

EVALUATION OF RAPE PREVENTION PROGRAMMING  
FOR FEMALE COLLEGE STUDENTS

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Kathryn Collier Lawson

Certificate of Approval:

---

Christopher J. Correia  
Assistant Professor  
Psychology

---

Barry R. Burkhardt, Chair  
Professor  
Psychology

---

Elaina M. Freida  
Assistant Professor  
Psychology

---

Frank W. Weathers  
Associate Professor  
Psychology

---

Joe F. Pittman  
Interim Dean  
Graduate School

EVALUATION OF RAPE PREVENTION PROGRAMMING  
FOR FEMALE COLLEGE STUDENTS

Kathryn Collier Lawson

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DISSERTATION ABSTRACT  
EVALUATION OF RAPE PREVENTION PROGRAMMING  
FOR FEMALE COLLEGE STUDENTS

Kathryn Lawson

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Acquaintance rape is a common phenomenon on American college campuses, and considerable research effort has been directed at developing effective prevention programs for both potential victims and potential perpetrators. In the current study, a didactic rape prevention program for female college students was compared to a didactic program with a behavioral rehearsal component and to a no-contact control group of female students on outcome measures of sexual communication style, dating behaviors, and sexual victimization. 305 participants completed the initial data collection packet and 104 completed the entire study. Participants who completed the entire study did not differ from those who failed to complete it, except that participants who had previously experienced unwanted sex play or attempted sexual intercourse were more likely to

attend scheduled presentations. Although groups were determined by random assignment, participants in the didactic program with the behavioral rehearsal component had experienced significantly less sexual victimization at initial data collection than participants in the control group. Analysis of the outcome measures revealed no significant differences among the groups in terms of their sexual communication styles and dating behaviors. Participants assigned to the didactic and behavioral rehearsal group had experienced significantly less sexual victimization during the follow-up period than participants in the control condition. It is unclear whether this difference was due to the intervention or to the lower incidence of prior victimization experiences. Future studies should seek to decrease participant attrition in order to more accurately assess the effectiveness of rape prevention interventions with female college students.

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## Chapter I

### *Introduction and Literature Review*

#### *Background*

College students as a group appear to be at particularly high risk for sexual victimization (Aizenman & Kelley, 1988; Koss, 1988; Koss & Dinero, 1989; Koss, Gidycz, & Wisniewski, 1987; Ward, Chapman, Cohn, White, & Williams, 1991) and efforts aimed at reducing the incidence of victimization in this population are receiving considerable attention in the literature (e.g., Anderson, et al., 1998; Berg, Lonsway, & Fitzgerald, 1999; Borden, Karr, & Caldwell-Colbert, 1988; Davis & Liddell, 2002; Foubert, 2000; Foubert & McEwen, 1998; Lee, Caruso, Goins, & Southerland, 2003; Parrot, 1991; Rozee, Bateman, & Gilmore, 1991; Schuster, 1993; Shultz, Scherman, & Marshall, 2000;). Despite the perceived risks to the college-aged population and the evident interest in evaluating targeted rape prevention programs, little is known about the effectiveness of existing rape prevention strategies or prevention programs (Abbey, 2005; Fisher, Cullen, & Daigle, 2005; Koss, 2005). Studies conducted with non-college samples are similarly limited, often focusing on consumer satisfaction or the process of evaluation itself (Basile, Lang, Bartenfeld, & Clinton-Sherrod, 2005; Campbell, et al., 2004; Kelley, Schwerin, Farrar, & Lane, 2005; Shapiro & Rinaldi, 2001). As Campbell and Wasco (2005) note, “neither community-based practitioners nor academic researchers have been able to identify models of prevention effective enough to put a serious dent in incidence rates.”

Perhaps the primary factor inhibiting the growth of knowledge about the effectiveness of rape prevention programs in college samples is the focus and reliance on measures of attitudinal or perceptual changes post-intervention (e.g., Gray, Lesser, Quinn, & Bounds, 1990; Harrison, Downes, & Williams, 1991; Johansson-Love & Geer, 2003; Lenihan, Rawlins, Eberly, Buckley, & Masters, 1992; Pinzone-Glover, Gidycz, & Jacobs, 1998; Shultz, et al., 2000) instead of the collection of data about actual rates of sexual victimization. Although attitudinal changes are often apparent immediately following the rape prevention intervention, rebound effects, in which treated participants rebound to their pretreatment attitudes or to the attitudes of the control group participants, are evident in those studies employing a follow-up assessment (Davis & Liddell, 2002; Frazier, Valtinson, & Candell, 1994; Heppner, et al., 1995). Similar rebound effects are noted in studies when subjects who have previously attended rape prevention programs take pretest measures in the new studies (Borden, et al., 1988) and do not differ significantly from participants who have never attended rape prevention programming. Thus, there are two major problems in the bulk of the literature on rape prevention programs: 1) attitudinal changes are assumed to result in behavioral changes, although little empirical evidence has been collected to support this assumption; and 2) current rape prevention efforts do not consistently demonstrate effectiveness in simply changing attitudes. In other words, evaluation efforts of rape prevention programs are plagued by use of indirect measures that may not be causal to or even correlate highly with the changes they are intended to represent (e.g., Foubert, 2000; Gidycz, et al., 2001b; Heppner, et al., 1995b). In addition, the rape prevention programs themselves appear to

be hampered by use of strategies that do not result in significant changes even in these indirect measures (Borden, et al., 1988; Nelson & Torgler, 1990).

The present study utilized a longitudinal design and multiple outcome measures in an attempt to gain information on attitudinal and behavioral changes and rates of sexual victimization. As mentioned previously, research efforts that have followed participants longitudinally have typically found little difference between treated and control group subjects in terms of both attitudinal change and rates of sexual victimization over time. More research is needed to clarify the degree of effectiveness of rape prevention programming, and this study was intended to contribute to the literature by improving outcome measurement. In addition to employing improved outcome measurement techniques, the present study sought to employ a conceptually sound model of effective rape prevention, using empirically-supported and theoretically-derived components. The components of the program were selected by using the research findings on the effectiveness of current rape prevention programs and acquaintance rape risk factors/dynamics of acquaintance rape situations. It was expected that the rape prevention program would show differential effectiveness across groups of women who possess a number of personal characteristics that seem to enhance the risk of victimization. Post-hoc analyses were planned on these variables, which are discussed further in the section on personal characteristics that enhance risk.

Although ultimate responsibility for prevention of sexual assault rests with perpetrators, this prevention program focuses on providing female students with tools to avoid victimization, because there is some evidence to suggest that rape prevention

programs aimed at men actually increase the risk of sexual assault perpetration (e.g., Berg, et al., 1999; Lonsway, 1996).

### *Effectiveness of Rape Prevention Programs*

As noted previously, a number of studies with college samples have found attitudinal changes among participants immediately post-intervention, although these changes do not appear to endure over time (Anderson, et al., 1998; Lenihan, et al., 1992; Shultz, et al., 2000). In one of few studies using a lengthy follow-up period, Heppner, et al. (1995b) found no significant differences between the two experimental groups (interactive drama and educational video) on their rebound scores on measures of acceptance of rape myths. However, respondents who had been in the interactive drama condition were more willing than the educational video or control groups to volunteer for a rape prevention project at 4-month follow-up. They also reported significantly more time thinking about the intervention, talking about it, and telling a greater number of people about it. The authors concluded that multiple outcome measures should be used in evaluations of rape prevention programming. Although attitudinal change in the acceptance of rape myths was not lasting in any of the conditions in this study, participants in the interactive drama condition appeared to sustain knowledge and behavioral changes (though not behaviors specifically linked to rape perpetration or victimization) over time.

In one of very few studies measuring coercive sexual *behavior* longitudinally, Foubert (2000) found that an empathy-based rape prevention program had no significant effects on coercive behavior among fraternity members in a 7-month period, when compared with the control group. Interestingly, although actual behaviors did not

change, rape myth acceptance and self-reported likelihood of raping were both significantly decreased among men in the treatment condition (a finding consistent with those of Foubert and McEwen, 1998), and these attitudinal and behavioral intent changes were maintained throughout the 7 months of the study. Among other explanations (e.g., small sample size), Foubert suggests that the lack of change in actual behavior may be due to the program participants' enhanced understanding of coercion, and thus to their ability to more accurately identify their own coercive behaviors. Although this study focused on males' experience of sexual perpetration and not on women's rates of victimization, it should be emphasized that attitudes and behavioral intentions both changed in the absence of changes in actual behavior. This finding again underscores the importance of using multiple outcome measures, including one that directly measures the behavior of interest (sexual assault victimization in the present study).

Hanson and Gidycz (1993) obtained measures of participants' experiences with sexual victimization prior to a rape prevention intervention, after which they followed participants and measured their victimization rates. After 9 weeks, participants reported on their victimization experiences since the intervention. Among subjects who had not been sexually victimized prior to the intervention, the rape prevention programming was effective in significantly reducing their victimization in the 9-week period. However, for subjects who reported either moderate or severe victimization experiences prior to the rape prevention program, the program did *not* significantly reduce their victimization experiences. This finding suggests that interventions may need to be specifically tailored to high-risk women in order to have an impact. It may be that the experience of previous

victimization is such a powerful risk factor that more intensive intervention strategies are needed.

In a program designed specifically to decrease the risk of sexual assault among previously sexually victimized women, Marx, Calhoun, Wilson, and Meyerson (2001) randomly assigned 66 participants to experimental and control groups. The experimental group underwent a 2-session intervention that combined the psychoeducational materials used by Hanson & Gidycz (1993) with risk recognition, problem-solving, coping skills and assertiveness training, and a communication component. At 2-month follow-up, the experimental and control groups did not differ significantly on rates of revictimization, when the spectrum of sexually coercive experiences was considered. However, when only rape revictimization was considered, the experimental group showed significantly lower rates of revictimization. The experimental group also exhibited increased self-efficacy (although there was an interaction effect with revictimization) and decreased subjective ratings of distress.

Interestingly, the experimental and control groups did not differ significantly in their risk recognition skills (as measured by response latencies when listening to an audiotaped coercive sexual encounter) following the intervention. The authors suggest a number of reasons for this finding (e.g., the necessity of administering the response latency task only once, thereby potentially masking pre-intervention differences in groups), and note that higher levels of risk recognition among participants were associated with lower levels of sexual revictimization.

In a multisite evaluation of a sexual assault prevention program, Gidycz, et al. (2001b) examined sexual assault victimization, dating behaviors, sexual communication,

and rape empathy at three separate points in time, with 762 female participants. The first evaluation occurred at the pretest, and the additional evaluations followed at 2 months and at 6 months, respectively. This evaluation was part of a systematic program of research designed to create and implement effective sexual assault prevention strategies. Although Hanson & Gidycz (1993), discussed above, found decreased rates of victimization among treatment group participants who had not previously been sexually victimized, efforts to modify the program in order to increase effectiveness for previously victimized women resulted in a lack of effectiveness for both groups of women (those with and those without sexual victimization histories) (Breitenbecher & Gidycz, 1998). Gidycz, et al. (2001b) also found that the rape prevention intervention was not generally effective in decreasing women's risks of sexual assault at either the 2-month or the 6-month follow-up.

Breitenbecher and Scarce (1999) evaluated a 1-hour sexual assault education program for college women after a 7-month follow-up period. Although the education program was effective in increasing participants' knowledge about sexual assault, it was not effective in reducing risk of sexual victimization during the follow-up period.

Breitenbecher and Scarce (2001) modified the rape prevention program evaluated in Breitenbecher and Scarce (1999) in order to address specifically participants' perceived barriers to sexual assault resistance. The program included a component in which participants read a vignette in small groups and imagined the emotions and thoughts that would accompany such a situation. They discussed both these hypothesized reactions and the strategies that could be used to prevent assault, in their small groups and in the larger group with experimenter oversight and participation. This program did not



significantly affect any of the outcome variables and was not successful at reducing rape victimization.

In summary, most of the available literature on rape prevention programming focuses on attitudinal changes rather than on behavioral ones (e.g., reduction of risky dating behaviors) to determine effectiveness of the interventions. Although a number of studies have demonstrated success in changing participants' rape-supportive attitudes or acceptance of rape myths, it appears that these changes are often not sustained over time. In addition, some studies fail even to show attitudinal change in participants, although these programs are superficially similar to the other studies successful in effecting such attitudinal change.

