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The impact of prior sexual victimization and victim identification on threat recognition in a college sample

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The Impact of Prior Sexual Victimization and Victim Identification on Threat Recognition in a College Sample

by

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DEDICATION

This project is dedicated to my Father, who always supported and encouraged me in all of my endeavors.

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ABSTRACT

Previous research on sexual assault has demonstrated a pattern of revictimization, in which victims of childhood sexual assault are at an increased risk for adult sexual assault (e.g., Tjaden & Thoennes, 2000). Previous findings indicate that participants with a history of sexual assault take longer to identify and respond to risks (Marx et al., 2001; Soler-Baillo et al., 2005; Wilson et al., 1999), are less likely to respond in assertive ways (VanZile-Tamsen et al., 2005), and are more likely to indicate that they would be compliant in risky sexual situations (Naugle, 1999).

The present study attempted to replicate and expand this literature by investigating psychological variables that have been previously theoretically and/or empirically linked to revictimization to assess their impact on how female college students perceived and responded to risk in dating scenarios, as well as assessing difference between the perceived risk and consequence. This study was completed in two phases online. In total 111 students completed the full study. Results indicated that students did not differ in their overall perception of risk based on their assault status, but those with a history of assault took statistically significantly longer to indicate that they would choose to leave. Additionally, when asked to predict what would happen if the scenario continued, participants with a history of assault were significantly more likely to predict that the characters would have consensual sex. They were also more likely to indicate that the female in the scene may miss out on a meaningful relationship if she chose to leave.

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Sexual Assault in the United States

Statistics regarding the prevalence and incidence of sexual assault in the United States clearly demonstrate that this type of violence is a formidable problem in our society. Data from the previous two decades, including results from nationally representative samples, suggest that approximately one in every five to six women in this country has been the victim of a completed or attempted rape (Brener, McMahon, Warren, & Douglas, 1999; Koss, Gidycz, & Wisniewski, 1987; Tjaden & Thoennes, 2000), with the large majority of these assaults being committed by a significant other or an acquaintance (Catalano, 2004; Fisher, Cullen & Turner, 2000; Koss, Dinero, Seibel, & Cox, 1988; Russell, 1984; Warshaw, 1989). Specifically, a government-sponsored survey on violence against women found that greater than 17% of participants reported experiencing at least one attempted or completed rape in their past (Tjaden & Thoennes). In addition, the data showed that more than half of the women who reported a history of rape indicated that the first rape (attempted or completed) occurred when they were minors. Furthermore, those victimized as minors were found to be twice as likely as the rest of the sample to be raped as adults.

Among women in the United States, one group that appears at great risk for sexual assault is female college students (Fisher et al., 2000; Fisher, Sloan, Cullen, Lu, 1998; Koss, et al., 1987), with previous research suggesting that as many as one in four will be victims of an attempted or completed rape during their time in college (Fisher et al., 2000). Moreover, when a broader definition of sexual victimization or assault was used (i.e., including acts with coercion, threats, etc.) it was found that more than 15% of female college students reported some form of

victimization during the current academic year. Collectively, these findings suggest that this population is one that is particularly in need of further research and prevention efforts.

Risk Factors for Sexual Assault

In an effort to establish prevention programs and reduce sexual assault rates, researchers have attempted to identify risk factors for sexual assaults, in particular acquaintance and/or date rape. An early study, based on reports from both female and male students, identified several significant situational and attitudinal risk factors for date rape in a college sample (Muehlenhard & Lipton, 1987). Situational factors (e.g., the male initiating and paying for the date, the date taking place in a secluded area such as an apartment or car, and heavy drinking during the date by both genders) were all found to be significantly related to assault.

Several attitudes or beliefs were also shown to be associated with increased risk for sexual assault. Specifically, males who indicated that they had perpetrated sexual violence were found to report more traditional beliefs regarding sex roles, whereas females who were sexually assaulted reported less traditional beliefs (Muehlenhard & Lipton, 1987). Further, both males and females who had been involved in sexual assaults tended to view violence within relationships as more acceptable, and they saw interpersonal relationships as more adversarial. Due to the correlational design of the study, however, it remains unclear whether these attitudinal differences are risk factors or consequences of sexual assaults. Finally, miscommunication regarding sexual interest was a risk factor identified by both male and female participants.

