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Evaluating Sexual Assault Prevention Training Programs for College Women

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EVALUATING SEXUAL ASSAULT PREVENTION TRAINING PROGRAMS FOR COLLEGE WOMEN

by

Eliza Stewart McManus

A dissertation submitted to the Graduate College in partial fulfillment of the requirements for the degree of Doctor of Philosophy Psychology Western Michigan University August 2015

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EVALUATING SEXUAL ASSAULT PREVENTION TRAINING PROGRAMS FOR COLLEGE WOMEN

Eliza Stewart McManus, Ph.D.
Western Michigan University, 2015

Sexual victimization is a frequent and concerning problem for college women. It is estimated that college women are three times more likely to experience sexual assault than women in the general population. Additionally, women with a history of unwanted sexual experiences are at greater risk for future sexual victimization than women without such histories. For these reasons, the examination of college-based sexual assault prevention programs is important given the high rates of unwanted sexual experiences and subsequent negative mental health consequences. Furthermore, the lack of effective skills-based sexual assault prevention programs on college campuses is an important issue to address. Therefore, the present study examined the effectiveness of a skills-based sexual assault prevention program among college undergraduate women. Consistent with our primary hypothesis, we found that women randomly assigned to the skills-based training program responded more assertively to hypothetical sexual risk vignettes than participants assigned to the psychoeducation control condition.
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Eliza Stewart McManus
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INTRODUCTION

Numerous studies indicate that sexual victimization is a prevalent and serious program for college women in the United States (Kilpatrick, Resnick, Ruggerio, Conoscenti, & McCauley, 2007; Martin, Fisher, Warner, Krebs, & Lindquist, 2011; Ullman, 2007; VanZile-Tamsen, Testa, & Livingston, 2005). National surveys estimate that 20-25% of college women experience a completed or attempted sexual assault over the course of their undergraduate career (Gidycz, Rich, Orchowski, King, & Miller, 2006; Krebs, Lindquist, Warner, Fisher, & Martin, 2009). A survey conducted by the National Institute of Justice in 2007 estimated that each year, approximately 5% of college women experience a completed sexual assault, (Kilpatrick et al., 2007). Additional types of sexual aggression such as unwanted sexual contact, sexual coercion, and threats of sexual assault range from 15-20% (Fisher, Cullen, & Turner, 2000; Humphrey & White, 2000).

College women are an important group to study given their risk for unwanted sexual experiences is three times greater than women in the general population (Fisher et al., 2000; Krebs et al., 2009).

*Sexual victimization* is a term used in the literature to include any event where an individual engages or attempts to engage in sexual behavior with another person against his or her will. Examples of sexual victimization include unwanted sexual contact, completed or attempted rape, incapacitated rape, drug/alcohol facilitated rape, and sexual assault. Within the sexual victimization literature, experiences of rape and sexual assault are differentiated. Rape is defined as unwanted or nonconsensual sexual contact that
involves vaginal, oral, or anal penetration (Kilpatrick et al., 2007). Sexual assault is a broader term that encompasses unwanted sexual experiences beyond penetration. The term sexual victimization is also used to encompass sexual experiences outside of rape and sexual assault where a sexual act is unwanted by at least one partner. The occurrence of unwanted sexual acts between two partners is often referred to in the literature as unwanted consensual sex or compliant sexual behavior (Impett & Peplau, 2002). For the purposes of the study, the term unwanted sexual experiences was used to describe instances of unwanted sexual contact including rape and sexual assault.

Unwanted sexual experiences are problematic for college women because they can lead to serious and lasting negative mental health effects. These include posttraumatic stress disorder, fear, anxiety, depression, suicidal ideation, suicide attempts, dissociation, anger, substance misuse, decreased self-esteem, social adjustment difficulties, sexual dissatisfaction, and sexual dysfunction (Breitenbecher, 2001; Kilpatrick et al., 2007; Thompson & Kingree, 2010; Turchik & Hassija, 2014; Ullman, 2007). While most reviews indicate that many consequences diminish to pre-assault levels within a year following the assault, variables such as fear, anxiety, and sexual dysfunction tend to endure (Breitenbecher, 2001).

While offenders are clearly responsible for acts of sexual victimization, it is important to provide women with accurate information and effective behavioral resistance strategies to minimize their risk for sexual victimization. Although prevention programs with offenders and bystanders should be a priority, research should also focus on developing better sexual assault prevention programs for women who are at risk for unwanted sexual experiences.
Risk Factors

Two factors have emerged as central to the successful avoidance of sexual assault: risk recognition and behavioral resistance strategies (Gidycz, McNamara, & Edwards, 2006). Risk recognition, in the sexual victimization literature, is defined as an individual’s ability to identify variables in the environment (i.e., risk factors) that are associated with increased likelihood of experiencing sexual victimization (Carter-Visscher, 2008; Yeater & Viken, 2010). The ability to recognize behavioral and contextual variables associated with sexual assault is a key step in the successful avoidance of experiencing sexual victimization (Turchik, Probst, Chau, Nigoff, & Gidycz, 2007.) For the past decade, researchers have investigated factors associated with risk for sexual assault and have hypothesized that women with a previous history of sexual victimization may have deficient skills in risk perception. While the correlation between victimization and subsequent revictimization is well established, the cause it not yet well understood (Turchik et al., 2007; Yeater & Viken, 2010).

Risk Perception Defined

The current literature of risk perception conceptualizes and measures the construct in a variety of ways. This may lead to problems in current and future research efforts. The diverse ways risk perception is defined and measured has yielded inconsistent results. Norris, Nurius, and Graham’s (1999) conceptualization involved two types of decision-making assessments. The first involved participants’ ability to predict how they would feel (i.e., “on guard,” “really uncomfortable,” “seriously at risk”) in risky social situations. Participants read a scenario describing a hypothetical dating situation and were instructed to imagine how they would respond if each of the nine contextual risks
occurred (i.e., verbal persuasions, man paying for dating expenses, isolation of physical setting, man making sexual comments and jokes). The participants rated the risks on a continuum in which they would feel “on guard,” “really uncomfortable,” and “seriously at risk.” The second assessment tested participants’ ability to perceive global risk pertaining to groups of women rather than individual risk. In the second assessment, global perception was measured by asking participants to rate the likelihood of experiencing six types of unwanted sexual experiences for themselves (i.e., individual risk) and for other women (i.e., global risk).

Rinehart and Yeater (2012) examined college women’s appraisals of risk for unwanted sexual experiences by using 20 unique written vignettes. The sexual risk vignettes depicted a variety of social situations (e.g., college party, bar), degree of intimacy (e.g., boyfriend, stranger), and contextual risk factors for sexual assault (e.g., alcohol use, isolated situation). Participants were asked to review the vignettes and rate her risk for sexual victimization on a 5-point Likert scale from “not risky” to “completely risky.”

Breitenbecher (2001) conceptualized “risk detection” as the ability to recognize danger and threat in various interpersonal scenarios. In this study, participants viewed a video scenario of a heterosexual date and were then asked to list details of the interaction that would “make them feel uncomfortable.” Participants viewed one of two 10-minute segments; one led to a completed date rape; the other did not. Based on expert review, and the current literature in the field, the video depicting the completed rape contained eight threat cues while the neutral video contained only one threat cue. The results indicated that regardless of victimization history, participants listed 17 more threat cues
as being present in the video containing a completed rape than have been empirically supported as actual risk factors for sexual assault. These findings highlight a problem with directly instructing participants to attend to risk in a study and may be not be an accurate representation of what makes female participants uncomfortable in actual dating situations.

VanZile-Tamsen, Testa, and Livingston (2005) examined women’s assessments of risk perception by examining participants’ risk appraisals related to men’s coercive behaviors and the level of distress reported from participants. In addition to risk recognition, the authors examined how the participants would respond to these hypothetical situations. The authors found that sexual assault history had little effect on risk recognition in their sample. However, women with greater level of intimacy with the perpetrator resulted in lower risk appraisals. This finding supported one of their initial hypotheses that as level of intimacy with the perpetrator increases, participant risk appraisal decreases. Additionally, female participants with victimization histories scored lower in sexual refusal assertiveness, which resulted in decreased intentions to use active resistant methods in response to sexual assault risk.

These studies demonstrate the varied definitions of risk recognition that exist in laboratory studies. These definitional dissimilarities are part of what contribute to the difficulty examining decision-making in risky interpersonal situations associated with sexual assault. While risk detection certainly has been supported empirically as a risk factor for sexual assault, some of the measurement challenges may be avoided by focusing on behavioral resistance strategies as another important risk factor. Furthermore, the literature suggests mixed findings regarding the role of situational risk recognition in
sexual assault prevention. While some researchers have demonstrated that delayed risk recognition puts women at a higher risk for sexual assault (Marx, Calhoun, Wilson & Meyerson, 2001; Soler-Baillo, Marx, & Sloan, 2005; Yeater, Treat, Viken, & McFall, 2010), others argue that the critical issue is not risk recognition, but rather it is unassertive behavioral responding in the face of unwanted sex that contributes to greater risk for sexual assault (Messman-Moore & Brown, 2006; Naugle, 1999, VanZile-Tamsen et al., 2005).

**Behavioral Resistance Strategies**

Behavioral resistance strategies have been defined as behaviors used to increase the probability of avoiding unwanted sexual experiences (Carter-Visscher, 2008; Nurius, Norris, Young, Graham, & Gaylord, 2000). Research in the decision-making area has to date focused more on risk perception rather than on behavioral resistance strategies. Since using effective resistance strategies has been identified as one of the key means to avoid unwanted sexual experiences, more research is needed to discover what kinds of behavioral resistance strategies are most effective.

In her review of empirical studies of rape avoidance, Ullman (2007) concluded that engaging in resistance strategies and resisting early in the assault are both associated with avoiding a completed sexual assault. According to her review, forceful physical resistance (e.g., biting, scratching, hitting) and nonforceful physical resistances strategies (e.g., fleeing, guarding one’s body) are considered effective resistance strategies as they are more associated with the successful avoidance of a completed sexual assault. Physical strategies that were most associated with completed rape included acquiescence or “freezing.” While, protective behaviors such as physical resistance and fleeing are
associated with avoiding forcible rape, the efficacy of verbal resistance strategies has mixed evidence.

Additional studies support the findings that verbal resistance such as screaming, yelling, and threatening the perpetrator has received support as effective strategies (Clay-Warner, 2002; Turchik et al., 2007). However, nonassertive verbal resistance strategies (e.g., pleading, crying, reasoning) are more frequently associated with rape completion (Gidycz, McNamara, & Edwards, 2006). There is evidence to suggest that women with sexual victimization histories report more difficulties with sexual assertiveness than women without victimization histories (Testa et al., 2007; Turchik et al., 2007; Yeater & Viken, 2010), which may lead to difficulties in responding assertively and directly to sexual threats.

While physical and verbal resistance strategies are associated with successful avoidance this does not mean that women are at fault if they are unable to stop a sexual assault. However, women should be equipped with information about which strategies are most effective in avoiding unwanted sexual experiences. Since certain resistance strategies have demonstrated superiority over other strategies there is a need for prevention programs to focus on teaching these methods to women (Senn, Gee, & Thake, 2011; Ullman, 2007).

**Impact of Victimization History**

Because a prior history of sexual victimization is associated with revictimization, researchers have investigated the relationship between victimization history and the ability to recognize risk in various interpersonal scenarios. Yeater and O’Donohue (2002) examined the role of sexual victimization history in situational risk recognition in a
sample of undergraduate college women. The length of time it took to train women with single, multiple, and no sexual assault histories to recognize risk in a written vignette was measured. Results indicated that women with multiple sexual victimizations did not differ from women without victimization histories in their ability to detect risk. Participants with one sexual assault took longer than both groups to learn to detect risk in the written vignettes. The authors concluded that women with multiple assault histories might be better at differentiating risk than single assault victims.

Yeater, Treat, Viken, and McFall (2010) used sexual risk vignettes to evaluate the risk recognition abilities of college women. Participants were asked to rate the risk level for a number of sexual risk vignettes depicting varying levels (i.e., high, medium, low) of risk. The results indicate that women with histories of sexual victimization were less effective at recognizing risky vignettes than women without such histories.

However, several research studies suggest that women who have been sexually victimized may not possess deficits in risk recognition. Naugle (1999) had college-aged female participants view three video vignettes, each depicting different scenarios ending in a sexual assault. Women with sexual victimization histories rated the three vignettes as riskier than women without victimization histories. Although their findings reveal participants with victimization histories were more likely to recognize risk, they were also more likely to comply with the perpetrator (i.e., acquiesce to unwanted advances) than women without victimization histories.

McManus and Naugle (2013) examined risk perception and behavioral resistance strategies among college women with varying levels of sexual victimization histories. Participants provided open responses to hypothetical vignettes that depicted the events
leading up to a completed sexual assault. Results indicated that women with sexual assault histories reported greater risk perception and indicated more contextual risk factors in the vignettes than women without such histories. However, women with victimization histories also reported a greater number of ineffective strategies (e.g., acquiescence, passive responding) than women without victimization histories. The authors concluded that while women with histories may attend greater to threats in the situation, risk recognition might not lead to effective behavioral resistance strategies.

VanZile-Tamsen, Testa, and Livingston (2005) examined whether a community sample of women had difficulties identifying and/or responding to a threatening an experimental analogue. Participants were asked to read a scenario where a man followed a woman into a bathroom and engaged in unsolicited sexual advances. The relationship to the perpetrator was manipulated in the experiment with three examples available: “someone you just met at the party,” “a friend,” or “your date.” Participants were instructed to rate their level of discomfort if they were in the hypothetical situation and indicate their anticipated responses from a list of 20 items. The results indicated that women with victimization histories experienced similar levels of discomfort as the participants without victimization histories. However, women with victimization histories endorsed fewer anticipated responses that were examples of direct verbal resistance (i.e., “Tell him clearly and directly that I want him to stop”) and engaged in more passivity (i.e., “Nothing yet, just see what happens”) than participants without sexual victimization histories.
Contextual Risk Factors for Unwanted Sexual Experiences

A large body of research has identified certain individual and contextual variables that place women at a greater risk for sexual victimization (Breitenbecher, 2001; Gidycz, Rich, et al., 2006). Female victims of childhood sexual abuse, adolescent sexual assault, or rape are at increased risk for experiencing additional sexual victimization during adulthood. Gidycz, Hanson, and Layman (1995) found that 54% of women with sexual victimization histories were revictimized during their first quarter of college. In comparison, only 32% of the women with no victimization history reported being sexually victimized during their first quarter of college. Having a greater number of consensual sexual partners also puts women at a higher risk for unwanted sexual experiences (Corbin, Bernat, Calhoun, McNair, & Seals, 2001; Koss & Dinero, 1989), which may be related to general risk taking behavior and increased chances for negative outcomes. Low levels of sexual assertiveness have been identified in the existing literature as a risk factor for experiencing sexual victimization (Testa, VanZile-Tamsen, & Livingston, 2007). In their review of the literature, Green and Navarro (1998) contended that sexual assertiveness might be more protective than general assertiveness characteristics. Women who are able to refuse the requests of sexually aggressive men may be less vulnerable to victimization. Alternatively, women who demonstrate more difficulty refusing such requests are more likely to experience unwanted sexual acts. Using vignettes depicting risky sexual situations, Yeater and Viken (2010) examined different individual and contextual features of decision-making. Participants were exposed to a variety of vignettes and were asked to rate their likelihood of engaging in each provided response (e.g., “I’d say we can hold each other with our clothes on”; “I
would get up and leave right away”; “I would tell him that this was inappropriate and making me uncomfortable”), which reflected a range of refusal responses. Women with more severe histories of sexual victimization chose responses less indicative of refusal than women with less severe or no history of victimization.

In addition to individual characteristics, research has identified situational variables related to experiencing unwanted sexual experiences. These refer to environmental and contextual factors that may increase the likelihood of a sexual assault. The use of alcohol by the victim, assailant, or both individuals is a risk factor for unwanted sexual experiences (Testa & Livingston, 2000; Yeater, Lenberg, Avina, Rinehart, & O’Donahue, 2008). Being in a private, isolated location with a man is also an identified risk factor for unwanted sexual experiences (Abbey, Ross, McDuggie, & McAuslan, 1996).

**Prevention Programs**

Because sexual victimization has a high prevalence among college women and is associated with negative consequences, efforts have focused on developing effective sexual assault prevention programs. Colleges and universities across the United States have implemented sexual assault prevention programs on their campuses. In their systematic review of sexual assault prevention programs, Morrison, Hardison, Mathew, and O’Neil (2004) concluded that many college-based prevention programs focus on increasing knowledge about sexual assault prevalence, identifying risk-related behaviors, and changing attitudes about sexual assault (e.g., rape myths, sex role stereotypes). Hanson and Gidycz (1993) developed a sexual assault prevention program for college women that provided psychoeducation about prevalence rates, contextual risk factors, and
protective strategies. Participants viewed a video that portrayed a college party where a young woman was sexually assaulted. The first video depicted contextual and relational risk factors for the woman’s sexual assault. Participants watched a second video that depicted the same female actress using protective behaviors to successful avoid the sexual assault. Their results demonstrated that the training program effectively reduced risk of future sexual victimization among participants without histories of sexual assaults for two months following the intervention. However, the program was not effective in reducing risk for women with sexual assault histories. In a follow-up study, Hanson-Breitenbecher and Gidycz (1998) adapted the Hanson and Gidycz protocol to include a greater emphasis on women with sexual assault histories. Results from the study indicate that their treatment did not reduce risk for sexual assault in participants regardless of sexual victimization history.

The protocol was further strengthened by Hanson-Breitenbecher and Scarce (2001) to include didactic information about the role of psychological barriers to assertive resistance, which may lead to passive or acquiescent responding. Participants completed three hours of group training sessions that included information about prevalence rates, rape myths, and psychological barriers to resisting sexual assault. The results of the study indicate that the prevention program was not effective at reducing risk for sexual victimization. While there were no group differences for total unwanted sexual experiences, 12% of participants in the treatment condition reported a completed sexual assault during the follow-up period compared to 30% of participants in the control condition. The follow-up results showed a relationship between risk recognition abilities and sexual assault avoidance; participants who reported greater risk recognition were less
likely to report experiencing a completed sexual assault during the two-month follow-up period.

Marx, Calhoun, Wilson, and Meyerson (2001) developed a prevention program for college women based on the intervention developed by Hanson and Gidycz (1993). Their training included a similar didactic component as the Hanson and Gidycz intervention with the addition of a skills component to the training to specifically address participants with sexual assault histories. The skills training occurred over two sessions and included identification of high-risk situations, problem solving, coping skills, assertiveness, and communication skills. Participants watched a video that depicted situational and relational risk factors for a completed sexual assault. At the two-month follow-up session there were no group differences for rates of unwanted sexual experiences or risk recognition abilities between participants in the treatment or control conditions.

Gidycz, Lynn, Rich, Marioni, Loh, Blackwell, and colleagues (2001) examined the effectiveness of a sexual assault prevention program with college females based on the social learning model. The training began with a didactic presentation followed by two videos, role-plays, and a discussion about risky situations. Results indicate the training program was effective in reducing risk for sexual assault among women without victimization histories but not for women with histories of sexual victimization.

Yeater, Naugle, O’Donohue, and Bradley (2004) tested the efficacy of a skills-based self-help book among college women. Participants in the reading condition reported a number of positive outcomes post-treatment, which included improved sexual communication and reductions in risky dating behaviors. However, the results did not
demonstrate a difference in rates of sexual victimization among women in the self-help treatment condition and those in the wait-list control group.