Of the few studies that have used actual victimization experience as an outcome measure, results are mixed regarding rape prevention programs' effectiveness. Hanson & Gidycz (1993) found that their program was effective at reducing victimization risk for women without a history of victimization, but efforts to refine and improve this program resulted in a loss of effectiveness (Breitenbecher & Gidycz, 1998; Gidycz, et al., 2001b). Breitenbecher and Scarce (1999) and Breitenbecher and Scarce (2001) found no difference in sexual victimization rates between treated and untreated participants, even when modifications were made to the initial program. Marx, et al. (2001) demonstrated a reduced risk of rape revictimization among previously victimized participants, but did not extend their follow-up period beyond 2 months and only provided the intervention to previously victimized women. Thus, it is not known how effective their program would be with women without sexual victimization histories.

In short, no rape prevention program has consistently demonstrated effectiveness at reducing the incidence of sexual victimization across groups of women with differing victimization histories. Further research is needed to determine which components of existing programs are effective, and which presentation formats (e.g., peer discussion, didactic instruction, videotapes, role plays, etc.) are most impactful.

The experimental rape prevention program in the current study included a behavioral rehearsal component in addition to didactic instruction. The behavioral rehearsal component was expected to enhance effectiveness of the rape prevention program by allowing participants to practice new dating and communication skills rather than simply passively learn. Active practice of skills to prevent sexual victimization has been shown to enhance prevention programs with vulnerable populations such as children (Wurtele, Marrs, & Miller-Perrin, 1987; Wurtele, Saslawsky, Miller, Marrs, & Britcher, 1986) and disabled adults (Warzak & Page, 1990). In addition to the benefits of practice, the role-play condition in the current study was expected to enhance effectiveness by encouraging more active cognitive processing of the material presented.

The Elaboration Likelihood Model (ELM) developed by Petty and Cacioppo (1981) suggests that persuasive information is processed by audiences through either central processing or peripheral processing. Central route processing is associated with greater cognitive involvement with the content of the persuasive message and therefore with more stable attitude change and related behavioral change. In contrast, peripheral route processing is strongly influenced by factors other than message content (e.g., perceived attractiveness of speaker, expert status of speaker) and seems to lead to less stable attitude change. Central route processing is affected by both the motivation and

the ability of the audience to process the message content deeply. Although researchers have tested hypotheses derived from the ELM with regard to preventative health behaviors in the areas of eating disorders (Withers, Twigg, Wertheim, & Paxton, 2002), teenage pregnancy (Out & Lafreniere, 2001), HIV infection (Igartua, Cheng, & Lopes, 2003; Perlini & Ward, 2000; Somlai, et al., 1998), and attitudes toward rape (Heppner, et al., 1995) results have been mixed.

In a test of rape prevention programming expected to enhance central route processing, Heppner, et al. (1995b) compared a program of didactic instruction with an interactive drama condition on outcome variables related to attitudes toward rape prevention, behaviors related to rape prevention, and knowledge about issues of coercion and consent. The interactive drama condition consisted of a brief improvisational skit of sexual assault between a male and female actor, after which study participants rewrote the skit to avoid the occurrence of sexual victimization. Although participants in this condition appeared to make significant improvements in terms of knowledge gain and behavior change when compared to the didactic group and the control group, they did not show more stable attitude change, as measured by the Rape Myth Acceptance (RMA) scale (Burt, 1980). Although this finding on attitude change is not consistent with predictions derived from the ELM, the authors suggest a number of reasons for this failure, including “floor” effects obtained with the RMA and its lack of differentiation between acquaintance and stranger rape. In addition, it should be noted that central route processing did appear related to knowledge and behavior changes that seemed to persist over time. As noted previously, in the area of rape prevention, attitude change may not predict change in sexual aggression and sexual victimization. It may be that the

ELM-derived hypothesis that central route processing is more likely to lead to behavioral changes than is peripheral route processing is more relevant in rape prevention efforts than hypotheses related solely to attitude change.

In the current study, it was hypothesized that the behavioral rehearsal component in the experimental program would enhance central route processing of the material by actively involving participants in the intervention and increasing their attention to the program's content. This was expected to lead to fewer risky dating behaviors (e.g., not spending time "parking" on the first few dates), more protective dating behaviors (e.g., improved sexual communication), and lower rates of sexual victimization among participants.

#### *Standard Rape Prevention Efforts at Auburn University*

Safe Harbor is a rape counseling and advocacy program affiliated with the Counseling Center at Auburn University. In addition to providing post-assault support services, Safe Harbor engages in campus activities designed to increase awareness of the problem of sexual assault on college campuses. There is currently no formal rape prevention education offered to all incoming freshmen students (P. Carnahan, personal communication). Instead, an educational program of approximately 1 hour, based on the Common Ground curriculum, is offered in certain courses in which the instructor has expressed interest in having such a presentation. Although these courses are sometimes in disciplines which may appeal to students of one gender more than the other (e.g., women's studies), the presentation is offered to all attending students, regardless of gender. In the past, Safe Harbor utilized trained peer counselors to present the rape prevention information, but post-intervention feedback consistently indicated that these

peer counselors lacked credibility with the other students. Currently, rape prevention materials are presented by a Safe Harbor professional. No outcome data on rates of sexual victimization and exposure to rape prevention programming are collected (P. Carnahan, personal communication).

In addition to Safe Harbor's outreach efforts, Auburn University offers a rape self-defense class for course credit. This class is geared toward physical resistance at the moment of attack, and does not focus on more broadly-defined prevention strategies (e.g., being aware of and avoiding risky situations, communicating sexual intentions clearly, etc.). Although physical resistance to attempted sexual assault has received considerable empirical support as an effective strategy (Bart, 1981; Bart & O'Brien, 1984; Clay-Warner, 2002; Kleck & Sayles, 1990; Ullman, 1997), very few women complete such interventions. Thus, other, more broadly available rape prevention programming is needed in order to protect larger numbers of potential victims and to provide additional tools against sexual assault. A number of scholars have implicated gender socialization in the United States as contributory to sexual violence (Brownmiller, 1975; Byers, 1996; Harney & Muehlenhard, 1991; Mandoki & Burkhart, 1991; Muehlenhard & Schrag, 1991; Warshaw & Parrot, 1991). Rozee and Koss (2001) hypothesize that feminine socialization may reduce women's ability to resist rape successfully in that this socialization promotes avoidance of conflict and perceptions of the self as physically incapable of defense. This suggests that not all women will feel comfortable utilizing physical self-defense in the absence of a broader educational rape prevention program.

The current study offered a rape prevention program based on the Common Ground curriculum used by Safe Harbor as the "standard practices" experimental group

(discussed further in the Methods section). In addition, this study had a second experimental group that received the same instruction as the standard practices group and was also given the opportunity for behavioral rehearsal (role plays) of new skills such as communicating sexual intentions clearly, refusing unwanted sexual advances unambiguously, recognizing when communications are being ignored and risk of victimization is heightened, and terminating interactions in riskier situations. It was hypothesized that greater treatment gains would be seen among participants in the group with the behavioral rehearsal component than among participants in the standard practices group. These enhanced gains were expected in the experimental group because of the opportunity to practice new skills and because of the more active cognitive processing of the material required to formulate and enact the role plays, as compared to the more passive reception of material required in the standard practices group. Consistent with the ELM, this more active processing was expected to lead to more involvement with the material, greater knowledge gains, greater behavioral changes, and more stability of these changes over time.

The components of the Common Ground curriculum are designed to address a number of acquaintance rape risk factors, including ambiguous sexual communication and risky dating behaviors. These risk factors are discussed more fully in the section below.

#### *Acquaintance Rape Risk Factors*

*Ambiguous sexual communication.* When 13 four-year colleges were surveyed about their rape prevention programs (Schuster, 1993), communication in relationships was the most frequently used component. Presumably, this focus was derived from

research suggesting that men tend to overperceive cues of sexual availability (Abbey, 1982, 1987; Muehlenhard & Linton, 1987) and that acquaintance rape may be influenced by perpetrators' impaired or incorrect perception of negative situational cues indicating lack of consent to sexual interactions (e.g., Abbey, 1991; Bernat, Wilson, & Calhoun, 1999; Marx, Gross, & Juergens, 1997; Marx, Van Wie, & Gross, 1996). The lack of overt force or threat in many sexually coercive and acquaintance rape victimization incidents (Fischer, 1996; Koss, 1985; Koss, Gidycz, & Wisniewski, 1987; Marx, et al., 2001; Meilman & Haygood-Jackson, 1996) suggests that acquaintance rape may occur in circumstances that are ambiguous or confusing to sexual aggressors. In other words, perpetrators may be unaware that their partners perceived the sexual activity as coerced. One of the possible reasons for sexual aggressors to fail to identify correctly coercive and unwanted sexual interactions is belief in token resistance. Token resistance is the idea that people, primarily women, often indicate unwillingness to engage in sexual activities although they both desire and intend to engage in the activities; that is, people say "no" when they mean "yes." Belief in token resistance is apparently fairly prevalent among male college students, the population among whom these attitudes have most often been measured (e.g., Marx & Gross, 1995; Marx, et al., 1997; Mills & Granoff, 1992; Osman & Davis, 1999). Although estimates of the frequency of its use vary fairly widely, it appears that token resistance actually *is* used by a substantial proportion of both men and women in the negotiation of their sexual interactions (Krahe, Scheinberger-Olwig, & Kolpin, 2000; Muehlenhard and Hollabaugh, 1988), often within an existing sexual relationship (Muehlenhard & Rodgers, 1998) and considered pleasant by the involved individuals (O'Sullivan & Allgeier, 1994). In other words, belief in token resistance may

be based on an accurate perception of sexual communications, although these communications may have occurred under different circumstances or with a different partner.

Although belief in token resistance has sometimes been shown to decrease perceptions of acquaintance rape among study participants (Marx & Gross, 1995; Osman & Davis, 1997; Osman & Davis, 1999), other studies have not found significant relationships between token resistance conditions and decreased or delayed perceptions of acquaintance rape (Bernat, et al., 1999; Marx, et al., 1997). Where token resistance, either as an individual belief or as an experimental condition, does not appear significant in delayed or decreased perceptions of acquaintance rape, researchers have speculated that other factors (e.g., calloused sexual beliefs) or experimental procedures have confounded the results.

For example, in Marx, et al.'s (1997) study examining perceived token resistance, alcohol expectancies, and alcohol consumption, a perceived token resistance condition failed to significantly affect response latencies among participants listening to a acquaintance rape audiotape (participants indicated by pressing a button when they thought that the man on the audiotape should cease further sexual advances). This finding was contrary to the researchers' expectations and to previous studies, including Marx and Gross (1995). Researchers speculated that this finding might have been influenced by the beverage administration portion of the study, which directly temporally preceded the token resistance manipulation.

Using the acquaintance rape audiotape from Marx and Gross' (1995) study, Bernat, et al. (1999) examined perceptions of acquaintance rape among male participants



with differential levels of Calloused Sexual Beliefs (a subscale of the Hypermasculinity Inventory), in a study in which a token resistance variable was manipulated. While Calloused Sexual Beliefs correlated strongly with a prolonging of the taped coercive interaction, the token resistance condition was not associated with longer response latencies among either coercive or noncoercive respondents. The researchers conclude that the role of perceived token resistance in acquaintance rape may have been overemphasized in previous studies (e.g., Marx & Gross, 1995; Osman & Davis, 1997; Osman & Davis, 1999).

Consistent with the possibility that the role of token resistance has been overemphasized in past studies, there is some evidence to suggest that women who are sexually victimized are no less clear in the communication of their sexual intentions than are women who are not victimized; the former are simply confronted with perpetrators who overperceive sexual intent (e.g., Sawyer, Desmond, & Lucke, 1993) and who do not recognize their dates' refusals (e.g., Amick & Calhoun, 1987; Bondurant & Donat, 1999). Fisher and Walters's (2003) results also suggest that ambiguous sexual communication is in the eye of the perceiver: they found that men who had more traditional attitudes toward women and exhibited higher levels of calloused sexual attitudes perceived more sexual interest in a number of vignettes than did other men or women. Men who did not hold these traditional attitudes or calloused sexual attitudes did not differ significantly from women in their perceptions of sexual interest. Despite the significant difference between the "macho" subgroup and the other subgroups, the authors caution that the differences in perception of sexual interest were still small and were of degree of sexual interest expressed rather than whether sexual interest was expressed at all. Fisher and

Walters conclude that, “these men and women appear to be on the same page with regard to these situations but perhaps on slightly different lines.”

