et al., 1992; Burnam et al., 1988); sexual disorders (Saunders et al., 1992); and chronic diseases (Golding, 1994). Several
studies suggest that victims of rape are also more likely than women who have never been raped to report health-risk behaviors including having multiple sex partners (Brener et al., 1999; Koss & Dinero, 1989; Miller, Monson, & Norton, 1995), smoking (Brener et al., 1999; Koss, Koss, & Woodruff, 1991), the initiation of consensual sexual intercourse at an early age (Miller et al., 1995; Nagy, DiClemente, & Adcock, 1995), and alcohol and drug use (Nagy et al., 1995; Canterbury, Grossman, & Lloyd, 1992; Kilpatrick et al., 1992; Koss & Dinero, 1989). One study found that among women receiving treatment for substance abuse, 54% to 60% reported that they had been raped and 30% to 31% reported experiencing an attempted rape (Dansky, Saladin, Brady, Kilpatrick, & Resnick, 1995).

Feminist/Socio-Cultural Perspective of Rape

Prior to the mid-1970’s, rape victims were more often blamed for rape, especially acquaintance rape, when compared to the offenders. In the mid-1970’s, however, researchers began to place more of the blame on the offenders than the victims (see Brownmiller, 1975; Griffin, 1971). Feminists began to argue against several rape stereotypes including the idea that rape is something that hysterical women create or it is the result of women unconsciously desiring to be raped. Instead, feminists viewed rape as a means of male dominance (Muehlenhard, Danoff-Burg, & Powch, 1996). According to Malamuth (1996), most feminist theorists conceptualize rape as a man’s desire to control women. Rape is therefore not motivated by sexuality but is rather used as a means of power. Furthermore, Brownmiller (1975) postulated that forced sexual intercourse is used as a tool to traumatize and control women.
According to Burkhart and Stanton (1988), rape is the result of our cultural traditions that emphasize the acceptance of violence toward women. Rape is influenced by our society, which socializes men to favor dominance and aggression and women to favor submission, dependence, and powerlessness (Malamuth, 1996). Support for this conclusion can be found in studies that report a relationship between the acceptance of rape myths and violence against women and the restriction of women’s rights (Costin & Kaptanoglu, 1993; Burt, 1980). It is further supported by the finding that sexual assault correlates positively with the attitudes of male aggressiveness and dominance in relationships (Rapaport & Burkhart, 1984).

Research suggests that there is a relationship between the frequency of rape and societies’ views of gender inequality. Based on archival data from 156 societies in North America, South and Central America, Circum-Mediterranean, Sub-Saharan Africa, East Eurasia, and Insular Pacific, Sanday (1981) reported that societies which consisted of men dominating economic and political power had a higher prevalence of rape. Furthermore, societies with a high rate of rape were also more likely to have an attitude of disregard for women’s contributions to the culture. Men in societies with lower rape frequencies tended to respect and appreciate the role of women in their society when compared to societies with a higher rate of rape. Another study found that when the 50 states of the U.S. were compared, states with a higher prevalence of rape exhibited a higher likelihood of gender inequality (Baron & Straus, 1987).

Several studies have examined how these socio-cultural variables influence the occurrence of sexual aggression against women. For examples, a ten-year longitudinal
study found that men who reported a hostile masculinity (defined as insecurity, defensiveness and hypersensitivity directed toward women) were more likely to sexually assault a woman than men not reporting these characteristics (Malamuth, Linz, Heavey, Barnes, & Acker, 1995). Research also indicates that men who adhere to values legitimizing sexual aggression against women and men who possess a need to dominate their sexual partners are more likely to rape women than men not ascribing to these values (Malamuth, 1986; Rapaport & Burkhart, 1984). Truman, Tokar, and Fischer (1996) found that men with negative attitudes toward feminism were more likely to commit a date rape than men with supportive attitudes.

In summary, our society influences the ideas and attitudes men have toward women. Feminist theorists postulate that the degree to which men adhere to particular socio-cultural ideas may depend on the man's learning history. Therefore, men whose learning histories have shaped them to adhere to male-dominated values and to use violence as a means to dominate women are more likely to sexually aggress against women than men not holding these ideas. Feminists theorize that sexual assault would end if our society was restructured so that the self-esteem of men is not based on the dominance of women (Malamuth, 1996).

Risk Factors Associated with Adult Sexual Victimization

Prior Sexual Victimization

Research indicates that women who were sexually victimized once have a higher risk of being victimized again when compared to women who have never been victimized. Koss and Dinero (1989) surveyed a national sample of 2,723 female college
students and found that women who reported sexual abuse as a child were more likely to experience rape or attempted rape when compared to women without a history of childhood sexual abuse. Another study reported that adults who were abused during childhood are at a higher risk of experiencing substance abuse, depression, and low self-esteem than non-victimized women which, according to the authors, put these women at a higher risk of experiencing future instances of sexual victimization (Browne & Finkelhor, 1986).

A prospective study investigated the occurrence of re-victimization by assessing sexual victimization among female college students and then monitoring the occurrence of sexual victimization over the nine weeks following this initial assessment (Gidycz, Coble, Latham, & Layman, 1993). They found that participants who reported childhood sexual abuse were more likely to be victimized during the nine weeks subsequent to the assessment than those not reporting childhood sexual abuse. Participants reporting depression and anxiety during the assessment phase were also more likely to experience sexual assault during the nine-week monitoring phase.

A study by Himelein (1995) suggests that the risk of additional sexual victimization following a sexual assault may decrease as the length of the time since the last sexual assault increases. Support for this hypothesis stems from Himelein’s (1995) finding that there is a relationship between childhood sexual victimization and pre-college date rape and a relationship between pre-college date rape and sexual assault during college, however, he found no relationship between childhood sexual victimization and sexual victimization during college. Himelein concluded that
childhood sexual victimization may heighten the risk of sexual assault during adolescence but this risk decreases as the length of time without a sexual assault following adolescence increases.

Research suggests that victimized women would be less likely to engage in resistance strategies during future sexual assaults than non-victimized women. For example, a study by Norris, Nurius, and Dimeff (1996) found that women who had experienced some form of sexual aggression within the previous 12 months were less likely to report that they would use verbal assertiveness and physical resistance strategies if they encountered a potential date rape than non-victimized women. Furthermore, previously victimized women were more likely to report that a fear of being rejected, experiencing embarrassment, and alcohol consumption would serve as barriers to escaping a potentially dangerous situation when compared to non-victimized women. Perhaps women who have experienced a rape are less likely to use resistance strategies because the resistance techniques they used during the first sexual attack were ineffective. Therefore, victimized women lack confidence in the effectiveness of resistance strategies and thus are less likely to use them than non-victimized women. Given these findings and the fact that resistance strategies decrease the likelihood of a completed rape (Zoucha-Jensen & Coyne, 1993; Ullman & Knight, 1992), treatment programs for victimized women should target the importance of attempting to use resistance strategies in the future.

To better understand how perceptions of rape differ for victimized versus non-victimized women, Naugle, Follette and Follette (1994) conducted a study that included
women who were sexually victimized during childhood and adulthood, who were victimized during childhood only, and who were and never victimized. All groups were shown a videotape depicting several types of situations involving risk of sexual victimization. They found that as the level of coerciveness by the potential male perpetrator increased, the group of women who were sexually victimized as children but not again as adults reported they would be more likely to engage in the fictitious risky sexual situation than women victimized during both adulthood and childhood and non-victimized women. The authors concluded that when compared to women who have been sexually victimized only as children, revictimzied women may be more likely to have learned how to identify environmental cues that are suggestive of risky situations and learned resistance strategies regarding how to cope with dangerous situations. These findings appear to contradict research indicating that victimized women have a higher risk of being revictimized than non-victimized women (Gidycz et al., 1993; Koss & Dinero, 1989). Additionally, these findings contradict Wilson, Calhoun, and Bernat (1999) who found that women with a multi-victimization history (defined as two or more instances of adult or adolescent victimization or a history of childhood sexual victimization with one or more instances of adult or adolescent victimization) waited significant longer to indicate when a man in an audiotaped sexual assault scenario should refrain from making any further advances than non-victimized women or women with a single assault history.

Even though Naugle et al. (1994) found that women who were victimized during childhood and adulthood were able to adequately identify risky situations, this study did
not examine the participants' reactions to the potentially risky situations. As discussed earlier, victimized women are less likely to use resistance strategies when encountering a date rape than non-victimized women (Norris et al., 1996) suggesting that even though revictimized women identify cues related to risky situations (Naugle et al., 1994), once in the situation they increase their risk of rape by not engaging in resistance strategies. Additional research needs to address how victimized and non-victimized women perceive and cope with potential rape situations so more effective treatment strategies can be developed and implemented.

**Victim Behaviors**

Research indicates that particular behaviors increase a woman’s risk of being sexually victimized. For example, one study assessed the relationship between sexual assault and victim behaviors by asking male and female participants to provide information regarding a recent date (Muehlenhard, Friedman, & Thomas, 1985). Based on this self-report retrospective information, the authors found that women have a higher likelihood of experiencing a sexual assault if the man drives during the date, pays for the date, or the woman initiates the date. Muehlenhard et al. (1985) also administered vignettes to male participants depicting a woman engaging in “suggestive” behaviors (e.g., asking the man for a date, letting the man pay for the date, and agreeing to go into his apartment). They found that the participants rated a rape as more acceptable when the man in the story paid for the date versus when he did not pay for the date. Furthermore, they interpreted the woman agreeing to go into the man’s apartment and the woman initiating the date as indicators of the woman wanting to have sexual intercourse with the
man. Overall, these results suggest that women may decrease their risk of a date rape by taking control of the date (e.g., doing the driving, paying for things).

Research also suggests that a man may misinterpret the woman as wanting to engage in sexual intercourse if the woman is wearing revealing clothing. One study reported that when a woman in a photograph was wearing revealing clothing, male and female participants rated the woman as being more sexy, seductive, and promiscuous than a woman wearing non-revealing clothing (Abbey, Cozzarelli, McLaughlin, & Harnish, 1987). Furthermore, the woman wearing revealing clothing was viewed as less sincere and less considerate than the woman not wearing revealing clothing. Consequently, the authors concluded that men may interpret a woman's refusal of sexual intercourse as less sincere when she is wearing revealing versus non-revealing clothing.

Women who consume alcohol at bars are at an increased risk of being sexually victimized when compared to women who do not drink at bars (Parks & Miller, 1997; Fillmore, 1985). Female participants commonly described alcohol as decreasing their awareness of environmental cues and therefore, leading to an increased risk of sexual victimization. The authors also concluded that since women who go to bars are more likely to be exposed to potential sexual offenders, going to the bar, regardless of whether alcohol is consumed or not, increases the risk of sexual assault. These findings suggest that women who consume alcohol at bars should be educated regarding preventative measures that can be used in a bar setting (e.g., attending bars in large groups).

Women who report having sexual intercourse during their mid-teens are also more likely to be sexually victimized than women reporting first engaging in sexual intercourse
during their late-teens (Koss, 1985; Koss & Dinero, 1989). It is unclear whether the early sexual activity is influential in future victimization or sexual victimization plays a role in early sexual activity. Women who report having several sexual partners are also at a higher risk of sexual victimization than women reporting fewer sexual partners (Koss, 1985; Koss & Dinero, 1989). Perhaps women with several sexual partners are exposed to a greater number of potential sexual offenders than women with few sexual partners.

Harrington and Leitenberg (1994) conducted a study including women who reported experiencing sexual aggression (defined as sexual contact other than kissing which occurred as a result of physical force or threats) and found that women who reported being at least somewhat drunk at the time of the sexual assault were more likely to engage in consensual sexual contact immediately prior to the sexual assault than those reporting not being drunk at all. For example, 9% of the victims who rated themselves as being at least somewhat drunk reported engaging in consensual oral sex prior to the sexual assault compared to 1% of the victims rating themselves as not at all drunk. These results suggest that women who consume alcohol may be more likely to engage in consensual non-intercourse sexual activity which, in turn, increases the likelihood of rape.

In summary, research suggests that women may be at a higher risk of sexual victimization when they agree to go into their date’s apartment, allow the man to pay for the date, are responsible for initiating the date, wear revealing clothing, go to a bar, have had consensual sexual intercourse at a young age, and engage in non-intercourse sexual activity. These studies can be criticized for emphasizing the behavior of the victim instead of the perpetrator. Even though the blame for a rape should be placed on the
offender, it is important to discuss risk factors associated with women and men's behavior so both genders can be educated on different factors influencing the occurrence of a sexual assault. Perhaps women and men can be educated on how their behaviors are perceived by the opposite sex and how the meanings of different behaviors can be clearly communicated between women and men. Women would also benefit from education regarding how these behavioral risk factors (e.g., going to bar, engaging in non-intercourse sexual intercourse) increase their risk of experiencing a sexual assault so that they can take effective precautions (e.g., going to bars in large groups of people).

**Victim Resistance Strategies**

Researchers define rape avoidance as a sexual assault that does not involve oral, anal, or vaginal penetration (Ullman, 1997). Researchers examining verbal and physical resistance of a sexual assault have been criticized for reinforcing the idea that women are partially responsible for rape (McCall, 1993). Although the blame for rape should be attributed to the offender, it remains important to examine the effectiveness of resistance strategies so women can be educated regarding the most appropriate strategies to use when resisting a sexual offense.