Additional studies further suggest that alcohol use (Abbey, Ross, McDuffie, & McAuslan, 1996, Gidycz, Hanson, & Layman, 1995; Koss & Dinero, 1989; Marx, Van Wie, & Gross, 1996), isolation (Amick & Calhoun, 1987), and attitudes (Koss, Leonard, Beezley, &

Oros, 1985) may be risk factors for sexual assault, although findings regarding attitudes have not produced consistent results (Amick & Calhoun).

Repeat Victimization

In addition to situational and attitudinal behaviors, a well documented risk factor for sexual assault is a history of previous assault. Specifically, research has shown that victims of childhood sexual assault are at an increased risk for adult sexual assault (Gidycz, Coble, Latham, & Layman, 1993; Gidycz, et al., 1995; Kilpatrick, Resnick, Saunders, & Best, 1998; Kimerling, Alvarez, Pavao, Kaminski, & Baumrind, 2007; Koss & Dinero, 1989; Mayall & Gold, 1995; Messman-Moore, Long, & Siegfried, 2000; Orcutt, Cooper, & Garcia, 2005; Tjaden & Thoennes, 2000), and a meta-analysis demonstrated that the relationship between childhood sexual victimization and later adult sexual assault is quite strong (*d=.59,* Roodman & Clum, 2001). Additionally, several studies have suggested that a history of childhood sexual assault is the best predictor of adult victimization (Gidycz et al., 1993; Gidycz et al., 1995; Koss & Dinero; Messman & Long, 1996).

The exact rates of revictimization are unknown, as results across studies vary considerably, possibly due to differences in definitions of assault and revictimization. However, a comprehensive review suggests that on average, as many as one of three women with a history of childhood sexual abuse will be revictimized (Arata, 2002). Similarly, previous findings suggest that women with a history of childhood sexual assault are approximately two to five times more likely to be sexually assaulted as adults than women without this history (Arata; Merrill, Newell, Thornsen, Gold, Milner, Koss et al., 1999; Tjaden & Thoennes, 2000). Additional research has explored potential differences between women with a history of childhood sexual assault who are later revictimized and those who are not. Findings from these

investigations have shown that women who were revictimized reported more severe forms of childhood victimization, as well as reporting greater levels of psychological distress (Lau & Kristensen, 2010) and are more likely to include injury (Barnes, Noll, Putnam, & Trickett, 2009).

Psychological Impact of Sexual Assault

While the psychological impact of an assault varies from person to person, research suggests that a history of sexual assault places the victim at a higher risk for a variety of psychological problems (Burnam et al., 1988; Leidig, 1992; Miller, Monson, & Norton, 1995; Winfield, George, Swartz, & Blazer, 1990). Specifically, Burnam et al. reported a significantly higher prevalence of several psychological disorders, including major depression, substance abuse and dependence, specific phobias, panic disorder, and obsessive-compulsive disorder in participants with sexual assault histories. Further, results indicated that the best predictor of psychopathology following sexual assault was the participant's age when first assaulted, with participants assaulted as children (15 years old or younger) being more likely to develop one of the psychological disorders. What follows is a discussion of the impact of two mental health outcomes that are often observed among women who have experienced sexual assault: posttraumatic stress disorder (PTSD) and depression.