Simpson-Rowe, Jouriles, McDonald, Platt, and Gomez (2012) conducted a randomized controlled trial to examine the effectiveness of the Dating Assertiveness Training Experiences (DATE) program on reducing college women’s risk for sexual victimization. The DATE program is a brief sexual assault prevention program that utilized behavioral rehearsal of self-protection skills in dating and sexually risky situations. Their results indicate that women in the DATE program reported fewer instances of unwanted sexual experiences (16.7%) compared to women in the control condition (36.4%). The authors noted no group differences between the treatment and control groups among women with a prior history of sexual victimization concluding that the treatment did not reduce the risk for sexual assault among women with a prior history.

Senn, Gee, and Thake (2011) conducted a pilot randomized clinical trial to examine the efficacy of a sexual assault prevention program among Canadian college women. The treatment consisted of a 12-hour education program that aimed to teach women three components of risk reduction: assess, acknowledge, and act. A strong emphasis was placed on resistance strategies that participants would be willing to use if needed. Their results indicate that participants in the treatment condition reported 45-50% lower rates of completed sexual assaults at six-month follow-up sessions than women in the control group. Results did not change significantly when sexual assault history was examined indicating that the treatment was equally effective for women with and without histories of sexual victimization.
Gidycz, Orchowski, Probst, Edwards, Murphey, and Tansill (2015) conducted a skills-based sexual assault risk reduction program for college women \((n = 650)\). Their seven-hour program consisted of psychoeducation, rehearsal of resistance strategies, and a booster session of program material. Participants in the skills group reported more sexual assertiveness and self-defensive behaviors in the context of unwanted sexual advances. They were also more likely to report the use of verbal and physical resistance strategies. While the two groups did not differ on incidence of sexual victimization at the four and seven month follow-ups, participants in the skills groups were less likely to blame themselves for the attack.

Sexual assault prevention programs that rely on knowledge and attitude change have been largely ineffective (Morrison et al., 2004; Simpson-Rowe et al., 2012). This is problematic given that many college campuses utilize programs that emphasize these methods. While prevention programs have been largely unsuccessful at reducing risk for sexual assault among college women, programs that rely on skills training tend to be associated with better outcomes (Ullman, 2007). Still, there are few prevention programs that emphasize a skills training approach that have been empirically investigated. Since research has demonstrated that effective behavioral resistance is an important part of successful avoidance of sexual assault (Messman-Moore & Brown, 2006; Naugle, 1999; VanZile-Tamsen et al., 2005), more research is needed to examine the effectiveness of skill-based training programs.

**Behavioral Skills Training**

Behavioral Skills Training (BST) in an effective multi-component approach to teaching information and skills. Miltenberger’s (2008) Behavioral Skills Training model
is comprised of four components: instructions, modeling, rehearsal, and feedback. During instructions, the individual is given didactic information about the desired skill. Next, the skill is modeled so the target behavior may be demonstrated to the learner. The trainer then asks the learner to rehearse the target behavior aloud so the trainer may provide feedback and coaching. One benefit to this approach is the ability for the learner to practice the skill and receive live constructive feedback in the moment. In this way, the learner can make corrective changes to their behavior after receiving feedback or verbal praise from the trainer.

The Behavioral Skills Training model has been used extensively to teach desired skills to child and adult populations. Studies have examined the effectiveness of BST to teach children firearm safety (Mitenberger, Flessner, Gatheridge, Johnson, Satterlund, & Egemo, 2004), parent training (Tempel, Wagner, & McNeil, 2013), and reducing risky sexual behavior (Kirby, Barth, Leland, & Fetro, 1991).

Kirby, Barth, Leland, and Fetro (1991) conducted a study using a BST curriculum to reduce unprotected sexual acts among adolescents. The instruction component included information about sexuality, reproduction, and contraception. Next, the participants were trained in assertive communication to help protect against engaging in risky sexual behavior. Participants watched appropriate behaviors modeled and were given opportunities to practice the assertive communication skills. Results from the study indicate that the BST curriculum was effective in reducing engagement in unprotected sex acts. To our knowledge, the Behavioral Skills Training model has not been used to teach college women effective sexual resistance strategies. Given the efficacy of BST it may be an effective model for training sexual assertiveness skills to college women.
Think Aloud Procedure

One limitation in the sexual trauma literature is the overreliance on retrospective methodologies and self-report measures (Candel & Merckelbach, 2004) as it is difficult for individuals who experienced trauma to provide accurate reports of emotions and cognitions experienced during the event (Holmes & Bourne, 2006). Since necessary ethical guidelines clearly prohibit intentional trauma exposure to participants, the use of vignettes has emerged as a novel way to utilize prospective methodologies.

Articulated Thoughts in Simulated Situations (ATSS) was developed in 1983 and guided by a cognitive behavioral framework and an assumption that some psychological problems occur because of how people interpret the world around them. Davison, Robins, and Johnson (1983) developed ATSS to study the cognitive components of complex interpersonal problems. It can also be used from a behavioral analytic perspective to better examine the covert behavior present during decision-making. The essence of the paradigm is capturing an individual’s ongoing thoughts in response to small-dosed situations that are similar to real-life. Because ATSS collects the thoughts while they are occurring, they may better capture what goes on in the decision-making process than asking individuals to recall retrospectively. Concurrent assessment of participants’ problem solving has advantages over retrospective reporting where the risk of memory degradation is greater. Additionally, research has demonstrated that answers provided in think aloud procedures are a closer approximation to how people would respond if actually confronted with the situation in the analogue. ATSS is concerned with recording a participant’s immediate experience. Using this methodology to assess the decision making process as it relates to risk for sexual assault may be an important contribution to
the literature, which to date generally relies on data that is collected retrospectively. Because participants are asked to generate responses rather than select from among prepared options, the findings may reveal more rich information about how women would actually react.

The present study had two main objectives. The first objective was to replicate a prior study conducted by McManus and Naugle (2013) in order to better understand factors that impact women’s decision making in hypothetical risky dating scenarios. College women with and without victimization histories were asked to respond to two validated sexual risk vignettes. This was achieved by asking women to listen to and respond to audio-recorded vignettes and then describe their decision-making processing using the Articulated Thoughts in Simulated Situations procedure. The second goal of the study was to examine the effectiveness of a sexual assertiveness program to reduce risk for unwanted sexual experiences among college women. Based on these objectives the present study had three primary hypotheses:

*Hypothesis 1:* During the pre-treatment testing, consistent with the findings from McManus and Naugle (2013) we expected that participants would respond with fewer active resistance strategies in response to the sexual risk vignette that depicted a higher degree of intimacy at pre-training. We also expected that participants with histories of multiple unwanted sexual experiences would respond with more ineffective resistance strategies in response to the sexual risk vignettes and pre-training than women without prior histories.

*Hypothesis 2:* After completing training, participants assigned to the Sexual Assertiveness Skills Training condition were expected to report greater risk perception as
measured by the Vignette Rating Questionnaire (VRQ: Carter-Visscher, 2008) and articulated responses during the ATSS than participants assigned to the Sexual Assault Prevention Psychoeducation Training condition.

*Hypothesis 3:* After completing training, participants assigned to the Sexual Assertiveness Skills Training condition were expected to generate more active resistance and fewer non-resistance strategies (i.e., sexual compliance, acquiescence) in response to the post-training sexual risk vignette than participants assigned to the Sexual Assault Prevention Psychoeducation Training condition. Relatedly, we expected a significant increase in effective resistance strategies between pre-treatment and post-treatment for participants assigned to the SAST condition.
METHODS

Participants

Female students ages 18 and older were recruited from Western Michigan University through undergraduate courses and flyers posted in academic buildings on campus. Women interested in the study were asked to contact the student investigator through email or phone. If participants were enrolled in a class that offered extra credit for research participation, they received extra credit. No other incentives were given to individuals who chose to participate in the study.

One hundred thirty-six female students enrolled in the study and were randomized to the Sexual Assertiveness Skills Training (SAST) condition ($n = 70$) or Sexual Assault Prevention Psychoeducation (SAPPT) condition ($n = 66$). For the SAST condition, 10/40 did not attend the training and discontinued after session one. For the SAPPT condition, 4/40 discontinued after session one. One hundred thirty-six participants were randomized to a treatment condition and comprise the intent-to-treat sample (see Figure 1).
For the intent-to-treat sample, the mean age was 19.57 (SD = 2.11). Most participants were single (90%) full-time students (98%). Most described their ethnicity as Caucasian (71%) and sexual orientation as heterosexual (93%). Chi-square analyses were conducted to examine group differences between treatment conditions. There were no significant treatment group differences on race, and sexual orientation. There was a statistically significant difference in class standing between participants randomized to the two treatment conditions, $X^2 (3, N = 136) = 11.48, p = .01$. In addition, there were statically significant differences in history of multiple unwanted sexual experiences between participants randomized to the two treatment conditions, $X^2 (2, N = 136) = 7.16$, $p = .03$. There were more women with multiple unwanted sexual experiences in the SAST condition. See Table 1 for a summary of participant demographics. Individuals
who completed the study did not significantly differ from noncompleters on demographic variables (see Table 2).

Table 1

*Participant Demographic Data by Treatment Condition*

<table>
<thead>
<tr>
<th>Demographic Data</th>
<th>%</th>
<th>SAST</th>
<th>SAPPT</th>
<th>$X^2$</th>
<th>$p$</th>
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<td></td>
</tr>
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<td>71.3</td>
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</tr>
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<td>.01</td>
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<td>1.5</td>
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<td>3.0</td>
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Table 2

**Demographic Data by Treatment Completers and Noncompleters**

<table>
<thead>
<tr>
<th>Demographic Data</th>
<th>%</th>
<th>Completers</th>
<th>Noncompleters</th>
<th>$X^2$</th>
<th>$p$</th>
</tr>
</thead>
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</tr>
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<td>71.4</td>
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<td>Asian</td>
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<tr>
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<td>Other</td>
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<td>Class Standing</td>
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</tr>
<tr>
<td>Sophomore</td>
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<td>15.4</td>
<td>15.8</td>
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<td>Junior</td>
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<td>26.5</td>
<td>26.5</td>
<td>26.3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Materials**

**Sexual Risk Vignettes**

Three written vignettes were selected for the study from the eight vignettes developed by Carter-Visscher (2008). The vignettes were developed using information gathered through focus groups conducted with heterosexual college women about both consensual dating experiences and unwanted sexual experiences. The original eight
vignettes were intended to vary on relationship factors (e.g., type of relationship, length of relationship), but were similar on the following dimensions: (1) situational risk factors (e.g., degree of isolation, verbal persuasion, emotional manipulation, physical force), and (2) degree of risk portrayed. For the current study, three vignettes were selected from the original eight. Vignette 1, “Date Night” and Vignette 4, “In the Car,” are both “high risk” vignettes that depict two individuals in a heterosexual dating relationship. Vignette 6, “Lost Keys,” is a “high risk” vignette involving two individuals in a heterosexual acquaintance relationship. The vignettes were selected because they differed on the type of relationship depicted but are the same in their perceived risk level. The vignettes selected for the present study were considered high-risk situations. Lost Keys depicted an acquaintance relationship (i.e., lower degree of intimacy), whereas Date Night and In the Car depicted dating relationships (i.e., higher degree of intimacy). Lost Keys and In the Car were administered to participants at session one for pre-training assessment and in order to replicate the McManus and Naugle (2013) study. The vignettes were presented one at a time and counterbalanced for each participant to minimize potential order effects. After the training session, Date Night was administered to participants at session three for post-training assessment.

**Articulated Thoughts During Simulated Situations (ATSS)**

ATSS (Davison et al., 1983) is a cognitive assessment is intended to elicit information from participants that may not be accessible through written surveys or structured interviews. It has been shown to be useful in assessing complex cognitions in a variety of investigator-controlled situations including depression, speech and social anxiety, marital and family conflict, sexual aggression, and psychotherapy processes
(Zanov & Davison, 2010). Aside from our previous work with ATSS, it has not been used to examine decision-making strategies during unwanted sexual encounters. Because think-aloud methods assess cognitions concurrently with their occurrence, they may be better suited to tapping actual thought content than other assessment techniques. The three vignettes were designed to assess potential behavioral risk factors of sexual victimization and revictimization among college-aged women. Between each segment, a tone was presented followed by a 30-second pause. During each pause, participants were asked to “think aloud.” Participant responses were digitally recorded, transcribed, broken into “idea units” and categorized for analysis.

**Sexual Assault Prevention Psychoeducation Training (SAPPT)**

The SAPPT condition was administered during session two of the present study. Participants who were randomly assigned to the SAPPT condition received a self-guided booklet that provided information about sexual assault prevalence, incidence of sexual assault on college campuses, and facts that challenge common rape myths. That training also contained psychoeducation about contextual and relational risk factors for sexual assault.

**Sexual Assertiveness Skills Training (SAST)**

The Sexual Assertiveness Skills Training condition (Appendix A) is a sexual assertiveness training and behavioral skills practice program, which was delivered during session two of the present study. The structure of the training session followed the Behavioral Skills Training model (Miltenberger, 2008) and included psychoeducation, modeling, and behavioral rehearsal of skills. The training session began with the student investigator providing psychoeducation about college sexual assault (e.g., definition of
sexual assault, rape myths, prevalence). The student investigator provided information about contextual and relational risk factors for unwanted sexual experiences and effective behavioral resistance strategies. The psychoeducation portion of the training was administered through an interactive PowerPoint Presentation. The second part of the training included skills training using two models of assertive behaviors. After appropriate examples of assertive refusal were modeled for the participant, she was given the opportunity to practice assertive refusal in four different scenarios. Participants who were randomized to the SAST condition attended one treatment session, which lasted between 60-90 minutes with the student investigator.

**Treatment Fidelity**

In order to ensure treatment fidelity, the following methods were implemented: pre-study training of SAST instructors, structured treatment delivery, and weekly instructor meetings. With participant consent, treatment sessions were digitally recorded and a random sample of 10 tapes were selected to examine treatment fidelity. The two trainers for the study developed the Sexual Assertiveness Skills Training under the supervision of the principal investigator. During this process, a manual was developed, which was to be followed during each session to ensure consistency between the two trainers. Prior to data collection, the trainers practiced and role-played the training sessions. During data collection, weekly check-ins were conducted to address any treatment deviations and reflect on trainer performance during implementation of the training.

Intraclass correlation coefficients (ICCs) were calculated for occurrence of information delivered during the psychoeducation portion of the training. ICC values for
the 10 randomly selected tapes were 1.0 indicating that both trainers covered the 11 domains listed in Table 3 during the training session. Refer to Table 3 for a detailed summary. Cicchetti’s (1994) guidelines were used as cutoffs for ICC agreement ratings. ICC values less than .40 are considered poor; those between .40 and .59, fair; values between .60 and .74, good; and those between .75 and 1.0, excellent.

Table 3

Occurrence of Psychoeducation Delivered During SAST

<table>
<thead>
<tr>
<th>Occurrence</th>
<th>ICC</th>
</tr>
</thead>
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<td>Prevalence Rates</td>
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<tr>
<td>Five Myths and Facts</td>
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<td>Common Risk Factors</td>
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<td>Environmental Risk Factors</td>
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<td>Modeling Effective Strategies Part II</td>
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<td>Rehearsal Instructions</td>
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</table>

In order to examine any differences between the two trainers, independent samples t tests were conducted on the number of participant responses during each practice vignette. There were no statistically significant differences between the two trainers on number of participant rehearsal opportunities. See Table 4 for a detailed summary. Independent samples t tests were conducted to examine mean differences between number of feedback statements provided by the two trainers. There were no
statistically significant differences between the two trainers on number of feedback statements provided. See Table 4 for a detailed summary.

Table 4

**Summary of Independent Sample t Tests for SAST Sessions Conducted**

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<th>Variable</th>
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<th>Trainer 2 (n = 5)</th>
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<th>p</th>
<th>95% CI</th>
<th>d</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
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<td>Vignette 4</td>
<td>4.40</td>
<td>.55</td>
<td>5.00</td>
<td>1.41</td>
<td>-.89</td>
<td>.40</td>
</tr>
<tr>
<td>Instructor Feedback</td>
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<td></td>
<td></td>
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<td></td>
</tr>
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<td>Vignette 1</td>
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<td>1.52</td>
<td>6.20</td>
<td>.84</td>
<td>-.78</td>
<td>.46</td>
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<tr>
<td>Vignette 2</td>
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<td>5.20</td>
<td>1.30</td>
<td>.57</td>
<td>.59</td>
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<tr>
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<td>4.80</td>
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<td>.14</td>
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<tr>
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<td>.55</td>
<td>5.00</td>
<td>1.41</td>
<td>-.89</td>
<td>.40</td>
</tr>
</tbody>
</table>

**Measures**

**Participant Questionnaire**

The Participant Questionnaire is a 57-item self-report measure that was used to gather standard demographic information such as age, ethnicity, sexual orientation, and relationship status. In addition to standard demographic questions, the Participant Questionnaire also includes questions from the *Sexual Experiences Survey* (Koss & Oros, 1982) and the *Childhood Sexual Victimization Questionnaire* (Finkelhor, 1979) regarding participant sexual experiences before and after age 14.

1. *Sexual Experiences Survey (SES)* (Koss & Oros, 1982). The Sexual Experiences Survey is a 10-item survey that was used to assess participants’
unwanted sexual experiences, whether or not the participant acknowledges the experiences as a sexual assault. The measure has a 1-week test-retest reliability of .93 and internal consistency reliability of .74 for female college students (Koss & Gidycz, 1985).

2. *Childhood Sexual Victimization Questionnaire* (Finkelhor, 1979). The Childhood Sexual Victimization Questionnaire that was used to assess participants’ unwanted sexual experiences before age 14. Participants will answer “yes” or “no” to indicate whether they have had a series of 13 sexual experiences during childhood. Risin and Koss (1987) reported that the scale demonstrated adequate reliability and validity.

**Vignette Rating Questionnaire: Risk Perception, Response Appraisal and Response**

The Vignette Rating Questionnaire (VRQ; Naugle, 1999; Carter-Visscher, 2008) was administered to participants at four points after the Articulated Thoughts in Simulated Situations (ATSS) paradigm. It was used to measure participants’ reactions on Risk Perception and Response Appraisal, two theoretical constructs for each vignette (Naugle, 1999; Carter-Visscher, 2008). The VRQ measures Risk Perception and Response Appraisal by asking participants to rate agreement with statements on a 6-point Likert scale. Risk perception was measured on a scale ranging from 1 = “strongly disagree” to 6 “strongly agree.” Response appraisal measured perceived negative consequences or barriers to responding to unwanted sexual advances in an assertive manner. The items were scored on a scale from 1 = “extremely unlikely” to 6 = “extremely likely.” Higher scores reflected greater risk perception and barriers to
resisting. It was revised for the current study to include 17 items that address risk perception and response appraisal to the vignettes.

**Barriers to Responding to Sexual Aggression**

The Barriers to Responding to Sexual Aggression (BRSA; Nurius et al., 2000) is a 21-item measure used to assess psychological and physical barriers to resisting unwanted sexual advances. The measure provides 21 reasons that would make it difficult for individuals to leave a situation where they are being pressured to engage in unwanted sexual activities. Ratings were made on a 5-point scale (0 = “not at all significant” to 4 = “extremely significant”). Higher ratings indicate greater psychological barriers to resisting unwanted sexual activities.

**Sexual Assertiveness Scale for Women**

The Sexual Assertiveness Scale for Women (SAS; Morokoff et al., 1997) is an 18-item survey administered to assess participant sexual assertiveness. Ratings are made on a 5-point scale ranging from “never” to “always.” Higher scores on the refusal subscale indicated greater assertive refusal. The SAS has internal consistency for Initiation, Refusal, Pregnancy-STD Prevention, and total score with standardized coefficient alphas of .77, .71, .83, and .75, respectively.