Several types of sexual assault resistance strategies have been examined including forceful verbal, nonforceful verbal, forceful physical, and nonforceful physical resistance strategies (Zoucha-Jensen & Coyne, 1993; Ullman & Knight, 1992; Kleck & Sayles, 1990; Block & Skogan, 1986). Studies indicate that forceful physical resistance, which involves the victim engaging in aggressive behaviors such as kicking, punching, scratching, or using a weapon against the offender, increases the likelihood of rape
avoidance (Ullman & Knight, 1992; Zoucha-Jensen & Coyne, 1993). However, studies also indicate that the victim increases her risk of physical injury (e.g., bruises, scratches, and cuts in addition to the injuries caused by the sexual acts) when engaging in forceful physical resistance (Siegel, Sorensen, Golding, Burnam, & Stein, 1989; Block & Skogan, 1986; Prentky, Burgess, & Carter, 1986). One problem with these studies is they fail to examine the sequence of the physical attack and physical resistance, therefore, it is unclear whether the offender is more likely to physically harm the victim because she displays physical resistance or if the victim is more likely to use forceful physical resistance because she is experiencing physical harm.

To better understand the causal relationship between physical injury and physical resistance during rape, two studies analyzed the time sequence of injury and resistance as reported in police reports, victim statements, and courtroom testimonies. A majority of the rapes were stranger rape perhaps because the cases were selected from offenders who were incarcerated. Results from one of the studies indicated that physical resistance relates to less injury (Quinsey & Upfold, 1985) and the other reported that victims who engaged in physical resistance reported less severe sexual assault without an increase of physical injury (Ullman & Knight, 1992). Despite early studies indicating that physical resistance may increase risks for more severe injury (Siegel et al., 1989; Block & Skogan, 1986), it appears that physical resistance is not associated with more severe sexual and physical harm. However, because these results are based on stranger rapes, the findings may not generalize to acquaintance rape situations. Furthermore, these results should be
interpreted cautiously given the results are based on subjective information (i.e., police reports).

Forceful verbal resistance, which involves engaging in vocalizations for the purpose of scaring off the offender and obtaining outside help, is also effective for resisting rape (Kleck & Sayles, 1990; Siegel et al., 1989). Furthermore, results from another study indicated that forceful verbal resistance is effective for reducing the severity of sexual assault while not increasing risk of physical injury (Ullman & Knight, 1992).

Nonforceful physical resistance, which includes passive physical strategies such as running or attempting to pull away from the offender, also increases the avoidance of rape (Kleck & Sayles, 1990; Block & Slogan, 1986) and are not related to an increase in physical harm (Kleck & Sayles, 1990). Ullman and Knight (1992) reported, however, that nonforceful physical resistance is only effective when the offender engages in a verbal but not physical attack on the victim.

Finally, some research suggests that nonforceful verbal resistance (e.g., begging the offender to stop, crying, attempting to reason with the offender) increases the likelihood of a completed rape (Zoucha-Jensen & Coyne, 1993; Ullman & Knight, 1991). However, a study analyzing the sequence of the nonforceful verbal resistance and rape avoidance/physical injury reported that engaging in nonforceful verbal resistance is neither effective nor ineffective for avoiding rape and/or physical injury (Ullman & Knight, 1992).

In summary, it appears that resistance strategies, especially forceful physical and forceful verbal strategies, are effective for preventing the completion of an attempted
rape. Given the effectiveness of these resistance strategies, researchers have begun to examine why some women engage in these behaviors and others do not. One potential factor that may impact the use or failure to use these resistance strategies is alcohol use. For example, one study found that women who regularly consumed alcohol were less likely to report that they would use physical resistance and verbal assertiveness when encountering a potential date rape than women who consumed less alcohol (Norris et al., 1996). Even though this finding suggests that women who use alcohol have a tendency to not use resistance strategies, it provides little information regarding the effect of alcohol at the time of the potential acquaintance rape. In other words, it is unclear if alcohol use impairs the woman’s ability to use resistance strategies when encountering a potential sexual assault or if some other variable associated with alcohol use accounts for the relationship between alcohol use and the use of resistance strategies. The effects of alcohol consumption on women’s responses to sexual aggression needs further investigation. Another problem with the resistance strategy studies is they are based on retrospective self-reports of the incident (Norris et al., 1996), therefore, other variables such as alcohol use at the time of the incident may influence the memory of the sexual assault.

Despite the problems with the resistance strategies research, these studies have important implications for prevention and treatment programs. It is important that sexual assault prevention programs not only focus on practicing the use of these resistance strategies but also educating women about the effectiveness of these resistance strategies. Perhaps women are less likely to use these resistance strategies if they believe the
strategies will not be effective in avoiding a sexual assault. As mentioned previously, it is also important that research examine factors such as alcohol use that may impair the victim’s ability to use these resistance strategies.

**Alcohol and Drug Use**

Women who use alcohol or other drugs have an increased risk of sexual victimization when compared to those who do not use these substances (Breslau, Davis, Andreski, & Petersen, 1991; Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995). A recent longitudinal study including a national sample of women found that women who used drugs were more likely to be sexually assaulted during the two years following the survey than women not using drugs (Kilpatrick et al., 1997). Furthermore, when compared to women who were not sexually assaulted, women who were sexually assaulted reported a greater likelihood of using alcohol and drugs in the two years following the sexually assault. This result was even found among women who did not use alcohol or drugs prior to the sexual assault and who did not have a history of a prior sexual assault.

**Alcohol Consumption at the Time of the Rape**

Koss (1988) reported that 55% of women and 75% of men who had been involved in a sexual assault had used alcohol or other drugs immediately prior to the sexual assault. Other studies report that approximately half of the female and male college students surveyed had used alcohol immediately before the occurrence of a sexual assault (Miller & Marshall, 1987; Muehlenhard & Linton, 1987). Research also indicates that alcohol use may be more associated with acquaintance rape compared to stranger rapes. For
example, Bachman (1994) reported that acquaintance rape offenders were 70% more likely than stranger rape offenders to use alcohol before committing a sexual assault (Bachman, 1994). One study found that 29% of the sexual assaults reported by their sample of college women, occurred because the woman was not able to consent due to feeling incapacitated as a result of consuming alcohol. Muehlenhard and Schrag (1991) reported that 75% of the college men reported giving alcohol or other drugs to women as an attempt to have sexual intercourse. Finally, research suggests that sexual assaults are more likely to occur when both individuals consume a high dose of alcohol rather than a low dose (Muehlenhard & Linton, 1987).

Abbey, Ross, McDuffie, and Mcauslan (1996) found that among women who experienced a sexual assault, women who drank alcohol at the time of the sexual assault were more likely to experience a completed rape than an attempted rape (88% vs. 12%) when compared to women who did not drink alcohol (64% vs. 36%). Another study found that female rape victims who consumed alcohol were less likely to run away, struggle with the offender, or scream to obtain help than victims who did not consume alcohol (Hawks & Welch, 1991). Furthermore, Harrington and Leitenberg (1994) found that victims who perceived themselves as at least somewhat drunk (based on a self-report seven-point scale) at the time of the sexual assault were less likely to engage in resistance strategies than those reporting not being drunk at all. Also, victims who perceived the offender as being at least somewhat drunk (also rated on a seven-point likert scale) were less likely to report that they had attempted to use resistance strategies than if the perpetrator was perceived as not being drunk at all. Ullman and Knight (1993) reported
that sexual assaults which involved alcohol and drug use were more severe than those not involving alcohol. Studies also report that men encourage women to use alcohol because they believe this will result in the woman being less able to resist a sexual assault (Mosher & Anderson, 1986; Kanin, 1985). Finally, based on self-report information obtained from male and female college students, college campuses with a large percentage of binge drinkers have an increased risk of unwanted sexual advances than college campuses with a lower percentage of binge drinkers (Wechsler, Moeykens, Davenport, Castillo, & Hansen, 1995).

These studies suggest that when compared to women who do not drink alcohol, women who drink alcohol are more vulnerable to an initial sexual attack, a completed attack, and a more violent attack. However, it seems logical that when compared to female non-drinkers, female drinkers are more likely to be exposed to male drinkers, and this association probably influences the relationship between alcohol use by the victim and rape. In other words, male drinkers are more likely to come in contact with female drinkers which consequently puts women who drink alcohol at a higher risk of being raped than women who do not drink alcohol. However, Harrington and Leintenberg (1991) found that if either the victim or the offender drank alcohol, the victim was less likely to use resistance techniques. This suggests that consuming alcohol by either the offender or the victim can play a role in the use of resistance techniques and thus influence the likelihood of the occurrence of rape or attempted rape.

There are several explanations as to why women who drink alcohol have a higher risk of being sexually victimized than women who do not drink alcohol. One possible
explanation is that a woman under the influence of alcohol experiences limitations in the
cognitive processing of cues that signal impending danger (Ryan & Butters, 1983). Based
on several studies examining the relationship between alcohol consumption and sexual
assault, Abbey (1991) postulated several explanations for the link between alcohol
consumption and rape. First, alcohol may impair women’s ability to physically resist a
sexual assault. Because alcohol acts on the central nervous system causing a sedative
effect and decreasing behavior activity (Julien, 1995), women may be unable to
physically resist the potential offender after consuming alcohol. As discussed earlier,
engaging in rape resistance strategies have important implications for avoiding rape
(Ullman, 1997; Zoucha-Jensen & Coyne, 1993).

Second, when a woman has been drinking, the potential offender may believe that
the victim would like to engage in sexual intercourse with him. As discussed above, men
are more likely to believe that a woman who is drinking would like to engage in sexual
intercourse than a woman who is not drinking (George, Gournic, & McAfee, 1988;
Muehlenhard & Linton, 1987; Richardson & Campell, 1982).

Finally, alcohol may influence a woman to ignore or misinterpret cues that would
normally lead her to perceive a particular situation as dangerous. For example, she may
not realize that her behavior toward another person is being interpreted as seductive or
she may not notice her date trying to lure her into an isolated area. Steele and Josephs
(1990) postulate that alcohol intoxication leads to a restriction in the number of cues an
individual can perceive and encode in a particular situation. They also stated that when
individuals drink, they may be less able to interpret the meaning of particular cues when
compared to sober individuals. Alcohol leads to what they have called “alcohol myopia” which refers to an intoxicated individual’s tendency to let their immediate experience affect their behavior. Steele and Josephs (1990) describe “alcohol myopia” as seeing the tree but missing the forest. Perhaps alcohol consumption causes women to be unaware of cues in the environment that signal a situation that would seem dangerous if encountered when sober. Even though it is important to understand why alcohol use increases women’s risk of being raped (e.g., failure to perceive environmental cues), additional research is still needed to understand the fundamental mechanisms (e.g., failure to use resistance strategies) that underlie the relationship between alcohol use and rape.

Alcohol and Sexual Behavior Appraisal Studies

Given the above findings, several studies have examined the influence of alcohol on perceptions of sexual behavior (Abbey & Harnish, 1995; Corcoran & Thomas, 1991). To investigate if perceptions of sexual behavior risks are affected by alcohol consumption, researchers typically use written vignettes depicting a woman at risk for sexual assault (Muehlenhard & Linton, 1987; Richardson & Campell, 1982). Different forms of the same vignette, which vary the content of the type of drink that the fictional characters consume (e.g., alcoholic vs. nonalcoholic beverage), are administered.

Studies indicate that alcohol is perceived as a cue for willingness to engage in sexual activity. That is, when individuals observe another individual consuming alcohol, the individual consuming alcohol is perceived as more willing to engage in sexual behavior than an individual not consuming alcohol. For example, George et al. (1988) found that when male and female participants read a story depicting a man and a woman
consuming a few alcoholic drinks, both female and male participants perceived the woman consuming a few drinks as more willing to be seduced, more likely to respond favorably to a sexual advance, and more willing to participate in sexual intercourse than if the woman consumed a soda. Interestingly, when the effect of alcohol dose was examined, the female character was viewed as more sexual (i.e., more likely to engage in sexual activity) after consuming a moderate dose of alcohol than a high dose of alcohol. The authors concluded that alcohol use increases the likelihood of perceiving a woman as being sexually available, however, this relationship is weaker at higher doses of alcohol.

Another study found that female and male participants, who read a story which included both a man and a woman consuming alcohol, reported that each were equally likely to initiate sexual contact. When only one of the fictional characters consumed alcohol, however, participants reported that the man was more likely than the women to initiate sexual contact (Corcoran & Thomas, 1991). Abbey and Harnish (1995) conducted a similar study in which female and male participants read a story depicting female and male characters either drinking alcohol or a non-alcoholic beverage which resulted in four experimental groups: (1) both the man and the woman drank alcohol; (2) the man drank alcohol but the woman did not; (3) the woman drank alcohol but the man did not; and (4) both the man and woman did not drink alcohol. Participants rated the man and woman as most sexual when both drank alcohol indicating that individuals perceive sexual behavior as most appropriate when both consume alcohol.

Cue, George, and Norris (1996) administered a vignette depicting a woman and a man on a date and female participants rated the likelihood that the man would sexually
assault his date. Participants reported that a sexual assault was not more likely to occur if the female character consumed alcohol rather than coffee. However, they found that alcohol use influenced participants' ratings regarding how willing the woman is to engage in consensual sexual contact. In other words, female participants were more likely to believe that the female character would engage in sexual activity with the male character when the female character drank alcohol than when she drank coffee.

One problem with the above studies (Cue et al., 1996; Abbey & Harnish, 1995; Corcoran & Thomas, 1991; George et al., 1988) is that they administered stories that involved a date but did not involve any sexual contact. To assess issues related to sexual behavior, participants were asked questions about sexual contact that may occur following the date without actually including sexual contact in the story itself (Cue et al., 1996). Norris and Cubbins (1992) conducted a study including vignettes that, unlike the studies discussed above, depicted a date followed by forced sexual intercourse. They compared two vignettes, one depicting both the male and female characters consuming alcohol and the other depicting only the female character drinking alcohol. When both the male and female characters drank alcohol, participants viewed the assailant as more likable and were less likely to believe a rape had occurred than when only the woman consumed alcohol. The authors suggested that when only the woman drinks and a sexual assault occurs, she is viewed as being taken advantage of by the man, however, when both the man and woman drink together, individuals hold an expectation that sexual activities will occur.
Richardson and Campbell (1982) examined the effects of intoxication on perceived responsibility of date rape by manipulating the intoxication level of the male offender and the female victim in a story. Intoxication level was changed by inserting or deleting phrases in the story, for example, “staggering to the door” was inserted and “slurred” was substituted for “said” in the intoxication condition. They found that female and male participants blamed the male character less for the date rape when he was portrayed as being intoxicated rather than sober. When the female victim in the story consumed alcohol, however, she was viewed as more responsible for the date rape than when she did not consume alcohol.