In summary, the roles of perceived token resistance and ambiguous sexual communication in increasing perceptions of sexual availability or risk of sexual victimization are unclear, with mixed results derived from the studies using these variables. However, because some evidence exists that ambiguous or misperceived communications may increase the risk of sexual victimization, it seems reasonable to include these problematic communications as a risk factor for acquaintance rape. Also, it should be noted that many of the studies that examine perceived token resistance and its effects are conducted in the laboratory, and may bear little relation to the actual consequences of ambiguous communications in real-world settings. Finally, until effective ways to modify sexual overperception among potentially sexually aggressive men are developed, perhaps the best rape preventative efforts in this area can be focused on teaching potential victims about overperception and clarifying communications, especially in light of the apparent prevalence of use of token resistance in sexual interactions.

*Alcohol consumption.* Alcohol consumption has been consistently linked with acquaintance rape and sexual coercion (Abbey, Ross, McDuffie, & McAuslan, 1996; Abbey, Zawacki, Buck, Clinton, & McAuslan, 2004; Abbey, 1991; Aizenman & Kelley, 1988; Harrington & Leitenberg, 1994; Koss, 1988; Koss & Dinero, 1989; Koss, et al., 1987; Martin & Bachman, 1998; Mohler-Kuo, Dowdall, Koss, & Wechsler, 2003; Richardson & Hammock, 1991; Ullman, Karabatsos, & Koss, 1999; Ward, et al. 1991). Koss and Dinero (1989) found that one of the four strongest predictors of acquaintance

rape victimization among female college students was repeated alcohol or other drug use. In a review of a number of studies of habitual alcohol consumption and sexual victimization, Abbey, et al. (2004) found that the accumulated evidence suggested that alcohol (and other drug) use has a reciprocal relationship with sexual victimization whereby sexual victimization may result in increased substance consumption as a coping mechanism and increased substance consumption may result in enhanced vulnerability to sexual assault.

Consumption of alcohol or other drugs has also been linked to assaultive behavior or victimization when such consumption immediately precedes the attack. Koss (1988) found that alcohol or other drug use was quite common prior to assault, with 73% of assailants and 55% of victims acknowledging their use of these substances before the assault. Alcohol was involved in violent or coercive sexual encounters for more than 35% of the men and 32% of the women in Aizenman and Kelley's (1988) study.

Possible reasons for alcohol consumption's correlation with sexual coercion include diminished cognitive processing, inaccurate or impaired perceptual abilities (Abbey, Zawacki, & McAuslan, 2000), and decreased attention to risk cues (Testa, Livingston, & Collins, 2000). Perpetrators may believe in the excuse-giving properties of alcohol consumption (e.g., Abbey, 1991a) or may misperceive women's sexual interest because of alcohol impairment (e.g., Zawacki, Abbey, Buck, McAuslan, Clinton-Sherrod, 2003). Also, alcohol contributes to a general suppression of inhibitions (Crowe & George, 1989), which may lead to decreased ability to control sexual impulses in both genders. For example, the ability to inhibit sexual arousal among men who have consumed alcohol is noticeably impaired (Wilson & Niaura, 1984). In addition, a belief

in increased sexual feelings and increased sexual activity in connection with drinking has been observed among both men and women (Crowe & George, 1989), possibly increasing the risk of miscommunication. Belief in alcohol consumption as a cue for sexual availability or arousal may contribute to men's overestimation of their dates' sexual intentions (Abbey, 1991a; Abbey, Buck, Zawacki, & Saenz, 2003; Abbey & Harnish, 1995; George, Gournic, & McAfee, 1988; Zawacki, et al., 2003). Because perpetrator and victim alcohol consumption have such strong correlations with each other in instances of acquaintance rape (Abbey, et al., 2004), it is difficult to determine how much alcohol consumption contributes to either increased risk of perpetration or increased risk of victimization.

Although alcohol consumption has been consistently linked with sexual victimization among college students, and several plausible explanations for this link have been advanced, it is not clear whether alcohol consumption has any sort of causal relationship to sexual victimization. That is, it may be that alcohol consumption is such a prevalent part of the college social scene that this consumption simply covaries with opportunities for acquaintance rape victimization. Because alcohol consumption has not been conclusively shown to be a causal factor in sexual victimization, and because any causal role played by alcohol consumption seems likely to be mediated through other variables (e.g., impaired sexual communication, engaging in risky behaviors), alcohol consumption per se was not selected as a target for intervention in this study. Rather, as will be discussed further in the sections below, targets for intervention included unambiguous sexual communication and protective dating behaviors. Safe Harbor's current rape prevention program provides statistics on the correlation between alcohol

and other drug use and sexual assault, but emphasizes that, “drug use alone does not cause sexual violence.” The Safe Harbor program focuses on impairment in perceptual and decision-making abilities as a result of alcohol or drug intoxication, rather than such intoxication itself. The current study also targeted factors associated with intoxication rather than alcohol consumption itself. However, the consistent correlation between alcohol consumption and acquaintance rape victimization provided an additional rationale for offering rape prevention programming that included a behavioral rehearsal component, in order to increase deeper cognitive processing of the preventative strategies discussed and thus increase the chances that protective behaviors would be readily available to potential victims, even in situations in which they may be intoxicated. Despite these attempts to enhance the likelihood that protective dating behaviors will be accessible to participants regardless of alcohol consumption, it was expected that participants who display problematic drinking patterns will also have higher rates of sexual victimization, regardless of treatment condition.

*Risky dating behaviors.* Risky dating behaviors are defined as those that situationally increase the risk of sexual assault, either through isolation of the victim and enhanced opportunity to commit sexual assault (e.g., being alone with a date in a car in an isolated location, leaving a party with someone the woman has just met) or through increased risk of sexual miscommunication and perpetrator perception of sexual entitlement (e.g., Abbey, 1991; Koss & Harvey, 1991; Yescavage, 1999). It is important to reiterate that labeling certain dating behaviors as “risky” is not intended to shift blame from sexual perpetrators to their victims, who may or may not have engaged in these behaviors prior to the assault. Although results are somewhat mixed, previous research

has also suggested that number of consensual sexual partners and frequency of consensual sexual behavior may also contribute to risk of sexual assault (Brener, McMahon, Warren, & Douglas, 1999; Himelein, Vogel, & Wachowiak, 1994; Koss & Dinero, 1989; Mandoki & Burkhart, 1989; Wyatt, Newcomb, & Riederle, 1993), probably in part because of the increased probability of encountering a coercive man. However, because such risk factors as number of previous sexual partners are not amenable to intervention, they were not considered in this paper.

As mentioned in the Introduction, the majority of rape prevention programs discussed in the literature target attitudinal change in order to decrease sexual assault perpetration and victimization. Relatively few studies, therefore, discuss interventions aimed at identifying risky dating situations and modifying behavioral intent to engage in those behaviors. Among studies that do discuss modification of risky dating behaviors, results are mixed. For example, Shultz, et al. (2000) found that behavioral intention to engage in behaviors related to rape (not all of which were directly related to risky dating situations) was not changed by either of their two experimental conditions, although attitudes toward acceptance of rape myths were significantly improved in both treatment groups. It should be noted that Shultz, et al. (2000) did not collect data on the actual incidence of these risky dating behaviors, but only on participants' self-reported intentions to engage in those behaviors or not in the future. In contrast, in Breitenbecher's (2000) review, she examined four studies that targeted risk-related behaviors among females, three of which showed positive change according to participants' self-reports. Of these three studies, Himelein (1999) had an intensive treatment program and a small number of subjects (seven, of which one woman did not

complete all of the outcome measures) and did not report statistical findings. Hanson and Gidycz (1993), however, did find a statistically significant difference between the experimental and the control group in terms of exposure to risky situations at the follow-up at the end of the academic quarter. At the beginning of the quarter, participants in the experimental condition were shown a video that highlighted a number of risky dating situations, including consuming alcohol, being in an isolated area with the potential perpetrator, acting in a nonassertive manner, and failing to communicate sexual intentions clearly. Following the video, participants discussed possible protective behaviors and watched a second video in which those protective behaviors were emphasized.

Examining a number of studies of sexual assault prevention programs, Yeater and O'Donohue (1999) listed a variety of distal and proximal behaviors that they suggest females should be taught in order to help them prevent sexual victimization. The distal behaviors suggested were decreasing alcohol consumption in dating situations, learning about a potential date before agreeing to go out with him, and not going to isolated places with men whom the woman does not know well. Proximal behaviors included those related to assertive refusal of sexual behaviors and physical self-defense, if needed.

The above studies share a common emphasis on ambiguous sexual communication and alcohol consumption as risky dating behaviors to be modified through rape prevention programming. As noted previously, the current study did not target alcohol consumption for change in either of the two experimental conditions. Instead, emphasis was placed on modifying behaviors hypothesized to be related to alcohol consumption in terms of risk (e.g., perception of danger, clarity of

communication). In that regard, the Common Ground curriculum currently used by Safe Harbor in Auburn's rape prevention efforts addresses risky dating behaviors through teaching women that they are all potential victims of sexual assault. In addition to preparing women to face possible victimization in their social lives, this emphasis on every woman's vulnerability to assault may make the other components of the rape prevention program seem more relevant to participants. Safe Harbor also encourages women to inform their dates clearly of their expectations and to hold firm to their stated expectations, without worrying excessively about being impolite or hurting the men's feelings. Lastly, Safe Harbor informs rape prevention participants that the homes of either victims or perpetrators are the most likely locations for acquaintance rapes to occur.

*Resistance strategies.* In reviewing the rape resistance literature from 1971 until 1986, Kleck and Sayles (1990) concluded that the results consistently supported the effectiveness of victim resistance in reducing the rate of completed rapes. These results also suggest that resistance is not associated with an increase in the risk of additional physical injury, except in the case of forceful resistance without a weapon. Forceful physical resistance appears to be consistently related to rape avoidance (Bart, 1981; Bart & O'Brien, 1984; Clay-Warner, 2002; Kleck & Sayles, 1990; Ullman, 1997). However, in a study of 116 female rape *victims*, Atkeson, Calhoun, and Morris (1989) found that 86% of their sample resisted verbally or physically, with 33% resisting physically. Administrators of rape prevention programs who advocate forceful physical resistance as a rape avoidance strategy face the dilemma of advocating a response that is likely to be effective but also has the potential to result in additional physical injury to the victims. It



is important to note that although various resistance strategies have been shown to reduce the likelihood of rape completion, these strategies are not always effective. Care must be taken to avoid blaming victims for selection of an ineffective resistance strategy or for choosing to remain passive and offer no resistance. It appears that victims often match their resistance strategies to the offenders' strategies, responding to verbal coercion with verbal resistance, force with force, and so on (Siegel, Sorenson, Golding, Burnam, & Stein, 1989).

Clay-Warner (2002) coded 15 types of response behaviors into three categories of protective actions. Of these classes of protective action, only physical protective action was found to significantly predict rape avoidance. Neither forceful verbal protective actions or non-forceful verbal protective actions were effective in reducing the rate of rape completions; in fact, non-forceful verbal protective actions were significantly positively related to rape completions, more than doubling the risk of completed rape. It may be that attackers were reinforced by the pleading and begging of their victims, an explanation consistent with either rape as an expression of power and dominance or sexual arousal to cues of victim pain or distress.

Clay-Warner's (2002) finding that forceful verbal protective actions were ineffective in reducing rape completions is somewhat surprising, given the results of other studies (e.g., Zoucha-Jensen & Coyne, 1993). It should be noted that the Clay-Warner study used data from the National Crime Victimization Survey, and thus may have overrepresented stranger rape victimizations. Even when describing events that meet the legal definition of rape, not all victims characterize their sexual assaults as such (Bondurant, 2001; Brecklin & Ullman, 2005; Levine-MacCombie & Koss, 1986).

Women may be more likely to characterize their sexual assault victimizations according to legal definitions when these victimizations also match stereotypic depictions of rape as perpetrated violently by strangers, so-called “real rapes” (Estrich, 1987). It seems likely that resistance strategies that are effective in stranger rape situations may not be the same strategies that are best in acquaintance rape situations.