**Illinois Rape Myth Acceptance Scale**

The Illinois Rape Myth Acceptance Scale (IRMA; McMahon & Farmer, 2011) is a 22-item self-report measure used to assess participant agreement with rape myths. Participants indicated their agreement with statements on a “strongly disagree” to 5 “strongly agree” Likert scale. The IRMA has demonstrated good internal consistency with standardized coefficient alphas of .76 and .79.
Conflict in Adolescent Dating Relationships Scale

The Conflict in Adolescent Dating Scale (CADRI; Wolfe, Scott, Reitzel-Jaffe, Wekerle, Grasley, & Straatman, 2001) is a self-report measure used to assess the use of aggression in adolescent and young adult dating relationships. The CADRI has good internal consistency with a standardized coefficient alpha of .84.

Sexual Assault Knowledge Test

The Sexual Assault Knowledge Test (SAKT; McManus & Forbis; 2013) (Appendix B) is a 20-item questionnaire that was administered to participants at pre-and post-treatment to assess acquisition of knowledge related to sexual assault myths and causes.

Participation Reaction Questionnaire

The Participant Reaction Questionnaire (PRQ; Carter-Visscher, Naugle, Bell, & Suvak, 2007) is an 11-item self-report measure used to measure participants’ reactions to their research participation in the current study. The PRQ asks questions regarding participant distress, perceived benefit, personal interest, difficulty with the presented materials, and emotional reactions to participating in the current study.

Procedure

Session One: Pre-Training Assessment

Female students interested in learning more about participating in the study contacted the student investigator through telephone or email. The student investigator scheduled a 90-minute appointment with the student. When the female student arrived, the student investigator or a trained research assistant greeted her. The student investigator or research assistant led the student into an experimental room, explained the
details of the study, and reviewed the informed consent document. Once the informed consent document was signed, the researcher orientated the participant to the Think Aloud Procedure by completing two practice exercises. After the participant completed the practice Think Aloud exercises, she was given standardized feedback based on her performance on the practice scenarios. Participants were provided with detailed information about the Sexual Risk Vignettes (Carter-Visscher, 2008). Participants were asked to listen to two scenarios (e.g., In the Car and Lost Keys) depicting risky heterosexual interactions that end in a sexual assault. Participants were asked to imagine they were part of the scenario, which is to imagine they were the woman in the scenario. Participants were instructed to attend to the scenarios as if the situation made them uncomfortable. At the end of each segment they completed the Vignette Rating Questionnaire and were asked to verbally respond to the statement, “What are you thinking and feeling? What would you do or say now?” The Sexual Risk Vignettes were presented one at a time and counterbalanced for each participant to minimize potential order effects.

Participants’ articulated thoughts were digitally recorded and transcribed for later content analysis. After the vignettes were completed, participants were asked to complete the following measures: Participant Demographic Questionnaire, Barriers to Responding to Sexual Aggression, Sexual Assertiveness Scale, Illinois Rape Myth Acceptance Questionnaire, Sexual Assault Knowledge Measure, Conflict in Adolescent Dating Relationships Scale, and Participant Reaction Questionnaire.

Before completing session one, participants were randomly assigned to one of two treatment conditions: Sexual Assault Prevention Psychoeducation Training (SAPPT) or
Sexual Assertiveness Skills Training (SAST). Participants randomized to the SAPPT condition were given the informational materials and asked to read them before their post-treatment session. Participants randomized to the SAST condition were scheduled for session two with the student investigator.

**Session Two: Sexual Assertiveness Skills Training Condition.**

Participants randomized to the Sexual Assertiveness Skills Training condition were asked to return for session two. Participants were greeted by the student investigator and taken to a private therapy room. Participants were orientated to the structure of the training session, which followed the Behavioral Skills Training model (Miltenberger, 2008) and included psychoeducation, modeling, and behavioral rehearsal of skills. The training session began with the trainer providing psychoeducation about college sexual assault (e.g., definition of sexual assault, rape myths, prevalence). The trainer provided information about contextual and relational risk factors for unwanted sexual experiences and effective behavioral resistance strategies. The psychoeducation portion of the training was administered through an interactive PowerPoint Presentation. During the second part of the session, the trainer introduced the participant to sexual assertiveness skills (e.g., behavioral resistance strategies, sexual refusal skills) through modeling appropriate behaviors, participant rehearsal of skills, and constructive feedback from the trainer. The second portion of the training began with psychoeducation about behavioral resistance strategies that are most associated with successful avoidance of unwanted sexual experiences and which are often associated with completed sexual assault. Next, the participant listened to the vignette In the Car and discussed assertive resistance strategies the woman in the scenario engaged in as well as assertive resistance that could have been
used. Next, the participant read a script detailing a scenario where the woman provided several refusal and assertive responses to a male’s advances. This was discussed with the trainer. Next, the participant was given the opportunity to practice effective behavioral resistance strategies in response to unwanted advances through a verbal role-play with the student investigator. Four different scenarios were presented to each participant who responded and was given constructive and standardized feedback from the student investigator. The participant was given an opportunity to ask questions and their post-treatment session was scheduled before ending the session.

**Session Three: Post-Training Assessment.**

Participants randomized to the SAST condition were asked to return for the post-training assessment session one week after completing session two. Participants randomized to the SAPPT condition were asked to return for the post-training assessment session one week after completing session one. Participants in the SAPPT condition were asked if they had read the treatment materials. All but one participant stated they had read the materials before session three. Session three had a similar structure as session one. Participants were asked to listen to one sexual risk vignette, Date Night, which depicted a risky dating scenario ending in a sexual assault. Instructions for the Think Aloud procedure were identical to session one. Participants were asked to imagine they were part of the scenario, that is to imagine they were the woman in the scenario. They were instructed to imagine that the hypothetical situation made them feel uncomfortable. After each segment they completed the Vignette Rating Questionnaire and were asked to verbally respond to the question, “What are you thinking and feeling? What do you do or say now?” Participants’ audio responses were digitally recorded and transcribed for later
content analysis. After the Think Aloud procedure was completed participants were asked
to complete the following measures: Barriers to Responding to Sexual Aggression,
Sexual Assertiveness Scale, Illinois Rape Myth Acceptance Questionnaire, Sexual
Assault Knowledge Measure, Conflict in Adolescent Dating Relationships Scale, and
Participant Reaction Questionnaire. Participants were thanked for their time and given a
list of community resources. If they were in a class that offered extra credit for research
participation they were given a paper indicating their participation time completed. No
other forms of compensation were given. As part of future research efforts, participants
were asked to provide their contact information (e.g., name and email) if they were
willing to be contacted for a future follow-up study related to their participation in the
present study.

This study was reviewed and approved by the Human Subjects Institutional
Review Board at Western Michigan University before being conducted. All procedures
were followed according to the HSIRB guidelines (see Appendix C for approval letter).

Coding Procedures

Participant verbal responses to the three vignettes were digitally recorded and
transcribed for content analysis. A coding manual was developed for a previous study and
intended to capture participant responses for the following categories: behavioral
resistance strategies, emotions, judgments, and risk detection. Each category was broken
into subcategories and the emotion and judgment category included a referent (e.g., self,
man/relationship, and situation/future). Once the categories were determined, the student
researcher developed operational definitions for each category. The behavioral resistance
and risk perception categories are based on published sexual trauma literature (Clay-
Independent coders who were blind to the study hypotheses and group design coded participant responses for the three research vignettes. Independent coders were trained on the manual and completed several practice scenarios to ensure competency. Weekly check-ins were held with the student investigator to ensure compliance with the coding manual and to minimize coder drift. After summing the total frequency counts between the coders for all categories, interrater reliability was calculated using Intraclass Correlation Coefficients.

**Inter-Observer Agreement**

Intraclass correlation coefficients (ICCs) were calculated to determine inter-observer agreement among independent coders. Data collected from the ATSS paradigm were transcribed, broken into “idea units” and categorized based on criteria from the ATSS paradigm by Davison et al. (1983). Intraclass correlation coefficients were calculated for independent coder ratings of participants’ idea units as well as the categorization of idea units into distinct groups (e.g., behaviors, emotions, attributions, and risk factors). Interrater reliability for behavioral resistance ranged from 66.9% to 98.5%, from 40.7% to 100% for emotions, from 43.8% to 96.9% for judgments, and 70.1% to 82.4% for risk recognition. Refer to Table 5 for a more detailed summary for interrater reliability. Cicchetti’s (1994) guidelines were used as cutoffs for ICC agreement ratings. ICC values less than .40 are considered poor; values between .40 and .59, fair; those between .60 and .74, good; and those between .75 and 1.0, excellent.
Table 5

**Interrater Reliability for ATSS Categories**

<table>
<thead>
<tr>
<th></th>
<th>Lost Keys</th>
<th>In the Car</th>
<th>Date Night</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active Behavioral Resistance</td>
<td>.848</td>
<td>.941</td>
<td>.985</td>
</tr>
<tr>
<td>Passive Behavioral Resistance</td>
<td>.878</td>
<td>.765</td>
<td>.803</td>
</tr>
<tr>
<td>Ambiguous Behavioral Resistance</td>
<td>.773</td>
<td>.669</td>
<td>.789</td>
</tr>
<tr>
<td>Positive Emotions – Self</td>
<td>***</td>
<td>***</td>
<td>***</td>
</tr>
<tr>
<td>Positive Emotions – Self</td>
<td>***</td>
<td>.796</td>
<td>.889</td>
</tr>
<tr>
<td>Passive Emotions – Man/Relationship</td>
<td>1.00</td>
<td>***</td>
<td>***</td>
</tr>
<tr>
<td>Negative Emotions – Man/Relationship</td>
<td>.756</td>
<td>.446</td>
<td>.407</td>
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<tr>
<td>Positive Emotions – Future/Situation</td>
<td>1.00</td>
<td>***</td>
<td>.650</td>
</tr>
<tr>
<td>Negative Emotions – Future Situation</td>
<td>.944</td>
<td>.469</td>
<td>.538</td>
</tr>
<tr>
<td>Positive Judgments – Self</td>
<td>.605</td>
<td>.700</td>
<td>.709</td>
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<tr>
<td>Negative Judgments – Self</td>
<td>.881</td>
<td>.438</td>
<td>.939</td>
</tr>
<tr>
<td>Positive Judgments – Man/Relationship</td>
<td>.873</td>
<td>.599</td>
<td>.810</td>
</tr>
<tr>
<td>Negative Judgments – Man/Relationship</td>
<td>.644</td>
<td>.961</td>
<td>.873</td>
</tr>
<tr>
<td>Positive Judgments – Future/Situation</td>
<td>***</td>
<td>***</td>
<td>.987</td>
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<tr>
<td>Negative Judgments – Future Situation</td>
<td>.784</td>
<td>.471</td>
<td>.760</td>
</tr>
<tr>
<td>Risk Recognition</td>
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<td>.778</td>
<td>.701</td>
</tr>
</tbody>
</table>

*** ICCs were not computed because all coders indicated the absence of this code.

**Correlational Analyses**

In order to further examine the construct validity of the sexual risk vignettes developed by Carter-Visscher (2008), Pearson product-moment correlations were calculated. A Pearson product-moment correlation was conducted to assess the relationship between number of participant verbal statements attending to risk factors during the ATSS task and participant Risk Perception score in the Vignette Rating Questionnaire (VRQ). It was expected that responses given during the Articulated
Thoughts in Simulated Situations (ATSS) paradigm on risk factors in the sexual risk vignette would positively correlate with Risk Perception on the VRQ. During the pre-treatment session, there was a statistically significant relationship between participant articulations of risk and Risk Perception scores during the Lost Keys and In the Car vignettes respectively, $r(136) = .249, p = .003$ and $r(136) = .189, p = .028$, which was consistent with our expectations. During the post-treatment session, there was not a statistically significant relationship between articulations of risk and Risk Perception on the Date Night vignette, $r(136) = .009, p = .915$, which was contrary to our expectations.

A Pearson product-moment correlation was also calculated to assess the relationship between the participant Barriers to Resisting Score on the VRQ and Barriers to Resisting Sexual Aggression (Nurius et al., 2000) and 21-item measure of psychological and physical barriers to resisting unwanted sexual experiences. We anticipated that the VRQ and BRSA would positively correlate. During the pre-treatment session there was a statistically significant relationship between Barriers to Resisting scores on the VRQ and Barriers to Resisting Sexual Aggression scores $r(136) = .468, p = .000$, which was consistent with our expectations. During the post-treatment session there was a statistically significant relationship between Barriers to Resisting scores on the VRQ and Barriers to Resisting Sexual Aggression scores $r(136) = .522, p = .000$, which was consistent with our expectations.
RESULTS

Analyses were conducted using an intent-to-treat \((N = 136)\) sample in which the last observation was carried forward (LOCF). This method was utilized to account for the 14 participants who dropped out after session one. Of the participants who dropped out, 10 were from the Sexual Assertiveness Skills Training condition and 4 were from the Sexual Assertiveness Prevention Psychoeducation Training condition.

Treatment Conditions

There were no statistically significant differences between participants assigned to the Sexual Assertiveness Skills Training (SAST) condition and participants assigned to the Sexual Assault Prevention Psychoeducation (SAPPT) condition on baseline self-report measures of sexual assertiveness, rape myth acceptance, sexual assault knowledge, perceived barriers to resisting unwanted sex, domestic violence, and participant reactions to the present study (see Table 6). In addition, there were no statistically significant differences between treatment conditions with regard to most baseline reactions to the Sexual Risk Vignettes as measured by the Vignette Rating Questionnaire and open-ended responses given during the Articulated Thoughts in Simulated Situations paradigm. Participants assigned to the SAPPT condition articulated a greater number of negative emotions in reference to the hypothetical situation/future \((M = 2.05, SD = 2.53)\) than participants assigned to the SAST condition \((M = 1.17, SD = 1.51)\), \(t(134) = 2.46, p = .02\) (see Table 7).
Table 6

Summary of Independent Sample t Tests for Individuals Assigned to Sexual Assertiveness Skills Training (SAST) and Sexual Assault Prevention Psychoeducation (SAPPT) Conditions on Self-Report Baseline Measures

<table>
<thead>
<tr>
<th>Variable</th>
<th>SAST (n = 70)</th>
<th>SAPPT (n = 66)</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
</tr>
<tr>
<td>Barriers to Responding to Sexual Aggression</td>
<td>32.82</td>
<td>14.91</td>
<td>30.93</td>
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<td>Sexual Assertiveness Scale for Women</td>
<td>47.80</td>
<td>10.39</td>
<td>48.68</td>
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<td>Illinois Rape Myth Acceptance Scale</td>
<td>85.48</td>
<td>11.41</td>
<td>85.33</td>
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<td>Sexual Assault Knowledge Test</td>
<td>26.81</td>
<td>5.52</td>
<td>26.22</td>
</tr>
<tr>
<td>Conflict in Adolescent Dating Relationships Scale</td>
<td>6.10</td>
<td>6.68</td>
<td>6.23</td>
</tr>
<tr>
<td>Participant Reaction Questionnaire</td>
<td>22.32</td>
<td>4.84</td>
<td>21.14</td>
</tr>
</tbody>
</table>
### Table 7

**Summary of Independent Sample t Tests for Individuals Assigned to Sexual Assertiveness Skills Training (SAST) and Sexual Assault Prevention Psychoeducation (SAPPT) Conditions on Baseline Responses to the Sexual Risk Vignettes**

<table>
<thead>
<tr>
<th>Variable</th>
<th>SAST ((n = 70))</th>
<th>SAPPT ((n = 66))</th>
<th>95% CI</th>
<th>(t)</th>
<th>(p)</th>
<th>LL</th>
<th>UL</th>
<th>(d)</th>
</tr>
</thead>
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<tr>
<td><strong>Vignette Rating Questionnaire:</strong></td>
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<td></td>
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<tr>
<td>Risk Perception</td>
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<td></td>
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<tr>
<td>Time 1</td>
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<td>.92</td>
<td>3.68</td>
<td>.84</td>
<td>.01</td>
<td>.99</td>
<td>-.31</td>
<td>.32</td>
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<tr>
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<td>4.37</td>
<td>.71</td>
<td>-.62</td>
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<td>.17</td>
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<td>Time 3</td>
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<td>.87</td>
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<td><strong>Response Appraisal</strong></td>
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<td>.69</td>
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<td>.56</td>
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<tr>
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<td>.99</td>
<td>.42</td>
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<td>-.27</td>
<td>.41</td>
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<tr>
<td>Time 4</td>
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<td>.91</td>
<td>2.29</td>
<td>1.11</td>
<td>1.02</td>
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<td><strong>Effective Resistance</strong></td>
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<td>- .60</td>
<td>.55</td>
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<td>.89</td>
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<td>.91</td>
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<td><strong>Ambiguous Resistance</strong></td>
<td>.81</td>
<td>1.25</td>
<td>.86</td>
<td>1.19</td>
<td>.24</td>
<td>.81</td>
<td>-.37</td>
<td>.46</td>
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<tr>
<td><strong>Positive Emotions Self</strong></td>
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<td>.00</td>
<td>.02</td>
<td>.12</td>
<td>1.03</td>
<td>.31</td>
<td>-.01</td>
<td>.04</td>
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<td><strong>Negative Emotions Self</strong></td>
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<td>.83</td>
<td>.47</td>
<td>.95</td>
<td>.83</td>
<td>.41</td>
<td>-.18</td>
<td>.43</td>
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<tr>
<td><strong>Positive Emotions Man/Relationship</strong></td>
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<td>.52</td>
<td>.03</td>
<td>.17</td>
<td>1.05</td>
<td>.30</td>
<td>-.20</td>
<td>.06</td>
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<tr>
<td><strong>Negative Emotions Man/Relationship</strong></td>
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<td>2.05</td>
<td>-.66</td>
<td>.51</td>
<td>-1.14</td>
<td>.57</td>
</tr>
<tr>
<td><strong>Positive Emotions Situation/Future</strong></td>
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<td>.39</td>
<td>.08</td>
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<td>.71</td>
<td>-.15</td>
<td>.10</td>
</tr>
<tr>
<td><strong>Negative Emotions Situation/Future</strong></td>
<td>1.17</td>
<td>1.51</td>
<td>2.05</td>
<td>2.53</td>
<td>2.46</td>
<td>.02</td>
<td>.17</td>
<td>1.58</td>
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<tr>
<td><strong>Positive Judgment Self</strong></td>
<td>.26</td>
<td>.65</td>
<td>.35</td>
<td>.83</td>
<td>.72</td>
<td>.48</td>
<td>-.16</td>
<td>.34</td>
</tr>
<tr>
<td><strong>Negative Judgment Self</strong></td>
<td>1.09</td>
<td>1.51</td>
<td>.85</td>
<td>1.04</td>
<td>-1.06</td>
<td>.29</td>
<td>-.68</td>
<td>.21</td>
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<tr>
<td><strong>Positive Judge Man</strong></td>
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<td>.09</td>
<td>-1.25</td>
<td>.09</td>
</tr>
<tr>
<td><strong>Negative Judge Man</strong></td>
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<td>3.18</td>
<td>-1.80</td>
<td>.07</td>
<td>-2.63</td>
<td>.12</td>
</tr>
<tr>
<td><strong>Positive Judgment Situation/Future</strong></td>
<td>.26</td>
<td>1.14</td>
<td>.17</td>
<td>.67</td>
<td>-.56</td>
<td>.58</td>
<td>-.41</td>
<td>.23</td>
</tr>
<tr>
<td><strong>Negative Judgment Situation/Future</strong></td>
<td>1.20</td>
<td>1.90</td>
<td>1.45</td>
<td>1.96</td>
<td>.77</td>
<td>.44</td>
<td>-.40</td>
<td>.91</td>
</tr>
<tr>
<td><strong>Risk Recognition</strong></td>
<td>1.14</td>
<td>1.53</td>
<td>.79</td>
<td>1.22</td>
<td>-1.49</td>
<td>.14</td>
<td>-.83</td>
<td>.12</td>
</tr>
</tbody>
</table>
Completers vs. Noncompleters

There were no statistically significant differences between participants who failed to complete the study and those who completed on baseline self-report measures (see Table 8) and baseline reactions to the Sexual Risk Vignettes as measured by the Vignette Rating Questionnaire and open-ended responses given during the Articulated Thoughts in Simulated Situations paradigm (see Table 9).