Overall, studies suggest that female and male participants perceive women who consume alcohol at the time of the date rape as more responsible for the date rape and more sexually available when compared to women who do not consume alcohol (Abbey & Harnish, 1995; George et al., 1988; Richardson & Campbell, 1982). To better understand the relationship between alcohol and perceptions of date rape, additional laboratory research is needed in order to explain the mechanisms that may influence the relationship between alcohol consumption and perceptions of sexual assault.

Laboratory Studies Investigating Alcohol Consumption and Sexual Assault

A few studies have investigated the link between alcohol and sexual assault by administering alcohol to participants within the context of the laboratory (Bernat, Calhoun, & Stolp, 1998; Marx, Gross, & Juergens, 1997). For example, Marx et al. (1997) tested the relationship between sexual aggression and alcohol consumption by using a 2 (receive alcohol vs. receive no alcohol) by 2 (expect alcohol vs. expect no
alcohol) by 2 (token resistance vs. no token resistance) design to examine reactions to an audiotape depicting a date rape. This design examined the expectancy effect (i.e., the expectation that one has consumed alcohol affecting the results) by telling the participants in the “expect alcohol group” that they would consume alcohol and the participants in the “expect no alcohol group” that they would not consume alcohol regardless of whether they actually consumed alcohol or not. Token resistance (i.e., the woman initialing refusing to have sexual contact with her dating partner but later agreeing to it) was examined by telling the participants in the “token resistance condition” that on a past date the woman had initially refused to have sexual contact with her dating partner (which did not include sexual intercourse) but later agreed to non-intercourse sexual contact. Participants in the “no token resistance condition” were not told about any instance of token resistance.

Participants consisted of 153 male college students who were told that they would listen to an audiotape depicting a male college student and a female college student who had just returned to the man’s apartment after their sixth date. The audiotape depicted physical intimacy between the man and the woman by including dialogue between the two dating partners and other sounds related to sexual intimacy such as heavy breathing and kissing. The tape started with consensual kissing and gradually escalated to forced sexual intercourse. The man in the scenario used verbal threats, verbal force, and physical force during the rape. To examine how the male participants’ perception of sexual intent differed across the six conditions, participants indicated when they thought the man depicted in the audiotape should stop his sexual advances by pressing a button. To ensure
that participants did not wait longer to press the button because they were curious to listen
to the remainder of the tape, all participants were told that they would listen to the entire
audiotape regardless of when they chose to press the button.

Results indicated that male participants who consumed alcohol waited
significantly longer to indicate that the man should stop his sexual advances than
participants not consuming alcohol. Furthermore, regardless of whether participants had
consumed alcohol or not, participants who thought they had consumed alcohol, waited
significantly longer to indicate the man should stop his sexual advances than participants
who thought they had not consumed alcohol (i.e., an expectancy effect). The authors
noted that the effect size for the alcohol versus no alcohol finding was much higher than
the effect size for the expect alcohol versus expect no alcohol finding indicating that the
effect of alcohol consumption was stronger than the effect of alcohol expectancy. There
were no differences for the token resistance versus no token resistance groups, indicating
that the male participants did not consider previous sexual contact a reason for the man to
continue his sexual advances.

The above findings indicate that both consuming alcohol and expecting to
consume alcohol can impair men's judgments of appropriate sexual contact. Since the
date rape scenario gradually escalated from consensual kissing and verbal pressure to
verbal threats and forced sexual intercourse, participants consuming alcohol or expecting
to consume alcohol were more accepting of the verbal pressure and threats than those not
consuming alcohol or not expecting to consume alcohol.
A similar study (Bernat et al., 1998) also examined the relationship between alcohol consumption and sexual aggression by using the same date rape analogue used in the above study. Participants consisted of 102 male college students who were classified as either sexually aggressive (n=54) or nonaggressive (n = 48) based on two self-report sexual aggression measures. Prior to listening to the tape, half of the participants were told that the couple had consumed alcohol and the other half were told that they had not consumed alcohol. They found that of the sexually aggressive participants, those who were told that the couple in the tape had consumed alcohol waited significantly longer to indicate that the man should refrain from making additional sexual advances than the sexually aggressive group that was not told the couple had consumed alcohol. However, no significant differences across the alcohol versus no alcohol groups emerged among the non-sexually-aggressive participants. In addition, the sexually aggressive men perceived the woman as less honest regarding her feelings about sexual contact when compared to the non-aggressive men. This study indicates that men, especially sexually aggressive men, need to be educated about the appropriateness of their perceptions of sexual contact.

One problem with the above alcohol and sexual assault laboratory studies is that the results may not be generalizable to decisions that individuals make in real-life situations. Despite this problem, however, laboratory studies are important in that they allow researchers to conduct a detailed analysis of the relationship between actual alcohol consumption and perceptions of date rape.

Another problem with the above laboratory studies is that the studies only included male participants. To date, no laboratory studies have examined how the actual
consumption of alcohol affects women’s perceptions of rape. Current studies have examined how alcohol may influence perceptions of date rape by comparing groups that have been told that the individuals depicted in a date rape scenario were either drinking or not drinking (Abbey & Harnish, 1995; George et al., 1988). Even though the blame should be placed on the offender, it is important to evaluate perceptions women have regarding date rape. As discussed earlier, resistance strategies used by women can be effective in preventing completion of a date rape (Zoucha-Jensen & Coyne, 1993; Ullman & Knight, 1992; Kleck & Sayles, 1990). It is important to examine factors, such as alcohol consumption, that may prevent a woman from using these prevention methods.

Summary and Conclusions

Risk factors associated with rape include being sexually victimized in the past (Gidycz et al., 1993; Koss & Dinero, 1989), engaging in particular date rituals such as the male dating partner paying for the date (Muehlenhard et al., 1985), and failing to engage in resistance strategies during an attempted rape (Ullman & Knight, 1992; Kleck & Sayles, 1990). Alcohol use is also associated with an increased risk of rape in that women who drink alcohol in social situations are more likely to be raped than women who do not drink alcohol in social situations (Kessler et al., 1995; Breslau et al., 1991). Furthermore, studies report that approximately half of acquaintance rape offenders and victims use alcohol immediately prior to a sexual assault (Miller & Marshall, 1987; Muehlenhard & Linton, 1987). To better understand the relationship between alcohol consumption and date rape, one study to date has examined male participants’ reactions to an audiotaped date rape scenario and found that male participants who consumed
alcohol waited longer to indicate that a man in an audiotaped date rape scenario should stop his sexual advances than sober participants (Marx et al., 1997). Furthermore, another study found that women with a history of multiple sexual victimizations waited significantly longer to indicate when a man in an audiotaped date rape scenario should stop his sexual advances than women with single assault or no assault history (Wilson et al., 1999). More laboratory research is needed to better understand the relationship of alcohol consumption and sexual assault history to perceptions of sexual assault. Even though the blame of a sexual assault should be placed on the offender, it is important to study how victim behaviors increase their risk of sexual assault so that effective prevention programs can be created and implemented.

Overview of Study

The present study involved administering an audiotape depicting a sexual assault between a woman and a man and examining the effects of alcohol (i.e., the pharmacological effects of alcohol), alcohol expectancy (i.e., the effects of expecting to consume alcohol), and sexual assault history on female participants' responses to this sexual assault depiction. Participants' responses were measured by instructing the participants to press a button when they felt the male character in the audiotape should stop his sexual advances. We used a 2 (receive alcohol or tonic water) X 2 (told alcohol or tonic water) balanced-placebo design which resulted in the following four groups: (1) participants received alcohol and were told that they received alcohol; (2) participants received alcohol and were told that they did not receive alcohol; (3) participants received no alcohol and were told that they received alcohol; and (4) participants received no
alcohol and were told that they did not receive alcohol. Sexual assault history was examined as a third independent variable in that participants were categorized into one of the following two categories: (1) history of sexual assault (defined as forced rape, attempted rape, or intercourse as a result sexual coercion); or (2) no history of sexual assault or history of experiencing unwanted sexual contact without intercourse or attempted intercourse. A questionnaire examining the probability of using particular resistance strategies in response to the date rape analogue was also administered. The dependent variables of the study included mean response latencies to the audiotaped date rape scenario, responses on the self-report resistance strategies questionnaire, and three psychophysiological responses (heart rate, skin conductance, and blood pressure) to the date rape analogue. The study also examined the relationship between several other variables and the dependent variables, including risky sexual behaviors, attitudes toward rape victims, and problem drinking.

Hypotheses

Primary Hypotheses

We predicted that female participants consuming alcohol would wait significantly longer to indicate when the male character in the audiotape should stop his sexual advances than participants not consuming alcohol. Furthermore, we hypothesized that the participants who were told that they had consumed alcohol would wait significantly longer to indicate when the male character should stop his sexual advances than participants who were told that they had consumed alcohol (regardless of whether they actually consumed alcohol or not).
For the resistance strategies inventory, we predicted that the female participants drinking alcohol would be less likely to report that they would use assertive resistance and more likely report that they would use unassertive resistance in response to the date rape scenario than participants not drinking alcohol. We also hypothesized that women who were told that they would consume alcohol would also be less likely to report that they would use assertive resistance in response to the date rape analogue and more likely to indicate that they would use unassertive resistance than women who were told that they did not consume alcohol (regardless of whether they actually consumed alcohol or not).

Because victimized women are at an increased risk of being victimized again (Gidycz et al., 1993; Koss & Dinero, 1989), we predicted that victimized women would wait significantly longer to indicate when the male character should terminate his sexual advances, would be less likely to report that they would use assertive resistance, and more likely to report that they would use unassertive resistance.

No studies, that we are aware of, have examined the effect of alcohol consumption on psychophysiological responses to an analogue date rape scenario. Therefore, we tentatively predicted that female participants who consumed alcohol would have a lower heart rate, skin conductance (as measured by total amplitude of waves and mean amplitude of waves), and blood pressure (systolic and diastolic) when listening to the date rape analogue than participants not consuming alcohol. Also, we cautiously predicted that participants who were told that they would consume alcohol would have lower heart rate, skin conductance, and blood pressure during the date rape analogue than participants told that they would not consume alcohol. Finally, we predicted that
victimized women would experience higher psychophysiological arousal (as measured by
heart rate, skin conductance, and blood pressure) than non-victimized women.

**Supplementary Hypotheses**

We also hypothesized that participants with a history of risky sexual behavior
would wait significantly longer to indicate that the male character should stop his sexual
advances and would be less likely to report that they would use assertive resistance than
participants not reporting a history of risky sexual behavior. We also predicted that
women reporting a negative attitude toward victims would have longer response latencies
to the analogue date rape scenario than women not reporting a negative attitude toward
rape victims. Finally, we predicted that women reporting problem drinking would wait
significantly longer to indicate that the man in the audiotape should stop his sexual
advances and would be less likely to report that they would use assertive resistance
strategies than women not reporting problem drinking.
CHAPTER II

METHOD

Participants and Inclusion Criteria

One-hundred and forty nine participants (ages 21 to 30) enrolled in psychology courses were recruited to participate in the survey portion of the study. The purpose of this survey portion was to determine the participants' eligibility for the experimental portion and to administer questionnaires, which would be used to predict responses to the experimental manipulation. The exclusionary criteria for the experimental portion included the following: using alcohol less than 2-3 times per month or drinking less than an average of two drinks per drinking occasion; scoring 11 or more on the Michigan Alcohol Screening Test (MAST; Selzer, 1971); scoring 14 or more on the Beck Depression Inventory (BDI; Beck, 1978); or reporting taking medication, having any psychiatric conditions, using any illegal substances, or having a medical condition that may be exacerbated by alcohol consumption.

All participants completing the survey portion were given extra credit toward their psychology course grade and participants meeting the criteria for the experimental portion were invited to participate in this part of the study. One hundred and seventeen participants qualified for the experimental portion and 85 agreed to participate. Five of the participants were excluded from the analyses. Three participants misunderstood the
directions and reported that they believed the couple in the scenario had been on one date (they were specifically instructed that the couple had been on five previous dates), one participant received too low of a dose due to an inaccurate recording of weight, and one participant failed to finish all three of the drinks.

Screening Measures

**Alcohol consumption (Wilsnack & Wilsnack, 1995)**

Frequency of alcohol use was examined by administering the following question, “Thinking back over the last 12 months, about how regularly did you drink alcoholic beverages (including beer, wine, and hard liquor)?” Consumption level categories ranged from “not at all” to “more often than once a day.” Average quantity of alcohol consumed was measured using the following question, “Again as you think back over the last 12 months, about how many alcoholic drinks such as wine, beer, and liquor would you have on a typical day when you drank (please list the number of drinks per day; consider a 12 ounce can of beer, one glass of wine, or a one ounce shot of hard liquor as one drink)?

**Beck Depression Inventory (BDI; Beck, 1978)**

The BDI consists of 21 items with each item including four statements. The respondent selects one of the four statements based on how they have felt over the past week. Within each set of statements, the first statement suggests that the respondent is satisfied with their current level of functioning and the remaining three items suggest higher levels of dissatisfaction with their current functioning. Higher scores indicate higher levels of depression.
Michigan Alcohol Screening Test (MAST; Selzer, 1971)

The MAST is a 25-item true/false questionnaire which assesses problems related to alcohol use. The instrument includes such items as “Are you able to stop drinking when you want to? or “Have you ever neglected your obligations, your family, or your work for two or more days in a row because you were drinking? Higher scores indicate a higher number of problems related to alcohol use.