For example, Bart (1981) conducted interviews with 13 women who had both avoided sexual assault and had been raped, with a number of women experiencing each of these situations first. Use of multiple methods of rape resistance was associated with fewer rape completions, consistent with the findings of Bart & O’Brien (1984), the larger sample from which this subsample was drawn. Use of the single strategy of talking/pleading was the modal response in *completed* rapes. Also, it should be emphasized that none of the women successfully avoided rape when the assailant was someone with whom she had ever had a sexual relationship.

Multiple resistance strategies also appeared effective in a review of studies on rape avoidance conducted by Ullman (1997). In addition, Ullman found that forceful verbal resistance and nonforceful physical resistance strategies (e.g., pulling away, trying to escape) were consistently related to rape avoidance. Similarly, in a study of both acknowledged and unacknowledged acquaintance rape victims, Levine-MacCombie and Koss (1986) found that rape avoiders in their study were more likely to run away and to scream for help than were victims.

The most effective rape resistance efforts appear to be forceful physical resistance (although there may be a risk of increased physical injury) and use of multiple resistance strategies. The effectiveness of forceful verbal strategies is unclear at this time;

confusion is heightened because many researchers do not separate forceful verbal strategies from nonforceful ones, possibly masking positive effects of forceful verbal resistance. Currently, there is evidence to suggest that use of nonforceful verbal strategies is associated with increased risk and should be avoided.

One of the goals of including the role-play component in one of the experimental conditions was to allow women to rehearse different forceful verbal or nonforceful physical resistance strategies. Safe Harbor's curriculum encourages women not to panic and to look for possible escape routes or opportunities to attract attention. Because of time limitations precluding effective instruction in physical self-defense, forceful physical resistance was not emphasized. Pleading and begging were actively discouraged because of their possible relationship with increased rape victimization. Despite the mixed results obtained in studies examining forceful verbal reactions, there is no evidence to suggest that these responses increase risk and they have been shown to be at least occasionally effective. Therefore, forceful verbal reactions and nonforceful physical reactions (e.g., escape) were highlighted, as was the desirability of employing multiple resistance strategies if possible. In addition, the program was intended to help participants clarify their sexual communications and, ideally, minimize the need for resistance to sexual assault by ending potentially coercive interactions sooner.

### *Interim Summary*

Ambiguous sexual communication, risky dating behaviors, and protective habits were all factors targeted for change in both experimental groups of the rape prevention program currently under study. In addition to these types of factors, there are a number of personal characteristics of victims that are consistently linked with increased risk of

sexual victimization. Although modifications to the rape prevention program in order to target these high-risk characteristics were beyond the scope of this study, women with these characteristics were hypothesized to benefit less from the rape prevention interventions than were women without these personal characteristics. As discussed more fully in the Results section, post-hoc analyses were planned in order to examine the differences in effectiveness of the rape prevention programming in terms of intermediate outcomes of changes in sexual communication and use of protective behaviors, in addition to sexual victimization itself.

#### *Personal Characteristics that Enhance Risk*

*Prior sexual victimization.* Although considerable evidence exists to suggest that prior sexual victimization enhances the risk of revictimization (e.g., Alexander & Lupfer, 1987; Arata, 2002; Breitenbecher, 2001; Casey & Nurius, 2005; Fromuth, 1986; Himelein, 1995; Jankowski, Leitenberg, Henning, & Coffey, 2002; Koss & Dinero, 1989), it is not clear what variables mediate this relationship, or whether prior sexual victimization itself has a direct effect on revictimization. Differing definitions of prior sexual victimization across studies have impaired efforts to draw conclusions regarding the independent impacts of child sexual abuse, adolescent victimization, repeated adult victimizations, or victimization experiences across the lifespan on risk of subsequent victimizations among women. The failure to differentiate among these types of previous victimizations may obscure the mediating variables through which victimization predicts subsequent victimization. Also, some research (e.g., Maker, Kemmelmeier, & Peterson, 2001; Messman-Moore & Long, 2000) suggests that childhood sexual abuse may have a particularly significant impact on future revictimization.

A number of studies have focused on risk recognition skills as a potential predictor of sexual revictimization. Among women who have previously been sexually victimized, poorer risk recognition skills have been associated with subsequent revictimization, but rape prevention programming intended to enhance risk recognition has not demonstrated success. Marx, et al. (2001) designed two sessions of rape prevention programming tailored for women with sexual victimization histories. Across treatment conditions, women who displayed longer response latencies to an audiotaped vignette of sexual victimization were more likely to report rape victimization at follow-up. Although risk recognition does appear to have been a risk factor for rape victimization in this study, the rape prevention program may have been unsuccessful in teaching those skills or in accurately measuring treatment gains.

In Wilson, Calhoun, and Bernat's (1999) study of risk recognition, women with histories of multiple incidents of sexual victimization displayed significantly longer latencies when listening to the date rape audiotape than did women with histories of a single incident of victimization, or women with no history of sexual victimization. These latter two groups did not differ significantly from one another.

Meadows, Jaycox, Orsillo, and Foa (1997) (cited in Wilson, et al., 1999) found that previously victimized women experienced comparable discomfort to women without victimization histories in response to scenarios of different degrees of interpersonal threat. Although the previously victimized women appeared to recognize as much threat as did the other women, they indicated that they would leave the situation significantly later. In other words, their *response* to the threat cues was delayed beyond that of women who had not been victimized before.

In addition to impaired risk recognition or risk response, posttraumatic symptoms and dissociation have also been suggested as possible links between sexual victimization and revictimization. Sandberg, Matorin, and Lynn (1999) used a prospective research design to assess whether dissociative experiences and posttraumatic symptomatology mediate or moderate the relationship between sexual victimization and revictimization among female college students. Dissociation was not found to mediate or moderate this relationship, which the authors hypothesize may be an effect of the limited follow-up period or the nonpathological nature of some of the reported dissociative experiences. Posttraumatic symptomatology was found to moderate, but not mediate, the relationship between sexual victimization and subsequent revictimization. Previous sexual victimization experiences were more strongly linked to subsequent experiences when posttraumatic symptomatology was also present. Similarly, Noll, Horowitz, Bonanno, Trickett, et al. (2003) found that sexual revictimization was associated with symptoms of posttraumatic stress disorder, as well as with peritraumatic dissociation and sexual preoccupation. This study employed a longitudinal design and a community sample of female subjects.

Other suggested mechanisms by which sexual victimization may enhance the risk of revictimization are general psychological distress (Breitenbecher, 2006; Messman-Moore & Long, 2003), attempts at emotion regulation (Marx, Heidt, & Gold, 2005), or impaired interpersonal functioning (Davis & Petretic-Jackson, 2000). The use of negative coping strategies (e.g., alcohol or other substance use, sexually risky or precocious behavior) has been associated with enhanced risk of revictimization (Filipas & Ullman, 2006; Miner, Flitter, & Robinson, 2006). In attempting to differentiate

between singly-victimized and multiply-victimized women on identification of risky dating behaviors, Yeater and O'Donohue (2002) found that women who reported a single victimization took significantly longer to be trained to criterion on the measure than did women who reported multiple victimizations. Further research is necessary to explore the relationships among engaging in risky dating behaviors, accurately identifying risky dating behaviors, and being sexually victimized or revictimized.

Gidycz, Hanson, and Layman (1995) employed a prospective design in order to analyze relationships between previous victimization experiences and subsequent victimizations, and to explore the role of possible mediating factors such as family and psychological adjustment, interpersonal functioning, and alcohol use and sexual behavior. Although their results confirmed significant relationships between child and adolescent sexual victimization experiences and subsequent adult victimizations, none of the mediating variables was able to directly predict victimization at any of the follow-up periods.

In their model of sexual revictimization, Gold, Sinclair, and Balge (1999) present a number of pathways through which child sexual abuse is hypothesized to affect rates of adult victimization. These pathways include psychological problems, as suggested by Finkelhor and Browne's (1985) traumagenic dynamics model, which comprises four dynamics: traumatic sexualization, betrayal, powerlessness, and stigmatization. The psychological problems hypothesized to stem from child sexual abuse may be heightened by passive or avoidant coping styles employed by the victim. In addition to the direct consequences hypothesized to stem from the deleterious psychological effects of the childhood sexual abuse, the authors suggest that these psychological effects may manifest

themselves in more frequent sexual activity by victims, a risk factor that may make an independent contribution to the risk of subsequent revictimization.

The development of an insecure attachment style may be another consequence of childhood sexual abuse. Gold, et al. employ Bartholomew and Horowitz's (1991) four-category model of attachment styles, in which secure attachment is differentiated from preoccupied, dismissive, and fearful attachments (which are collectively seen as insecure) on the basis of positive or negative views of self and others. They hypothesize that an insecure attachment style may increase the risk of sexual revictimization through impairment in functioning in intimate relationships. They also hypothesize that insecure attachment may lead to less discriminate sexual behavior and involvement with a greater number of sexual partners, also risk factors.

In addition to the psychological sequelae and insecure attachment styles hypothesized to develop from childhood sexual abuse, adherence to a hyperfeminine gender role is believed to be a factor in sexual revictimization. Hyperfeminine identification is discussed below as an independent characteristic hypothesized to enhance risk of sexual victimization. The final pathway in Gold, et al.'s (1999) model is delinquency and drug use.

In the current study, women who have experienced previous sexual victimization, either as children or as adolescents, and women who endorse higher hyperfeminine identifications, or women who possess both characteristics, were expected to respond differently to the rape prevention interventions than women who do not possess these characteristics.



*Hyperfemininity.* Hyperfemininity is a construct designed to represent the extreme in feminine gender role identification. Items on the Hyperfemininity Scale (Murnen & Byrne, 1991) were selected to represent three categories of characteristic beliefs and behaviors of hyperfeminine women. These three categories are: 1) belief that relationships with men are of paramount importance; 2) belief that personal physical attractiveness and sexuality can be used to help obtain or preserve a romantic relationship; and 3) a preference for traditional sexual behaviors in men. In early research using the Hyperfemininity Scale, Murnen and Byrne (1991) found that women who endorsed a greater number of hyperfeminine characteristics favored less harsh reactions to a scenario of an acquaintance rape. Women high in hyperfeminine identification also indicated that they felt that the female victim bore more responsibility for being sexually coerced than women lower in hyperfeminine identification did.

Interestingly, women higher in hyperfeminine identification also reported a higher level of previous sexual coercion (Murnen & Byrne, 1991). This result was supported by later research (McKelvie & Gold, 1994), but causality has not yet been determined. A prospective research design is needed in order to determine whether hyperfeminine women are more vulnerable to sexual assault or whether women victimized by sexual assault adopt more hyperfeminine attitudes as a coping mechanism. Of course, it is also possible that an unidentified third variable affects both vulnerability to sexual assault and adoption of a hyperfeminine gender role identification. It seems logical to conclude tentatively that many aspects of hyperfeminine identification (e.g., emphasis on maintaining romantic relationships, willingness to be subservient to men, acceptance of some degree of sexual coercion in vignettes) are likely to increase risk of future sexual

victimization, regardless of what factors influenced the development of the hyperfeminine identification.

In addition to the risky aspects of hyperfemininity listed above, Maybach and Gold (1994) found that women with a higher hyperfeminine identification reported more attraction to a “macho” hypermasculine man than did women holding fewer hyperfeminine attitudes. Hypermasculinity in men has been associated with greater risk of sexual perpetration (e.g., Mosher & Anderson, 1986; Mosher & Sirkin, 1984), and is often related to traditional attitudes toward women, acceptance of rape myths, and adversarial sexual beliefs. This constellation of attitudes and beliefs has consistently shown a strong relationship with sexual coercion (Burt, 1980, 1991; Check & Malamuth, 1983, 1985; Nelson & Torgler, 1990). In effect, in addition to other sexual assault risk factors associated with hyperfemininity, hyperfeminine women are more likely to be attracted to men who are more likely to be sexual perpetrators.

In the current study, higher hyperfeminine identification was expected to be associated with higher levels of sexual victimization at post-test, regardless of treatment condition. Women who are high in hyperfemininity were expected to show fewer changes as a result of the rape prevention program than were women lower in hyperfemininity, in rates of sexual victimization itself and in terms of intermediate outcomes such as use of protective dating behaviors and changes in sexual communication styles. McKelvie and Gold (1994) found that hyperfeminine women did not differ from nonhyperfeminine women on a measure of nonsexual assertiveness. Because nonsexual assertiveness is not central to the hyperfeminine woman’s gender identity in the way that sexuality and sexual manipulation are, this finding is not seen as

inconsistent with the expectation that high hyperfeminine women will not modify their sexual communication styles to the extent that low hyperfeminine women will, in response to rape prevention interventions.