Table 8

*Summary of Independent Sample t Tests for Treatment Completers and Noncompleters on Self-Report Baseline Measures*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Completers (n = 122)</th>
<th>Noncompleters (n = 14)</th>
<th>t</th>
<th>p</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
<td></td>
</tr>
<tr>
<td>Barriers to Responding to Sexual Aggression</td>
<td>31.27</td>
<td>15.85</td>
<td>35.84</td>
<td>15.50</td>
<td>-1.17</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-12.30 to 3.16</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sexual Assertiveness Scale for Women</td>
<td>48.42</td>
<td>8.52</td>
<td>51.06</td>
<td>7.08</td>
<td>-1.21</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-6.93 to 1.66</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Illinois Rape Myth Acceptance Scale</td>
<td>85.17</td>
<td>11.35</td>
<td>86.84</td>
<td>10.44</td>
<td>-.60</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-7.16 to 3.83</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sexual Assault Knowledge Test</td>
<td>26.67</td>
<td>7.03</td>
<td>26.23</td>
<td>7.55</td>
<td>.19</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-4.23 to 5.10</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conflict in Adolescent Dating Relationships Scale</td>
<td>6.19</td>
<td>6.03</td>
<td>5.78</td>
<td>5.22</td>
<td>.27</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-2.56 to 3.38</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Participant Reaction Questionnaire</td>
<td>21.78</td>
<td>4.87</td>
<td>20.42</td>
<td>3.42</td>
<td>1.17</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-.94 to 3.67</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Table 9

**Summary of Independent Sample t Tests for Treatment Completers and Noncompleters**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Completers ((n = 121))</th>
<th>Noncompleters ((n = 14))</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( M )</td>
<td>( SD )</td>
<td>( M )</td>
</tr>
<tr>
<td>Vignette Rating Questionnaire: Risk Perception</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time 1</td>
<td>3.69</td>
<td>.88</td>
<td>3.40</td>
</tr>
<tr>
<td>Time 2</td>
<td>4.42</td>
<td>.72</td>
<td>4.17</td>
</tr>
<tr>
<td>Time 3</td>
<td>4.25</td>
<td>.77</td>
<td>4.18</td>
</tr>
<tr>
<td>Time 4</td>
<td>4.98</td>
<td>.58</td>
<td>5.03</td>
</tr>
<tr>
<td>Vignette Rating Questionnaire: Response Appraisal</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time 1</td>
<td>2.86</td>
<td>.94</td>
<td>3.15</td>
</tr>
<tr>
<td>Time 2</td>
<td>2.26</td>
<td>.94</td>
<td>2.77</td>
</tr>
<tr>
<td>Time 3</td>
<td>2.24</td>
<td>.93</td>
<td>2.81</td>
</tr>
<tr>
<td>Time 4</td>
<td>2.18</td>
<td>1.00</td>
<td>2.54</td>
</tr>
<tr>
<td>Responses During Articulated Thoughts in Simulated Situations</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Effective Resistance</td>
<td>4.66</td>
<td>3.63</td>
<td>4.26</td>
</tr>
<tr>
<td>Ineffective Resistance</td>
<td>.98</td>
<td>1.54</td>
<td>1.28</td>
</tr>
<tr>
<td>Ambiguous Resistance</td>
<td>.78</td>
<td>1.19</td>
<td>1.36</td>
</tr>
<tr>
<td>Positive Emotions Self</td>
<td>.01</td>
<td>.09</td>
<td>.00</td>
</tr>
<tr>
<td>Negative Emotions Self</td>
<td>.42</td>
<td>.91</td>
<td>.73</td>
</tr>
<tr>
<td>Positive Emotions Man/Relationship</td>
<td>.04</td>
<td>.31</td>
<td>.21</td>
</tr>
<tr>
<td>Negative Emotions Man/Relationship</td>
<td>2.26</td>
<td>2.04</td>
<td>5.00</td>
</tr>
<tr>
<td>Positive Emotions Situation/Future</td>
<td>.09</td>
<td>.38</td>
<td>.32</td>
</tr>
<tr>
<td>Negative Emotions Situation/Future</td>
<td>1.60</td>
<td>2.12</td>
<td>2.12</td>
</tr>
<tr>
<td>Positive Judgment Self</td>
<td>.29</td>
<td>.71</td>
<td>.37</td>
</tr>
<tr>
<td>Negative Judgment Self</td>
<td>.89</td>
<td>1.18</td>
<td>2.02</td>
</tr>
<tr>
<td>Positive Judge Man</td>
<td>.53</td>
<td>1.61</td>
<td>3.91</td>
</tr>
<tr>
<td>Negative Judge Man</td>
<td>5.26</td>
<td>4.13</td>
<td>3.94</td>
</tr>
<tr>
<td>Positive Judgment Situation/Future</td>
<td>.16</td>
<td>.59</td>
<td>.53</td>
</tr>
<tr>
<td>Negative Judgment Situation/Future</td>
<td>1.32</td>
<td>1.88</td>
<td>2.27</td>
</tr>
<tr>
<td>Risk Recognition</td>
<td>.97</td>
<td>1.44</td>
<td>1.11</td>
</tr>
</tbody>
</table>
Hypothesis 1

During the pre-treatment testing, consistent with the findings from McManus and Naugle (2013), we expected that participants would respond with fewer active resistance strategies in response to the sexual risk vignette that depicted a higher degree of intimacy. We also expected that participants with histories of multiple unwanted sexual experiences would respond with more ineffective resistance strategies in response to both sexual risk vignettes at pre-training than women without prior histories.

One-Way Repeated Measures Analysis of Variance

In order to test the hypothesis that the degree of intimacy depicted in the sexual risk vignettes affected participant decision making and articulation of behavioral strategies, a one-way repeated measures analysis of variance was conducted on data collected from the ATSS paradigm. There were no outliers represented in the data. Risk perception scores were normally distributed as assessed by Shapiro-Wilk’s test (p<.05). There was a statistically significant difference of articulation of active resistance strategies between the vignettes depicting high (M = 4.49, SD = 3.73) and low (M = 7.03, SD = 4.05) levels of intimacy, F(1, 135) = 74.38, p = .000, partial η² = .355, which was consistent with our expectations (see Figure 2). Contrary to our expectations, there was not a statistically significant difference of articulation of inactive resistance strategies between the vignettes depicting high (M = 1.00, SD = 1.50) and low (M = 1.04, SD = 1.65) levels of intimacy, F(1, 135) = .083, p = .774, partial η² = .001 (see Figure 3). There was a statistically significant difference of articulation of risk factors between the vignettes depicting high (M = 0.97, SD = 1.40) and low (M = 2.51, SD = 2.10) levels of
intimacy, $F(1, 135) = 73.76, p = .000$, partial $\eta^2 = .353$, which was consistent with our expectations (see Figure 4).

**Figure 2.** Mean Differences of Articulation of Active Resistance Strategies for High and Low Intimacy Vignettes at Pre-Treatment

**Figure 3.** Mean Differences of Articulation of Passive Resistance Strategies for High and Low Intimacy Vignettes at Pre-Treatment
A one-way multivariate analysis of variance was conducted to examine the effect of victimization history on decision making and behavioral resistance strategies provided during the ATSS paradigm. Eight variables were assessed: active resistance, passive resistance, ambiguous resistance, and risk perception from both the high intimacy vignette and the low intimacy vignette. The data were normally distributed as assessed by Shapiro-Wilk test ($p > .05$); there were no outliers, and there was homogeneity of variance as assessed by Box’s M test ($p < .05$). The differences between participants on the combined dependent variables was not statistically significant, $F(2, 97) = 1.312, p = .248$, partial $\eta^2 = .103$, which was contrary to our expectations. See Table 10 for estimated means, standard deviations, and effect sizes.
Table 10

*Means, Standard Deviations, and Effect Sizes for Responses During the ATSS Paradigm*

<table>
<thead>
<tr>
<th>Variable</th>
<th>df</th>
<th>F</th>
<th>p</th>
<th>M</th>
<th>SD</th>
<th>M</th>
<th>SD</th>
<th>d</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>History of Multiple Unwanted Sexual Experiences (n = 55)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low Intimacy Vignette</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Active Behavioral Resistance</td>
<td>1</td>
<td>.69</td>
<td>.41</td>
<td>7.05</td>
<td>3.89</td>
<td>7.76</td>
<td>4.53</td>
<td>.17</td>
</tr>
<tr>
<td>Passive Behavioral Resistance</td>
<td>1</td>
<td>1.95</td>
<td>.17</td>
<td>.84</td>
<td>1.40</td>
<td>1.35</td>
<td>2.05</td>
<td>.29</td>
</tr>
<tr>
<td>Ambiguous Resistance</td>
<td>1</td>
<td>.01</td>
<td>.94</td>
<td>.80</td>
<td>1.33</td>
<td>.78</td>
<td>1.51</td>
<td>.01</td>
</tr>
<tr>
<td>Risk Perception</td>
<td>1</td>
<td>2.5</td>
<td>.13</td>
<td>2.42</td>
<td>2.11</td>
<td>2.84</td>
<td>2.29</td>
<td>.19</td>
</tr>
<tr>
<td>High Intimacy Vignette</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Active Resistance</td>
<td>1</td>
<td>1.36</td>
<td>.25</td>
<td>4.13</td>
<td>3.31</td>
<td>5.29</td>
<td>4.27</td>
<td>.30</td>
</tr>
<tr>
<td>Passive Resistance</td>
<td>1</td>
<td>1.77</td>
<td>.19</td>
<td>1.05</td>
<td>1.47</td>
<td>.73</td>
<td>1.23</td>
<td>.24</td>
</tr>
<tr>
<td>Ambiguous Resistance</td>
<td>1</td>
<td>.27</td>
<td>.60</td>
<td>1.00</td>
<td>1.36</td>
<td>.67</td>
<td>1.09</td>
<td>.27</td>
</tr>
<tr>
<td>Risk Perception</td>
<td>1</td>
<td>1.01</td>
<td>.32</td>
<td>.95</td>
<td>1.30</td>
<td>.82</td>
<td>1.01</td>
<td>.11</td>
</tr>
</tbody>
</table>

**Hypothesis 2**

*After completing training, participants assigned to the Sexual Assertiveness Training condition were expected to report greater risk perception as measure by the Vignette Rating Questionnaire (VRQ: Carter-Visscher, 2008) and articulated responses during the ATSS paradigm than participants assigned to the Sexual Assault Prevention Psychoeducation Training condition.*

**One Way Analysis of Variance (ANOVA)**

In order to test the hypothesis that participants assigned to the Sexual Assertiveness Skills Training condition had greater risk perception than participants assigned to the Sexual Assault Prevention Psychoeducation Training condition at the post-training assessment, one-way repeated measures ANOVAs were conducted. There
were no outliers represented in the data. Risk perception scores were normally distributed as assessed by Shapiro-Wilk’s test \( p < .05 \). Homogeneity of variances was not violated as assessed by Levene’s Test of Equality of Variances \( p < .05 \). There was no statistically significant interaction for time \( \times \) treatment condition on articulations of risk perception as measured during the ATSS paradigm \( F(1, 134) = .003, p = .96, \) partial \( \eta^2 = .000 \), which was contrary to the initial hypothesis (see Figure 5). There was no main effect for time, \( F(1, 134) = .088, p = .77, \) partial \( \eta^2 = .001 \), indicating no statistically significant change in number of articulations of risk perception during the ATSS paradigm during the post-treatment evaluation. See Table 11 for an ANOVA summary and Table 12 for means, standard deviations, and effect sizes.

![Figure 5](includes/figure5.png)

*Figure 5. Time by Condition Interaction for Risk Perception During the ATSS Paradigm*
Table 11

Treatment Condition $\times$ Time Analysis of Variance for Post-Treatment Risk Perception Articulated During the ATSS Paradigm

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>$F$</th>
<th>$\eta^2$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>(A) Time</td>
<td>1</td>
<td>.088</td>
<td>.001</td>
<td>.767</td>
</tr>
<tr>
<td>A $\times$ B (Interaction)</td>
<td>1</td>
<td>.003</td>
<td>.000</td>
<td>.959</td>
</tr>
<tr>
<td>Error</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>134</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 12

Estimated Means, Standard Deviations, and Effect Sizes for Risk Perception at Pre- and Post-Treatment

<table>
<thead>
<tr>
<th>Measures</th>
<th>SAST ($n = 70$)</th>
<th></th>
<th>SAPPT ($n = 66$)</th>
<th></th>
<th>Cohen’s $d$</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$EM$</td>
<td>$SD$</td>
<td>$EM$</td>
<td>$SD$</td>
<td></td>
</tr>
<tr>
<td>Risk Perception – ATSS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-Treatment</td>
<td>1.14</td>
<td>1.53</td>
<td>.79</td>
<td>1.22</td>
<td>.25</td>
</tr>
<tr>
<td>Post-Treatment</td>
<td>1.19</td>
<td>1.33</td>
<td>.82</td>
<td>1.34</td>
<td>.28</td>
</tr>
<tr>
<td>Risk Perception – VRQ</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-Treatment</td>
<td>26.29</td>
<td>3.25</td>
<td>26.49</td>
<td>3.36</td>
<td>.06</td>
</tr>
<tr>
<td>Post-Treatment</td>
<td>26.35</td>
<td>3.66</td>
<td>26.69</td>
<td>2.98</td>
<td>.10</td>
</tr>
</tbody>
</table>

While not part of the original hypotheses, a two-way Analysis of Variance was conducted to examine the relationship between history of sexual victimization and treatment condition on risk perception measured by the ATSS. A total of 100 participants were used for this analysis as 45 reported on the Sexual Experiences Survey that they had not experienced any unwanted sex including unwanted kissing, touching, sex play, and sexual intercourse. In the sample 55 participants endorsed experiencing unwanted sex on two or more occasions. There was homogeneity of variances, as assessed by Levene’s
test for equality of variances, $p = .15$. There was no statistically significant condition $\times$ victimization history on post-treatment risk perception as measured by the Vignette Rating Questionnaire, $F(1,96) = .022$, $p = .883$, partial $\eta^2 = .000$. Additionally, there was no significant main effect for victimization history, $F(1,96) = .010$, $p = .920$, partial $\eta^2 = .000$, indicating no difference between the two groups on post-treatment risk perception. See Table 13 for ANOVA summary. See Table 14 for means, standard deviations, and effect sizes.

Table 13

*Treatment Condition $\times$ Victimization History Analysis of Variance for Post-Treatment Risk Perception Articulated During the ATSS Paradigm*

<table>
<thead>
<tr>
<th>Source</th>
<th>$df$</th>
<th>$F$</th>
<th>$\eta^2$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>(A) Treatment</td>
<td>1</td>
<td>.093</td>
<td>.001</td>
<td>.760</td>
</tr>
<tr>
<td>(B) Victimization History</td>
<td>1</td>
<td>.002</td>
<td>.000</td>
<td>.969</td>
</tr>
<tr>
<td>A $\times$ B (interaction)</td>
<td>1</td>
<td>2.134</td>
<td>.022</td>
<td>.147</td>
</tr>
<tr>
<td>Error</td>
<td>96</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 14

*Means, Standard Deviations, and Effect Sizes for Risk Perception at Post-Treatment*

<table>
<thead>
<tr>
<th>Measures</th>
<th>No History ($n = 45$)</th>
<th>History ($n = 55$)</th>
<th>Cohen's $d$</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$M$</td>
<td>$SD$</td>
<td>$M$</td>
</tr>
<tr>
<td>SAPPT Condition</td>
<td>1.14</td>
<td>1.96</td>
<td>.76</td>
</tr>
<tr>
<td>SAST Condition</td>
<td>.83</td>
<td>1.09</td>
<td>1.24</td>
</tr>
</tbody>
</table>
A one-way analysis of variance was conducted to test the hypothesis that participants in the SAST condition would endorse greater risk perception as measured by the Vignette Rating Questionnaire. There were no outliers in the data. Risk perception scores were normally distributed as assessed by Shapiro-Wilk’s test ($p < .05$). Homogeneity of variances was not violated as assessed by Levene’s Test of Equality of Variances ($p < .05$). There was no statistically significant interaction for time $\times$ treatment on risk perception as measured by the Vignette Rating Questionnaire, $F(1, 134) = .072$, $p = .789$, partial $\eta^2 = .001$, which was contrary to our hypothesis. There was no statistically significant main effect of risk perception as measured by the Vignette Rating Questionnaire, $F(1, 134) = .263$, $p = .609$, partial $\eta^2 = .002$ indicating that participants in both groups reported no change in risk perception at post-treatment (see Figure 6). See Table 12 for estimated means, standard deviations, and effect sizes. See Table 15 for ANOVA summary.