Posttraumatic Stress Disorder. PTSD is a psychological disorder that can develop in direct response to an assault. PTSD consists of three major symptom clusters: reexperiencing (e.g., recurrent thoughts or dreams about the event, emotional or psychological responses to traumatic triggers), avoidance and numbing (e.g., restricted range of emotions, detachment from others), and hyperarousal (e.g., hypervigilance; American Psychiatric Association, 2000). PTSD symptoms tend to be chronic, and the long term impact of the disorder can be widespread and severe. A prospective study demonstrated that 65% of women met criteria for PTSD one month

after sexual assault, and more than 41% met criteria six months after the assault (Rothbaum, Foa, Riggs, Murdock, & Walsh 1992). In addition, studies comparing rates of PTSD across different types of traumatic events have suggested that the risk for PTSD is higher for rape victims than for victims of other types of trauma (Breslau, Davis, Andreski, Peterson, 1991; Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995; Kilpatrick, Saunders, Amick-McMullan, Best, Veronen, & Resnick, 1989; Norris, 1992; Resnick, Kilpatrick, Dansky, Saunders, & Best, 1993, Rothbaum et al.).

Research has also shown that repeated victimization may be associated with Complex PTSD. Complex PTSD, also known as a Disorder of Extreme Stress Not Otherwise Specified, (DESNOS), refers to a type of symptom presentation that extends beyond the typical three symptom clusters traditionally found in PTSD, which develops following repeated or prolonged traumatic events (Herman, 1992). In an early review on Complex PTSD, Herman described the concept as the following: a "syndrome that is characterized by a pleomorphic symptom picture, enduring personality changes, and high risk for repeated harm, either self-inflicted or at the hands of others" (p. 387). More specifically, it was argued that Complex PTSD differs from more traditional or simple PTSD in three ways: a) the symptom presentation tends to be more diffuse and persistent, b) there tends to be noticeable (pathological) personality changes, and c) the disorder tends to be associated with increased risk for self-harm. In regard to the first point, Complex PTSD is associated with a wide range of psychiatric symptoms that can broadly be divided into somatic, dissociative, and affective symptoms (Herman; Zlotnick et al., 1996). Specifically, symptoms such as depression, anxiety, somatization, and dissociation have been described (Zlotnick et al.).

While Complex PTSD is not a formal diagnostic category, limited empirical research examining the proposed symptoms with different populations has been conducted. For instance, Zlotnick et al. (1996) found that women with a history of abuse demonstrated a pattern of symptoms consistent with Complex PTSD. Specifically, women who had been sexually victimized as children had significantly higher scores on measures of somatization, dissociation, anxiety, hostility, alexithymia, social dysfunction, maladaptive schemas, self-destructive behaviors, and adult victimization. These findings suggest that the construct of Complex PTSD may be useful in understanding the long-term impact of childhood sexual assault.

Depression. Several studies have also demonstrated a link between sexual assault and major depressive disorder or more generally increased depressive symptomology (Hedtke, Ruggiero, Fitzgerald, Zinzow, Saunders, Resnick, et al., 2008; Frank & Stewart, 1984; Kilpatrick et al., 1989; Resick, 1993; 1983). For instance, a longitudinal study followed women over a two-year period and examined mental health outcomes in participants who had experienced some form of interpersonal violence (i.e., sexual assault, physical assault, witnessing violence, etc.). Results demonstrated that women who reported a sexual assault were twice as likely to meet criteria for a major depressive episode as those who did not, and they were also three times more likely to meet criteria for PTSD. In general, women who experienced more than one type of violence were at greatest risk for poor mental health outcome, but sexual assault appears to be a particularly salient risk factor. Further, some research demonstrating a link between sexual assault and depressive symptoms has shown that the risk increases with repeated assaults (Frank & Stewart), specifically noting that those participants who have been assaulted more than once are at greater risk for developing a major depressive episode. Furthermore, research has also shown that sexual victimization is related not only to depression but also to suicidal ideation in

female college students (Stephenson, Pena-Shaff, & Quirk, 2006) and suicide attempts in general (Belik, Stein, Asmundson, & Sareen, 2009). Additionally, analyses of women with histories of adult sexual assault have shown that women who also have a history of childhood sexual assault are at a greater risk for suicide attempts (Ullman & Brecklin, 2002; Ullman & Najdowski, 2009).