### *Summary*

Although numerous studies have been conducted on the effectiveness of rape prevention programs for college students, many of these studies focus on attitudinal or perceptual changes post-intervention rather than on changes in actual sexual victimization rates (e.g., Gray, et al., 1990; Harrison, et al., 1991; Lenihan, et al., 1992; Pinzone-Glover, Gidycz, & Jacobs, 1998; Shultz, et al., 2000). Results have been mixed in those studies that do measure victimization rates (e.g., Breitenbecher & Gidycz, 1998; Breitenbecher & Scarce, 1999, 2001; Gidycz, et al., 2001; Hanson & Gidycz, 1993). At present, no rape prevention program has consistently shown effectiveness in reducing the rates of sexual victimization among treated participants.

Outcome measures in the current study included sexual communication style and habitual dating behaviors as well as rates of sexual victimization. The rape prevention program evaluated focused in part on teaching participants to state clearly their sexual needs and boundaries and to recognize when their stated limits were being ignored. Research suggests that many sexually coercive and acquaintance rape victimization incidents occur without overt threat of force on the part of the perpetrator (e.g., Fischer, 1996; Koss, 1985; Koss, et al., 1987; Marx, et al., 2001; Meilman & Haygood-Jackson, 1996). Other studies indicate that men tend to overperceive cues of sexual availability and underperceive negative situational cues indicating lack of consent (Abbey, 1982, 1987, 1991; Bernat, et al., 1999; Marx, et al., 1997; Marx, Van Wie, et al., 1996;

Muehlenhard, 1988; Muehlenhard & Linton, 1987). Although responsibility for sexual assault must always rest with the perpetrators, this program attempted to teach potential victims how to clarify their communications and avoid victimization situations, which seems to be a defensible course of action until effective ways to modify sexual misperceptions among potentially sexually aggressive men are developed.

In addition to information on unambiguous sexual communication, the didactic instruction in the current study included emphasis on risky dating behaviors (e.g., being in an isolated place with a man one does not know well, leaving a party or bar with a stranger) and protective dating behaviors (e.g., communicating plans to friends beforehand, having a cell phone at all times). Participants were encouraged to feel empowered to reiterate negative responses to sexual advances, and to prioritize safety considerations over etiquette concerns (e.g., the desire not to hurt a date's feelings).

One of the treatment conditions in the current study included a behavioral rehearsal component, role-plays of new skills such as communicating sexual intentions clearly, refusing unwanted sexual advances unambiguously, recognizing when communications are being ignored and risk of victimization is heightened, and terminating interactions in riskier situations. This component was expected to enhance effectiveness of the rape prevention program by allowing participants to practice new dating and communication skills rather than simply hear about them.

Although the treatment condition that included the behavioral rehearsal component was expected to be more effective in general at reducing rates of sexual victimization, there are several participant high-risk factors that were hypothesized to be associated with greater victimization, regardless of treatment condition. Alcohol

consumption has been consistently linked with sexual victimization (Abbey, Zawacki, et al., 2004; Abbey, Ross, et al., 1996; Abbey, 1991; Aizenman & Kelley, 1988; Harrington & Leitenberg, 1994; Koss, 1988; Koss & Dinero, 1989; Koss, et al., Martin & Bachman, 1998; Mohler-Kuo, et al., 2003; Richardson & Hammock, 1991; Ward, et al., 1991).

Although the rape prevention programs in the current study targeted factors likely to be associated with alcohol consumption (e.g., impaired sexual communication; decreased perceptions of risk), alcohol consumption itself was not targeted for change. Participants who display problematic alcohol consumption patterns were expected to have greater victimization rates than those who do not, regardless of experimental group. Like alcohol consumption, prior sexual victimization has been shown to enhance the risk of (re)victimization (e.g., Alexander & Lupfer, 1987; Arata, 2002; Casey & Nurius, 2005; Fromuth, 1986; Himelein, 1995; Jankowski, et al., 2002; Koss & Dinero, 1989). The rape prevention interventions in this study were not expected to be sufficiently powerful to be effective with participants who reported past histories of sexual victimization.

Finally, hyperfeminine gender identification is associated with increased risk of sexual victimization for two reasons. First, many aspects of hyperfemininity (e.g., emphasis on maintaining romantic relationships, willingness to be subservient to men, acceptance of some degree of sexual coercion in vignettes) are likely to increase risk. Second, research suggests that hyperfeminine women are more likely to be attracted to “macho” hypermasculine men (Maybach and Gold, 1994), who are more likely to be sexual perpetrators than are nonhypermasculine men (Mosher & Anderson, 1986; Mosher & Sirkin, 1984).

In summary, the current study compared a rape prevention program of didactic instruction with one of didactic instruction and behavioral rehearsal and a no-contact control group. Participants in both of the treatment conditions were expected to show changes in sexual communication style, habitual dating behaviors, and rates of sexual victimization. These changes were expected to be greater among participants in the behavioral rehearsal condition because of the opportunity to practice the new skills and because of the more active cognitive processing of the material. Significant changes were not expected among women with prior sexual victimization, high hyperfeminine identification, or a pattern of problematic alcohol consumption, regardless of treatment condition. These risk factors were considered too potent to be changed in an intervention as brief as the one in the current study.

## Chapter II

### *Methods*

#### *Design*

*Treatment groups and data collection.* After completion of the initial survey packet, participants were randomly assigned to the no-contact control group or to one of the two treatment groups. The “standard practices” treatment group received a rape prevention program consisting of statistics on the incidence of acquaintance rape, information on unambiguous sexual communication, and information on risky dating behaviors, risk recognition, and acquaintance rape preventative strategies. In addition, this group received a brief overview of some of the ways in which gender socialization and rape myths may impact vulnerability to sexual victimization. This group received rape prevention programming similar to that offered by Safe Harbor and based on the Common Ground curriculum.

The second treatment group received the same information as the “standard practices” group, but also had the opportunity for behavioral rehearsal through role-plays. Before enacting their own role-plays, participants observed the presenters model a role-play situation in which a woman appropriately responds to her date’s increasing verbal pressure for sexual contact. A copy of the script for this role-play can be found in the Appendices. The role-plays were conducted primarily in pairs and included instructions to practice responses to coercive verbal pressure, more forceful verbal pressure, and a combination of verbal and physical pressure (participants did not actually enact physical

pressure through contact with each other). At the conclusion of each of these three role-play situations, participants summarized their experiences to the larger group. Effective responses were reinforced, and ineffective responses were corrected immediately by the program presenters so that all participants who participated in the role-play condition achieved mastery of the desired unambiguous communications and responses to sexual coercion. The role-play component added an additional half-hour to the rape prevention presentation.

The rape prevention intervention was presented by a team of two advanced clinical psychology graduate students using a presentation developed by the primary investigator in collaboration with the spring semester presenters. Data were collected in two discrete time periods, one in spring semester 2005 and one in the fall of 2005. Although data collection procedures and presentation format did not vary between semesters, only one of the presenters from spring semester was available in the fall. Therefore, a new presenter was trained and co-led the fall prevention interventions. In spring semester, presentations were given by either a female-female or female-male research team. In the fall, all presentations were given by the same male-female presenter dyad.

Between the data collection period in spring semester of 2005 and the data collection period in fall of 2005, the study was modified in order to increase the number of possible participants. In fall of 2005, participation was opened to students who were juniors and seniors, instead of being limited to freshmen and sophomores. In addition, recruitment efforts began in departments other than psychology in fall of 2005.



Follow-up data were collected at the end of each semester through use of an Internet-based survey to which participants gained access by receipt of an e-mail with the link to the survey. Each participant was assigned a code number at the initial data collection session, and was reminded of her code number at the time of follow-up data collection. Lists matching code numbers to participants were maintained under the control of the investigators at all times or locked in the Psychology Department at Auburn University.

*Pretesting.* The pre-treatment assessment consisted of measures of typical sexual communication style (Sexual Communication Survey), habitual dating behaviors (Dating Behavior Survey), frequency and amount of alcohol consumption (Alcohol Use Disorders Identification Test), hyperfeminine identification (Hyperfemininity Scale), childhood sexual abuse experiences (Childhood Sexual Experiences Scale), and prior sexual victimizations after the age of 14 (Sexual Experiences Survey–Revised). Previous sexual victimizations have been shown to be a significant risk factor for further victimization, a risk that is not significantly reduced through rape prevention programming. Post-hoc analyses were therefore planned in order to determine the differential effectiveness of the rape preventions programs for women with and without sexual victimization histories. Analyses were also planned for the differential effectiveness of the programs for women with differing levels of habitual alcohol consumption and hyperfeminine identification, both of which may be related to previous sexual victimization and which have been potentially implicated as independent risk factors for acquaintance rape.

*Follow-up testing.* At the end of the semester, participants in all three groups were invited to complete online versions of the Sexual Experiences Survey-Revised:

Follow-Up, the Sexual Communication Survey, and the Dating Behavior Survey, in order to gather information about their rates of victimization and consensual sexual experience, their socializing patterns, their habitual dating behaviors, and their sexual communication styles.

### *Instruments*

*Alcohol Use Disorders Identification Test (AUDIT).* The AUDIT is a 10-item self-report instrument used to assess the frequency and amount of alcohol consumption. The first 8 items can receive a score from 0 to 4; items 9 and 10 can receive a score of 0, 2, or 4. Generally speaking, a total between 8 and 10 or over may suggest cause for concern (Bohn, Babor, & Kranzler, 1995).

Sample items include “How often do you have a drink containing alcohol?” and “Have you or someone else been injured as a result of your drinking?”

*Childhood Sexual Experiences Survey.* This study utilizes a revision of Finkelhor’s (1979) measure of sexual victimization in childhood (Bundrick, 2001). Participants respond to items asking about sexual experiences that they may have had until 14 years of age. When participants indicate that they experienced a childhood sexual incident, they answer a number of additional questions about frequency, ages and relationship of the individuals involved, and whether the behavior was wanted or not.

*Dating Behavior Survey.* The Dating Behavior Survey (Hanson & Gidycz, 1993) was designed to elicit information from participants about their involvement in activities and situations that have been linked to acquaintance rape victimization (e.g., alcohol consumption). Responses range from 1 (never) to 7 (always) on a Likert-type scale, with higher scores indicating the presence of a greater number of activities/ situations that are

potentially risky (a small number of the items are reverse-scored). In the pilot study, the Dating Behavior Survey had a 1-week test-retest reliability of .77 and an internal consistency coefficient of .63 (Hanson & Gidycz, 1993). In the current study, the alpha internal consistency coefficient was .61.

Sample items include “On the first few dates that we have, my date and I do things that allow us to spend time alone together (such as spending time alone together in my room or his room)” and “On the first few dates that we have, I allow the man to plan what we do.”

*Hyperfemininity Scale.* The Hyperfemininity Inventory is a 26 item, forced choice scale measuring exaggerated feminine characteristics in three categories: relationships with men are of primary importance, physical attractiveness and/or sexuality can be “used” to help secure or preserve a romantic relationship, and preference for traditional patterns of sexual behavior in men. The Alpha coefficient of internal consistency of this scale in its initial sample was .76 (the authors note, however, that in subsequent samples it was in the low .80s) (Murnen & Byrne, 1991). Mean hyperfemininity scores tend to range from agreement with 7 to 9 items, with standard deviations ranging from 3 to 5 (Murnen & Byrne, 1991). The test-retest reliability of the Hyperfemininity Scale was .89 for a 2-week period, indicating a fair amount of stability in responses to the measure over time. In the current study, the alpha coefficient was .66.

Sample paired items include “a) I would rather be a famous scientist than a famous fashion model” and “b) I would rather be a famous fashion model than a famous scientist,” and a) I sometimes promise to have sex with a man to make sure he stays interested in me” and b) I usually state my sexual intentions honestly and openly.”

*Sexual Communication Survey.* The Sexual Communication Survey (Hanson & Gidycz, 1993) was developed in order to gather information from female respondents about their perceived clarity of communication of sexual intentions in dating situations. Item scores range from 1 (never) to 7 (always), with a small number of items being reverse-scored. Women with higher scores on the measure perceive their sexual communications as less clear than do other women. The authors report that the pilot data indicated that the Sexual Communication Survey had a 1-week test-retest reliability of .79 and an internal consistency coefficient of .56. In the current study, the alpha internal consistency coefficient was .80.