Figure 6. Time by Condition Interaction for Risk Perception as Measured by the Vignette Rating Questionnaire
Table 15

_Treatment Condition × Time Analysis of Variance for Post-Treatment Risk Perception as Measured by the Vignette Rating Questionnaire_

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>F</th>
<th>$\eta^2$</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>(A) Time</td>
<td>1</td>
<td>.263</td>
<td>.002</td>
<td>.609</td>
</tr>
<tr>
<td>A × B (Interaction)</td>
<td>1</td>
<td>.072</td>
<td>.001</td>
<td>.789</td>
</tr>
<tr>
<td>Error</td>
<td>134</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A two-way Analysis of Variance was conducted to examine the relationship between history of sexual victimization and treatment condition on risk perception. A total of 100 participants were used for this analysis as 45 reported on the Sexual Experiences Survey that they had not experienced any unwanted sex including unwanted kissing, touching, sex play, and sexual intercourse. In the sample 55 participants endorsed experiencing unwanted sex one two or more occasions. There was homogeneity of variances, as assessed by Levene’s test for equality of variances, $p = .35$. There was no statistically significant condition × victimization history on post-treatment risk perception as measured by the Vignette Rating Questionnaire, $F(1,96) = .130$, $p = .719$, partial $\eta^2 = .001$. Additionally, there was no significant main effect for victimization history, $F(1,96) = 2.56$, $p = .113$, partial $\eta^2 = .026$, indicating no difference between the two groups on post-treatment risk perception. See Table 16 for ANOVA summary. See Table 17 for estimated means, standard deviations, and effect sizes.
Table 16

_Treatment Condition × Victimization History Analysis of Variance for Post-Treatment Risk Perception as Measured by the Vignette Rating Questionnaire_

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>F</th>
<th>$\eta^2$</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>(A) Treatment</td>
<td>1</td>
<td>.064</td>
<td>.001</td>
<td>.801</td>
</tr>
<tr>
<td>(B) Victimization History</td>
<td>1</td>
<td>2.565</td>
<td>.026</td>
<td>.113</td>
</tr>
<tr>
<td>A × B (interaction)</td>
<td>1</td>
<td>.130</td>
<td>.001</td>
<td>.719</td>
</tr>
<tr>
<td>Error</td>
<td>96</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 17

_Estimated Means, Standard Deviations, and Effect Sizes for Risk Perception at Post-Treatment_

<table>
<thead>
<tr>
<th></th>
<th>No History $(n = 45)$</th>
<th>History $(n = 55)$</th>
<th>Cohen’s $d$</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>EM</td>
<td>SD</td>
<td>EM</td>
</tr>
<tr>
<td>SAPPT Condition</td>
<td>27.64</td>
<td>2.89</td>
<td>26.29</td>
</tr>
<tr>
<td>SAST Condition</td>
<td>27.22</td>
<td>3.89</td>
<td>26.36</td>
</tr>
</tbody>
</table>

**Hypothesis 3**

_After completing training, participants assigned to the Sexual Assertiveness Skills Training condition will generate more active resistance and fewer non-resistance strategies (i.e., sexual compliance, acquiescence) in response to the post-training sexual risk vignette than participants assigned to the Sexual Assault Prevention Psychoeducation Training condition. Relatedly, we expected a significant increase in effective resistance strategies between pre-treatment and post-treatment for participants assigned to the SAST condition._
A two-way Analysis of Variance (ANOVA) was conducted in order to test the hypothesis that participants assigned to the Sexual Assertiveness Skills Training condition endorsed more effective behavioral resistance strategies than participants assigned to the Sexual Assault Prevention Psychoeducation Training condition. Consistent with our hypothesis, there was a significant interaction between condition and time on active behavioral resistance, $F(1,134) = 7.42, p = .007$, partial $\eta^2 = .052$, indicating that the mean change score was significantly higher in the SATP condition ($M = 7.33, SD = 4.88$) than in the SAPPT condition ($M = 4.92, SD = 3.84$) (see Figure 7 and Table 18). An additional two-way ANOVA was conducted to test the hypothesis that participants in the SATP condition would articulate fewer non-resistant strategies at post-treatment than participants in the SAPPT condition. Contrary to our expectations there was no significant interaction between condition and time on non-resistant behavior $F(1,134) = 0.37, p = .317$, partial $\eta^2 = .002$ (see Figure 8 and Table 19). While not part of the initial hypotheses, it was expected that participants in the SATP condition would articulate fewer ambiguous resistance strategies at post-treatment than participants in the SAPPT condition. Contrary to our expectations there was no significant interaction effect of time $\times$ condition on ambiguous resistance strategies, $F(1,134) = 0.03, p = .873$, partial $\eta^2 = .000$ (see Figure 9 and Table 20). See Table 21 for estimated means, standard deviations, and effect sizes for pre-treatment and post-treatment differences.
Figure 7. Time by Condition Interaction for Active Behavioral Resistance During the ATSS Paradigm

Table 18

Time × Treatment Condition Analysis of Variance for Active Behavioral Resistance During the ATSS Paradigm

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>F</th>
<th>η^2</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>(A) Time</td>
<td>1</td>
<td>19.70</td>
<td>.128</td>
<td>.000</td>
</tr>
<tr>
<td>A × B (Interaction)</td>
<td>1</td>
<td>7.42</td>
<td>.052</td>
<td>.007</td>
</tr>
<tr>
<td>Error</td>
<td>134</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Figure 8. Time by Condition Interaction for Passive Behavioral Resistance During the ATSS Paradigm

Table 19

*Time × Treatment Condition Analysis of Variance for Passive Behavioral Resistance During the ATSS Paradigm*

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>F</th>
<th>$\eta^2$</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>(A) Time</td>
<td>1</td>
<td>3.83</td>
<td>.028</td>
<td>.052</td>
</tr>
<tr>
<td>A × B (Interaction)</td>
<td>1</td>
<td>.317</td>
<td>.002</td>
<td>.574</td>
</tr>
<tr>
<td>Error</td>
<td>134</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Figure 9. Time by Condition Interaction for Ambiguous Behavioral Resistance During the ATSS Paradigm

Table 20

Time × Treatment Condition Analysis of Variance for Ambiguous Behavioral Resistance During the ATSS Paradigm

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>F</th>
<th>$\eta^2$</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>(A) Treatment</td>
<td>1</td>
<td>.157</td>
<td>.001</td>
<td>.693</td>
</tr>
<tr>
<td>A × B (interaction)</td>
<td>1</td>
<td>.026</td>
<td>.000</td>
<td>.873</td>
</tr>
<tr>
<td>Error</td>
<td>134</td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 21

*Estimated Means, Standard Deviations, and Effect Sizes for Behavioral Responses During the ATSS Paradigm*

<table>
<thead>
<tr>
<th>Measures</th>
<th>SAST</th>
<th>SAPPT</th>
<th>Cohen’s</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(n = 70)</td>
<td>(n = 66)</td>
<td></td>
</tr>
<tr>
<td><strong>Active Behavioral Resistance</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-Treatment</td>
<td>4.67</td>
<td>4.29</td>
<td>.10</td>
</tr>
<tr>
<td>Post-Treatment</td>
<td>7.33</td>
<td>4.92</td>
<td>.55</td>
</tr>
<tr>
<td><strong>Passive Behavioral Resistance</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-Treatment</td>
<td>.99</td>
<td>1.02</td>
<td>.02</td>
</tr>
<tr>
<td>Post-Treatment</td>
<td>.66</td>
<td>.83</td>
<td>.16</td>
</tr>
<tr>
<td><strong>Ambiguous Behavioral Resistance</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-Treatment</td>
<td>.81</td>
<td>.86</td>
<td>.04</td>
</tr>
<tr>
<td>Post-Treatment</td>
<td>.74</td>
<td>.83</td>
<td>.07</td>
</tr>
</tbody>
</table>

While not part of the original hypotheses, a two-way Analysis of Variance was conducted to examine the relationship between history of sexual victimization and treatment condition on intended actions during the ATSS paradigm (i.e., assertive resistance, passive resistance, and ambiguous resistance). A total of 100 participants were used for this analysis as 45 reported on the Sexual Experiences Survey that they had not experienced any unwanted sex including unwanted kissing, touching, sex play, and sexual intercourse. Fifty-five participants endorsed experiencing unwanted sex one two or more occasions. A two-way ANOVA was conducted to examine the relationship between history of sexual victimization and treatment condition on assertive resistance during the ATSS paradigm. There was homogeneity of variances, as assessed by Levene’s test for equality of variances, p = .15. There was no statistically significant condition × victimization history on post-treatment assertive resistance articulated during
the ATSS paradigm, $F(1,96) = .064, p = .801$, partial $\eta^2 = .001$. There was no significant main effect for victimization history, $F(1,96) = .064 p = .801$, partial $\eta^2 = .001$, indicating no difference between participants with and without histories of victimization on post-treatment assertive resistance. There was a significant main effect for treatment condition, $F(1,96) = 9.316 p = .003$, partial $\eta^2 = .088$, indicating higher assertive resistance for among participants in the SAST condition at post-treatment. See Table 22 for ANOVA summary. See Table 23 for estimated means, standard deviations, and effect sizes.

Table 22

Treatment Condition & Victimization History Analysis of Variance for Post-Treatment Assertive Resistance Articulated During the ATSS Paradigm

<table>
<thead>
<tr>
<th>Source</th>
<th>$df$</th>
<th>$F$</th>
<th>$\eta^2$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>(A) Treatment</td>
<td>1</td>
<td>9.32</td>
<td>.706</td>
<td>.003</td>
</tr>
<tr>
<td>(B) Victimization History</td>
<td>1</td>
<td>.010</td>
<td>.000</td>
<td>.920</td>
</tr>
<tr>
<td>A &amp; B (interaction)</td>
<td>1</td>
<td>.022</td>
<td>.000</td>
<td>.883</td>
</tr>
<tr>
<td>Error</td>
<td>96</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 23

*Estimated Means, Standard Deviations, and Effect Sizes at Post-Treatment*

<table>
<thead>
<tr>
<th></th>
<th>No History (n = 45)</th>
<th>History (n = 55)</th>
<th>Cohen’s d</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
</tr>
<tr>
<td><strong>Assertive Resistance</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SAPPT Condition</td>
<td>5.05</td>
<td>3.19</td>
<td>5.05</td>
</tr>
<tr>
<td>SAST Condition</td>
<td>7.38</td>
<td>4.08</td>
<td>7.79</td>
</tr>
<tr>
<td><strong>Passive Resistance</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SAPPT Condition</td>
<td>.57</td>
<td>.98</td>
<td>1.05</td>
</tr>
<tr>
<td>SAST Condition</td>
<td>.54</td>
<td>1.06</td>
<td>.79</td>
</tr>
<tr>
<td><strong>Ambiguous Resistance</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SAPPT Condition</td>
<td>.81</td>
<td>1.78</td>
<td>.71</td>
</tr>
<tr>
<td>SAST Condition</td>
<td>.67</td>
<td>1.49</td>
<td>.71</td>
</tr>
</tbody>
</table>

A two-way ANOVA was conducted to examine the relationship between history of sexual victimization and treatment condition on passive resistance during the ATSS paradigm. There was homogeneity of variances, as assessed by Levene’s test for equality of variances, $p = .18$. There was no statistically significant condition $\times$ victimization history on post-treatment passive resistance articulated during the ATSS paradigm, $F(1,96) = .259, p = .612$, partial $\eta^2 = .003$. See Table 24 for ANOVA summary. See Table 23 for estimated means, standard deviations, and effect sizes.
Table 24

*Treatment Condition × Victimization History Analysis of Variance for Post-Treatment Passive Resistance Articulated During the ATSS Paradigm*

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>F</th>
<th>η²</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>(A) Treatment</td>
<td>1</td>
<td>.42</td>
<td>.004</td>
<td>.521</td>
</tr>
<tr>
<td>(B) Victimization History</td>
<td>1</td>
<td>2.74</td>
<td>.028</td>
<td>.101</td>
</tr>
<tr>
<td>A × B (interaction)</td>
<td>1</td>
<td>.259</td>
<td>.003</td>
<td>.612</td>
</tr>
<tr>
<td>Error</td>
<td>96</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A two-way ANOVA was conducted to examine the relationship between history of sexual victimization and treatment condition on ambiguous resistance during the ATSS paradigm. There was homogeneity of variances, as assessed by Levene’s test for equality of variances, $p = .80$. There was no statistically significant condition × victimization history on post-treatment ambiguous resistance articulated during the ATSS paradigm, $F(1,96) = .259, p = .819$, partial $\eta^2 = .001$. See Table 25 for ANOVA summary. See Table 23 for estimated means, standard deviations, and effect sizes.

Table 25

*Treatment Condition × Victimization History Analysis of Variance for Post-Treatment Ambiguous Resistance Articulated During the ATSS Paradigm*

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>F</th>
<th>η²</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>(A) Treatment</td>
<td>1</td>
<td>.067</td>
<td>.001</td>
<td>.797</td>
</tr>
<tr>
<td>(B) Victimization History</td>
<td>1</td>
<td>.009</td>
<td>.000</td>
<td>.924</td>
</tr>
<tr>
<td>A × B (interaction)</td>
<td>1</td>
<td>.053</td>
<td>.001</td>
<td>.819</td>
</tr>
<tr>
<td>Error</td>
<td>96</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
One-Way Analysis of Variance

While not part of the initial hypotheses, it was expected that participants in both training conditions would improve at the post-training assessment of the following measures: Barriers to Resisting Sexual Aggression, Rape Myth Acceptance, Sexual Assault Knowledge Questionnaire, Conflict in Adolescent Dating Relationships Scale, and Sexual Assertiveness Survey. A one-way repeated measures analysis of variance was conducted to examine the expectation that participants in both conditions would report fewer barriers to resisting sexual aggression at the post-training assessment. There were no outliers represented in the data. Barriers to resisting scores were normally distributed as assessed by Shapiro-Wilk’s test ($p < .05$). Homogeneity of variances was not violated as assessed by Levene’s Test of Equality of Variances ($p < .05$). There was no statistically significant interaction for time $\times$ treatment on barriers to resisting as measured by the Barriers to Resisting Sexual Aggression, $F(1,132) = 0.029$, $p = .865$, partial $\eta^2 = .000$. However, there was a significant main effect, $F(1,132) = 7.46$, $p = .007$, partial $\eta^2 = .001$, indicating that both treatment groups had lower levels of endorsement of barriers to resisting sexual assault at post treatment (see Figure 10). See Table 26 for means, standard deviations, and effect sizes. See Table 27 for ANOVA summary.
Figure 10. Time by Condition Interaction for Barriers to Resisting Sexual Aggression
Table 26

Estimated Means, Standard Deviations, and Effect Sizes for Risk Perception at Pre- and Post-Treatment

<table>
<thead>
<tr>
<th>Measures</th>
<th>SAST ((n = 70))</th>
<th>SAPPT ((n = 66))</th>
<th>Cohen’s d</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ME</td>
<td>SD</td>
<td>ME</td>
</tr>
<tr>
<td>Barriers to Resisting Sexual Aggression</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-Treatment</td>
<td>32.83</td>
<td>14.92</td>
<td>30.77</td>
</tr>
<tr>
<td>Post-Treatment</td>
<td>29.80</td>
<td>15.93</td>
<td>28.09</td>
</tr>
<tr>
<td>Illinois Rape Myth Acceptance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-Treatment</td>
<td>85.38</td>
<td>11.21</td>
<td>85.28</td>
</tr>
<tr>
<td>Post-Treatment</td>
<td>88.17</td>
<td>13.36</td>
<td>89.14</td>
</tr>
<tr>
<td>Sexual Assault Knowledge</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-Treatment</td>
<td>26.85</td>
<td>5.42</td>
<td>26.30</td>
</tr>
<tr>
<td>Post-Treatment</td>
<td>30.78</td>
<td>5.41</td>
<td>28.61</td>
</tr>
<tr>
<td>Conflict in Adolescent Dating Relationships Scale</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-Treatment</td>
<td>6.10</td>
<td>6.73</td>
<td>6.34</td>
</tr>
<tr>
<td>Post-Treatment</td>
<td>5.50</td>
<td>5.66</td>
<td>5.39</td>
</tr>
<tr>
<td>Sexual Assertiveness Scale</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-Treatment</td>
<td>48.69</td>
<td>8.18</td>
<td>48.86</td>
</tr>
<tr>
<td>Post-Treatment</td>
<td>48.98</td>
<td>5.73</td>
<td>49.06</td>
</tr>
</tbody>
</table>

Table 27

Time \(\times\) Treatment Condition Analysis of Variance for Barriers to Resisting Sexual Aggression

<table>
<thead>
<tr>
<th>Source</th>
<th>(df)</th>
<th>(F)</th>
<th>(\eta^2)</th>
<th>(p)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(A) Times</td>
<td>1</td>
<td>7.457</td>
<td>.053</td>
<td>.007</td>
</tr>
<tr>
<td>A (\times) B (interaction)</td>
<td>1</td>
<td>.029</td>
<td>.000</td>
<td>.865</td>
</tr>
<tr>
<td>Error</td>
<td>132</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
A one-way repeated measures analysis of variance was conducted to examine the expectation that participants in both conditions would report greater rejection of rape myth attitudes at the post-training assessment. There were no outliers in the data. Rape myth acceptance were normally distributed as assessed by Shapiro-Wilk’s test ($p < .05$). Homogeneity of variances was not violated as assessed by Levene’s Test of Equality of Variances ($p < .05$). There was not a significant time × treatment effect on rape myth acceptance as measured by the Illinois Rape Myth Acceptance scale, $F(1,132) = 0.84$, $p = .361$, partial $\eta^2 = .165$. There was a significant main effect $F(1,132) = 26.131$, $p = .000$, partial $\eta^2 = .006$ indicating that both treatment groups reported greater rejection of attitudes reflecting rape myth acceptance (see Figure 11), which was consistent with our expectations. See Table 26 for means, standard deviations, and effect sizes. See Table 28 for ANOVA summary.

Figure 11. Time by Condition Interaction for Rape Myth Acceptance
Table 28

Time × Treatment Condition Analysis of Variance for Rape Myth Acceptance as Measured by the Illinois Rape Myth Acceptance Scale

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>F</th>
<th>$\eta^2$</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>(A) Treatment</td>
<td>1</td>
<td>26.131</td>
<td>.165</td>
<td>.000</td>
</tr>
<tr>
<td>A × B (interaction)</td>
<td>1</td>
<td>.840</td>
<td>.006</td>
<td>.361</td>
</tr>
<tr>
<td>Error</td>
<td>132</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A one-way repeated measures analysis of variance was conducted to examine the expectation that participants in both conditions reported greater knowledge of sexual assault at the post-treatment assessment. There were no outliers in the data. Sexual assault knowledge scores were normally distributed as assessed by Shapiro-Wilk’s test ($p < .05$). Homogeneity of variances was not violated as assessed by Levene’s Test of Equality of Variances ($p < .05$). There was not a significant time × treatment effect on sexual assault knowledge as measured by the Sexual Assault Knowledge Questionnaire. There was not a significant time × treatment effect on sexual assault knowledge as measured by the Sexual Assault Knowledge Measure, $F(1,50) = .891$, $p = .350$, partial $\eta^2 = .018$. Consistent with our expectations, there was a main effect, $F(1,50) = 13.12$, $p = .001$, partial $\eta^2 = .211$, indicating that both treatment groups indicated increased knowledge of sexual assault (see Figure 12). See Table 26 for means, standard deviations, and effect sizes. See Table 29 for ANOVA summary.
Figure 12. Time by Condition Interaction for Sexual Assault Knowledge

Table 29

Time \times Treatment Condition Analysis of Variance for Sexual Assault Knowledge Questionnaire

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>F</th>
<th>$\eta^2$</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>(A) Treatment</td>
<td>1</td>
<td>13.116</td>
<td>.211</td>
<td>.001</td>
</tr>
<tr>
<td>A \times B (interaction)</td>
<td>1</td>
<td>.891</td>
<td>.018</td>
<td>.350</td>
</tr>
<tr>
<td>Error</td>
<td>130</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A one-way repeated measures analysis of variance was conducted to examine the expectation that participants in both treatment conditions would report less use of aggressive conflict tactics at the post-training assessment. There were no outliers in the data. Sexual assertiveness scores were normally distributed as assessed by Shapiro-Wilk’s test ($p < .05$). Homogeneity of variances was not violated as assessed by Levene’s Test of Equality of Variances ($p < .05$). There was not a significant time \times condition effect on the use of aggressive conflict tactics, $F(1,128) = .181, p = .672$, partial $\eta^2 = \ldots$
.001, (see Figure 13). See Table 26 for means, standard deviations, and effect sizes. See Table 30 for ANOVA summary.

Figure 13. Time by Condition Interaction for Conflict Tactics Scale

Table 30

Time × Treatment Condition Analysis of Variance for Conflict in Adolescent Dating Relationships Scale

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>F</th>
<th>η²</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>(A) Treatment</td>
<td>1</td>
<td>3.589</td>
<td>.027</td>
<td>.060</td>
</tr>
<tr>
<td>A × B (interaction)</td>
<td>1</td>
<td>.181</td>
<td>.001</td>
<td>.672</td>
</tr>
<tr>
<td>Error</td>
<td>128</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A one-way repeated measures analysis of variance was conducted to examine the expectation that participants in both treatment conditions would report greater sexual assertiveness at the post-training assessment. There were no outliers in the data. Sexual assertiveness scores were normally distributed as assessed by Shapiro-Wilk’s test.
Homogeneity of variances was not violated as assessed by Levene’s Test of Equality of Variances ($p < .05$). There was no statistically significant interaction for time $\times$ treatment on sexual assertiveness as measured by the Sexual Assertiveness Survey, $F(1,132) = .005$, $p = .946$, partial $\eta^2 = .000$ (see Figure 14). See Table 26 for means, standard deviations, and effect sizes. See Table 31 for ANOVA summary.