Depression and depressive symptoms can have a widespread effect on a person's overall functioning. Cognitive and neuropsychological functioning can be affected by this disorder. Specifically, depression has been shown to be related to psychomotor slowing (White, Myerson, & Hale, 1997; Hart & Kwentus, 1987) and slower processing speed (Farve, Hughes, Emslie, Stavinoha, Kennard, & Carmody, 2009; Gorlyn, Keilp, Oquendo, Burke, Sackeim, & Mann, 2006). In other words, depression has been shown to be associated with a reduction in the speed at which a person can process and respond to information and stimuli. This potential slowing is important to consider when interpreting results of reaction time tests.

Psychological Impact of Revictimization

Finally, in regard to the psychological impact of sexual assault, research has demonstrated that, compared to single event victimization, repeated victimization is associated with worse outcomes (Arata, 2002; Gidycz et al., 1995, Kimerling et al., 2007; Messman-Moore et al., 2000). For example, Gidycz et al. and Messman-Moore et al. found that women with a history of repeat victimization (childhood and adult sexual assault) had significantly more psychological symptoms than women who had only experienced sexual assault during one developmental period, or those without a sexual assault history. Specifically, symptoms of PTSD, anxiety, depression, anger, dissociation, and somatic symptoms tend to be higher in revictimized women (Arata, 2002; Boney-McCoy & Finkelhor, 1995; Kimerling et al.; Messman-Moore et al.). Finally, research has demonstrated that a history of childhood and adult

sexual assault is associated with increased risk for suicide attempts (Lau & Kristensen, 2010; Ullman & Brecklin, 2002).

Theories Regarding the Relationship between Childhood and Adult Sexual Assault

Several theories have been proposed to explain how a history of childhood sexual assault may contribute to the increased risk for adult sexual assault. One of the original theories suggested that four trauma related factors, or what the authors referred to as "traumagenic dynamics," lead to changes in a child's perception of the world and sense of self and may ultimately contribute to behaviors that put them at risk for revictimization (Finkelhor & Browne, 1985). Specifically, the four dynamics in the model are traumatic sexualization, betrayal, powerlessness, and stigmatization. Under this theory, different aspects of the sexual abuse predict how each of these dynamics will manifest themselves. For instance, in cases where a child is reinforced for the sexual behaviors (e.g.., through tangible reinforcements, increased privileges, increased attention or affection, or physiological sexual responses), there is an increased likelihood that she will show behaviors consistent with traumatic sexualization. In brief, this theory suggests that reinforced sexual behavior in the context of childhood sexual abuse may lead to inappropriate or dangerous sexual behaviors and attitudes thereafter.

This increased or inappropriate sexualization has been extensively documented through both prospective and retrospective reports. Specifically, childhood sexual assault is related to increased consensual sexual activity in children and adults (e.g., greater number of sexual partners as adults, greater frequency of sexual behavior in children), differential sexual attitudes, and risky sexual behaviors (e.g., unprotected sex; Abbey, Ross, McDuffie, & McAuslan, 1996; Arata, 2000; Fergusson, Horwood, & Lynskey, 1997; Friedrich et al., 1992; Himelein, 1995; Krahe, Scheinberger-Olwig, Waizenhofer, & Kolpin, 1999; Koss, & Dinero, 1989; Mayall, &

Gold, 1995). Finkelhor and Browne (1985) proposed that these sexualized behaviors may be demonstrations of traumatic sexualization.

Similarly, the *powerless dynamic*, which occurs in situations where the child feels helpless to defend herself or stop the abuse, can hypothetically lead to changes in a person's self-efficacy (Finkelhor & Browne, 1985), and this dynamic may lead to ineffective coping strategies (Arata, 2000). Specifically, if the person learns that she is powerless, she may be less likely to use assertive coping techniques in risky sexual situations, and this may leave her vulnerable to revictimization.

The remaining two dynamics, betrayal and stigmatization, could lead to changes in the way the person views others, as well as themselves. Specifically, with betrayal, the person comes to learn at a young age that people she expects to care for or protect her may instead harm them or deceive her (Finkelhor & Browne, 1985). This learning may occur directly as a result of the abuse, such as in cases of incest, or additionally, it may develop in response to how caregivers react to disclosures of the abuse. Finally, stigmatization suggests that messages that the victimized person receives from society or specific people in their lives can impact the way she feels about herself and the abuse. In particular, stigmatization can be related to feelings of guilt and shame, even if the person never discloses the abuse.