The medical questionnaire examined several physiological and psychological conditions that may be exacerbated by the use of alcohol. The participants were asked if they have ever had high blood pressure, allergies, ulcers, cardio-vascular disease, epilepsy, diabetes, a head injury, a psychiatric disorder, or were taking any prescription (including oral contraceptives) or over-the-counter medications. They were also asked if there was any reason why it may be unhealthy for them to consume a moderate dose of alcohol.

Survey Questionnaires

The demographic questionnaire examined, age, year in college, ethnicity, and marital status.

Rutgers Collegiate Substance Abuse Screening Test (RCSAST; Bennett et al., 1993)

The RCSAST is a 25-item questionnaire used to identify problem drinking in young adults. This true/false inventory is based on the structure of the Michigan Alcohol Screening Test (MAST; Selzer, 1971). However, unlike the MAST, each question is worth one point and each item is relevant to college students. Examples of RCSAST items include: “Is alcohol use making your college life unhappy and has alcohol ever
interfered with your preparation for an exam?" The RCSAST has high internal consistency (Bennett, McCrady, Laitman, & Paulus, 1996). One study reported that the RCSAST correctly identified 94% of problem drinkers (who had been identified earlier based on an interview) and 87% of non-problem drinkers.

**Sexual Experiences Survey (SES; Koss, Gidycz, & Wisniewski, 1987)**

The SES is a self-report 10-item questionnaire that examines various levels of sexual aggression and victimization. It asks about forced sexual contact that does not involve sexual intercourse, attempted forced sexual intercourse, and actual forced sexual intercourse. Sexual contact and sexual intercourse questions examine different types of coercive strategies that offenders use including the offender using his position of authority, using physical force, and urging the victim to use alcohol or other drugs. Koss and Gidycz (1985) examined the psychometric properties of this instrument and reported an internal consistency of .74 and a 93% agreement rate for test-retest reliability (tests were administered one week apart). The SES possesses adequate validity in that a correlation coefficient of .73 (p < .001) was reported regarding the relationship between the level of victimization based on the SES and level of victimization based on an interview. Furthermore, only 3% of women who reported a rape that met the legal definition of rape misinterpreted the questions or gave answers that appeared false.

Scoring of the SES involves classifying respondents into one of five categories which include non-victimized, inappropriate sexual contact (i.e., unwanted fondling, kissing, or petting but not intercourse), sexual coercion (i.e., giving into sexual intercourse due to feeling overwhelmed by the man's pressure and arguments), attempted
rape, and completed rape. Participants are placed in each group based on the highest level of sexual assault experienced. For example, a participant reporting both completed rape and sexual coercion would be placed in the completed rape category.

Based on the SES, we split the participants into two groups, one group included participants classified into the non-victimized or inappropriate sexual contact groups and the other group included participants classified into the sexual coercion, attempted rape, or completed rape groups. Because we did not want to exclude individuals categorized into the inappropriate sexual contact group and we felt that inappropriate sexual contact was much different than sexual coercion, attempted rape, and completed rape, we categorized the inappropriate sexual contact group (six participants) with the non-victimized participants.

The Protective Sexual Behaviors Scale (Cecil & Pinkerton, 1998)

This is a self-report 22-item scale that examines respondents' perceptions of their ability to refuse sexual intercourse, ask their sexual partners questions regarding sex, and utilize condoms. The first portion of the survey consists of eight questions which ask the respondent how sure they are that they would be able say “no” to sexual intercourse in various situations (e.g., someone they would like to date again). The second portion of the survey uses five items to examine how sure the respondent is that she would be able to discuss several important areas related to sexual behavior with their sexual partner (e.g., ask boyfriend/girlfriend about past sexual relationships). The final portion of the survey consists of eight items that assess condom use (e.g., the likelihood of using a condom during sexual intercourse after using alcohol). All responses are based on a five-
point likert scale ranging from "not at all" to "very sure." This scale has been shown to possess adequate internal consistency and test-retest reliability and good convergent and discriminant validity (Cecil & Pinkerton, 1998). It has also been shown to be relatively unaffected by social desirability bias as evidenced by a low correlation with the Marlowe-Crowne Social Desirability instrument.

**Attitudes Toward Rape Victims Scale (Ward, 1988)**

This is a 25-item scale which examines unfavorable and favorable attitudes toward victims of rape. The items emphasize victim blame, credibility of the victim, beliefs regarding the degree to which the victim deserved to be raped, and trivialization of the rape. For example, one item states, “A woman who goes out alone at night puts herself in a position to be raped” and another states, “Women often claim rape to protect their reputations.” This scale is internally consistent (.83) and possesses adequate test-retest reliability (Ward, 1988). It also has been shown to have adequate construct validity in that it correlates with other valid scales measuring rape attitudes and was effective in differentiating between various groups of professionals (e.g., social worker, police officers) that tend to hold varying attitudes towards rape victims (Ward, 1988). Scores range from 0-100 with higher scores indicating a more unfavorable attitude toward rape victims.

Questions about sexual behavior were adapted from Wilsnack and Wilsnack (1995). Participants who had experienced a sexual relationship provided information in six areas including the number of partners they have had sexual activity with, how positive or negative they felt about their sexual experiences, the frequency at which they
engaged in sexual activity with their partner, how frequently they used alcohol before or during sexual activity, how often they used a condom as a precaution against sexual transmitted diseases, and their interest or enjoyment in sexual relations.

Experimental Questionnaires

A resistance strategies questionnaire (Norris, Nurius, & Gaylord, 1997) was used to examine several resistance strategies that women may use in response to an attempted rape. This 28-item scale (rated on a five-point likert scale ranging from not at all likely to very much likely) includes items ranging from unassertive resistance strategies (e.g., “Jokingly tell him that he is coming on too strong”) to assertive resistance strategies (e.g., “Become physically defensive.”) This scale has been shown to possess adequate internal consistency (Norris et al., 1996).

Sensation Scale (SS; Maisto, Connors, Tucker, McCollam & Adesso, 1980)

The SS is a 31-item scale (rated on a 10-point likert scale) that examines potential aversive physiological responses to alcohol. For example, it includes items measuring drowsiness, feeling warm, head throbbing, and nauseous. This scale has been shown to possess adequate reliability and validity (Maisto et al., 1980).

Level of intoxication was examined by asking the participants to rate how intoxicated they felt using a standard score of 10 (Sayette, Breslin, Wilson, & Rosenblum 1994). Participants were instructed to report a score of 10 if they felt like they had consumed two beers or two 1.5 ounce drinks. Therefore, a score of 20 was to be used if they felt twice as intoxicated as the standard or a score of five was used if they felt half as
intoxicated as the standard. Participants were also asked how many alcoholic drinks they think they consumed (one drink was defined as one beer or one 1.5 ounce drink).

Apparatus

The experiment took place in a laboratory setting that included an intercom system, a video camera, and a one-way mirror. These instruments facilitated communication between the participant and experimenter and allowed audio and visual monitoring during the experiment. The participants were seated in a comfortable chair throughout the experiment.

The handheld Alco-Sensor IV intoximeter assessed participants' blood alcohol level (BAL). This instrument measured BAL using several operations. Participants first exhaled into the mouthpiece of the intoximeter and the intoximeter's electrically operated piston sampling pump elicited a 1 cc sample of the breath. Next, the fuel cell produced a signal and an amplifier created an output curve from this fuel cell response. Finally, a microprocessor analyzed this output curve producing the three digit final reading of BAL (reported as .000).

Heart rate was assessed by attaching to the participant's index finger a finger photoplethysmograph transducer. A finger pulse amplifier detected a signal from the photoplethysmograph transducer and produced an amplified signal which was sent to a MC16 A-D converter interfaced with an IBM-compatible computer. Skin conductance was measured by placing two silver chloride electrodes (0.5 cm²) on the distal phalanges of the middle and ring fingers on each participant's nondominant hand. Both electrodes were filled with skin conductance paste and were attached to participants' fingers using
adhesive collars. The electrodes were connected to a SC4 skin conductance amplifier with a .6V voltage level which participants were unable to detect. Heart rate (beats per minute) and skin conductance were reduced and analyzed using PSYLAB software designed by Contact Precision Instruments. Skin conductance was calculated in mean amplitude of waves and total amplitude of waves. Total amplitude of waves was computed by adding the amplitude of each wave during a given time epoch. Mean amplitude of waves was calculated by dividing total amplitude of waves by the number of waves in each time epoch. Systolic and diastolic blood pressure were assessed using an automatically inflating blood pressure cuff designed by Critikon/Dinamap Corporation.

Procedure

Survey Phase

In addition to the questionnaires administered for exclusionary purposes, participants completed several additional measures during the survey portion including a demographics survey; the Sexual Experiences Survey (Koss et al., 1987; Koss & Oros, 1982); questions regarding childhood sexual abuse; sexual behavior questions; the Rutgers Collegiate Substance Abuse Screening Test (RCSAST; Bennett et al., 1993); the Attitude Toward Rape Scale (Ward, 1988); and the Self-Efficacy Instrument for Protective Sexual Behaviors (Cecil & Pinkerton, 1998). Participants were recruited from announcements in psychology classes and postings of sign-up sheets. The survey and experimental portions of the study were presented to the participants as two separate studies so that responses on the questionnaires did not affect responses to the experimental procedures.
Pre-Drink Procedure

To control for time-of-day effects, the experimental portion began between the hours of 4 p.m. and 7 p.m. Prior to the experiment, participants were asked not to engage in any strenuous exercise the morning of the experiment, eat during the four hours prior to the experiment, or consume alcohol 24 hours prior to the experiment. To control for the hormonal effects of the menstrual cycle (Jones & Jones, 1976) and to be sure each participant was not pregnant, subjects participated during the first five days of their menstrual cycle.

Upon arrival, participants were administered the consent form and any questions regarding the study were addressed. Next, participants were asked to prove that they were 21 years of age or older by presenting a driver’s license or a military ID. Participants once again completed the MAST, BDI, and the medical conditions inventory to ensure that no significant changes had occurred between the survey portion and the experiment. We planned to excuse any participant without proof of being at least 21 years of age or participants no longer meeting the criteria; however, because every participant presented her driver’s license and continued to meet criteria, no participant was excused from the study.

To ensure that participants had not consumed alcohol prior to the experiment, each participant exhaled into the intoximeter. We planned to dismiss any participant with alcohol in their blood; however, no participants presented with a BAL above .000. Next, the experimenter measured body weight and height to determine the appropriate dose of alcohol and participants ate a cereal bar. Finally, heart rate and skin conductance were
measured for five minutes to establish a pre-drink baseline and blood pressure was assessed.

**Drink Administration**

Participants were randomly assigned to one of the following four groups: (1) told alcohol/receive alcohol; (2) told alcohol/receive tonic; (3) told tonic/receive alcohol; (4) told tonic/receive tonic. Participants in the “receive tonic” groups consumed two milliliters of tonic per kilogram of body weight and participants in the “receive alcohol” groups were administered two milliliters of 80 proof vodka per kilogram of body weight (.80 ml/kg of ethanol), which is considered a moderate dose of alcohol for women (Dougherty, Cherek, & Bennett, 1996; Giancola & Zeichner, 1995; Levenson, Oyama, & Meek, 1987). The above amount of alcohol or tonic were divided into three drinks and participants were given 15 minutes to finish each drink. The drinks consisted of double strength sugar-free country time lemonade and vodka or tonic, depending on the group, and resulted in a five to one ratio (lemonade to vodka or tonic). The participants in the “told alcohol” groups were led to believe that their drink contained vodka by pouring vodka or tonic (depending on the condition) from a vodka bottle, smearing vodka around the top of the glass, and putting a lemon that contained a very small amount of vodka into the drink. Participants in the “told tonic” groups were told that they were being served lemonade without the deception procedures described above (e.g., smearing vodka on the rim of the glass, putting a vodka-filled lemon in the drink). To keep the experimenter blind to which condition the participant was in, a second experimenter administered the
drinks. Participants were told that they would have 15 minutes to finish each of the three drinks and that they should pace themselves accordingly.

**Post-Drink Procedure**

A 15-minute absorption period followed the drink administration. During the last five minutes of this absorption phase, heart rate and skin conductance were measured and blood pressure was assessed to establish post-drink baselines. The experimenter asked the participant to report her subjective intoxication rating and complete the Sensation Scale and a second experimenter assessed the participant's blood alcohol level using the intoximeter.

**Stimulus Materials Administration**

Following the five-minute post-drink baseline, participants were told that they would listen to an audiotape depicting a man and a woman engaging in a sexual interaction at the man's apartment following a date. The audiotape was developed by Marx and Gross (1995) and has been shown to have adequate test-retest reliability and discriminant validity (Bernat, Stolp, Calhoun, & Adams, 1997). Each participant was instructed to press the button in front of them when they felt the man should stop his sexual advances. Participants were also told that pressing the button would not terminate the audiotape and they would be allowed to listen to the entire audiotape. Allowing the participants to listen to the entire audiotape controlled for other factors (e.g., curiosity) that may affect when the participant chose to press the button. Following the audiotape, participants were administered a questionnaire asking how likely they would be to use different resistance strategies if they were in the situation depicted by the audiotape.
Blood pressure was assessed at the end of the audiotape and skin conductance and heart rate was assessed throughout the administration of the stimulus materials.

**Post-Experimental Procedure**

Each participant’s heart rate and skin conductance continued to be monitored for five minutes following the completion of the resistance strategies survey. Participants once again were asked to report their subjective intoxication rating and their blood alcohol level and blood pressure was assessed. Participants also reported how many drinks they think they consumed.