Sample items include “Do you ever say ‘no’ to something sexual when you really mean ‘yes’?” and “Do you ever end up having vaginal intercourse with your date when you don’t really want to, not because you feel forced or coerced, but because of some other concern (such as wanting him to like you or being too embarrassed to talk about it)?”

*Sexual Experiences Survey-Revised (SES-Revised).* Koss and Gidycz (1985) developed the Sexual Experiences Survey in order to assess for past coercive sexual experiences, using behaviorally specific referents for a variety of sexual behaviors and coercive/forceful tactics. The authors reported an internal consistency coefficient of .74 and a test-retest reliability of 93% (after 1 week). The current study uses a revised version of the SES (Bundrick, 2001) in order to focus on the unwanted experiences of sex play, attempted sexual intercourse, and completed sexual intercourse and to exclude other types of coercive sexual experiences.

*SES-Revised: Follow-Up.* In addition to questions about unwanted sexual activity, this follow-up survey has a number of items about voluntary sexual activity. The follow-up study also included items about participation in social events such as dates and parties. These items were included in order to assess the level of participants' exposure to situations in which sexual victimization might occur.

Sample exposure items include "How many times have you gone to a party or other social event (e.g., football game)?" and "How many times have you gone to the home of a man, or brought a man to your home, whether you were dating or not?" Participants were instructed to respond to these items with regard to their social activities over the past semester.

### *Hypotheses*

It was hypothesized that participants in both experimental groups would show a greater reduction in risky dating behaviors, ambiguous sexual communications, and sexual victimization than would control group participants, with the participants in the behavioral rehearsal rape prevention program having the greatest reduction. Among participants with a previous history of sexual victimization, a strong hyperfeminine identification, or a problematic alcohol consumption pattern, no significant reductions in risky dating behaviors, ambiguous sexual communications, or sexual victimization were expected, regardless of assigned experimental condition.

### *Participants*

Participants were female college students enrolled at Auburn University. 305 students completed the initial survey packet, and 259 were retained for data analysis. Students were excluded from analysis for missing or repeated code numbers on the initial

data collection packets, or for not being assigned to a treatment or control condition. All participants who were excluded from analysis completed initial survey packets in fall semester of 2005. Of the 259 students retained for analysis, 254 provided information about their ages. The age range of the sample was from 19 to 38, with a mean of 20.01 and a standard deviation of 2.09. Over half (56%,  $n=146$ ) of the participants were 19 years old; another substantial proportion was either 20 (18%,  $n=47$ ) or 21 (12%,  $n=32$ ). 22 year-olds made up approximately 6% ( $n=16$ ) of the sample. A small percentage (5%,  $n=13$ ) of the sample was aged 23 or older.

In terms of year in school, for which data was collected from 254 participants, the range was from first year to fifth year, with a mean of 2.16 and a standard deviation of 1.08. About one-third of the sample (33%,  $n=86$ ) were freshmen, while another one-third (32%,  $n=84$ ) were sophomores. Juniors (17%,  $n=44$ ) and seniors (15%,  $n=38$ ) made up approximately one-third of the sample. Less than 1 percent (.8%,  $n=2$ ) of the sample was still in school beyond their fourth year.

Participants were given a blank space in which to provide their racial or ethnic identification, in an effort to allow them to generate their own identifications instead of having to place themselves in researcher-imposed categories. Data were missing in 4 cases. A substantial majority of the initial sample was White/Caucasian (83%,  $n=214$ ). Blacks/African-Americans comprised 10% ( $n=26$ ) of the sample. All other racial groups and ethnicities (Hispanic/Latina; Asian; and biracial/multiracial) comprised approximately 7% ( $n=15$ ) of the sample.

Data on method of recruitment into the study and participant major were only collected in the fall semester of 2005, and were not analyzed in the current study.

## Chapter III

### *Results*

#### *Initial Analyses*

*Sample description.* Demographic information about the sample population can be found in the Methods section. At initial data collection, approximately one-third (33%,  $n=85$ ) of the sample reported having experienced unwanted sex play or attempted sexual intercourse and a smaller proportion (17%,  $n=43$ ) reported having experienced unwanted sexual intercourse since the age of 14. Among victimized women, nearly all (99%,  $n=82$ ) had been victimized by one man alone rather than by several men together. Almost half (47%,  $n=40$ ) of these victimization experiences were perpetrated by a boyfriend or lover; about one-quarter (26%,  $n=22$ ) were perpetrated by a non-romantic acquaintance. Perpetration by casual or first dates was also fairly common (19%,  $n=16$ ), and perpetration by strangers (5%,  $n=4$ ) and spouses or other family members (4%,  $n=3$ ) was relatively infrequent.

The perpetrator was under the influence of substances in almost half (47%,  $n=39$ ) of the sexual assault incidents; this substance use breaks down into alcohol (36%,  $n=30$ ), drugs (1%,  $n=1$ ), or both (10%,  $n=8$ ). Approximately one-third of victimized women were under the influence of alcohol (28%,  $n=23$ ) or both drugs and alcohol (5%,  $n=4$ ) at the time of victimization.

By far the most common strategy employed by perpetrators was verbal pressure and coercion (64%,  $n=53$ ). Over one-third (35%,  $n=29$ ) of perpetrators gained victim

compliance through twisting her arm, holding her down, or other similar actions. One-quarter (25%,  $n=21$ ) of perpetrators used threats or physical force. Less common perpetration strategies included hitting and slapping (5%,  $n=4$ ), choking and beating (2%,  $n=2$ ), and use of a weapon (1%,  $n=1$ ). Percentages do not total to 100% because respondents were instructed to select as many strategies as applied.

Strategies of resistance selected by victimized women included reasoning, pleading quarrelling, telling him to stop (57%,  $n=47$ ), physically struggling, pushing him away, hitting or scratching (43%,  $n=36$ ), turning cold (29%,  $n=24$ ), doing nothing (24%,  $n=20$ ), crying or sobbing (23%,  $n=19$ ), running away (10%,  $n=8$ ), and screaming for help (6%,  $n=5$ ). Reported percentages do not total 100% because participants were instructed to select as many resistance strategies as they had used.

At the time of initial data collection, 8% ( $n=21$ ) of the sample reported *voluntary* sexual contact prior to the age of 14 with a peer who was less than 5 years older. Childhood contact sexual abuse was operationalized as sexual fondling, touching of sexual organs or being forced to touch another person's sexual organs, attempted intercourse, and completed intercourse (oral, anal, or vaginal) before the age of 14. The contact either occurred with a person who was more than 5 years older than the victim or occurred with an age-peer but was unwanted. Childhood contact sexual abuse was scored dichotomously as to whether or not participant had experienced such abuse. Eleven percent of the initial sample ( $n=28$ ) had experienced childhood contact sexual abuse.

*Group comparisons.* After participants completed the initial survey materials, they were randomly assigned to one of the three study conditions: the rape prevention presentation-only condition, the presentation and role-play condition, and the no-contact



control group. One-ways ANOVAs were conducted to ensure that random assignment was successful and that participants in each of the three conditions did not differ from those in the other conditions on the variables of interest. There were no significant differences observed in terms of age ( $F(2, 251)=1.981; p=.14$ ), race or ethnicity (scored dichotomously as Caucasian or non-Caucasian;  $F(2, 252)=.097; p=.91$ ), year in school ( $F(2, 251)=.084; p=.92$ ), total score on the hyperfemininity measure ( $F(2, 243)=.500; p=.61$ ), total score on the measure of habitual dating behaviors ( $F(2, 239)=2.609; p=.08$ ), total score on the measure of sexual communication style ( $F(2, 234)=.185; p=.83$ ), or total score on the measure of alcohol consumption patterns ( $F(2, 222)=.364; p=.70$ ). There were no significant differences observed between groups in terms of childhood contact sexual abuse victimization ( $F(2, 256)=.421; p=.66$ ) and previous experience of unwanted sex play or attempted sexual intercourse (scored dichotomously;  $F(2, 255)=.008; p=.99$ ). A significant difference was observed with regard to participants' previous experience of unwanted sexual intercourse (scored dichotomously;  $F(2, 253)=3.619; p=.03$ ). Tukey's HSD was used for post-hoc comparison of groups. Although there were no differences between the presentation-only condition and control group ( $p=.95$ ) and the presentation-only condition and presentation and role-play condition ( $p=.07$ ), the presentation and role-play condition had significantly fewer women who had previously experienced unwanted intercourse than the control group ( $p=.05$ ). It is not clear why random assignment failed to create equivalent groups on this measure; given the lack of significant differences between groups on every other measure analyzed, it does not appear to have been systematic error. The implications of this pre-existing difference between groups in terms of previous sexual victimization are

discussed more fully in the Discussion section. Means and standard deviations for the above variables are presented in Table 1.

*Semester comparisons.* Data were collected in two discrete collection periods, one in the spring semester of 2005 and one in the fall semester of 2005. Statistical comparison (by one-way ANOVA) of participants recruited in the spring semester and the fall semester data collection periods indicated no significant differences in total scores on measures of hyperfemininity ( $F(1, 244)=.124; p=.73$ ), habitual dating behaviors ( $F(1, 240)=.035; p=.85$ ), sexual communication style ( $F(1, 235)=.580; p=.45$ ), and alcohol consumption patterns ( $F(1, 223)=.000; p=.98$ ). There were also no significant differences between the spring and fall semester data collection periods in terms of participants' previous experiences of unwanted sex play or attempted sexual intercourse ( $F(1, 256)=.116; p=.73$ ), previous experiences of unwanted intercourse ( $F(1, 254)=1.263; p=.26$ ), and childhood experiences of contact sexual abuse ( $F(1, 257)=1.865; p=.17$ ). Racial or ethnic identification (scored dichotomously as Caucasian or non-Caucasian;  $F(1, 253)=.993; p=.32$ ) and age ( $F(1, 252)=1.173; p=.28$ ) were not significantly different among participants in the different data collection periods. Not surprisingly, there was a significant difference in class year status of participants ( $F(1, 252)=23.739; p<.01$ ) between the spring and fall data collection periods, after the study was modified to allow for recruitment of more advanced students.

*Attrition analyses.* Because of participant attrition in the study, analyses were conducted to determine whether participants who discontinued differed from those who did not. One-way ANOVAs comparing participants who attended experimental sessions

with those who failed to attend were conducted only on those participants assigned to either the presentation-only condition or the role-play and presentation condition. Data from spring semester and fall semester were combined for these analyses. There were no significant differences observed between participants who attended and those who did not in terms of age ( $F(1, 182)=.589; p=.44$ ), racial or ethnic identification, scored as Caucasian or non-Caucasian ( $F(1, 183)=3.349; p=.07$ ); year in school ( $F(1, 182) = 3.050; p=.08$ ), total hyperfemininity score ( $F(1, 177)=1.280; p=.26$ ), habitual dating behaviors ( $F(1, 178)=1.350, p=.25$ ), sexual communication style ( $F(1, 173)=2.973; p=.09$ ), alcohol consumption patterns ( $F(1, 164)=.370; p=.54$ ), childhood contact sexual abuse victimization ( $F(1, 186)=.235; p=.63$ ), and previous experience of unwanted intercourse ( $F(1, 183)=.804; p=.37$ ). A significant difference was observed, however, with regard to previous experience of unwanted sex play or attempted sexual intercourse ( $F(1, 185)=4.123; p=.04$ ). Women who attended the presentation ( $M=.40, SD=.49$ ) had previously experienced more unwanted sex play/attempted sexual intercourse than participants who failed to attend ( $M=.27, SD=.44$ ).

One-way ANOVAs comparing participants who completed the follow-up study with those who did not were conducted on participants assigned to all three groups (both experimental conditions and the no-contact control). No significant differences were observed on any of the examined variables between those who completed the follow-up measure and those who did not: age ( $F(1, 252)=.087; p=.77$ ); year in school ( $F(1, 252) = .000; p=.99$ ), race/ethnicity, dichotomized as Caucasian or non-Caucasian ( $F(1, 253) = .070; p=.79$ ); total hyperfemininity score ( $F(1, 244)=3.125; p=.08$ ), habitual dating behaviors ( $F(1, 240)=.644; p=.42$ ), sexual communication style ( $F(1, 235)=.582; p=.45$ ),

alcohol consumption patterns ( $F(1, 223)=.188, p=.67$ ), childhood contact sexual abuse victimization ( $F(1, 257)=.158; p=.69$ ), previous experience of unwanted sex play or attempted sexual intercourse ( $F(1, 256)=2.910; p=.09$ ), or previous experience of unwanted intercourse ( $F(1, 254)=2.894; p=.09$ ).