An additional theory, often called the "vulnerability hypothesis," combined previous theories of rape in an attempt to develop a predictive model of sexual assault and revictimization (Koss & Dinero, 1989). Specifically, this theory suggests that sexual assault may confer risk for future assault through three mechanisms: vulnerability-creating traumatic events, social-psychological vulnerability, and vulnerability-enhancing situations (Koss & Dinero). Vulnerability-creating traumatic events refer to the fact that previous exposure to violence is

related to an increased potential for future exposure to violence. As discussed previously, there is a strong empirical basis for the theory of revictimization as it applies to sexual assault. The social-psychological vulnerability theory suggests that certain biologically or culturally derived values, attitudes, or personality features may increase a person's risk for sexual assault. The authors noted, however, that previous empirical work examining personality characteristics, as well as certain specific attitudes (gender roles, attitudes and beliefs about rape), have produced largely inconsistent results.

Finally, vulnerability-enhancing situations refers to the observation that risk for sexual assault and revictimization is related to "the amount of contact a woman has with potential perpetrators under conditions that foster sexual aggression," (Koss & Dinero, 1989, p. 243). In particular, increased sexual activity and more frequent dating behaviors are hypothesized ways in which a woman increases her potential contact with perpetrators and subsequently increases her risk for sexual assault and revictimization.

Based on this theory, an empirical study of more than 2,000 female college students was conducted in an effort to develop a predictive model (Koss & Dinero, 1989). Results showed that a history of childhood sexual abuse, high levels of sexual activity, liberal attitudes regarding sex, and alcohol use were associated with the highest risk for rape. The authors suggest that this model can be seen as supporting the traumatic sexualization theory discussed by Finkelhor and Browne (1985).

Two additional theories suggest that trauma-related symptoms may help to explain revictimization. Van der Kolk (1989) developed a model based on physiological findings in PTSD patients and animals, as well as previous work in the area of attachment theory. His theory suggests that hyperarousal symptoms of PTSD, and the physiological changes that occur along

with them, may disrupt a person's problem-solving and decision-making abilities. In addition, the numbing symptoms found in PTSD may also produce delayed or inappropriate responding. Finally, the theory integrates aspects of attachment theory by suggesting that adults with a history of childhood abuse may be more likely to develop and maintain relationships that are similar to those found in their childhood (e.g., abusive relationships). Van der Kolk posits that these relationships not only increase risk for future violence; they also increase the likelihood of symptoms consistent with emotional numbing and dissociation.

Dissociation and PTSD symptoms were also the basis for Chu's 1992 theory. This theory suggests that the specific symptoms of PTSD that are present may change or alter the person's risk over time. Specifically, it is argued that numbing, as well as dissociation, increase risk because they block emotional cues that signal danger. Further, dissociation may also block the memories of previous assaults, which would otherwise serve to indicate impending danger. Other symptoms, however, such as intrusive or re-experiencing symptoms and hyperarousal may actually reduce risk, as these may increase a person's vigilance to threat cues and make her more aware of similarities with previous assaults (Chu, 1992).

A recent empirical study looking at predictors of revictimization found that PTSD symptoms were related to adult sexual assault in a sample of women who reported childhood sexual abuse (Ullman, Najdowski, & Filipas, 2009). Findings from this study suggested that numbing symptoms were the only symptoms directly related to revictimization. Other PTSD symptom clusters were only indirectly related through their association with alcohol use.

A more recent theory takes a developmental approach to explain the connection between childhood and adult sexual assault (Cloitre & Rosenberg 2006; Cloitre, Scaravalone, & Difede, 1997). This theory proposes that the time at which a trauma occurs can impact the consequences

and manifestations of that trauma. Specifically, childhood trauma, including childhood sexual abuse, may disrupt developmental tasks occurring at that time. With childhood sexual victimization, problems with affect regulation, interpersonal relationships, and self-appraisal may develop, and each of these problems may play a role in understanding and explaining revictimization.