Participants in the “receive no alcohol” groups were debriefed immediately following this five minute post-drink baseline and participants in the “receive alcohol groups” were debriefed once their blood alcohol level reached .04. The debriefing consisted of telling the participants about the actual content of their drink and that the two studies were actually part of the same study. They were also told that the purpose of the study was to better understand the effects of alcohol on women’s perceptions of date rape. The experimenter answered questions and addressed any concerns the participants had.

Following the post-drink baseline, participants in the “receive alcohol” groups were allowed to eat the lunch they were instructed to bring. Once their blood alcohol level reached .04, they were debriefed and allowed to leave, however, participants were not allowed to leave in their own car but were either walked home by the experimenter or picked up by a friend or relative. The survey and experimental portions of the study were conducted by highly trained research assistants who were upper level undergraduate or graduate students.
Data Analysis

To examine the effects of alcohol consumption, alcohol expectancy, and sexual assault history on the dependent variables, a 2 (receive alcohol vs. receive tonic) X 2 (told alcohol vs. told tonic) X 2 (sexual assault vs. no sexual assault or unwanted sexual contact without intercourse or attempted intercourse) ANOVA design was used to examine mean latency responses to the audiotape, responses on the resistance strategies survey, and psychophysiological responses (i.e., heart rate, skin conductance, and blood pressure). Each psychophysiological measure was analyzed after the post-drink baseline had been subtracted from the psychophysiological measurement obtained during the administration of the audiotape. Regression analyses were conducted to examine how risky sexual behavior, attitudes toward rape victims, and problem drinking related to response latencies to the audiotape and the use of resistance strategies. Finally, a 2 (receive alcohol vs. receive tonic) X 2 (told alcohol vs. told tonic) ANOVA was conducted to examine differences across the four groups on subjective intoxication ratings and the amount of alcohol the participant think they consumed.
CHAPTER III

RESULTS

Means and standard deviations for marital status and ethnicity are summarized in Table 1.

Table 1

<table>
<thead>
<tr>
<th>Demographic Characteristics</th>
<th>Number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Marital Status</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>8</td>
<td>10.0</td>
</tr>
<tr>
<td>Living with a partner</td>
<td>14</td>
<td>17.5</td>
</tr>
<tr>
<td>Divorced</td>
<td>3</td>
<td>3.8</td>
</tr>
<tr>
<td>Separated</td>
<td>1</td>
<td>1.3</td>
</tr>
<tr>
<td>Never Been Married</td>
<td>54</td>
<td>67.5</td>
</tr>
<tr>
<td><strong>Race</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caucasian</td>
<td>74</td>
<td>92.5</td>
</tr>
<tr>
<td>Hispanic</td>
<td>1</td>
<td>1.3</td>
</tr>
<tr>
<td>American Indian</td>
<td>2</td>
<td>2.5</td>
</tr>
<tr>
<td>Asian or Pacific Islander</td>
<td>1</td>
<td>1.3</td>
</tr>
<tr>
<td>Other</td>
<td>2</td>
<td>2.5</td>
</tr>
</tbody>
</table>
Table 2

Number of Participants in Each of the Sexual Assault Categories:

<table>
<thead>
<tr>
<th>Sexual Assault Category</th>
<th>Number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Sexual Contact</td>
<td>42</td>
<td>52.5</td>
</tr>
<tr>
<td>Sexual Contact</td>
<td>6</td>
<td>7.5</td>
</tr>
<tr>
<td>Sexual Coercion</td>
<td>15</td>
<td>18.8</td>
</tr>
<tr>
<td>Attempted Rape</td>
<td>5</td>
<td>6.3</td>
</tr>
<tr>
<td>Rape</td>
<td>12</td>
<td>15.0</td>
</tr>
</tbody>
</table>

Numbers of participants in each of the five levels of sexual assault are presented in Table 2.

Blood Alcohol Levels and Intoxication Ratings

Based on readings from the Alco-Sensor IV intoximeter, participants who consumed alcohol averaged a blood alcohol level of .072 (SD = .018) at Time 1 (three minutes prior to the audiotape) and .078 (SD = .016) at Time 2 (immediately following the resistance strategies questionnaire).

A 2 (receive alcohol vs. receive tonic) X 2 (told alcohol vs. told tonic) ANOVA was conducted to examine group differences on the subjective intoxication ratings. As expected, a significant main effect was found for alcohol condition with participants in
the "alcohol" groups reporting significantly higher ratings of intoxication than participants in the "no alcohol" groups at Time 1 (18 minutes before the audiotape), $F(1,76) = 160.90, p < .001$, Time 2 (eight minutes prior to the audiotape), $F(1,76) = 144.63, p < .001$, and Time 3 (immediately following the resistance strategies questionnaire), $F(1,76) = 131.90, p < .001$. A significant main effect was found for expectancy condition with the "told alcohol" groups reporting significantly higher ratings of intoxication than the "told no alcohol" groups at Time 1, $F(1,76) = 8.88, p < .01$ and Time 2, $F(1,76) = 7.99, p < .01$. No significant differences were found for Time 3.

Subjective intoxication rating means for each group are presented in Table 3.

Table 3

<table>
<thead>
<tr>
<th>Intoxication Ratings</th>
<th>Alcohol</th>
<th>No Alcohol</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Told Alcohol</td>
<td>Told No Alcohol</td>
</tr>
<tr>
<td>Time 1</td>
<td>15.9(6.7)</td>
<td>12.8(4.8)</td>
</tr>
<tr>
<td>Time 2</td>
<td>15.5(6.4)</td>
<td>12.8(5.3)</td>
</tr>
<tr>
<td>Time 3</td>
<td>13.1(6.1)</td>
<td>11.6(5.7)</td>
</tr>
<tr>
<td>Number of Drinks</td>
<td>3.7(1.5)</td>
<td>3.4(1.1)</td>
</tr>
</tbody>
</table>

*Note. Statistics are presented as means with the standard deviations in parentheses.*
A 2 (receive alcohol vs. receive tonic) X 2 (told alcohol vs. told tonic) ANOVA was conducted to examine group differences for the amount of alcohol the participants believed they had consumed. Two significant main effects were found in that participants in the "alcohol" groups believed that they had consumed more drinks than participants in the "no alcohol" groups, \(F(1,76) = 187.75, p < .001\) and participants in the "told alcohol" groups believed that they had consumed more drinks than participants in the "told no alcohol" groups, \(F(1,76) = 5.91, p < .05\) (see Table 3 for means).

Sixty percent of the participants in the "told alcohol/administered tonic" group believed that they had consumed alcohol indicating that the manipulation was only partially successful in leading participants to believe that they had consumed alcohol when they actually had not. None of the participants in the "told tonic/administered alcohol" believed that they had not consumed alcohol indicating that the beverage content deception was not effective for this group.

Response Latencies to the Date Rape Scenario

A 2 (receive alcohol vs. receive tonic) X 2 (told alcohol vs. told tonic) X 2 (sexual assault vs. no sexual assault or unwanted sexual contact without intercourse or attempted intercourse) ANOVA was conducted for the response latency to the audiotaped date rape scenario. No main effects or interactions were found for latency response. The alcohol by sexual assault means and standard deviations are presented in Table 4.

Resistance Measures

A factor analysis was conducted on the Resistance Strategies Questionnaire to create separate subscale scores (Norris et al., 1997). The analysis yielded eight factors
Table 4

Descriptive Statistics for Alcohol by Sexual Assault on Response Latencies to the Audiotape

<table>
<thead>
<tr>
<th></th>
<th>Alcohol</th>
<th>No Alcohol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sexual Assault</td>
<td>145.69(53.35)</td>
<td>148.81(42.86)</td>
</tr>
<tr>
<td>No Sexual Assault</td>
<td>146.04(36.53)</td>
<td>124.96(39.31)</td>
</tr>
</tbody>
</table>

Note. Statistics are presented as means with the standard deviations in parentheses. No significant main effects or interactions.

and a cut-off of .50 was used to determine which items loaded on each of the factors. Three of the factors did not have any items that loaded .50 or higher and two factors had only one item of .50. These five factors were not included in our analyses. The three remaining factors clustered into assertive resistance (12 items), unassertive resistance (6 items), and overwhelmed reactions (3 items).

A 2 (receive alcohol vs. receive tonic) X 2 (told alcohol vs. told tonic) X 2 (sexual assault vs. no sexual assault or unwanted sexual contact without intercourse or attempted intercourse) ANOVA was conducted for each of the resistance factors. No main effects or interactions were found for the assertive resistance subscale. A significant alcohol group main effect, $F(1,76) = 9.27, p < .01$, and a significant alcohol group by sexual assault interaction, $F(1,76) = 4.81, p < .05$, were found for the unassertive resistance subscale. To examine the group differences, six pairwise contrasts were conducted for post-hoc analysis. Bonferroni adjustment (.05/6) was used to compute the significance
level for these six contrasts ($p < .008$). Contrast analysis indicated a significant contrast between the alcohol/assault and no alcohol/assault groups, $t(3,76) = 3.42$, $p < .008$, such that of the participants who reported a history of sexual coercion, attempted rape, or rape, those who consumed alcohol ($M = 17.56$, $SD = 5.09$) were more likely to indicate that they would use unassertive resistance in response to the date rape scenario than participants who did not consume alcohol ($M = 11.49$, $SD = 5.98$).

A significant main effect of alcohol group was also found for the overwhelmed subscale, $F(1,76) = 7.25$, $p < .01$, indicating that when compared to participants who did not consume alcohol ($M = .98$, $SD = 1.23$), participants who consumed alcohol ($M = 2.28$, $SD = 2.42$) were more likely to report responses such as feeling so overwhelmed that they felt paralyzed and unresponsive.

**Psychophysiological Measures**

**Alcohol and Expectancy Effects**

To examine the effect of alcohol and alcohol expectancy on psychophysiological responding, difference scores were computed by subtracting the pre-drink baselines (obtained prior to consumption of the drinks) from the post-drink baselines (obtained following the consumption of the drinks) for each psychophysiological measure. The $2 \times 2$ ANOVA conducted on these difference scores indicated a main effect of systolic blood pressure, $F(1,75) = 18.50$, $p < .001$, such that participants who consumed alcohol ($M = 8.60$, $SE = 8.81$) experienced more of an increase in systolic blood pressure than participants who did not consume alcohol ($M = .20$, $SE = 7.96$).
Experimental Effects

To control for baseline differences on psychophysiological responding, difference scores for the experimental effects were calculated by subtracting the post-drink baselines obtained for each psychophysiological measure from its respective psychophysiological measurement obtained during the audiotape administration. A 2 (receive alcohol vs. receive tonic) X 2 (told alcohol vs. told tonic) X 2 (sexual assault vs. no sexual assault or unwanted sexual contact without intercourse or attempted intercourse) ANOVA was computed for each of the psychophysiological measures. A significant expectancy by alcohol interaction was found for total amplitude of waves, \( F(1,72) = 4.06, p < .05 \). To examine the group differences, four pairwise contrasts were conducted comparing the following: (1) alcohol/told alcohol vs. alcohol/told tonic; (2) alcohol/told alcohol vs. tonic/told alcohol; (3) tonic/told alcohol vs. tonic/told tonic; and (4) tonic/told tonic vs. alcohol/told tonic. Bonferroni adjustment (.05/4) was computed yielding a significance level of \( p < .0125 \). Contrast analysis indicated no significant contrasts, although there was a trend between the tonic/told alcohol and tonic/told tonic groups, \( t(3,76) = 2.38, p = .0199 \), in that of the participants who did not consume alcohol, participants who were told that they did not consume alcohol (\( M = 1.72, SD = 1.65 \)) experienced more of an increase in total amplitude of waves than those who were told they did consume alcohol (\( M = 0.17, SD = 0.83 \)). We did not find significant alcohol or expectancy main effects for total amplitude of waves.
Supplementary Analyses

To examine how individual differences factors may predict response latencies to the date rape analogue, several measures were administered as part of the screening protocol. Age, marital status, problem drinking, depression, rape attitudes, efficacy to refuse sexual intercourse, efficacy to question partner about sexually transmitted diseases, efficacy to use condoms, number of sexual partners, age at first sexual activity, and feelings about sexual activity were entered into a linear regression analyses predicting date rape analogue latencies. The best fitting model included problem drinking, marital status, condom use efficacy, and positive feelings about sexual activity as predictors of response latencies, \( F(4,75) = 4.36, p < .01 \) (see Table 5). Results of the linear regression analyses indicated that lower scores on the efficacy to use condoms and positive feelings about sexual intercourse predicted longer response latencies to the date rape scenario.

<table>
<thead>
<tr>
<th>Predictor</th>
<th>SE B</th>
<th>Beta</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Problem Drinking</td>
<td>9.20</td>
<td>.18</td>
<td>1.64</td>
</tr>
<tr>
<td>Efficacy to Use Condoms</td>
<td>.93</td>
<td>-.28</td>
<td>-2.66 *</td>
</tr>
<tr>
<td>Sexual Activity Feelings</td>
<td>5.07</td>
<td>.25</td>
<td>2.35 *</td>
</tr>
<tr>
<td>Marital Status</td>
<td>9.85</td>
<td>-.14</td>
<td>-1.31</td>
</tr>
</tbody>
</table>

*p < .05.
The individual differences factors were also entered into a linear regression analysis for the unassertive and overwhelmed subscales of the resistance strategy questionnaire. The final model predicting the unassertive resistance subscale included age, BDI score, and efficacy to question a potential partner about sexually transmitted diseases, F(3, 76) = 3.10, p < .05 (see Table 6). Younger age predicted higher scores on the unassertive resistance subscale.