*Correlation matrix.* In order to explore the hypothesized relationships among hyperfemininity, habitual alcohol consumption, sexual communication style, habitual dating behaviors, and prior sexual victimization, a correlation matrix of these variables was generated. Total hyperfemininity score, total dating behavior score, total sexual communication score, and habitual alcohol consumption were all significantly, positively correlated with each other. Childhood contact sexual abuse victimization was not significantly correlated with any of the other variables. Experience of unwanted sex play or attempted sexual intercourse was significantly, positively correlated with experience of unwanted intercourse. Experience of unwanted intercourse was significantly, positively associated with both experience of unwanted sex play/attempted sexual intercourse and with habitual alcohol consumption. These relationships are presented in Table 2 and are discussed further in the Discussion section.

#### *Outcome Measures*

189 responses were received to the follow-up survey. After the removal of duplicates and incorrect code numbers, the sample was reduced to 147 participants. Of these 147 participants, 104 were either assigned to the control group or were assigned to a treatment group and attended the rape prevention program. The following analyses were conducted using these 104 subjects in one-way ANOVA procedures, with a Bonferroni correction for multiple comparisons.

*Dating behavior.* There were no significant differences between the presentation-only, presentation and role-play, and control groups on total score on a dating behaviors measure at post-test ( $F(2, 93)=1.100; p=.34$ ).

*Sexual communication.* There were no significant differences between the presentation-only, presentation and role-play, and control groups on total score on a sexual communication measure at post-test ( $F(2, 96)=1.630; p=.20$ ).

*Unwanted sex play.* The presentation-only, presentation and role-play, and control groups did not differ significantly in terms of experience of unwanted sex play at follow-up ( $F(2,101)=.781; p=.46$ ) or in terms of avoidance of unwanted sex play at follow-up ( $F(2,101)=2.583; p=.08$ ).

*Unwanted intercourse.* The presentation-only, presentation and role-play, and control groups did not differ significantly in terms of avoidance of unwanted intercourse at follow-up ( $F(2, 101)=1.480; p=.23$ ). The three groups did differ significantly in terms of experience of unwanted intercourse, however ( $F(2, 101)=4.582; p=.01$ ). Using Scheffe's procedure for multiple post-hoc comparisons, the data indicate that women in the presentation and role-play condition reported significantly less unwanted intercourse ( $M=.003, SD=.18$ ) than did women in the control group ( $M=.29, SD=.46$ ). However, it should be noted that women in the presentation and role-play condition also reported significantly less unwanted intercourse at the time of initial data collection, possibly confounding these results. The issue is discussed further in the Discussion section.

Means and standard deviations of the outcome measures are presented in Table 3.

### *Post-Hoc Analyses*

Post-hoc analyses were planned to examine the differential effectiveness of the rape prevention programs for women with and without sexual victimization histories. Analyses were also planned for the differential effectiveness of the programs for women with problematic levels of habitual alcohol consumption and strong hyperfeminine identification. Because the groups differed significantly in terms of sexual victimization history at initial data collection, this variable was not explored further.

Bohn, et al. (1995) indicate that a total score between 8 and 10 or over on the AUDIT may suggest problematic drinking patterns. For purposes of these analyses, participants who reported scores of 8 or 9 were considered to display mildly problematic drinking behaviors. Participants who reported scores of 10 or higher were considered to have moderately problematic drinking behaviors. Using Tukey's procedure for multiple post-hoc comparisons, neither level of problematic drinking was significantly associated with any of the sexual victimization outcomes. These data are presented in Table 4.

The mean score on the hyperfemininity measure in the initial sample at pre-test was 8.53, standard deviation of 3.41. For purposes of the post-hoc analyses, participants who scored two standard deviations above the mean (i.e. 15) or higher were considered high in hyperfemininity. Participants who scored between one standard deviation above the mean (i.e., 12) and 15 were considered moderately high in hyperfemininity. Post-hoc analyses were not conducted on this variable because only 16 participants were classified as moderately high (13) or high (3) in hyperfemininity.

## Chapter IV *Discussion*

### *Findings*

*Relationships among pre-treatment variables.* Significant, positive relationships were found among hyperfemininity, habitual alcohol consumption, sexual communication style, and habitual dating behaviors in the initial sample. Because of the hyperfeminine woman's emphasis on manipulation of sexuality and on submissiveness to male partners, the relationships with more ambiguous sexual communication and more involvement in risky dating behaviors are intuitively clear. One of the three categories of characteristic beliefs and behaviors of hyperfeminine women is the belief that sexuality can be used to obtain or preserve a romantic relationship (Murnen & Byrne, 1991); given that belief, it is not surprising that more ambiguous sexual communications are associated with stronger hyperfeminine identification. It should be noted that the measure of sexual communication used in this study measured both engaging in unwanted, but uncoerced, activities (lack of refusal skills) and not engaging in desired activities (lack of request skills). Other characteristics of hyperfeminine identification are the belief that relationships with men are of paramount importance and a preference for men who exhibit traditional sexual behaviors (Murnen & Byrne, 1991). Because of the importance of obtaining and maintaining relationships with these types of men, hyperfeminine

women may be more likely to engage in risky dating behaviors such as allowing the man to provide transportation and spending time alone with a new date.

The relationship between hyperfemininity and habitual alcohol consumption is interesting, and there are a number of possible explanations. First, as mentioned in the Introduction, alcohol consumption is a prevalent part of the collegiate social scene. It may be that women who are extremely invested in meeting and dating men attend more social functions and go out to bars more frequently than women who have other priorities. Second, hyperfeminine women may be more likely to join sororities than women with less hyperfeminine gender roles. Sorority membership has been associated with more frequent alcohol consumption and with more frequent binge drinking. Unfortunately, information on sorority membership was not collected in the current study. Another possible explanation for the relationship between alcohol consumption and hyperfemininity is the belief that drinking is associated with increased sexual feelings and sexual activity (e.g., Crowe & George, 1989). In other words, alcohol consumption may serve as an excuse to engage in desired sexual behavior while minimizing risks to one's reputation and to the relationship. Therefore, hyperfeminine women may be more likely to consume alcohol, and to consume more alcohol, when in the company of men.

It is possible that hyperfeminine identification mediates the relationships among more problematic alcohol consumption, poorer sexual communication, and riskier dating behaviors. However, impulsivity, immaturity, poor judgment, and/or lack of regard for consequences may also influence these relationships. These three variables seem to form a constellation of unsafe behaviors that has been implicated in the increased risk of sexual victimization among college students (e.g., Abbey, et al., 1996; Bernat, et al., 1999;



Breitenbecher, 2000; Harrington & Leitenberg, 1994; Martin & Bachman, 1998; Marx, et al., 1997; Meilman & Haygood-Jackson, 1996; Mohler-Kuo, et al., 2003; Shultz, et al., 2000). Interestingly, though, in this study, only habitual alcohol consumption was associated with victimization, in the form of unwanted intercourse. There was no significant relationship between habitual alcohol consumption and unwanted sex play/attempted intercourse.

It is somewhat surprising that habitual alcohol consumption was significantly related to unwanted sexual intercourse but not to unwanted sex play or attempted intercourse. It provides a counterargument to the suggestion that alcohol consumption simply covaries with opportunities for sexual victimization and does not play any sort of causal role. Instead, in this study, more habitual alcohol consumption was associated only with more severe sexual victimization, and not with the more common victimization events. Although data were collected regarding alcohol consumption at the time of sexual victimization, each participant could provide these sorts of details only on her most severe victimization experience. Therefore, these data cannot be used to determine alcohol consumption at the time of all victimization experiences. Despite that limitation, possible explanations for the relationship between *habitual* alcohol consumption and unwanted sexual intercourse, and for the lack of significant relationship between habitual alcohol consumption and unwanted sex play or attempted intercourse, can be generated. It may be that participants with higher habitual alcohol consumption were unable to terminate coercive encounters prior to unwanted intercourse. This inability to generate effective resistance may have been due to impaired risk recognition (e.g., Testa, et al., 2000), unclear sexual refusal, difficulty physically escaping, or other factors. It may also

be that participants with higher habitual alcohol consumption tend to date men with higher habitual alcohol consumption, which may blunt the men's awareness of their dates' refusals and resistance to sexual intercourse (e.g., Abbey, 1991a; Zawacki, et al., 2003). However, it should be emphasized that none of these explanations is directly supported by this study. In fact, unwanted sex play/attempted intercourse and unwanted sexual intercourse were significantly, positively related to each other; this was an expected finding but one that complicates further attempts to explicate the relationships with habitual alcohol consumption.

Childhood contact sexual abuse victimization was not significantly correlated with any of the other variables, which was unexpected given the consistent links in the literature between victimization and revictimization. This finding was also inconsistent with the hyperfemininity pathway in the Gold, Sinclair, and Balge (1999) model of sexual revictimization, in that there was no significant relationship between childhood victimization and hyperfeminine identification. Given the significant relationship between experiences of unwanted sex play/attempted sexual intercourse and unwanted sexual intercourse, it may be that victimization and revictimization after the age of 14 obscured the effects of childhood sexual victimization. It may also be that the relatively small number of participants who had experienced childhood contact sexual abuse victimization was not sufficient to detect existing relationships.

*Outcomes.* No significant differences were found between the two treatment groups and the control group on any of the outcome measures, except for lower reported unwanted intercourse among participants in the presentation and role-play condition when compared to the control group. Although the difference was in the expected

direction, the presentation and role-play group reported significantly less unwanted sexual intercourse at pre-test as well. The significant difference between groups in terms of previous experience of unwanted sexual intercourse was disappointing. There is substantial evidence in the literature that sexual victimization is a strong predictor of subsequent revictimization (e.g., Arata, 2002; Casey & Nurius, 2005; Himelein, 1995; Jankowski, et al., 2002; Koss & Dinero, 1989; Noll, 2005). Therefore, it is impossible to tease apart the effects of the presentation and role-play intervention from the group differences in previous experience of unwanted sexual intercourse.

The data suggest that both rape prevention interventions were unsuccessful at effecting change in participants' sexual communication styles, habitual dating behaviors, experience of unwanted sex play, and avoidance of both unwanted sex play and unwanted sexual intercourse. Problematic alcohol consumption, strong hyperfeminine identification, and previous sexual victimization were expected to be associated with higher rates of sexual victimization during the study, regardless of treatment condition. Post-hoc analyses conducted to explore the alcohol consumption variable revealed no significant differences in any of the victimization outcome variables across levels of habitual alcohol consumption. Though planned, post-hoc comparisons were not conducted on previous sexual victimization and strong hyperfeminine identification.

Among women who attended scheduled presentations, more had previously experienced unwanted sex play than had participants who failed to attend their presentations. This is an interesting finding and may suggest that these participants were especially motivated to learn strategies to reduce their future sexual victimization risk. However, it is also possible that women who were more interested in the issue of rape

prevention were both more likely to attend scheduled presentations and to accurately identify past coercive episodes of sex play. If this finding is replicated in future research, it would be interesting to explore these dynamics more fully.

### *Limitations*

There were a number of limitations in the study that should be addressed in future research. The amount and quality of follow-up data collected was negatively impacted by participant use of incorrect or duplicate code numbers. Participants were invited to participate in the online follow-up surveys through personalized e-mail messages that contained the link to the survey, their code numbers, and a statement advising them that they would need the code number to complete the survey. It not known whether participants deliberately entered incorrect code numbers in order to camouflage their responses, or whether they mis-entered the numbers inadvertently. However, error seems to be the more likely interpretation since participants were made aware at the initial data collection session that they would be assigned code numbers to use throughout the study, and they indicated their acceptance through signing the consent form and continuing to participate in the study. Use of online surveys, although more convenient than in-person data collection, undoubtedly contributed to the number of unusable responses collected. Future research should take care to balance between making follow-up surveys easily accessible to participants, thus enhancing retention rates, and preserving the quality of data collected. It appears from this study that an e-mail reminder of the correct code number was not sufficient to ensure accuracy.