![Figure 14. Time by Condition Interaction for Sexual Assertiveness](image)

Table 31

<table>
<thead>
<tr>
<th>Source</th>
<th>$df$</th>
<th>$F$</th>
<th>$\eta^2$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>(A) Treatment</td>
<td>1</td>
<td>.163</td>
<td>.001</td>
<td>.688</td>
</tr>
<tr>
<td>A $\times$ B (interaction)</td>
<td>1</td>
<td>.005</td>
<td>.000</td>
<td>.946</td>
</tr>
<tr>
<td>Error</td>
<td>130</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Effect of Victimization History on Post-Treatment Measures

While not part of the original hypotheses, a two-way Analysis of Variance was conducted to examine the relationship between history of sexual victimization and treatment condition on post-treatment measures. A total of 100 participants were used for this analysis as 41 reported on the Sexual Experiences Survey that they had not experienced any unwanted sex including unwanted kissing, touching, sex play, and sexual intercourse. In the sample 58 participants endorsed experiencing unwanted sex one two or more occasions. A two-way ANOVA was conducted to examine the relationship between history of sexual victimization and treatment condition on Barriers to Resisting Sexual Aggression. There was homogeneity of variances, as assessed by Levene’s test for equality of variances, $p = .17$. There was no statistically significant condition $\times$ victimization history on post-treatment barriers to resisting as measured by the Barriers to Resisting Sexual Aggression Scale, $F(1, 95) = .336, p = .564$, partial $\eta^2 = .004$.

Additionally, there was no significant main effect for treatment, $F(1, 95) = .292, p = .590$, partial $\eta^2 = .003$, indicating no difference between the two groups on post-treatment risk perception. There was a statistically significant main effect for victimization history, $F(1, 95) = 18.375, p = .000$, partial $\eta^2 = .162$, indicating participants with a history of sexual victimization reported greater barriers to resisting sexual aggression at post-treatment than participants without such histories. See Table 32 for means, standard deviations, and effect sizes. See Table 33 for ANOVA summary.
Table 32

*Descriptive Statistics of Post-Treatment Measures*

<table>
<thead>
<tr>
<th>Barriers to Resisting Sexual Aggression</th>
<th>No History</th>
<th>History</th>
</tr>
</thead>
<tbody>
<tr>
<td>(n = 45)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>M</strong></td>
<td><strong>SD</strong></td>
<td><strong>M</strong></td>
</tr>
<tr>
<td>19.60</td>
<td>15.07</td>
<td>35.10</td>
</tr>
<tr>
<td>23.17</td>
<td>13.71</td>
<td>34.97</td>
</tr>
</tbody>
</table>

Illinois Rape Myth Acceptance

| SAPPT Condition | 91.20 | 11.06 | 85.19 | 11.30 | 41   |
| SAST Condition  | 87.92 | 12.53 | 88.59 | 14.06 | 58   |

Sexual Assault Knowledge Questionnaire

| SAPPT Condition | 29.83 | 9.72  | 29.50 | 5.24  | 14   |
| SAST Condition  | 31.82 | 4.99  | 30.36 | 4.98  | 25   |

Conflict in Adolescent Dating Relationships Scale

| SAPPT Condition | 4.20  | 4.40  | 8.00  | 6.59  | 41   |
| SAST Condition  | 4.00  | 3.86  | 7.00  | 6.93  | 58   |

Sexual Assertiveness Scale

| SAPPT Condition | 48.42 | 6.80  | 49.14 | 5.57  | 41   |
| SAST Condition  | 48.06 | 6.00  | 48.79 | 5.74  | 58   |

Table 33

*Treatment Condition × Victimization History Analysis of Variance for Post-Treatment Barriers to Resisting Sexual Aggression*

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>$F$</th>
<th>$\eta^2$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>(A) Treatment</td>
<td>1</td>
<td>.292</td>
<td>.003</td>
<td>.590</td>
</tr>
<tr>
<td>(B) Victimization History</td>
<td>1</td>
<td>18.375</td>
<td>.162</td>
<td>.000</td>
</tr>
<tr>
<td>A × B (interaction)</td>
<td>1</td>
<td>.336</td>
<td>.004</td>
<td>.564</td>
</tr>
<tr>
<td>Error</td>
<td>95</td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>
A two-way ANOVA was conducted to examine the relationship between history of sexual victimization and treatment condition on rape myth acceptance. There was homogeneity of variances, as assessed by Levene’s test for equality of variances, $p = .75$. There was no statistically significant condition $\times$ victimization history on post-treatment rape myth acceptance as measured by the Illinois Rape Myth Acceptance Scale, $F(1,95) = 1.610$, $p = .208$, partial $\eta^2 = .017$. See Table 32 for means, standard deviations, and effect sizes. See Table 34 for ANOVA summary.

Table 34

Treatment Condition $\times$ Victimization History Analysis of Variance for Post-Treatment Illinois Rape Myth Acceptance Scale

<table>
<thead>
<tr>
<th>Source</th>
<th>$df$</th>
<th>$F$</th>
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<tr>
<td>(A) Treatment</td>
<td>1</td>
<td>.000</td>
<td>.000</td>
<td>.983</td>
</tr>
<tr>
<td>(B) Victimization History</td>
<td>1</td>
<td>1.028</td>
<td>.011</td>
<td>.313</td>
</tr>
<tr>
<td>A $\times$ B (interaction)</td>
<td>1</td>
<td>1.610</td>
<td>.017</td>
<td>.208</td>
</tr>
<tr>
<td>Error</td>
<td>95</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A two-way ANOVA was conducted to examine the relationship between history of sexual victimization and treatment condition on sexual assault knowledge. There was homogeneity of variances, as assessed by Levene’s test for equality of variances, $p = .06$. There was no statistically significant condition $\times$ victimization history on post-treatment sexual assault knowledge as measured by the Sexual Assault Knowledge Questionnaire, $F(1,25) = .079$, $p = .780$, partial $\eta^2 = .002$. See Table 32 for means, standard deviations, and effect sizes. See Table 35 for ANOVA summary.
Table 35

_Treatment Condition × Victimization History Analysis of Variance for Post-Treatment Sexual Assault Knowledge Scale_

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>F</th>
<th>$\eta^2$</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>(A) Treatment</td>
<td>1</td>
<td>.503</td>
<td>.014</td>
<td>.483</td>
</tr>
<tr>
<td>(B) Victimization History</td>
<td>1</td>
<td>.201</td>
<td>.006</td>
<td>.657</td>
</tr>
<tr>
<td>A × B (interaction)</td>
<td>1</td>
<td>.079</td>
<td>.002</td>
<td>.780</td>
</tr>
<tr>
<td>Error</td>
<td>35</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A two-way ANOVA was conducted to examine the relationship between history of sexual victimization and treatment condition on the use of aggressive conflict tactics. There was homogeneity of variances, as assessed by Levene’s test for equality of variances, $p = .14$. There was no statistically significant condition × victimization history on post-treatment aggressive conflict tactics as measured by the Conflict in Adolescent Dating Relationships Scale, $F(1,95) = .114, p = .736$, partial $\eta^2 = .001$. There was not a significant main effect for treatment condition, $F(1,95) = .256, p = .614$, partial $\eta^2 = .003$. There was a statistically significant main effect for victimization history, $F(1,95) = 8.232, p = .005$, partial $\eta^2 = .080$, indicating that participants with a history of sexual victimization reported a greater number of aggressive conflict tactics at post-treatment than participants without sexual assault histories. See Table 32 for means, standard deviations, and effect sizes. See Table 36 for ANOVA summary.
Table 36

*Treatment Condition × Victimization History Analysis of Variance for Post-Treatment Conflict in Adolescent Dating Relationships Scale*

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>F</th>
<th>$\eta^2$</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>(A) Treatment</td>
<td>1</td>
<td>.256</td>
<td>.003</td>
<td>.614</td>
</tr>
<tr>
<td>(B) Victimization History</td>
<td>1</td>
<td>8.23</td>
<td>.080</td>
<td>.005</td>
</tr>
<tr>
<td>A × B (interaction)</td>
<td>1</td>
<td>.114</td>
<td>.001</td>
<td>.736</td>
</tr>
<tr>
<td>Error</td>
<td>95</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A two-way ANOVA was conducted to examine the relationship between history of sexual victimization and treatment condition on sexual assertiveness. There was homogeneity of variances, as assessed by Levene’s test for equality of variances, $p = .95$. There was no statistically significant condition × victimization history on post-treatment sexual assertiveness as measured by the Sexual Assertiveness Scale, $F(1,95) = .047$, $p = .830$, partial $\eta^2 = .000$. See Table 32 for means, standard deviations, and effect sizes. See Table 37 for ANOVA summary.

Table 37

*Treatment Condition × Victimization History Analysis of Variance for Post-Treatment Sexual Assertiveness Scale*

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>F</th>
<th>$\eta^2$</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>(A) Treatment</td>
<td>1</td>
<td>.004</td>
<td>.000</td>
<td>.948</td>
</tr>
<tr>
<td>(B) Victimization History</td>
<td>1</td>
<td>.133</td>
<td>.001</td>
<td>.716</td>
</tr>
<tr>
<td>A × B (interaction)</td>
<td>1</td>
<td>.047</td>
<td>.000</td>
<td>.830</td>
</tr>
<tr>
<td>Error</td>
<td>95</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Multiple Regression

A multiple regression analysis was conducted to examine factors that most strongly predict treatment response for individuals in the Sexual Assertiveness Skills Training condition: history of sexual victimization, sexual assertiveness, and barriers to resisting. The assumptions of linearity, independence of errors, homoscedasticity, and normality of residuals were met. These variables did not predict effective behavioral resistance, \( F(3,57) = .798, p = .500, \text{adj.} R^2 = -.011 \). Regression coefficients and standard errors can be found in Table 38.

Table 38

*Summary of Multiple Regression Analysis for Variables Predicting Effective Resistance at Post-Treatment*

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE_B</th>
<th>( \beta )</th>
<th>( R^2 )</th>
<th>( F )</th>
</tr>
</thead>
<tbody>
<tr>
<td>History of Sexual Victimization</td>
<td>1.35</td>
<td>1.37</td>
<td>.15</td>
<td>.042</td>
<td>.798</td>
</tr>
<tr>
<td>Pre-Treatment Sexual Assertiveness</td>
<td>-.03</td>
<td>.07</td>
<td>-.05</td>
<td></td>
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</tr>
<tr>
<td>Pre-Treatment Barriers to Resisting</td>
<td>-.06</td>
<td>.05</td>
<td>-.21</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note.* B = unstandardized regression coefficient; SE_B = Standard error of the coefficient; \( \beta \) = standardized coefficient.
DISCUSSION

In the current study, one aim was to better understand how the woman’s relationship to her perpetrator impacts decision-making in response to unwanted sexual advances. While previous studies on risk perception are mixed in their ability to demonstrate a relationship between intimacy and risk perception, studies have also shown that when women have a relationship with their perpetrator they are more concerned about maintaining the relationship or fearful of offending the male (Nurius et al., 2000; VanZile-Tamsen et al., 2005). As expected, participants endorsed greater barriers to resisting unwanted sexual advances on the Vignette Rating Questionnaire (VRQ) in response to the sexual risk vignette depicting a higher level of intimacy (i.e., Vignette 4: In the Car). This finding is supported by previous work with the VRQ and the sexual risk vignettes (Carter-Visscher, 2008; McManus & Naugle, 2013). Carter-Visscher (2008) found that while response appraisal (i.e., barriers to resisting) decreased at each time point during Vignette 4: In the Car (High Intimacy) and Vignette 6: Lost Keys (Low Intimacy), participants who responded to Vignette 4: In the Car were more likely to report that negative consequences would occur as a result of assertive resistance. In our previous work with the VRQ (McManus & Naugle, 2013), we found that participants endorsed greater barriers to responding assertively on the VRQ in response to sexual risk Vignette 4: In the Car (High Intimacy) than Vignette 6: Lost Keys (Low Intimacy). This finding demonstrates that a higher level of intimacy is associated with perceived negative consequences to assertive resistance.
A second aim of the study was to further investigate the role of sexual victimization history on decision-making and behavioral resistance in risky interpersonal situations. The correlation between sexual victimization and subsequent victimization is well established but the cause is not yet well understood. Previous studies have shown that while participants with victimization histories may report equivalent (Yeater & O’Donohue, 2002) or greater risk detection (Naugle, 1999); they are more likely to comply with the man in an unwanted sexual situation (Messman-Moore & Brown, 2006) than women without victimization histories. Our previous work with the sexual risk vignettes demonstrated that participants with a sexual victimization history articulated more risk factors in the hypothetical vignettes but also more passive resistance strategies than those without histories of unwanted sexual experiences. Given these findings, we expected that women with histories of multiple unwanted sexual experiences would endorse greater risk perception to the vignettes but articulate more passive resistance strategies than women without such histories. Contrary to our expectations, there were no statistically significant differences between groups, indicating equal risk perception and behavioral resistance. The lack of replication in this finding from our previous work may be due in part to differing study designs. Our previous work with the sexual risk vignette involved participants listening to one vignette only; however, the current study asked participants to respond to two sexual risk vignettes of differing levels of intimacy at pre-treatment, which may have influenced their responding.

Another aim of the study was to evaluate the effectiveness of a skills-based sexual assertiveness training program. A review of the literature indicates that sexual assault
prevention programs that rely heavily on knowledge and attitude change have been largely ineffective (Morrison et al., 2004; Simpson-Rowe et al., 2012); however, programs that emphasize skills training tend to be associated with better outcomes (Ullman, 2007). We hypothesized that participants randomly assigned to the Sexual Assertiveness Training condition would report greater risk perception in response to the post-training sexual risk vignette than participants assigned to the Sexual Assault Prevention Psychoeducation Training condition. We measured risk reception in two ways: articulation of risk factors in the sexual risk vignette and endorsement on the Vignette Rating Questionnaire. Contrary to our initial hypothesis, there was no statistically significant interaction for time × treatment condition on articulations of risk perception as measure during the ATSS paradigm, indicating no increase in the number of articulated risk factors for either treatment condition at the post-treatment assessment. Risk perception was also measured using the Vignette Rating Questionnaire. There was no statistically significant interaction for time × treatment on risk perception measured by the VRQ, which was contrary to our hypothesis. While the Sexual Assertiveness Skills Training condition addressed risk factors, the majority of the training focused on assertive resistance in response to unwanted sexual situations. During the training, general risk factors such as relational risk and situational risk were identified. A lack of significant results may indicate that greater time needs to be spent on identification of known risk factors. However, research on the role of risk perception has yielded inconsistent results. Some researchers have demonstrated that delayed risk recognition puts women at a higher risk for sexual assault (Marx et al., 2001; Soler-Baillo et al., 2005; Yeater, Treat, et al., 2010), and others argue that the critical issue is not risk
recognition, but rather it is unassertive behavioral responding in the face of unwanted sex that may increase a woman’s risk (Messman-Moore & Brown, 2006; Naugle, 1999; VanZile-Tamsen et al., 2005). Given these inconsistent findings, it may be valuable for prevention programs to focus on effective behavioral responding rather than risk identification.

We hypothesized that participants randomly assigned to the Sexual Assertiveness Skills Training condition would generate more active resistance strategies and fewer non-resistance strategies in response to the post-training sexual risk vignette than participants assigned to the Sexual Assault Prevention Psychoeducation Training condition. Consistent with our hypothesis, there was a significant interaction between condition and time on active behavioral resistance, indicating that participants in the SAST condition endorsed a greater number of effective resistance strategies than participants in the SAPPT condition at the post-treatment assessment. Given the SAST emphasis on identification and rehearsal of active resistance strategies through the Behavioral Skills Training model (Miltenberger, 2008), it is not surprising that there was a statistically significant difference. Other work with the BST model has demonstrated it is an effective to teach a variety of skills, such as child firearm safety (Mitenberger et al., 2004), parent training (Tempel et al., 2013), and reducing risky sexual behavior (Kirby et al., 1991).

We also expected that participants in the SATP condition would articulate fewer non-resistant strategies at post-treatment than participants in the SAPPT condition. Contrary to our expectations there was no significant interaction between condition and time on non-resistant behavior. The main effect for time approached significance.
(p = .052), indicating that both groups decreased their use of non-resistance strategies. While these results were surprising, the skills training condition emphasized active resistance strategies and may not have spent adequate time on identifying and limiting the use of non-resistance strategies.

While not part of the original hypotheses, given that previous sexual assault prevention programs failed to show a treatment effect for participants with sexual assault histories, we wanted to examine the impact of victimization history across the training conditions. We compared post-treatment assertive resistance between participants with a history of multiple unwanted sexual experiences and those who denied a history of any unwanted kissing, touching, sex play, and sexual intercourse. There was no statistically significant condition × victimization history on post-treatment assertive resistance articulated during the ATSS paradigm. There was no significant main effect for victimization history, indicating no difference between participants with and without histories of victimization on post-treatment assertive resistance. There was a significant main effect for treatment condition, indicating higher assertive resistance among participants in the SAST condition at post-treatment.

We also expected that participants in both conditions would report greater sexual assertiveness, fewer barriers to resisting sexual assault, increased rejection of rape myths, and increased sexual assault knowledge. There was not a significant treatment × time effect of barriers to resisting sexual aggression. However, there was a significant main effect, indicating that both treatment groups reported fewer negative consequences associated with responding assertively post treatment. In her 10-year review of empirical studies of rape avoidance, Ullman (2007) argued that teaching women effective
resistance strategies may not be sufficient to avoid rape by known men given barriers to resisting assertively may be present in those interactions. According to her review, these social concerns may supersede a woman’s ability to identify risk and respond accordingly. The results from the present study may indicate that both training programs impacted negative appraisal of responding assertively to sexual aggression.

There was not a significant time × treatment effect on rejection of rape myth attitudes between the two treatment conditions. Consistent with our expectations, there was a significant main effect, indicating that both treatment groups reported greater rejection of attitudes reflecting rape myth acceptance. There was not a significant time × treatment effect on sexual assault knowledge between the two groups as measured by the Sexual Assault Knowledge Questionnaire. As expected, there was a significant main effect, indicating that both treatment groups increased in their knowledge of sexual assault. This is not surprising given that both treatment conditions spent equal amount of time refuting common rape myths and providing information on sexual assault psychoeducation. In their systematic review of sexual assault prevention programs, Morrison et al. (2004) concluded that many college-based prevention programs focus on sexual assault prevalence and changing attitudes about sexual assault (e.g., rape myths, sex role stereotypes), and that many of these programs are largely ineffective at reducing risk for unwanted sexual experiences. While it is important to be aware of the incidence of sexual assault and to decrease level of rape myth acceptance, these factors are more likely to change societal views rather than directly relate to incidence of sexual victimization.
Limitations

The present study is not without limitations that are important to address. First, the coding protocol was developed for this project using a sample of college women. While it is based on prior research (Clay-Warner, 2002; Gidycz, McNamara, & Edwards, 2006; Turchik et al., 2007; Ullman, 2007), its utility with other populations, especially non-college samples is unknown. Second, it is unclear whether participants would behave the same way in real life as they did during the ATSS paradigm. However, Gidycz, McNamara, and Edwards (2006) found a positive correlation between responses given during a study and the strategies they later used to avoid an unwanted experience. The findings from the present study may be analogous to the way women may respond in a real life setting. Future studies may consider using novel technology such as virtual reality to increase the ecological validity of in-session role-plays. Jouriles, Simpson Rowe, McDonald, Platt, and Gomez (2011) found that women assigned to virtual reality role-plays reported greater immersion and negative affect in response to sexually coercive statements from the male avatar than from an in-person role play with a trained male research assistant. Third, while the post-treatment session found that participants in the SAST condition endorsed a greater number of assertive responses, these differences may diminish over time without booster sessions. In the present study, the post-treatment assessment session took place approximately one week after the training session. Future studies should use a longitudinal design to examine post-treatment differences at longer follow-up time points. In addition, while responses provided during the ATSS paradigm may reflect real-life responding, an important measure of treatment effectiveness is incidence of unwanted sexual experiences in real life.
The present study evaluated a sexual assertiveness training program among college women with and without histories of unwanted sexual experiences. We found that participants randomly assigned to the Sexual Assertiveness Skills Training condition reported a greater number of assertive resistance strategies in response to the sexual risk vignettes than women randomly assigned to the Sexual Assault Psychoeducation Prevention Training condition. The two groups did not differ during post-treatment assessment of risk perception, rape myth acceptance, barriers to responding assertively, aggressive conflict tactics, or sexual assertiveness.