**Summary of Linear Regression Analysis for Variables Predicting Unassertive Resistance Strategy Use**

<table>
<thead>
<tr>
<th>Predictor</th>
<th>SE B</th>
<th>Beta</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>.25</td>
<td>-.22</td>
<td>-2.00 *</td>
</tr>
<tr>
<td>BDI score</td>
<td>.14</td>
<td>.19</td>
<td>1.71</td>
</tr>
<tr>
<td>Efficacy to Prevent STD's</td>
<td>.25</td>
<td>.14</td>
<td>1.24</td>
</tr>
</tbody>
</table>

*p < .05.

The best fitting model for the overwhelmed subscale included marital status, problem drinking, BDI score, and efficacy to question potential partner about sexually transmitted diseases, F(4, 75) = 3.46, p < .05 (see Table 7). Never having been married and efficacy to question potential partner about sexually transmitted diseases predicted higher scores on the overwhelmed subscale.
Table 7

Summary of Linear Regression Analysis for Variables Predicting Overwhelmed Reactions to the Scenario

<table>
<thead>
<tr>
<th>Predictor</th>
<th>SE B</th>
<th>Beta</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marital Status</td>
<td>.48</td>
<td>-.32</td>
<td>-2.82 *</td>
</tr>
<tr>
<td>Problem Drinking</td>
<td>.48</td>
<td>.22</td>
<td>1.86</td>
</tr>
<tr>
<td>BDI Score</td>
<td>.06</td>
<td>-.19</td>
<td>-1.65</td>
</tr>
<tr>
<td>Efficacy to Prevent STD's</td>
<td>.10</td>
<td>.29</td>
<td>2.51 *</td>
</tr>
</tbody>
</table>

*p < .05.
CHAPTER IV
DISCUSSION

Research indicates that alcohol consumption by women increases their risk of being sexually assaulted (Abbey et al. 1996; Koss, 1988); however, the mechanism underlying this relationship is not yet fully understood. The majority of studies in this area have relied on retrospective self-report (asking participants if they had been drinking at the time of the assault) and administration of written vignettes in which alcohol use is manipulated by changing the content of the story character’s beverage rather than manipulating the alcohol consumption of the participants (Abbey et al., 1996; Cue et al., 1996). Studies also suggest that women who have been sexually assaulted are more likely to be re-victimized than women without sexual assault histories (Gidycz et al., 1993; Koss & Dinero, 1989); however, the reason for this relationship is also not yet fully understood. The purpose of the present study was to go further in this area of research by doing two things: (1) experimentally manipulating the actual effects of alcohol in response to sexual material among women; and (2) examining how sexual assault history may interact with alcohol as a potential explanation for why alcohol may cause problems for some women and not others.
Response Latencies to the Date Rape Scenario

Contrary to our hypothesis and findings from Marx et al. (1997) for men, women who consumed alcohol did not wait longer to indicate when the man should stop in the audiotaped date rape scenario than women who did not consume alcohol. The discrepant findings could not be explained by an inadequate dose of alcohol as our average blood alcohol was high (.072). Also, contrary to Marx et al. (1997), participants who were told that they would consume alcohol did not have longer response latencies to the audiotape than participants who were told that they would not drink alcohol. Because of our high dose, no participant in the told tonic/given alcohol group believed that they had not consumed alcohol and only 60% of participants in the told alcohol/given tonic believed that they had consumed at least some alcohol. Therefore, our failure to find expectancy differences may be due to our difficulty convincing participants that they had not had alcohol when they actually had and vice versa.

Another reason for the discrepant findings between our study and the Marx et al. (1997) study is that our sample included only female participants and Marx et al. (1997) included only male participants. Because the overall response latencies were higher with the male participants in the Marx et al. (1997) study than the female participants in our study (169.49 vs. 140.20 seconds), regardless of whether they consumed alcohol or not, it appears that women may identify inappropriate sexual behavior sooner than men, regardless of whether they have consumed alcohol or not.

Perhaps women are more likely to be sexually assaulted after consuming alcohol because they are more likely to be in contact with men who have consumed alcohol. Our
findings and the Marx et al. (1997) findings do suggest that men take longer to recognize inappropriate sexual behavior than women, especially when drinking alcohol. Therefore, if women are more likely to be in contact with men who have been drinking after they have been drinking themselves, women may be at an increased risk of being sexually assaulted after consuming alcohol. More research is needed to better understand the effects of both women and men’s drinking on the occurrence of sexual assault.

The present study also examined how past sexual assault experiences may influence response latencies to the date rape scenario and may interact with the effects of alcohol on response latencies. Contrary to our hypothesis, past sexual assault did not interact with the effects of alcohol on response latencies nor did sexual assault influence latencies as a main effect. Only one other study, to our knowledge, has examined the influence of sexual assault history on response latencies to a date rape audiotape and contrary to our findings, they found that participants who had been sexually assaulted (defined as sexual coercion, attempted rape, and/or actual rape) had significantly longer response latencies than participants not reporting sexual assault (Wilson et al., 1999).

One possible explanation for the discrepant results between our study and Wilson et al. study (1999) is that our samples differed in terms of age. The Wilson et al. (1999) sample was younger than our sample because they did not assess the effects of alcohol consumption on perceptions of sexual assault and thus could recruit participants below the age of 21. Their sample ranged from 15 to 27 years of age with an average age of 19.48 (SD = 1.27) and our sample ranged from 21 to 30 years of age with an average age of 22.58 (SD = 2.28). Perhaps older college students are more likely to have been
educated on issues associated with date rape and are more likely to identify inappropriate sexual behavior when compared to younger college students.

Studies utilizing the date rape audiotape we used in our study have varied in the directions administered such that some studies have instructed the participants that the couple has been on two dates (Wilson et al., 1999; Bernat et al., 1997) and other studies have instructed the participants that the couple has been on five dates (Bernat et al., 1998; Marx et al., 1997). We told participants that the couple had been on five dates because it was consistent with the only study that has administered alcohol to its male participants (Marx et al., 1997). Therefore, another possible explanation for the discrepant findings is that the participants in the Wilson et al. (1999) study were told that the couple in the date rape scenario had been on two dates and we told the participants they had been on five dates. Perhaps women with a sexual assault history are more likely to view inappropriate sexual behavior as appropriate (as evidenced by longer response latencies) than women without a history of sexual assault if date rape occurs among a couple who has just begun dating. Additionally, perhaps victimized women and non-victimized women do not differ in their perceptions of inappropriate and appropriate sexual behavior when date rape occurs among a couple who has been on several dates.

Our findings also contradict research which indicates that women who have been sexually assaulted are more likely to be sexually assaulted in the future than women who have not been sexually assaulted (Gidycz et al., 1993; Koss & Dinero, 1989). Based on these findings, it would be expected that victimized women are more likely to habituate to inappropriate sexual behavior and thus, be more likely to perceive inappropriate sexual
behavior as appropriate than non-victimized women. However, our findings do not support this hypothesis and more studies testing this hypothesis are needed.

Our results do, however, support the Naugle et al. (1994) study which found that after watching a sexual assault videotape, as the level of coerciveness by the male character increased, the women who had been victimized as both a child and adult were just as likely to report that they would engage in the fictitious risky sexual situation than non-victimized women. Therefore, this finding seems to contradict studies that indicate that victimized women are more likely to be re-victimized than non-victimized women. Based on the Naugle et al. (1994) and our findings, it appears that victimized women can adequately identify a risky sexual situation.

Despite our failure to find that women’s perceptions of sexual assault do not differ depending upon alcohol administration and sexual assault history, the consistent finding remains that women are more likely to be assaulted after consuming alcohol than when they have not been drinking (Abbey et al. 1996; Koss, 1988) and women who have a history of being sexually assaulted are more likely to be re-victimized than non-victimized women (Gidycz et al., 1993; Koss & Dinero, 1989). Perhaps women’s perception of sexual assault do not differ across victimization and alcohol consumption but their likelihood of using resistance strategies against a perpetrator varies depending on these factors. It is possible that the mechanism underlying the relationship of alcohol consumption and sexual assault history to the occurrence of sexual assault lies in the likelihood of using effective resistance strategies.
Resistance Strategies

Studies clearly demonstrate that women who use forceful direct resistance strategies are more likely to avoid being sexually assaulted than women who fail to engage in these direct resistance strategies (Zoucha-Jensen & Coyne, 1993; Ullman & Knight, 1992). Therefore, it is important to understand why some women fail to engage in the use of assertive resistance strategies or use less directive means of resistance.

Assertive Resistance

Contrary to our hypothesis, women who consumed alcohol were just as likely to indicate that they would use assertive resistance than participants who did not consume alcohol. This is inconsistent with Harrington and Leintenberg (1991) who found that women were less likely to use assertive resistance strategies after drinking alcohol than when alcohol was not consumed. However, this study found that the victim was less likely to use resistance strategies if either the victim or the offender consumed alcohol suggesting that more research is needed to better understand the exact relationship between alcohol consumption of the victim and the use of resistance strategies.

Research also suggests that female victims of sexual assault are less likely to report that they would engage in assertive resistance strategies if they encountered a second potential sexual assault than non-victimized women (Norris et al., 1996). Contrary to this finding, we did not find that victimized women were less likely to indicate that they would use assertive resistance strategies than non-victimized women. One reason for the discrepant findings may be that the items used to examine assertive resistance strategies differed between Norris et al. (1996) and our study. Furthermore, the
Norris et al. (1996) defined sexual assault as experiencing one or more forms of sexual assault during the previous year and we defined it as experiencing sexual assault sometime after the age of 14. Perhaps women who report a history of sexual assault attempted to use assertive resistance and it was not successful and this lack of success may be easier to recall for women who were assaulted within the previous year than for women who were assaulted more than a year ago. This recall difference may account for the differences found in the Norris et al. (1996) study and the lack of differences in our study.

**Unassertive Resistance**

Our results indicated that of the women who reported being sexually assaulted, participants who consumed alcohol were more likely to report that they would use unassertive resistance strategies than women who did not consume alcohol. Unlike the victimized participants, a significant difference between the alcohol and no alcohol groups was not found among the non-victimized participants.

It is possible that initially both victimized and non-victimized women attempt to use more direct resistance strategies, regardless of whether they have consumed alcohol or not (as evidenced by both groups reporting that they would use assertive resistance), however, after consuming alcohol, victimized women initially use the assertive resistance strategies but quickly resort to unassertive resistance strategies when the assertive resistance strategies fail to detain the perpetrator. Perhaps assertive resistance strategies have failed to detain the perpetrator in the past and after consuming alcohol, they are
more likely to abandon the assertive resistance in favor of unassertive resistance strategies when compared to situations in which alcohol is not consumed.

We also found that participants who consumed alcohol were more likely to report that they would feel “overwhelmed” in response to the scenario than participants who did not consume alcohol. Specifically, they were more likely to report that they would be so overwhelmed that they would feel practically paralyzed and unresponsive to what the perpetrator was doing, would drink alcohol or use drug to calm themselves down, and would struggle at first, but stop when they thought it was hopeless. Perhaps after consuming alcohol, women initially engage in direct resistance for an extended period of time (as evidenced by an equal number alcohol and no alcohol participants reporting that they would engage in assertive resistance) but women consuming alcohol are more likely to experience overwhelming feelings as the sexual assault progresses. Because of the suppressing effects of the alcohol, women may feel like they are too intoxicated to detain the perpetrator and lack efficacy in their ability to prevent the progression of the sexual assault.

Psychophysiological Reactions

We are aware of no studies that have examined the effects of alcohol and sexual assault history on psychophysiological responses to a date rape analogue. Therefore, our analyses were exploratory and our hypotheses were considered tentative. We found no main effects or interactions for heart rate, blood pressure, or mean amplitude of waves. A significant sexual assault by alcohol group interaction was found for total amplitude of waves, however, no significant contrasts were found across the groups. It is unclear the
degree to which our results generalize to psychophysiological arousal experienced by women in an actual sexual assault situation. Fear/arousal responses to the date rape analogue probably do not compare to potential real-life sexual assault situations in which arousal levels may be influential in eventual responses. Because this was the first study to examine the effects of alcohol consumption and sexual assault history on psychophysiological arousal in response to a date rape analogue, additional research is needed using other types of analogues before researchers rule out the importance of psychophysiological arousal in this area of research.

Supplementary Analyses

Regression analyses were conducted to examine how individual differences factors influenced response latencies to the audiotape and reported likelihood of using resistance strategies. Contrary to our hypotheses, rape attitudes and past risky sexual behavior were not significant predictors of response latencies or likelihood of using resistance strategies. However, our results indicated that positive feelings about sexual activity predicted longer response latencies suggesting that women who have had positive experiences regarding sexual activity may be more likely to view inappropriate sexual behavior as appropriate (as evidenced by longer response latencies) than women who have had negative experiences. Additionally, women who reported feeling less efficacious in their ability to ask their partner to use a condom had longer response latencies suggesting that these women may be less assertive in situations involving sexual activity. Also, younger participants were more likely to use unassertive resistance strategies than older participants. Perhaps older women are more likely to be educated
regarding the ineffectiveness of using unassertive resistance strategies and thus more likely to favor more directive resistance strategies.

Non-married participants scored higher on the overwhelmed subscale of the resistance strategies questionnaire. Perhaps when compared to married women, non-married women feel less confident in their ability to fend off a perpetrator and consequently are more likely to feel overwhelmed when encountering a risky sexual situation. We also found that women who reported feeling confident in discussing sexually transmitted diseases with their partner were more likely to feel overwhelmed in response to a sexual assault. When compared to women who do not feel confident discussing STD’s with their partner, perhaps women who feel confident discussing STD’s have a heightened fear of contracting an STD and are consequently more likely to feel overwhelmed during a sexual assault. Our interpretations of these supplementary analyses are very speculative and more research is needed to better understand how individual differences factors influence perceptions of sexual assault and the use of resistance strategies.