Another potential limitation in this study was the lack of data on participants' sexual orientation and marital status. It may have been helpful to have this information in

order to examine the effects of these variables on sexual victimization, sexual communication style, and the other variables of interest. However, because the rape prevention program was explicitly targeted at providing women with the tools to help avoid sexual victimization by men, its effectiveness can reasonably be measured among women who have any exposure to men in situations that pose a risk of sexual assault victimization. It is not unreasonable to believe that many college women, regardless of their marital status or sexual orientation, are exposed to these sorts of situations in the normal course of undergraduate life. Also, the researchers specifically included a measure of exposure to high-risk situations by asking all participants to provide information on their social activities throughout the semester (e.g., attendance at parties and football games, being at the home of a man or entertaining a man in their homes, leaving a bar with a new acquaintance). Participants who indicated that they had engaged in any of these types of activities throughout the semester were considered to have been exposed to a potential victimization situation. Inclusion of this measure could have been a significant strength of this study in verifying that participants had actually been exposed to potential risk rather than assuming effectiveness of the intervention from lack of victimization alone. Because virtually no differences existed between groups on the sexual victimization outcome variables, the exposure variables were not used in the current study. Had significant differences been found, the exposure variable would have been useful in further exploring the effectiveness of the rape prevention interventions among women who had been exposed to potential perpetrators and who had had the opportunity to employ the skills learned.

A longer follow-up period would have improved the study considerably, though it would have increased the risks for participant attrition. Effective strategies for maintaining participants' interest in the study and ensuring the quality of their outcome data should be generated prior to attempting to lengthen the follow-up period. Although it is not clear why there was such high attrition in the current study, it is possible that participants reached the maximum amount of potential extra credit in their courses and were no longer interested in participating without that incentive. Award of extra credit is also likely implicated in the number of duplicate responses that were received at follow-up, since participants were able to print their own extra credit slips upon completion of the online survey.

Combining the data from two different semesters poses a number of potential problems. Participants in the spring semester of 2005 differed significantly from those in fall of 2005 in terms of class year status; the study was modified between the two semesters to allow for participation by upperclassmen instead of limiting it to freshmen and sophomores. It is not unreasonable to expect that women who are more advanced in their college careers are also more adept at navigating collegiate social scenes and thus are less likely to be sexually victimized. However, participants in each of the semesters did not differ on any of the other variables assessed at pre-test, including those variables likely to be associated with increased maturity or familiarity with social demands (e.g., alcohol consumption, risky dating behaviors, ambiguous sexual communication). Therefore, although this is seen as a limitation, it is unlikely to have significantly affected the results. Also problematic, however, is the change in presenters between the two semesters. It is not known how the difference in presenters may have changed the

effectiveness of the rape prevention interventions from semester to semester. There was insufficient usable data collected at follow-up to compare results between semesters, so the effects of different presenters, differing follow-up periods, and any time effect variables (e.g., football season) are unknown. With regard to the presenters, however, there was one male graduate student who presented in both the spring and fall semesters. He was instrumental in training the fall presenter, and all presentations were given following a PowerPoint presentation created by the author and the spring semester presenters. The standardized presentation format and the continuity of at least one presenter reduce the likelihood that the presentations varied substantially from one semester to the other. Although participants were given a window of time during which to complete the follow-up surveys and thus exact follow-up periods are not known, participants in the fall semester of 2005 attended presentations earlier in the semester than the spring participants, and therefore tended to have longer follow-up periods. This is not seen as a serious limitation in the current study because of the lack of significant findings on the outcome variables. The follow-up periods vary by several weeks at the most, and it was hoped that the rape prevention interventions would have long-lasting effects on participants' sexual communication styles, habitual dating behaviors, and sexual victimization rates.

#### *Future directions*

It is not clear from this study whether the rape prevention interventions evaluated have anything to offer in the way of reducing sexual victimization or affecting intermediate outcome measures such as ambiguous sexual communication and risky dating behaviors among female college students. It appears that improvements need to be

made in preventing attrition and collecting usable data in order to truly test these interventions. Future research should perhaps target groups of high-risk women who are easier to reach for follow-up (e.g., sororities).

Although somewhat disheartening, the rape prevention programs' failure to effect change in participants' dating behaviors, sexual communication styles, and sexual victimization rates is certainly consistent with other findings in the literature. Currently, no rape prevention intervention has shown consistent effectiveness in reducing victimization rates. It may be that didactic instruction programs, even those combined with behavioral rehearsal components, are simply insufficiently powerful, regardless of content. Rape prevention programs focusing on physical self-defense training for female college students are gaining attention in the literature (e.g., Brecklin & Ullman, 2005; Sochting, Fairbrother, & Koch, 2004) and may represent more powerful interventions than educational or behavioral rehearsal programs. It may also be that programs focused on potential victims have little chance of success in the absence of interventions designed to address the rape-supportive climates of many college campuses or to change perpetration risk among college men. It is hoped that future research will identify effective programs for both male and female students in order to reduce sexual assault victimization and perpetration.



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Table 1

Means and Standard Deviations of Initial Variables by Group

|                   | Presentation Only<br>(Group #1) | Presentation&Role-<br>Play (Group #2) | No-contact<br>Control<br>(Group #3) |
|-------------------|---------------------------------|---------------------------------------|-------------------------------------|
| Age               |                                 |                                       |                                     |
| Mean              | 20.05                           | 19.71                                 | 20.36                               |
| S.D.              | 2.12                            | .98                                   | 2.92                                |
| Year in School    |                                 |                                       |                                     |
| Mean              | 2.17                            | 2.12                                  | 2.19                                |
| S.D.              | 1.04                            | 1.02                                  | 1.21                                |
| Hyperfemininity   |                                 |                                       |                                     |
| Mean              | 8.31                            | 8.17                                  | 8.05                                |
| S.D.              | 3.16                            | 3.33                                  | 3.06                                |
| Dating Behaviors  |                                 |                                       |                                     |
| Mean              | 47.96                           | 51.21                                 | 49.41                               |
| S.D.              | 6.09                            | 7.20                                  | 6.73                                |
| S. Communication  |                                 |                                       |                                     |
| Mean              | 40.63                           | 42.61                                 | 41.74                               |
| S.D.              | 8.91                            | 9.99                                  | 9.93                                |
| Alc Consumption   |                                 |                                       |                                     |
| Mean              | 7.50                            | 5.45                                  | 7.66                                |
| S.D.              | 4.93                            | 4.10                                  | 5.65                                |
| Childhood Abuse   |                                 |                                       |                                     |
| Mean              | .0057                           | .12                                   | .12                                 |
| S.D.              | .23                             | .33                                   | .33                                 |
| Unwanted Sex Play |                                 |                                       |                                     |
| Mean              | .34                             | .38                                   | .45                                 |
| S.D.              | .48                             | .49                                   | .50                                 |
| Unwanted Sex      |                                 |                                       |                                     |
| Mean              | .21                             | .006                                  | .36                                 |
| S.D.              | .41                             | .24                                   | .48                                 |

Table 2

Correlations among Variables in the Initial Sample

|                        | Hyper-fem | Dat Bx | Sex Comm | Alc   | Child-hood Abuse | Unwant play | Unwant sex |
|------------------------|-----------|--------|----------|-------|------------------|-------------|------------|
| Hyper-femininity       | 1.000     |        |          |       |                  |             |            |
| Dating Behaviors       | .410**    | 1.000  |          |       |                  |             |            |
| Sexual Communic        | .366**    | .310** | 1.000    |       |                  |             |            |
| Alcohol Consump        | .376**    | .418** | .364**   | 1.000 |                  |             |            |
| Childhood Sexual Abuse | .029      | .035   | .085     | .048  | 1.000            |             |            |
| Unwanted Sex Play      | -.032     | .023   | .105     | .066  | -.006            | 1.000       |            |
| Unwanted Intercourse   | .028      | -.001  | .065     | .158* | .077             | .403**      | 1.000      |

\*\* Correlation is significant at the 0.01 level (2-tailed).

\* Correlation is significant at the 0.05 level (2-tailed).

Table 3

Means and Standard Deviations of Outcome Measures by Group

|                  | Presentation Only<br>(Group #1) | Presentation&Role-<br>Play (Group #2) | No-contact<br>Control<br>(Group #3) |
|------------------|---------------------------------|---------------------------------------|-------------------------------------|
| Dating Behaviors |                                 |                                       |                                     |
| Mean             | 48.58                           | 50.36                                 | 49.68                               |
| S.D.             | 7.18                            | 8.43                                  | 7.46                                |
| S. Communication |                                 |                                       |                                     |
| Mean             | 36.53                           | 38.35                                 | 40.12                               |
| S.D.             | 10.93                           | 12.98                                 | 9.08                                |
| Unwanted Play    |                                 |                                       |                                     |
| Mean             | 1.64                            | 1.64                                  | 1.69                                |
| S.D.             | .62                             | .63                                   | .52                                 |
| Avoided Play     |                                 |                                       |                                     |
| Mean             | 1.57                            | 1.68                                  | 1.64                                |
| S.D.             | .64                             | .62                                   | .53                                 |
| Unwanted Sex     |                                 |                                       |                                     |
| Mean             | 1.70                            | 1.74                                  | 1.67                                |
| S.D.             | .64                             | .63                                   | .53                                 |
| Avoided Sex      |                                 |                                       |                                     |
| Mean             | 1.68                            | 1.68                                  | 1.69                                |
| S.D.             | .61                             | .65                                   | .52                                 |

Table 4

Post-Hoc Analyses of Habitual Alcohol Consumption and Sexual Victimization

|                      |   |   | Mean Difference | Sig. |
|----------------------|---|---|-----------------|------|
| Unwanted Sex Play    | 0 | 1 | -.15            | .505 |
|                      |   | 2 | -.0083          | .656 |
|                      | 1 | 0 | .15             | .505 |
|                      |   | 2 | .0069           | .885 |
|                      | 2 | 0 | .0083           | .656 |
|                      |   | 1 | -.0069          | .885 |
| Avoided Sex Play     | 0 | 1 | .20             | .400 |
|                      |   | 2 | .0066           | .807 |
|                      | 1 | 0 | -.20            | .400 |
|                      |   | 2 | -.13            | .704 |
|                      | 2 | 0 | -.0066          | .807 |
|                      |   | 1 | .13             | .704 |
| Unwanted Intercourse | 0 | 1 | -.11            | .662 |
|                      |   | 2 | -.18            | .105 |
|                      | 1 | 0 | .11             | .662 |
|                      |   | 2 | -.0069          | .863 |
|                      | 2 | 0 | .18             | .105 |
|                      |   | 1 | .0069           | .863 |
| Avoided Intercourse  | 0 | 1 | -.15            | .505 |
|                      |   | 2 | -.0083          | .656 |
|                      | 1 | 0 | .15             | .505 |
|                      |   | 2 | .0069           | .885 |
|                      | 2 | 0 | .0083           | .656 |
|                      |   | 1 | -.0069          | .885 |

## APPENDIX

### BEHAVIORAL REHEARSAL SCRIPT

You are upstairs in your room/apartment watching TV after dinner and drinks on your third date. You are kissing on the sofa. Your roommates are not home and are out of town for the weekend. You say, "This has been fun, but I think it's getting late."

1. I agree, I'm tired, too, let's go on in the bedroom.
2. No, I think we've had enough for tonight.
3. What, you're not having fun? You looked like you were having a good time at dinner.
4. Dinner was fun, but I didn't have all this in mind.
5. Well, you invited me up here.
6. I want to take things slow.
7. I do, too. I have a really good feeling about this. I think we might have something special. We'll just hang out.
8. Yeah, I think there's something good here, too and we'll hang out another time.
9. You seem kind of tense, you know that's the last thing I want. Maybe a drink would help.
10. No, I don't need another drink. I think it's time for you to go.
11. I don't get it – why don't you like me? Why does this always happen to me?
12. I'm sorry you feel that way, but I want you to leave. I've already told you that several times.



13. I thought you were different from all of the other girls. I guess you're just a tease, too. Come on, I took you to Hamilton's. I've spent a lot of money on you.
14. That doesn't mean I owe you anything. I want you out of my house now.
15. What, you don't like me? This is our third date- what kind of sick mixed signals are you giving me?
16. I think I'm being pretty clear. What's so mixed about no?
17. We've been kissing for 20 minutes. You got me all hot and now all of a sudden you want to stop. How can you do this to me?
18. Okay, time to go.
19. Fine, I'm going to tell everybody we did it anyway.