Future research efforts should investigate long-term effects of the Sexual Assertiveness Skills Training program, as a woman’s real-life response to unwanted sexual experiences is a more important outcome measure than assertive response to a hypothetical vignette. Additional changes may be considered to strengthen the SAST program such as length of treatment time to increase the number of rehearsal and feedback sessions. This may be particularly important to see a long-term treatment effect for women with a sexual assault history. Senn et al. (2011) found treatment effects for participants with sexual assault histories; however, their treatment was 12 hours compared to others that were shorter in duration. Future studies may also consider the use of between-session work to have participants practice sexual refusal/sexual assertiveness in their personal lives. In addition, novel methodology such as sexual risk vignettes or virtual reality may be used to increase ecological validity of the training.
REFERENCES


McManus, E. S. & Naugle, A. E. (2013, May). *Using articulated thoughts during simulated situations (ATSS) to examine factors affecting college-women’s decision-making in dating scenarios*. Paper presented at the annual meeting of the International Association of Behavior Analysis, Minneapolis, MN.


Appendix A

Sexual Assertiveness Skills Training Manual
Sexual Assertiveness Skills Training Manual

The Trauma Research Lab
Western Michigan University

Introduction
My name is ________ and I’m a graduate student in the clinical psychology department here at Western Michigan University. I am going to be conducting this part of the research study with you today. Thank you for agreeing to participate in this portion of the study. Over the next 60-90 minutes, you will learn about definitions of sexual assault, prevalence rates, and facts/myths. You will also learn about skills and strategies to help reduce the risk for unwanted sexual experiences. At the end of the training you will be able to practice these strategies and get feedback from me. While you may find it uncomfortable at first to practice these skills, we find that the best way to learn new skills is through rehearsal and feedback. I am also here to answer your questions at any time throughout the training.

Orient the participant to the training schedule

Psychoeducation (15-20 minutes)
- The first part of the training involves learning information about sexual assault. This includes various definitions and prevalence rates. This portion of the training will take 15-20 minutes.

Modeling Risk Reduction Strategies (30 minutes)
- Next we will spend time learning about strategies that women can use to reduce their risk of having unwanted sexual experiences.

Practice Risk Reduction Strategies (30 minutes)
- The third part of the training involves learning the skills through practice and feedback.

Conclusions/Debriefing (10 minutes)
- Lastly, there will be time for a general review of the training program as well as the chance for you to ask any questions you may have.

Do you have any questions before we begin?
Psychoeducation (15-20 minutes)

Definitions of Sexual Assault

The term **sexual assault** is used to describe an event where an individual engages (or attempts to engage) in sexual behavior with another person against his or her will. Some examples of sexual assault include:

- Incapacitated sex acts (drunk, high, unconscious, sleeping)
- Unwanted touching
- Vaginal, oral, or anal penetration or attempts
- Nonconsensual sexual intercourse
- Child sexual abuse

Western Michigan University (WMU) defines **sexual misconduct** as “non-consensual sexual activity that occurs as a result of: intimidation, threat of force, force, or other coercive behavior on the part of the accused; or taking advantage of the mental incapacitation or physical helplessness of the alleged victim.”

The term **rape** is usually referred to as a specific type of sexual assault. Rape is defined as nonconsensual vaginal, anal, or oral sex involving force or threat of force. Rape can include both completed and attempted sexual acts that involve force or threat of force.

Sexual violence can take on many forms. We feel it is important for college women to be aware of the different types of sexual violence as well as statistics associated with sexual violence. One study showed that many college women who have experienced sexual victimization do not label their experiences.

Prevalence Rates

- Each year, 5% of college women experience a completed sexual assault
  - Over 500 just at WMU
- Each year, 15-20% of college women experience unwanted sexual contact, sexual coercion, or threats of sexual assault.
- In fact, college women are three times more likely to experience sexual assault than other groups of women
  - First-year female students are at the highest risk for unwanted sexual experiences – particularly in their first semester of college
- Many college women (2/3rds) know the person who sexually assaulted them
- Most sexual assaults involving college females occur during the evening and take place at a private residence (e.g., apartment, resident hall). Another common location of off campus assaults are bars and nightclubs.

Unwanted sexual experiences happen to college women at higher rates than other groups of women. They can also have negative mental health effects. Some of these include posttraumatic stress disorder, fear, anxiety, depression, suicidal ideation, suicide
attempts, anger, substance abuse, decreased self-esteem, social adjustment difficulties, and sexual difficulties.

Myths and Facts about Sexual Assault

There are many myths in our society about sexual assault. This part of the training will involve bringing awareness to these myths and challenging them with the facts.

1. *It’s not sexual assault/rape if the victim was not seriously injured or the perpetrator did not have a weapon.*

   It is estimated that victims are injured in only 1/5 cases of sexual assault. Most completed sexual assaults (80%) do not involve the use of a weapon. Often, the threat of violence or coercion is used.

2. *Women may falsely report sexual assaults to get attention or get back at the perpetrator.*

   While fictitious reports gain a lot of media attention, they are very rare. It is unlikely that the victim would falsely accuse someone of sexual assault.

   In fact, less than 1/5th of rape victims report their sexual assault to police officials. They may report reasons such as: fear of retaliation by perpetrator, belief that the incident was not severe enough, fear of police non-responsiveness, and shame.

3. *Stranger rape is the most common type of rape.*

   In most cases, the victim knows her assailant. One study found that 2/3rds of reported rape cases were perpetrated by someone known to the victim (e.g., acquaintance, friend, boyfriend).

4. *When one or both persons are intoxicated then it is not considered sexual assault.*

   While alcohol is involved in many sexual assault cases (one study estimated 80% of cases involved alcohol), many state laws recognize that an incapacitated person is unable to give consent.

5. *It is not rape if the two individuals are married or in a committed relationship.*

   Just because someone has consented to have sex with a spouse or partner does not mean that he or she cannot be coerced, forced, or pressured into having sex. Sexual assault is a crime regardless of the relationship between the victim and offender. However, victims of intimate partner sexual violence are less likely to report the assault than victims who do not know their attacker.
Risk Factors for Sexual Assault

This next part of the training involves learning about some of the common risk factors associated with sexual assault. Even though there are factors that can place a person at greater risk for being sexually assaulted it is important to note that it is never a person’s fault for being sexually assaulted.

Being aware of factors that can increase your risk for sexual assault may enable you to avoid high these risk situations.

Common Risk Factors
There are some risk factors that you may not be able to avoid. For example, unmarried, college women are at the greatest risk for unwanted sexual experiences. This is especially true for underclassman (i.e., first year students). Another risk factor is having a history of unwanted sexual experiences. Either from childhood, adolescence, or adulthood, women with these experiences are at a greater risk for future sexual victimization.

While there is nothing you can do about these risk factors (i.e., a person cannot change their assault history or gender), knowing that these increase your risk may enable you to take other steps to reduce your risk for sexual assault.

Environmental Risk Factors

Environmental risk factors refer to features of the situation that may increase your risk for unwanted sexual experiences.

- Presence of recreational drugs or alcohol
  - Alcohol use is often associated with various aspects of sexual assault cases.
  - Alcohol and drugs can impair your judgment and ability to protect yourself. You might not be able to make the same decision you would make if you were sober.
  - It is usually not a good idea to drink alcohol in dating situations or other high risk situations (e.g., fraternity parties, public settings with unfamiliar people, secluded places with male acquaintance)

- Being in an isolated location with the assailant
  - Many unwanted sexual experiences happen in an isolated location.
  - Whether it’s a dorm room, back room of a party, or in a car, it is probably best not to be alone with someone you do not know well.
  - If you are at a party or group function, it’s best not to leave with a person you don’t know well.

- Continuing to stay in a situation in which you are uncomfortable or uneasy
  - If you are feeling uncomfortable or uneasy in a situation trust your instincts and leave any situation where you feel uncomfortable.
The use of date rape drugs

There are several illegal drugs available that are being used as a tool for sexual assaults, typically by placing them into someone’s drink. These drugs typically have a sedative and disorienting effect, which can leave the person defenseless against a sexual assault.

Here are some common drugs used

- **GHB**
  - This is a powerful synthetic drug that acts as a depressant on the central nervous system. Reports suggest this is the most common type of drug used in sexual assault cases.
  - Effects may be noticed within 15 minutes after digestion and can include nausea, vomiting, confusion, seizures, respiratory depression, intense drowsiness, dizziness, and unconsciousness. It can also cause memory loss for events that happened while under the influence.

- **Rohypnol** (AKA: Roofies)
  - This is a fast-acting sedative in the same family as Valium. It is illegal to manufacture, distribute, or possess Rohypnol in the United States.
  - Physical effects are noticeable within 20-30 minutes of ingestion and include drowsiness, confusion, decreased blood pressure, dizziness, impaired judgment, and reduced level of consciousness. The person looks and acts like someone who is very intoxicated. This drug can produce partial or complete loss of memory of the events that occur while under the influence.

- **Ketamine** (AKA: Special K)
  - This is a dissociative drug most commonly used as an animal anesthetic.
  - Effects of this drug include impaired attention, delirium, and memory difficulties. It can also impair the user's ability to move.

**Date Rape Drug Safety Tips**

*Generate a list of safety tips with the participant*

- Don’t accept drinks from someone you don’t know well.
- If you are accepting a drink, make sure it’s from an unopened container and that you opened it yourself.
- Don't put your drink down and leave it unattended.
- If you choose to drink, be sure to drink with those you trust.
• Always have a designated driver in your group who is sober and can look out for you and your friends.
• If you’re going out to a bar or party, set rules/guidelines with your friends ahead of time about with whom and when you plan to go home.
• If you think that you have been given one of these drugs, notify a friend and the authorities immediately.

Relationship Risk Factors

These risk factors are related to the relationship between the two individuals. While many women take precautions to defend themselves against an attack from a stranger, it is usually the case that women are assaulted by someone they know.

In fact, 9 out of 10 college women know their assailant in some way. It may be an acquaintance, friend, or boyfriend that tries to make you do something sexually that you are not comfortable doing.

One thing that makes relational risk factors important is that research shows that women may respond differently when they know the assailant. In fact, they may be reluctant to respond assertively when they know the man. Below are some reasons why passive communication can increase your risk for unwanted sexual experiences:

• Using non-verbal signals instead of direct verbal communication. Our body language doesn’t always provide the clearest message about what we intend to communicate. By focusing on someone’s body language rather than attending to their verbal statements, a person may miss crucial messages of their partner’s sexual intent.

• Not saying what you think or feel to your partner. Do not assume that someone will automatically know how you feel or will eventually “get the message” without you having to say anything.

• Keeping expectations about sexual behavior hidden or not clearly communicated. It also may be the case that two partners have differences in expectations (i.e., the man expects to have sexual intercourse after the date and the woman is comfortable engaging in kissing/sex play). If these differences are not communicated than he may misinterpret the actions of his partner. Therefore, it is important to have a discussion with your partner about the sexual behavior you are comfortable with.
We’ve spent some time talking about the different risk factors for unwanted sexual experiences. While we feel that it is important to be aware of the different factors that may make someone more susceptible to unwanted sexual experiences, there are also communication tips and resistance strategies that you can use. Again, we want to reiterate that no one asks to be sexually assaulted and that offenders are ultimately responsible for their acts of sexual aggression. However, we want college women to be aware of risk factors and to learn strategies that they may use to help lower their risk for unwanted sexual experiences.

Resistance Strategies

Resistance strategies are considered behaviors or communication skills you can use to help lower your risk of an unwanted sexual experience. You may also be able to intervene in some way to reduce the severity of the unwanted sexual experience. For example, by telling a partner “No, I’m not comfortable doing that,” when he begins taking your shirt off, you were able to assertively communicate your wants to your partner and reduce the risk of something more severe happening.

- **Assertive Communication**
  - Think about what your sexual limits are and be prepared to communicate them directly. It’s important to always communicate clearly and directly. Communication can be unclear if it relies on non-verbal signals which may be more difficult to interpret. These non-verbal messages may not always provide the message we intend to communicate.
  - Pay attention to nonverbal behaviors, particularly signals/messages you may be sending. Make sure that your body language is consistent with verbal messages. If you don’t want to do something your words and actions should reflect that message.
  - You have the right to express your feelings and wishes as well as to make choices about your behavior. Do it verbally and clearly. Be assertive and demand that your rights are respected. If you are uncomfortable, you should let your partner know immediately. The clearer you communicate your feelings and wishes to your partner the less likely it is that the misunderstanding may lead to sexual activity you are not interested in.
  - Say “no” or “not now” if you are unsure whether you want to engage in sexual behavior. Tell them that you want to stop if you become uncomfortable. You also have the option to leave the situation.
  - *Have the participant generate other possible examples of assertive communication.*

To make your message stronger, you can use assertive body language in addition to your communication style to let your partner know what you are comfortable with. You may
also need to use for assertive or even aggressive resistance strategies to keep yourself safe. Sometimes women may be uncomfortable using more

The following are examples of assertive behaviors you can use:
  o Assertive Behavioral Resistance
    ▪ When you are telling someone “no” or “not now” you can use body language consistent with that message (e.g., put your clothes on, get up, push their hands away).
    ▪ Sometimes it may be the case that you need to physically intervene to protect yourself in an unwanted situation (e.g., push the person off you, leave the situation).
    ▪ Other strategies include kicking/hitting, screaming at them, or fleeing the situation.

**Modeling Effective Strategies (20 minutes)**

Since we think that using assertive communication is a key way for college women to reduce their risk for unwanted sexual experience, we want to have you practice some of these skills. The first part of this practice involves having you listen to the two scenarios you heard in session 1. We will then go over each scenario and talk about some of the assertive communication and behavioral strategies that the women used as well as some of the things she did that were not assertive.

**Part 1:** **Listen to the “In the Car” vignette with the participant. Emphasize the highlighted sections of the vignette.

**Narrator:** The first scene begins with the couple on a date
Laura: I’ve had a lot of fun tonight.
Scott: Yeah, me too
**Narrator:** He smiles and reaches for her hand
Laura: Can you believe we’ve been together for 4 months already?
Scott: I know isn’t it crazy.
Laura: It seems like we just met, but we’ve gotten to know each other so well.
Scott: Yeah, I know what you mean
**Narrator:** He leans in and kisses her
Laura: So…. I’ve been thinking. Maybe I am getting ready to take our relationship to the next step.
Scott: Really? I know how much that means to you and I understand if you don’t want to have sex now, but I can’t wait forever.
Laura: Well, I think I might be ready *(Laura says hesitantly).*
**Narrator:** The second scene begins with his car parked in an isolated location and the couple is making out. Laura’s shirt is off and Scott unbuckles his pants. He is on top of her.
Laura: Wait, wait. I can’t. I’ve changed my mind
Scott: What? Why?
Laura: I’m not ready.
Scott: Oh, my god. Come on.

Assertive strategies used by Laura:
- She’s thought about what she wants to do (Know your limits)
- She’s changed her mind – and she communicates that to him (You can change your mind – you need to communicate that)

Narrator: He continues touching and kissing her and she reciprocates until he pulls down her pants. She pushes him off of her.

Laura: Scott, no. I don’t want to anymore
Scott: Why not?
Laura: I just don’t.
Scott: That’s really not a good reason.
Laura: Scott, please stop.
Scott: We’ve already done everything else. Why not just do this too?

Assertive strategies used by Laura:
- Sticks with her decision (changed her mind and is sticking with that)
- Body language corresponds (she pushes him off)

Laura: I’m just not ready.
Scott: Come on you already said you wanted to. There’s only one more step.
Narrator: Laura is quiet and stares straight ahead.
Scott: I love you Laura. Don’t you love me?
Laura: Of course I love you
Scott: Well then why won’t you do this for me?
Laura: If you love me so much you should just wait for me.
Scott: You can’t do this to me. (angrily) You know you get me all worked up, and then leave me hanging. You know I’ll be pissed if we don’t do this.
Laura: I’m sorry. I just can’t I’m not ready.
Scott: I’ve had it. Let’s just break up.

Assertive Strategies used by Laura:
- She changed her mind about having sex and communicated this to her boyfriend
- He uses their relationship as a coercive strategy – but she maintains that she’s not ready
- When he makes physical advances she reciprocates by pushing his hands off her and says “Scott no, I don’t want to anymore.”
- She says “I’m not ready” While that’s good, she could be even more explicit by saying “I’m not ready to have sex with you Scott.”

Laura: Wait. What? (hurt)
Scott: I don’t WANT to break up with you. I love you. We can stay together if you just do this for me.
Narrator: He leans forward & starts kissing her again. She doesn’t do anything. He gets on top of her. She just stares off and he begins having sex with her.

Orient participant to:
- Laura’s non-action at the end – acquiescence
- While she told him several times that she didn’t want to have sex, when he starts physically engaging her “she doesn’t do anything.”
- Physical resistance – could have used physical resistance strategies

Part 2: Provide participant with the following written vignette to read

Chad and Ashley are out on their third date. They’ve decided to meet up with some friends at the bar following their meal. After their time at the bar Chad gives Ashley a ride home. The scene begins as they park the vehicle at Ashley’s apartment.

Chad: Well, that was really fun, Ashley. I’m glad you decided to join me again this evening.
Ashley: Yeah that was fun. Thanks for dinner.

Chad: I don’t know about you, but I have still got some life left in me. Do you want to give me a tour of your apartment, and I’ll show you those YouTube videos we were talking about earlier?

Ashley: I would like to see those videos, they sounded hilarious! We can do that, as long as you don’t plan on staying for long. I do not want you to stay the night or anything like that.

They go upstairs to Ashley’s apartment. Where they begin to look at the videos Chad and his friends were talking about all evening. They are laughing and enjoying the last of the videos.

Ashley: Seriously, those were great! You guys did some awesome impressions but the real thing was even better!
Chad: Yeah, these are classics! I can’t believe you hadn’t seen them before. Laughing and scooting closer to Ashley

Ashley: Me neither! I guess I need to catch up on my YouTube sensations.
Chad: Don’t worry, I’ll make sure you don’t miss a beat from here on out. *He says while putting his hand on Ashley’s thigh and leaning in for a kiss. They begin kissing. And Ashley pulls away.*

Ashley: Ok, I think we should stop. It’s time for me to go to bed soon and time for you to leave.

Chad: Oh, come on. I’ll leave soon enough. I’m just enjoying this right now. *He says while positioning himself over Ashley. He’s about to kiss her again.*

Ashley: No, Chad. I’m done. *She says while moving away and standing up from their seated position*

Chad: Loosen up Ash. I just want to enjoy you.

Ashley: Not going to happen, Chad. I had a great time tonight, but you need to go home now. *She says this while walking toward the door to show him out.*

**Instructor: Orient the participant to the assertive communication skills used by Ashley in the example:**

- “We can do that, as long as you don’t plan on staying for long. I do not want you to stay the night or anything like that.” – She tells him her intentions

- “Ok, I think we should stop. It’s time for me to go to bed soon and time for you to leave.” – She also pulls away from him

- “No, Chad. I’m done. *She says while moving away and standing up from their seated position*

- “Not going to happen, Chad. I had a great time tonight, but you need to go home now.” *She says this while walking toward the door to show him out.*

- *Note the use of body language and assertive communication*

- Ashley made her intentions clear from the start and followed through with her stated intentions with clear verbal expression, body language and actions.