Summary and Future Directions

Sexual Assault Perceptions

Although research indicates that men’s perceptions of sexual assault are affected by alcohol consumption (Marx et al., 1997), we did not find this result in our sample of women. Based on Marx et al. (1997) and our study, it appears that women’s perceptions of sexual assault are affected less by consuming alcohol than men’s perceptions. However, interpretations made by comparing male and female samples across different
studies should be done with caution and more research including both female and male participants within the same study is needed. Additionally, laboratory-based studies utilizing larger samples sizes and community samples are also needed.

Inconsistent with Wilson et al. (1999), women who had a history of sexual assault did not wait significantly longer to indicate when the male character should stop his sexual advances on the date rape audiotape than women without a sexual assault history. There were important differences between Wilson et al. (1999) and our study (e.g., age of sample and instruction differences) that may have played a role in our inconsistent findings. To better understand the relationship between sexual assault history and perceptions of sexual assault, researchers need to establish methodological consistency across future studies and it is important that researchers use extensive sexual assault assessments (e.g., interviews, multiple types of measures) and community samples.

**Resistance Strategies**

We found that of the participants who reported a sexual assault history, those that consumed alcohol indicated that they would be more likely to use unassertive resistance than participants who did not consume alcohol; however, no differences we found for assertive resistance strategies. Perhaps victimized women, who have consumed alcohol, are more likely to abandon assertive resistance strategies in favor of unassertive resistance strategies as the sexual assault progresses when compared to victimized women who have not consumed alcohol. Because we did not examine resistance strategies at different points of the sexual assault, our interpretation is only speculative. More research is needed that examines the use of resistance strategies at various points of a sexual assault
situation (ranging from consensual sexual contact to forced sexual intercourse). This type of research could lead to a better understanding of the resistance strategy use pattern and how it is affected by alcohol consumption and sexual assault history.

Our resistance strategy results have important implications for sexual assault awareness and prevention programs. Based on our results, it appears that it is important to educate women, especially those with a sexual assault history, regarding the effects of alcohol on the use of unassertive resistance strategies. Women should also be educated on how consuming alcohol may increase their likelihood of feeling overwhelmed if a sexual assault situation is encountered. Because using ineffective resistance strategy and feeling overwhelmed in response to a potential sexual assault situation decreases a woman’s chances of escaping a sexual assault situation and alcohol seems to affect the use of these types of resistance strategies, it is important that women be educated on utilizing additional safety measures after consuming alcohol.

Limitations

There are a few limitations of the present study that warrant further discussion. First, the generalizability of the participant’s responses to the date rape analogue may not generalize to women’s perceptions of actual date rape situations. Additionally, the scenario depicted a date rape, therefore, it unclear the degree to which our results generalize to stranger rape. The experiment may also not generalize to naturalistic drinking situations. For example, participants were instructed to consume a certain amount of alcohol over a set period of time, which differs from real-life drinking situations. Furthermore, regarding the resistance strategies, we asked participants what
they would do in response to the date rape analogue, which may or may not generalize to what their responses would be in an actual date rape situation.

A second limitation of our study is the alcohol expectancy manipulation's lack of success. All participants in the told tonic/administered alcohol group believed that they consumed alcohol and only 60% of the participants in the told alcohol/administered tonic group believed that they had consumed at least some alcohol. This outcome was probably due to our relatively high dose (BAC = .072) and future studies administering lower doses are needed to adequately examine the expectancy hypothesis.

Another limitation of the present study is the relatively small sample size. Perhaps a larger sample would have provided more power to detect differences across the groups on the response latencies to the audiotape. Another limitation is that sexual assault history was assessed using one self-report measure examining sexual assault history. Participants were not interviewed nor were they recruited based on their responses to the sexual assault inventory, which lead us to dichotomize the existing sample into victimized and non-victimized participants. A final limitation to our study is that were used a non-clinical, college sample. It is unclear the degree to which our results would generalize to a community sample.
APPENDIX A

SCREENING CONSENT FORM

My name is Beth Lewis, I am a graduate student working on my dissertation under the supervision of Dr. Nancy Vogeltanz-Holm, in the UND Department of Psychology. We are conducting a study examining alcohol use, depressive symptoms, and issues related to sexuality. This study involves completing a series of questionnaires and requires ½ hour to complete.

Description of the questionnaires: The questionnaires examine alcohol use, depressive symptoms, and issues related to sexual behavior.

Use of the information: The data collected in the study will only be presented in summarized form and no names will be used. Completed questionnaires will be stored in a locked cabinet for three years from the start of the study. Some participants will be invited to participate in another research study.

Participant’s rights: Please remember that you may choose not to participate or discontinue participating at any time without penalty. A researcher will always be available during the study if you have any concerns or wish to discontinue.

Potential benefits: The primary benefit of participating is learning about how psychological research is conducted. As determined by your instructor, you will also receive extra credit toward your psychology class for your participation and may have an opportunity to participate in another psychology experiment.

Potential risks: There are no known risks associated with completing these questionnaires; however, if completing the questionnaires is distressing, you are encouraged to discontinue and talk with the experimenter. Referral information will be provided as needed. You will be responsible for any expenses associated with using the referral information. Steps will be taken to keep all questionnaire information strictly confidential. Names will be converted to numbers and only researchers involved in the study will have access to the specific information collected.
The investigators involved with this research are available to answer any questions at the
time of the study or any questions you may have in the future. You may contact Beth
Lewis at 777-4348 or Dr. Nancy Vogeltanz-Holm at 777-3790.

Statement of consent: I have read the above information and I understand my rights as a
participant. By signing below, I indicate that I freely choose to complete the
questionnaires. You will be given a copy of this consent form.

Printed name of participant ____________________ Date ______________

Signature of participant ____________________
APPENDIX B

EXPERIMENT CONSENT FORM

My name is Beth Lewis, I am a graduate student working on my dissertation under the supervision of Dr. Nancy Vogeltanz-Holm, in the UND Department of Psychology. We are conducting a study examining alcohol consumption and sexual behavior.

Basis for participant selection: Individuals who participated in the survey study were also invited to participate in this study.

Description of the study: If you choose to participate in the study, you will first complete a few questionnaires and then several data-gathering devices will be placed on your arm and fingers. Heart rate will be measured by resting your finger on a small recording device. Blood pressure will be assessed by using a blood pressure cuff similar to those used in the doctor’s office, except the cuff inflates and deflates automatically. To measure sweat activity, we will tape two small metal disks to your fingers. Next, you will consume three beverages which may or may not contain alcohol. After you drink these beverages, you will be asked to listen to an audiotape depicting a man and a woman who have just returned from a date and are engaging in sexual contact. Following the audiotape, you will complete a brief questionnaire. The study will require approximately an hour and a half to complete; however, if you drink alcohol, you will be required to remain in the laboratory for a minimum of two and a half hours following the experiment. You will be told more details of the study upon completion of the study.

Use of the information: Steps will be taken to keep responses completely confidential. The data collected in the study will only be presented in summarized form and no names will be used. Only researchers involved in the study will have access to the specific information collected. Completed questionnaires will be stored in a locked cabinet for three years from the start of the study until they are destroyed.

Participant’s rights: Participation is completely voluntary. You may choose not to participate or discontinue participating at any time without penalty. A researcher will always be available during the experiment if you have any concerns or wish to discontinue.
Potential benefits: The primary benefit of participating is learning about how psychological research is conducted. As determined by your instructor, you will also receive extra credit toward your psychology class for your participation.

Potential risks: Side effects may occur as a result of drinking alcohol. If this were to occur, we advise you to immediately stop drinking and contact the researcher. Another potential risk is becoming distressed as a result of thinking about sexual issues. If you would like to discontinue the experiment at any time, please tell the experimenter. If needed, referral information (e.g., the counseling center) will be provided. You will be responsible for any expenses associated with using the referral information.

The investigators involved with this research are available to answer any questions at the time of the experiment or any questions you may have in the future. You may contact Beth Lewis at 777-4348 or Dr. Nancy Vogeltanz-Holm at 777-3790.

Statement of consent: I have read the above information and I understand my rights as a participant. By signing below, I indicate that I freely choose to participate in this study. You will be given a copy of this consent form.

Printed name of participant __________________________ Signature of Participant __________________________ Date __________

Printed name of witness __________________________ Signature of Witness __________________________ Date __________
APPENDIX C

ALCOHOL CONSUMPTION

Thinking back over the last 12 months, about how regularly did you drink alcoholic beverages (including beer, wine, and hard liquor)? (Mark an X by the best answer):

- More often than once a day
- Every day
- 5 or 6 days a week
- 3 or 4 days a week
- 1 or 2 days a week
- 2 or 3 times per month
- Once a month
- Not at all

Again as you think back over the last 12 months, about how many alcoholic drinks such as wine, beer, and liquor would you have on a typical day when you drank? (Please list the number of drinks per day; consider a 12 oz. can of beer, one glass of wine, or a 1 oz. shot of hard liquor as 1 drink): _______ drinks
APPENDIX D

THE BECK DEPRESSION INVENTORY (BDI)

This questionnaire consists of 21 groups of statements. After reading each group of statements carefully, circle the number (0, 1, 2, or 3) next to the one statement in each group which best describes the way you have been feeling the past week including today. If several statements within a group seem to apply equally well, circle each one. Be sure to read all the statements in each group before making your choice.

1. 0 I do not feel sad.
   1 I feel sad.
   2 I am sad all the time and I can’t snap out of it.
   3 I am so sad or unhappy that I can’t stand it.

2. 0 I am not particularly discouraged about the future.
   1 I feel discouraged about the future.
   2 I feel I have nothing to look forward to.
   3 I feel that the future is hopeless and that things cannot improve.

3. 0 I do not feel like a failure.
   1 I feel I have failed more than the average person.
   2 As I look back on my life, all I can see is a lot of failures.
   3 I feel I am a complete failure as a person.

4. 0 I get as much satisfaction out of things as I used to
   1 I don’t enjoy things the way that I used to.
   2 I don’t get real satisfaction out of anything anymore.
   3 I am dissatisfied or bored with everything.

5. 0 I don’t feel particularly guilty.
   1 I feel guilty a good part of the time.
   2 I feel quite guilty most of the time.
   3 I feel guilty all of the time.
6. 0 I don’t feel I am being punished.
1 I feel I may be punished.
2 I expect to be punished.
3 I feel I am being punished.

7. 0 I don’t feel disappointed in myself.
1 I am disappointed in myself.
2 I am disgusted with myself.
3 I hate myself.

8. 0 I don’t feel I am worse than anybody else.
1 I am critical of myself for my weaknesses or mistakes.
2 I blame myself for all my faults.
3 I blame myself for everything bad that happens.

9. 0 I don’t have any thoughts of killing myself.
1 I have thoughts of killing myself, but I would not carry them out.
2 I would like to kill myself.
3 I would kill myself if I had the chance.

10. 0 I don’t cry any more than usual.
1 I cry now more than I used to.
2 I cry all the time now.
3 I used to be able to cry, not now I can’t cry even though I want to.

11. 0 I am no more irritated now than I ever am.
1 I get annoyed or irritated more easily than I used to.
2 I feel irritated all the time now.
3 I don’t get irritated at all by the things that used to irritate me.

12. 0 I have not lost interest in other people.
1 I am less interested in other people than I used to be.
2 I have lost most of my interest in other people.
3 I have lost all of my interest in other people.

13. 0 I make decisions now about as well as I ever could.
1 I put off making decisions more than I used to.
2 I have greater difficulty in making decisions than before.
3 I can’t make decisions at all anymore.
14. 0 I don’t feel I look any worse than I used to.
     1 I am worried that I am looking old or unattractive.
     2 I feel that there are permanent changes in my appearance that make me look unattractive.
     3 I believe that I look ugly.

15. 0 I can work about as well as before.
     1 It takes an extra effort to get started at doing something.
     2 I have to push myself very hard to do anything
     3 I can’t do any work at all.

16. 0 I can sleep as well as usual.
     1 I don’t sleep as well as I used to.
     2 I wake up 1-2 hours earlier than usual and find it hard to get back to sleep.
     3 I wake up several hours earlier than I used to and cannot get back to sleep.

17. 0 I don’t get more tired than usual.
     1 I get tired more easily than I used to.
     2 I get tired from doing almost anything.
     3 I am too tired to do anything.

18. 0 My appetite is no worse than usual.
     1 My appetite is not as good as it used to be.
     2 My appetite is much worse now.
     3 I have no appetite at all anymore.

19. 0 I haven’t lost much weight, if any, lately.
     1 I have not lost more than 5 pounds.
     2 I have lost more than 10 pounds.
     3 I have lost more than 15 pounds.

     I am purposely trying to lose weight by eating less. Yes _____ No _____

20. 0 I am no more worried about my health than usual.
     1 I am worried about my physical problems such as aches and pains; or upset stomach; or constipation.
     2 I am very worried about physical problems and it’s hard to think about much else.
     3 I am so worried about my physical problems that I cannot think about anything else.
<table>
<thead>
<tr>
<th></th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>I have not noticed any recent changes in my interest in sex.</td>
</tr>
<tr>
<td>1</td>
<td>I am less interested in sex than I used to be.</td>
</tr>
<tr>
<td>2</td>
<td>I am much less interested in sex now.</td>
</tr>
<tr>
<td>3</td>
<td>I have lost interest in sex completely.</td>
</tr>
</tbody>
</table>
APPENDIX E

MICHIGAN ALCOHOL SCREENING TEST (MAST)

Please circle yes or no as it applies to you.