Two aspects of emotional regulation are fundamental to understanding revictimization in this theory: alexithymia and dissociation (Cloitre & Rosenberg 2006; Cloitre et al., 1997). Alexithymia, meaning "difficulties in identifying and labeling feeling states" (Cloitre & Rosenberg, 2006, p. 325), is hypothesized to be related to revictimization because the person may be unable or slower to recognize her own, as well as the perpetrator's, affective signals. Dissociation, as it is applied in this theory, operates in much the same way as was described in earlier theories.

In regard to interpersonal relationships, the theory argues that throughout childhood interpersonal schemas, or contingencies for attachment, are learned (Cloitre & Rosenberg, 2006). When a child is sexually abused by a family member or caregiver of some type, a contingency that associates abuse or violence with intimacy or "interpersonal relatedness" (Cloitre & Rosenberg) is formed. This schema may continue into adulthood and influence the relationships that develop. Finally, the theory suggests that childhood sexual assault also disrupts the person's sense of self, through emotional responses such as shame. In addition, these events in childhood may lead a person to believe that she is helpless to stop future attacks, and her sense of self-worth may also be damaged. These repetitive negative interpersonal relationships paired with negative appraisals of self-efficacy potentially contribute to revictimization.

In total, these theories suggest that psychological variables and various forms of psychological distress and psychopathology are hypothetically related to revictimization. A longitudinal study looking at the impact of psychological distress on repeat victimization during one year of childhood lends some empirical support to this thesis (Cuevas, Finkelhor, Clifford, Ormrod, & Turner, 2010). Results demonstrated that psychological distress, defined by levels of anger, depression, and anxiety, in a sample of children with a history of various traumas predicted victimization, including sexual victimization, during the follow-up period.

Previous Research on Threat Recognition

Another theory that attempts to explain the high rates of revictimization suggests that the relationship between childhood and adult victimization may be the result of deficits in threat recognition. To test this hypothesis, several studies have compared women with sexual assault histories to women without sexual assault histories, to assess differences in identification of and reaction to risk (Breitenbecher, 1999; Marx, Calhoun, Wilson, & Meyerson, 2001; Meadows, Jaycox, Orsillo, & Foa, 1997; Meadows, Jaycox, Stafford, Hembree, & Foa, 1995; Messman-Moore & Brown, 2006, Naugle, 1999; Soler-Baillo, Marx, & Sloan, 2005; vanZile-Tamsen, Testa, & Livingston, 2005; Wilson, Calhoun, & Bernat, 1999). Each of these studies asked participants to assess the risk involved in vignettes that include a male and female in a dating/sexual encounter. The vignettes were presented in one of three formats: written scripts, audiotape scenes, or video clips.

Written Vignettes. Some of the original work done in this area utilized written vignettes to assess risk perception in women with and without histories of sexual assault. In these studies, risk perception was assessed by having the participant indicate where in the vignette she began to feel "uncomfortable." Using this methodology, a 1995 study demonstrated that women with a

single incident of sexual assault were better at identifying risk in the vignettes than women with a history of revictimization. This study, however, failed to show a direct relationship between childhood sexual or physical abuse and risk perception (Meadows et al.). A later study, examining both risk perception and behavioral responses to threats in female college students, asked participants not only to indicate when they felt uncomfortable but also when they would choose to leave (Meadows et al., 1997). Results failed to replicate differences in terms of threat recognition, but significant differences were found in regard to when the participants would leave the situation. Specifically, participants with a history of sexual assault indicated that they would remain in the situation significantly longer than participants without such a history.