**Rehearsal of Effective Strategies (30 minutes)**

- This is the part of the training where you will be able to practice the strategies you’ve been learning and get feedback from me. While you may find it uncomfortable at first to practice these skills, we find that the best way to learn new skills is through rehearsal and feedback.
I’m going to read you some scenarios between a man and a woman. I want for you to imagine what you would do and say if this situation were happening to you right now. Then I will ask you to respond with actual statements or actions that you would take, practice saying them as if you were actually saying them to the man in the scenario. I want you to tell me three things

1. What you would say to the man – in first person – pretend that I’m the guy “I want you to stop now” rather than “I’d tell him to stop”
2. Describe what you would do – should be descriptive. Rather than say “I’d leave” tell me how you would tell him you’re leaving
3. Describe how you would end the interaction

Note for the instructor: It’s very important that you can categorize the response into one of three categories: clear assertive, medium assertive/unclear, or passive/acquiescent. If the participant provides a clear assertive response, let them know their response was clearly assertive and effective. If their response is medium or unclear orient them to parts that were unclear and give some corrective feedback to make the statement more assertive (examples listed below). If the response is ambiguous or passive give them corrective feedback (i.e., assertive statement to practice.) Then give them another opportunity to practice the demand.

**General rules for practice and feedback**

1. Read the background information to the participant
   a. Go through each scenario at least 4 times (1 with each demand)
2. Participant should indicate three things
   a. What they would say to the male *in first person*
   b. Describe what they would do/say *in first person*
   c. Describe how the interaction would end
3. If assertive – give them positive feedback and move on to the next demand
4. If unassertive – give them positive corrective feedback and another opportunity to practice the demand (2 times at the most) – each participant should have no less than 4 and no more than 8 practices
5. Emphasize the following strategies
   - Assertive communication
     - Saying what you think, feel, or want.
     - Examples may include telling him that you are not comfortable with what he is doing or telling him to stop touching you.
   - Assertive resistance strategies
     - Using physical resistance such as pushing him off, fleeing the situation, or kicking/hitting.
6. Identify and give feedback about the following strategies:
   - Passive/Acquiescence
     - Avoid saying what you think, feel, or want.
     - Not taking an active part in the situation.
     - Examples may include going along with his actions even if you are uncomfortable, agreeing to risky behavior he suggests, or not physically resisting the attack.

 **To Participant:** I’m going to read the vignette, then give you some type of prompt to respond to. You will respond, I’ll give you feedback, and then I’ll give you a different prompt.

**Practice 1**
- You have a nice date with a guy you’ve been dating for a few weeks. During dinner you both drink alcohol. The two of you have kissed and touched on previous dates and after your date tonight, you invite him back to your apartment. You start to kiss, get caught up in the moment, and before you know it, you are both wearing only underwear. You don’t want to have sex with him, but you can tell that he really wants to have sex by the type of comments he’s making.

**Initial prompt:** Let’s just do this

**Interpersonal Demand:** I’m confused; I thought you liked what we were doing

**Diversion Demand:** Okay, let’s just see where it goes then. We don’t have to have sex tonight.

**Increased Pressure Demand:** Let’s run through this scenario again, but this time imagine this:
- You have a nice date with a guy you’ve been dating for a few weeks. During dinner you both drink alcohol. The two of you have kissed and touched on previous dates and after your date tonight, you invite him back to your apartment. You each have more to drink. You start to kiss, get caught up in the moment, and before you know it, you are both wearing only underwear. You don’t want to have sex with him, but you can tell that he really wants to have sex by the type of comments he’s making.

**Practice 2**
- You are with a group of friends playing monopoly and having a good time. Your good friend Nicole brings her boyfriend John and another male (Dan) that you have never met. During the game, Dan sits next to you and
the two of you get along very well. After the game wraps up, Dan invites everyone over to his house for drinks. Everyone else is tired, but you, Nicole, and John agree to go over. You walk with Dan to his house and go inside. When you sit down, you get a text from Nicole saying that she and John are too tired to come over and are heading home. She tells you to text them if you want a ride home. You are uncomfortable being alone with Dan since you do not know him well.

- **Initial Prompt:** that’s too bad your friends can’t come. I already opened these beers, so just stay for one drink.

- **Interpersonal Demand:** I just want you to stay because John and Nicole have talked about how cool you are and it seems like we really get along.

- **Diversion Demand:** We’ll finish these drinks and then I’ll take you home after.

- **Increased Pressure Demand:** You were saying earlier that you had a stressful week; I give really good massages.

**Practice 3**
- You’re in your dorm room making out with a guy you’ve been dating for a few weeks. You only want to kiss him and have him touch you with your clothes on. He tells you that he really wants to have sex with you, and when you tell him you’re not ready, he tells you that you’ve gotten him really excited, and he’s finding it hard to calm down. He tells you that if you give him oral sex, he’ll feel better.

- **Initial Prompt:** I just need you to do this.

- **Interpersonal Demand:** Oh come on, look what you did to me!

- **Diversion Demand:** Let’s just not stop what we’re doing. Let’s just keep messing around.

- **Increased Pressure Demand:** Let’s run through this scenario again, but this time imagine this:

  - You’re in your dorm room drinking with a guy you’ve been dating for a few weeks. You begin making out and touching each other. You only want to kiss him and have him touch you with your clothes on. He tells you that he really wants to have sex with you, and when you tell him you’re not ready, he tells you that you’ve gotten him really excited,
and he’s finding it hard to calm down. He tells you that if you give him oral sex, he’ll feel better.

**Practice 4**

- You agree to go as a plus one to a wedding with a guy friend whom you’ve known for a few weeks. The wedding is a few hours away so he plans to get a hotel room but tells you that he got one with two beds and that other friends (men and women) might be sharing the room, which you would prefer. Even though there has been some casual flirting between you two, you just want to be friends with him, and have another guy you’re interested in dating. When you get to the hotel after the wedding reception you see there is only one bed.

  - **Initial Prompt:** Oh looks like we are sleeping in the same bed.
  
  - **Interpersonal Demand:** You came all this way to a wedding as my date! You really didn’t think something could happen between us?
  
  - **Diversion Demand:** Let’s see if we can get a cot for later tonight. I bet you look good in a bikini, we should go swimming.
  
  - **Increased Pressure Demand:** Let’s run through this scenario again, but this time imagine this:

    o You agree to go as a plus one to a wedding with a guy friend whom you’ve known for a few weeks. The wedding is a few hours away so he plans to get a hotel room but tells you that he got one with two beds and that other friends (men and women) might be sharing the room which you would prefer. Even though there has been some casual flirting between you two, you just want to be friends with him, and have another guy you’re interested in dating. When you get to the hotel after the wedding reception he comes behind you, begins hugging, and kissing you.

Conclusion: feedback, participant questions/comments, schedule session 3 appointment.
Appendix B

Sexual Assault Knowledge Test
Please answer the following questions:

1. Which of the following are considered sexual assault? (Select all that apply.)
   a. Attempted sexual intercourse
   b. Completed sexual intercourse
   c. Sexual harassment
   d. Unwanted kissing
   e. Non-consensual touching
   f. Sex-related discrimination

2. Every year ____% of college women report experiencing rape.
   a. 1%
   b. 5%
   c. 25%
   d. 50%

3. What percentage of sexual assaults occurs by a known offender?
   a. 25%
   b. 50%
   c. 75%
   d. 100%

4. A man and woman are on a date. Throughout the night, the woman has 4 long island ice teas to drink and is feeling very intoxicated. The man also drinks during the date, but is feeling more sober than the woman. After the date they have sex and the woman “passes out” during part of the incident. Later, the woman is upset saying that her date took advantage of her. Which of the following statements are true?
   a. This scenario depicts a sexual assault.
   b. This scenario does not depict a sexual assault.

5. Alcohol is involved in ____% of reported sexual assault cases.
   a. 0%
   b. 10%
   c. 25%
   d. 80%

6. Which of the following is the most common date rape drug?
   a. GHB
   b. Visine
   c. Marijuana
   d. Ketamine (Special K)
7. Research shows that women are ______ likely to use assertive strategies if they are sexually assaulted by someone known to them than by a stranger.
   a. more
   b. less
   c. equally (no difference)

8. Rape is a specific form of sexual assault.
   a. True
   b. False

9. Knowing your sexual limits prior to getting involved in a dating relationship ____________ your ability to communicate your needs.
   a. decreases
   b. increases
   c. does not impact

10. Which of the following are common locations for sexual assaults (select all that apply).
    a. In a crowded bar
    b. In your dorm room after a party
    c. Back alley
    d. Back room of fraternity party
    e. College library
    f. Apartment after a first date

11. Which of these examples illustrates the most effective strategy for avoiding unwanted sex?
    a. Sarah tells Tom, “I don’t want to have sex with you yet,” as she moves away from him and puts her clothes on.
    b. Megan asks Jason to slow down when he starts to take his pants off.
    c. Rachel doesn’t walk alone at night on campus
    d. Megan turns away from Mike and pushes his hands away when he tries to take off her shirt.

12. Which of the following is the best example for refusing a sexual advance?
    a. “No, I thought we talked about this.”
    b. “I’m not sure that I really want to do this yet.”
    c. “Okay sure, I guess we can have sex.”
    d. “No, I’m not having sex with you tonight.”
    e. “If you really want me to I will.”
13. Which of the following is an ineffective form of non-verbal communication to refuse an unwanted sexual advance?
   a. Leaving the situation
   b. Creating physical distance between you and another person
   c. Sending out the vibe or hint
   d. Pushing away

14. What proportion of reports are false to get back at the perpetrator or gain attention?
   a. Most reports are false
   b. Many reports are false
   c. Some reports are false
   d. Few reports are false
   e. No reports are false

15. A man and women go to her apartment after a date. They start making out and just as it starts “getting heated,” she says that she doesn’t want to have sex that night. The man tries to talk her into it, and when she still says no, he gets upset and says he will leave. She finally gives in and has sex with him although she is not enthusiastic about it. Which of the following is an accurate term to describe this event?
   a. Consensual sex
   b. Statutory rape
   c. Coerced sex
   d. Completed sexual intercourse

16. You are going to a large party with some female friends where alcohol will be served. List as many steps you can take to reduce your risk of sexual assault:
17. Answer the following questions about this scenario:
You’re at a party with some friends and you have all been drinking. You run into a cute guy that sits next to you in history class but you have never talked before tonight. The two of you start talking and really hit it off. You decide to take the conversation to the back room where you can be alone. You’re attracted to him and the feeling is obviously mutual as he leans into kiss you. You’re ok with kissing him but do not want to go any further than kissing. The two of you make-out and he starts to take your shirt off.

List as many risk factors as you can that increase your likelihood for experiencing unwanted sex.

You don’t want to continue with this situation, what would you do to stop it?

18. Answer the following questions about this scenario:
You’re out with a guy you’ve been dating for a few weeks. You have kissed on previous dates but you don’t want things to go further than that. You invite him back to your place for a few drinks after dinner. One thing leads to another and you are making out in your bedroom wearing only underwear.

List as many risk factors as you can that increase your likelihood for experiencing unwanted sex.
Appendix C

Human Subjects Institutional Review Board
Letter of Approval
Date: January 15, 2014

To: Amy Naugle, Principal Investigator
    Eliza McManus, Student Investigator for dissertation
    Brianna Forbis, Student Investigator for thesis

From: Daryl Gardner-Bonneau, Ph.D., Vice Chair

Re: HSIRB Project Number 13-12-08

This letter will serve as confirmation that your research project titled “Evaluating Sexual Assault Prevention Training Programs for College Women” has been approved under the full category of review by the Human Subjects Institutional Review Board. The conditions and duration of this approval are specified in the Policies of Western Michigan University. You may now begin to implement the research as described in the application.

Please note: This research may only be conducted exactly in the form it was approved. You must seek specific board approval for any changes in this project (e.g., you must request a post approval change to enroll subjects beyond the number stated in your application under “Number of subjects you want to complete the study.”) Failure to obtain approval for changes will result in a protocol deviation. In addition, if there are any unanticipated adverse reactions or unanticipated events associated with the conduct of this research, you should immediately suspend the project and contact the Chair of the HSIRB for consultation.

Reapproval of the project is required if it extends beyond the termination date stated below.

The Board wishes you success in the pursuit of your research goals.

Approval Termination: December 18, 2014
Appendix D

Articulated Thoughts Coding Manual
Coding Directions
1. Read through the segment once before coding
2. Identify idea units. There should be one main point in each unit. Highlight the idea unit
   a. Participant says, “I would be angry with him for pressuring me and worried about what could happen next,” those are two different idea units.
   b. Participant says, “I would kick, scratch, and try to get away,” would be considered three different idea units.
   c. If they repeat the same idea twice in a row, then just count it as one
      i. I’d be really scared, like really scared.
      ii. I’d kick and fight, just fight him off.
3. Identify category for each idea unit
   • Use Track Changes to highlight the idea unit and add comment. The comment should identify the category for each idea unit.
   • Some idea units may fit in more than one category
      i. For example, a statement could be “risk recognition” and “judgment”

Categories
• Behavioral Resistance
  • Effective strategies
  • Ineffective strategies
  • Ambiguous strategies
• Desired Behavioral Resistance
  • Effective strategies
  • Ineffective strategies
  • Ambiguous strategies
• Emotions
  • Self
  • Man/Relationship
  • Situation/future
• Judgments
  • Self
  • Man/Relationship
  • Situation/future
• Risk recognition
Behavioral Resistance Strategies

Should not be coded as an action if the statement expresses a desire to engage in a behavior.

Effective Behavioral Resistance Strategies

Active Resistance: saying what you want, feel, think, believe to get out of a situation you are uncomfortable in. Taking active actions in the scenario.
- I would say, ‘I don’t feel like it, please leave me alone.’
- I would stop tell him, ‘I’m not comfortable having sex but would like to keep kissing.’
- I would say ‘no.’
- I would yell at him.
- I would push him away from me and off of me.
- I would scream at the top of my lungs.
- I would leave
- Call friend

Refuse behavior proposed by man: making a statement or engaging in a behavior that refuses something proposed by the male in the scenario
- Go find my roommate
- I would not leave without my roommate
- I’d walk back to get my keys

Ineffective Behavioral Resistance Strategies

Acquiescent/Passive (Non-) Resistance: avoid saying what one thinks, feels, wants, or believes. Taking no active part, being inactive in a situation.
- It would be hard to stop him if he is saying we can’t be together if I don’t do this
- I’d go along with whatever he was doing.
- I would not push him off or scream and just deal with it later.
- I would probably give in.
- I wouldn’t know what to do.

Agreeing to behavior proposed by man: making a statement or engaging in a behavior that goes along with (or doesn’t resist) an action proposed by the male in the scenario.
- I’d be fine going to his room
- I’d let him walk me back

Ambiguous Behavioral Resistance Strategies

Does not specify what they would do. Uses vague language.
- I would do everything I could to get out of there
- I would do whatever it takes
- I would struggle until the end
Desired Behavioral Resistance Strategies

Effective Desired Behavioral Resistance:
Effective Desired Behaviors: Statement expressing desire to do something or desire to not do something but does not state a behavioral response.
- Examples
  - I would want to yell at him.
  - I would want to run away.
  - I would want to scream at the top of my lungs.

Refuse behavior proposed by man: making a statement about the desire to refuse something proposed by the male in the scenario
- Examples
  - I would want to say, ‘I don’t feel like it, please leave me alone.’
  - I want to tell him off

Ineffective Desired Behavioral Resistance:
Acquiescent/Passive (Non-) Resistance: avoid saying what one thinks, feels, wants, or believes. Taking no active part, being inactive in a situation.
Effective Desired Behaviors: Statement expressing desire to do something or desire to not do something but does not state a behavioral response.
- Examples
  - I want to go back to his room.
  - I would want to deal with things later

Agreeing to behavior proposed by man: making a statement about the desire to engage in a behavior that goes along with (or doesn’t resist) an action proposed by the male in the scenario.

Ambiguous Desired Behavioral Resistance:
Does not specify what they would do. Uses vague language.
- I would want to do everything I could to get out of there
- I would want to do whatever it takes
- I would want to struggle

Emotions
- Look out for using “I feel” before making a statement
  - “I feel disappointed with my decision” – should be coded as a judgment (not emotion)
  - It should clearly be an emotion
- If the referent is unclear then code as Self
  - You may have to infer what the participant is referring to, that is okay
  - Example: “I’d be nervous in the car” – code as Situation (negative)
• Usually when someone is mad they are mad at something, someone, or themselves (use your judgment to decide who she is referring to).

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**Self (Positive):** attending to positive emotions. Could include: happy, excited, and relaxed/content.

**Self (Negative):** attending to negative emotions. Could include: anger/frustration, fear/anxiety/worry, sad/hurt “I would be too scared to do anything”

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**Man/Relationship (Positive):** attending to positive emotions regarding the relationship or male in the scenario. Could include: happy, excited, relaxed, content.
- I’d be comfortable with him walking me home

**Man/Relationship (Negative):** attending to negative emotions regarding the relationship or male in the scenario. Could include: anger/frustration, fear/anxiety/worry, sad/hurt.
- I’m uncomfortable with the way he’s acting
- I’m nervous to talk to him about that
- I’d be pissed at him

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**Situation/Future (Positive):** attending to positive emotions regarding the situation or future. Could include: happy, excited, relaxed, content.
- I like where this is going

**Situation/Future (Negative):** attending to positive emotions regarding the situation or future. Could include: anger/frustration, fear/anxiety/worry, sad/hurt.
- I’m worried about what will happen next
- I’d be nervous in the car

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**Judgments**

**Self (positive):** a statement or attribution that is positive or complimentary about herself
- I’m proud of myself for not giving into him
- I’m proud of my decision to stay with my friend

**Self (negative):** a statement or attribution that is critical, pejorative, or negative about herself
- I feel like I led him on
- I should have said “no” sooner
- I was stupid for coming back to his room
- Maybe I was too prude for not wanting to have sex
- I wouldn’t know what to do

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**Man/relationship (positive):** a statement that is positive or complimentary about the male in scenario
- I like him and am thinking about taking our relationship to the next level
- He seems nice
Man/relationship (negative): a statement that is critical, pejorative, or negative about the male in the scenario or the relationship to the male
- He seems like he’s up to something
- I guess I didn’t know him as well as I thought I did
- The relationship is over because he is pressuring me to have sex.
- He just wants sex
- He could hurt me

Situation/Future (positive): A statement expressing positive attributions about the current or future outcome. Example: “I like where this is going,” or “This party is fun.”

Situation/Future (negative): A statement expressing negative attributions about the current situation or future outcome. Example: or “This is an awkward situation,” or “I’m not okay with being in the car alone with him.”

Risk Recognition
Risk recognition: a statement that identifies risk in the scenario.
Includes statement or rules about safe behavior:
- “You should never leave a party without telling someone where you are going.”
- “I don’t want to get drunk at this party since it could be unsafe.”

Includes words such as risky, red flags, and warning signs.
- “When he said that it was a red flag to me.”

Could also include identification of known risk factors for unwanted sexual experiences such as:
- Unfamiliar relationship
  - “I don’t even know him”
  - “We just met”
- Drinking alcohol
  - “He’s been drinking”
  - “I’ve been drinking”
- Being alone in an isolated location
  - “We are out here in this car”
  - “He’s walking me back alone”
- Your whereabouts are unknown to others
  - “My roommate doesn’t know where I am”
- Pressuring you to do something you don’t want to do
  - “He’s trying to force me to do this and I’m not ready”