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>No</td>
<td>(2)</td>
</tr>
<tr>
<td>Yes</td>
<td>No</td>
<td>(2)</td>
</tr>
<tr>
<td>Yes</td>
<td>No</td>
<td>(1)</td>
</tr>
<tr>
<td>Yes</td>
<td>No</td>
<td>(2)</td>
</tr>
<tr>
<td>Yes</td>
<td>No</td>
<td>(1)</td>
</tr>
<tr>
<td>Yes</td>
<td>No</td>
<td>(2)</td>
</tr>
<tr>
<td>Yes</td>
<td>No</td>
<td>(5)</td>
</tr>
<tr>
<td>Yes</td>
<td>No</td>
<td>(1)</td>
</tr>
<tr>
<td>Yes</td>
<td>No</td>
<td>(2)</td>
</tr>
<tr>
<td>Yes</td>
<td>No</td>
<td>(2)</td>
</tr>
<tr>
<td>Yes</td>
<td>No</td>
<td>(2)</td>
</tr>
<tr>
<td>Yes</td>
<td>No</td>
<td>(1)</td>
</tr>
<tr>
<td>Yes</td>
<td>No</td>
<td>(2)</td>
</tr>
<tr>
<td>Yes</td>
<td>No</td>
<td>(2)</td>
</tr>
<tr>
<td>Yes</td>
<td>No</td>
<td>(1)</td>
</tr>
<tr>
<td>Yes</td>
<td>No</td>
<td>(2)</td>
</tr>
</tbody>
</table>
19. Have you ever had delirium tremors (DT’s), severe shaking, heard voices, or seen things that weren’t there after heavy drinking?

20. Have you ever gone to anyone for help about your drinking?

21. Have you ever been in a hospital because of drinking?

22. Have you ever been a patient in a psychiatric hospital or on a psychiatric ward of a general hospital where drinking is part of the problem?

23. Have you ever been seen at a psychiatric or mental health clinic, or gone to a doctor, social worker, or clergyman for help with an emotional problem in which drinking played a part?

24. Have you even been arrested, even for a few hours, because of drunken behavior?

25. Have you ever been arrested for drunk driving after drinking?
APPENDIX F

THE RUTGER'S COLLEGIATE SUBSTANCE ABUSE SCREENING TEST

Read each question carefully and circle yes if the question applies to you and no if it does not apply.

1. Yes No Have you gotten into financial trouble as a result of drinking?
2. Yes No Is alcohol use making your college life unhappy?
3. Yes No Do you use alcohol because you are shy with other people?
4. Yes No Has drinking alcohol ever caused conflicts with close friends of the opposite sex?
5. Yes No Has drinking alcohol ever caused conflicts with close friends of the same sex?
6. Yes No Has drinking alcohol ever damaged other friendships?
7. Yes No Has drinking alcohol ever been behind your losing a job (or the direct reason for losing it)?
8. Yes No Do you lose time from school due to drinking?
9. Yes No Has drinking alcohol ever interfered with your preparations for exams?
10. Yes No Has your efficiency decreased since drinking?
11. Yes No Do you drink alcohol to escape from worries or troubles?
12. Yes No Is your drinking jeopardizing your academic performance?
13. Yes No Do you drink to build up your self-confidence?
14. Yes No Has your ambition decreased since drinking?
15. Yes No Does drinking cause you to have difficulty sleeping?
16. Yes No Have you ever felt remorse after drinking?
17. Yes No Do you drink alone?
18. Yes  No  Do you crave a drink at a definite time daily?
19. Yes  No  Do you want a drink the next morning?
20. Yes  No  Have you ever had a complete or partial loss of memory as a result of drinking?
21. Yes  No  Is drinking affecting your reputation?
21. Yes  No  Does your drinking make you careless of your family's welfare?
22. Yes  No  Do you seek out drinking companions and drinking environments?
23. Yes  No  Has your physician ever treated you for drinking?
24. Yes  No  Have you ever been to a hospital or institution on account of drinking?
APPENDIX G

SEXUAL EXPERIENCES SURVEY (SES)

Please answer the following questions.

1. When you were growing up, did someone in your family try to make you do sexual things or watch sexual things?

_____ Very often  _____ Often  _____ Sometimes  _____ Rarely  _____ Never

2. When you were growing up, did someone other than a family member try to make you do sexual things or watch sexual things?

_____ Very often  _____ Often  _____ Sometimes  _____ Rarely  _____ Never

Please answer yes for each item you have experienced since the age of 14 and no for each item you have not experienced since the age of 14.

1. 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’s continual arguments and pressure? ________

2. Have you had sex play (fondling, kissing, or petting, but not intercourse) when you didn’t want to because a man used his position of authority (boss, teacher, camp counselor, supervisor) to make you? ________

3. Have you had sex play (fondling, kissing, or petting, but not intercourse) when you didn’t want to because a man threatened or used some degree of physical force (twisting your arm, holding you down, etc.) to make you? ________

4. Have you had a man attempt sexual intercourse (get on top of you, attempt to insert his penis) 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? ________
5. Have you had a man attempt sexual intercourse (get on top of you, attempt to insert his penis) when you didn’t want to by giving you alcohol or drugs, but intercourse did not occur? ________

6. Have you given in to sexual intercourse when you didn’t want to because you were overwhelmed by a man’s continual arguments and pressure? ________

7. Have you had sexual intercourse when you didn’t want to because a man used his position of authority (boss, teacher, camp counselor, supervisor) to make you? ________

8. Have you had sexual intercourse when you didn’t want to because a man gave you alcohol or drugs? ________

9. Have you had sexual intercourse when you didn’t want to because a man threatened or used some degree of physical force (twisting your arm, holding you down, etc.) to make you? ________

10. 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 threatened or used some degree of physical force (twisting your arm, holding you down, etc.) to make you? ________
APPENDIX H

THE SELF-EFFICACY INSTRUMENT FOR PROTECTIVE AND SEXUAL BEHAVIORS

On a scale of 1 to 5, indicate how sure you are that you would be able to say NO to having sexual intercourse for each item.

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>not at all</td>
<td>a little sure</td>
<td>somewhat sure</td>
<td>pretty sure</td>
<td>very sure</td>
</tr>
</tbody>
</table>

1. ______ With someone you have known for a few days or LESS?
2. ______ With someone whose sex and drug history is not known to you?
3. ______ With someone you have dated for a long time?
4. ______ With someone you want to date again?
5. ______ With someone with whom you have already had sexual intercourse?
6. ______ With someone who you want to fall in love with you?
7. ______ With someone who is pushing you to have sexual intercourse?
8. ______ With someone after you have been smoking marijuana?

On a scale of 1 to 5, indicate how sure you are that you would be able to discuss each of the following with your boyfriend.

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>not at all</td>
<td>a little sure</td>
<td>somewhat sure</td>
<td>pretty sure</td>
<td>very sure</td>
</tr>
</tbody>
</table>

1. ______ Ask you boyfriend if he has ever injected drugs such as heroin or cocaine into his veins?
2. ______ Discuss preventing AIDS or sexually transmitted diseases (gonorrhea, etc.) or PREGNANCY with your boyfriend?
3. ______ Ask your boyfriend about sexual relationships that he has had in the past?
4. ______ Ask your boyfriend if he has ever had anal (rectal or butt) intercourse?
5. ______ Ask your boyfriend if he has ever had a sexually transmitted disease?
On a scale of 1 to 5, indicate how sure you are that you would be able to perform each of the following?

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>not at all</td>
<td>a little sure</td>
<td>somewhat sure</td>
<td>pretty sure</td>
<td>very sure</td>
</tr>
</tbody>
</table>

1. ______ Use a condom correctly?
2. ______ Use a condom every time that you had sexual intercourse?
3. ______ Use a condom during sex after you have been drinking?
4. ______ Use a condom during sex after you have been using marijuana?
5. ______ Insist on using a condom during sex, even if your boyfriend does not want to use a condom?
6. ______ Refuse to have sex if your boyfriend will not use a condom?
7. ______ Get the money needed to buy condoms?
8. ______ Walk into a store and buy condoms?
APPENDIX I

ATTITUDES TOWARD RAPE VICTIMS SCALE

Please read the following statements and indicate the degree to which you agree or disagree with each statement using the rating scale provided:

1 = Disagree Strongly
2 = Disagree Mildly
3 = Neither Agree nor Disagree
4 = Agree Mildly
5 = Agree Strongly

1. ________ A raped woman is a less desirable woman.
2. ________ The extent of the woman’s resistance should be the major factor in determining if a rape has occurred.
3. ________ A raped woman is usually an innocent victim.
4. ________ Women often claim rape to protect their reputations.
5. ________ “Good” girls are as likely to be raped as “bad” girls.
6. ________ Women who have had prior sexual relationships should not complain about rape.
7. ________ Women do not provoke rape by their appearance or behavior.
8. ________ Intoxicated women are usually willing to have sexual relations.
9. ________ It would do some women good to be raped.
10. ________ Even women who feel guilty about engaging in premarital sex are not likely to falsely claim rape.
11. ________ Most women secretly desire to be raped.
12. ________ Any female may be raped.
13. ________ Women who are raped while accepting rides from strangers get what they deserve.

90
14. _______ Many women invent rape stories if they learn they are pregnant.
15. _______ Men, not women, are responsible for rape.
16. _______ A woman who goes out alone at night puts herself in a position to be raped.
17. _______ Many women claim rape if they have consented to sexual relations but have changed their minds afterwards.
18. _______ Accusations of rape by bar girls, dance hostesses, and prostitutes should be viewed with suspicion.
19. _______ A woman should not blame herself for rape.
20. _______ A healthy woman can successfully resist a rapist if she really tries.
21. _______ Many women who report rape are lying because they are angry or want revenge on the accused.
22. _______ Women who wear short skirts or tight blouses are not inviting rape.
23. _______ Women put themselves in situations in which they are likely to be sexually assaulted because they have an unconscious wish to be raped.
24. _______ Sexually experienced women are not really damaged by rape.
25. _______ In most cases when a woman was raped, she deserved it.
APPENDIX J

SENSATION SCALE

Please read the following statements and using the rating scale provided, indicate the degree to which you are experiencing the following physiological sensations:

<table>
<thead>
<tr>
<th>Sensation</th>
<th>Rating Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nauseous</td>
<td>0 1 2 3 4 5 6 7 8 9 10</td>
</tr>
<tr>
<td>Stomach growling</td>
<td>0 1 2 3 4 5 6 7 8 9 10</td>
</tr>
<tr>
<td>Ringing, buzzing</td>
<td>0 1 2 3 4 5 6 7 8 9 10</td>
</tr>
<tr>
<td>Face flush</td>
<td>0 1 2 3 4 5 6 7 8 9 10</td>
</tr>
<tr>
<td>Breathing changing</td>
<td>0 1 2 3 4 5 6 7 8 9 10</td>
</tr>
<tr>
<td>Body rushes</td>
<td>0 1 2 3 4 5 6 7 8 9 10</td>
</tr>
<tr>
<td>Limbs heavy</td>
<td>0 1 2 3 4 5 6 7 8 9 10</td>
</tr>
<tr>
<td>Drowsy</td>
<td>0 1 2 3 4 5 6 7 8 9 10</td>
</tr>
<tr>
<td>Light-headed</td>
<td>0 1 2 3 4 5 6 7 8 9 10</td>
</tr>
<tr>
<td>Warm</td>
<td>0 1 2 3 4 5 6 7 8 9 10</td>
</tr>
<tr>
<td>Head spinning</td>
<td>0 1 2 3 4 5 6 7 8 9 10</td>
</tr>
<tr>
<td>Burning in stomach</td>
<td>0 1 2 3 4 5 6 7 8 9 10</td>
</tr>
<tr>
<td>Face numb</td>
<td>0 1 2 3 4 5 6 7 8 9 10</td>
</tr>
<tr>
<td>Relaxed</td>
<td>0 1 2 3 4 5 6 7 8 9 10</td>
</tr>
<tr>
<td>Dizzy</td>
<td>0 1 2 3 4 5 6 7 8 9 10</td>
</tr>
<tr>
<td>Head throbbing</td>
<td>0 1 2 3 4 5 6 7 8 9 10</td>
</tr>
<tr>
<td>Numb all over</td>
<td>0 1 2 3 4 5 6 7 8 9 10</td>
</tr>
<tr>
<td>Lips numb</td>
<td>0 1 2 3 4 5 6 7 8 9 10</td>
</tr>
<tr>
<td>Stomach bloated</td>
<td>0 1 2 3 4 5 6 7 8 9 10</td>
</tr>
<tr>
<td>Impaired writing</td>
<td>0 1 2 3 4 5 6 7 8 9 10</td>
</tr>
<tr>
<td>Ears tingling</td>
<td>0 1 2 3 4 5 6 7 8 9 10</td>
</tr>
<tr>
<td>Impaired vision</td>
<td>0 1 2 3 4 5 6 7 8 9 10</td>
</tr>
<tr>
<td>Powerful</td>
<td>0 1 2 3 4 5 6 7 8 9 10</td>
</tr>
<tr>
<td>Heart beat changing</td>
<td>0 1 2 3 4 5 6 7 8 9 10</td>
</tr>
<tr>
<td>Hands cool</td>
<td>0 1 2 3 4 5 6 7 8 9 10</td>
</tr>
<tr>
<td>Heavy</td>
<td>0 1 2 3 4 5 6 7 8 9 10</td>
</tr>
<tr>
<td>Head numb</td>
<td>0 1 2 3 4 5 6 7 8 9 10</td>
</tr>
<tr>
<td>Itchy</td>
<td>0 1 2 3 4 5 6 7 8 9 10</td>
</tr>
<tr>
<td>Difficulty thinking</td>
<td>0 1 2 3 4 5 6 7 8 9 10</td>
</tr>
<tr>
<td>Checks warm</td>
<td>0 1 2 3 4 5 6 7 8 9 10</td>
</tr>
<tr>
<td>Tongue thicker</td>
<td>0 1 2 3 4 5 6 7 8 9 10</td>
</tr>
</tbody>
</table>

92