Two additional studies used written vignettes to assess risk perception, as well as to examine how the identity of the perpetrator impacted threat perception (Messman-Moore & Brown, 2006; VanZile-Tamsen et al., 2005). In one study, a community sample of 318 women randomly received one of four vignettes, each of which was identical except that the male in the scenario was altered to reflect different levels of intimacy (i.e., person you just met vs. boyfriend; VanZile et al.). Participants were asked to read the vignettes and rate the male character's actions in terms of risk and threat level. In addition, they were asked to indicate how they would respond to the male character. Results suggested that assault history did not influence threat recognition or the appraisal of the male's action, but it did have an effect on response. Specifically, participants with an assault history were more likely to indicate that they would respond in a less assertive manner. In addition, results demonstrated that regardless of history, participants viewed the same interaction differently as a function of the perpetrator, with the scenario being viewed as less risky when the perpetrator was someone they knew better (e.g., boyfriend).

Finally, the study by Messman-Moore and Brown (2006) also investigated risk perception with strangers versus acquaintances by examining how these results predicted sexual violence over an eight-month follow-up period. Participants in this research were 289[1] female college students who were asked to identify points in the vignettes where they felt "uncomfortable" and when they would leave. Study results portrayed a more complicated picture regarding the relationship between assault history and risk perception and reaction. Specifically, results were analyzed using liberal and more conservative definitions of sexual assault. When the liberal definition was used (i.e., included unwanted touching) in the male acquaintance scenario, participants who were assaulted only as a child indicated that they felt uncomfortable significantly earlier than any other group (i.e., revictimized, adult only assault, no history of sexual assault). In regard to when participants would leave, participants in the adult only group and the revictimized group indicated that they would leave the stranger vignette significantly later than participants without a history of assault. In the acquaintance scenario, participants in the adult only group left significantly later than participants without a history of assault or with only a childhood history. When a more conservative definition of sexual assault was used (i.e., rape), the adult only group indicated that they would leave significantly later than participants without a sexual assault history in both conditions, and significantly later than the childhood only group in the acquaintance condition. In summary, results suggest that adult assault was related to a delay in behavioral responding.

In addition to examining threat recognition and response, the authors also explored whether results from this assessment could predict future sexual assaults (Messman-Moore & Brown, 2006). It was found that for women who had a previous sexual assault history, slower responses in the acquaintance condition conferred an almost six-fold increased risk of future

[1] 289 participants completed the study. The original N was 339.

assault. Additionally, a slower response time more than doubled the risk of assault in participants without a previous history of assault over the eight-month follow up. In addition, women who experienced an assault during the follow-up were found to have indicated that they would stay in the acquaintance situation for a significantly longer period than those who were not assaulted. These findings lend support for the theory that delayed behavioral responding (i.e., leaving) is related to the risk of future assault and revictimization.

Audiotaped vignettes. Three studies have utilized a vignette that was presented in audio form (Marx et al., 2001; Soler-Baillo et al., 2005; Wilson et al., 1999). Each study utilized the same vignette, which was originally created and produced by Marx and Gross (1995) for a study of date rape. In each, participants were asked to push a button to indicate when they thought that the man in the vignette "had gone too far." The amount of time that elapsed from the beginning of the vignette until the participant responded served as the measure of threat recognition.

In Wilson et al., 330 females from undergraduate psychology courses (44% with a history of assault) acted as participants in a study examining the impact of prior victimization, dissociative symptoms, and PTSD symptoms on threat recognition. Based on the results from self-report measures, participants were classified into three groups: no history of sexual assault, single incident of adolescent or adult assault, and repeated victimization. Participants who had experienced repeated victimization took significantly longer to respond than the other two groups. There were no significant differences between the single-incident and no-history groups. When participants with a history of sexual assault were compared on measures of dissociation and PTSD symptomology, it was found that the repeated group had significantly higher scores on both, but these scores were not significantly correlated with the time it took to respond in the vignette. However, when participants in the repeated victimization group were examined by

themselves, it was found that PTSD symptoms negatively correlated with response time. Specifically, participants who were lower on arousal symptoms took longer to respond. In other words, overall levels of dissociation and PTSD symptoms were not significantly correlated with response time, but arousal symptoms were significantly related to response time within the group of participants with multiple sexual assaults.

Two additional studies used similar methodology and the same audiotaped vignettes to assess for risk recognition (Marx et al., 2001; Soler-Baillo et al., 2005). Both studies assessed for assault histories only after the age of 14. In the first study, the heart rates of 97 female college students (50 non-victims, 47 assault victims) were monitored as they completed the response time measure (Soler-Baillo et al.). Again, a history of sexual assault was associated with longer response latencies. In addition, participants without a history of assault showed greater heart rate reactivity earlier in the vignette. In other words, the physiological data also indicated that participants with a history of sexual assault took longer to respond, with heart rates that did not show the increased reactivity until later in the vignette, when the threat was more significant.

Findings from the final study suggest that longer latencies may not simply be an artifact of previous assaults, but may also be predictive of future rapes (Marx et al., 2001). Specifically, this study examined the impact of a risk prevention program with 66 female undergraduates who had a sexual assault history. Two months following the intervention, participants from both the treatment and control group completed measures assessing for assaults that had occurred during the follow-up period. They also completed the audio-taped risk assessment measure. The results showed no significant differences based on treatment condition or revictimization in general. However, participants who had experienced a completed rape during the follow-up period had significantly longer response times.

Taken together, the three studies utilizing this methodology lend support for the idea that assault history may play a role in the way women perceive and respond to threatening scenarios. Specifically, the results indicate that a delayed response time may be both a consequence and risk factor of sexual assault.

Videotaped vignettes. Two additional studies utilized videotaped vignettes as a means of assessing risk detection and behavioral responses to risk (Breitenbecher, 1999; Naugle, 1999). In the study by Naugle, 80 female college students (40 with and 40 without a sexual assault history) were asked to watch three different video segments. In each segment, there were decision-making points where the participant was asked, "What would you say or do now?" In the vignettes, the risk could increase depending on the person's response. For instance, in one of the scenes, a new male acquaintance offers to drive a female home from the airport, and the participant is asked how she would respond in such a scenario. If she chooses to take the offer, the risk increases, as the female is would be alone in an isolated area.

In addition, after every vignette, participants were asked to assess a wide range of features (Naugle, 1999). Specifically, they were asked to rate such things as how risky, anxious and uncomfortable, sexually arousing, and romantically interesting they found the scene. The results of these ratings produced surprising findings, as they showed that women with a history of assault actually rated each of the scenes as being more risky than the women without a history of assault. However, even with this finding, women with a history of assault were also more likely to comply with the male's request and thus place themselves in a position of objectively higher risk. In general, while women with a history of assault rated the scenes as more risky, no significant differences were found in the overall anxiety or discomfort felt. A significant difference was found in the ratings regarding romantic interest, with women with an assault

history showing greater interests, although romantic interest was low even in this group. The researcher theorized that these findings suggest that rather than having risk recognition deficits, women with a history of assault may have behavioral response skill deficits, and that these deficits may be underlying revictimization (Naugle, 1999). Additionally, the authors speculated that it is possible that, along with potential skill deficits, women with assault histories may stay in risky situations longer or may be more likely to comply with requests in order to avoid social consequences of rejecting the male's advances or leaving the situation.

In a final study of risk recognition, 224 female college students were randomly assigned to watch either a video clip that contained risk factors or one that did not (Breitenbecher, 1999). The risk-related vignette in this study was taken from an educational video on date rape, while the non-risky vignette came from a "romantic movie." Prior to watching the video, participants were instructed to imagine that they were the woman in the video, and they were asked to record things that made them uncomfortable in real time. Results did not reveal significant differences between women with and without a history of assault in either condition. In other words, regardless of the video they saw, there were no reliable differences between groups in the number or types of threats that they noticed. Further, approximately one third of the sample returned five months later for a follow-up. The results of this assessment indicated that risk perception was not related to the risk for sexual assault over that five-month period.

There are several potential explanations for the lack of findings in this study. First, the video clips themselves may have influenced the results. The fact that the risk video was an educational video on date rape may mean that the threat cues were made to be more obvious than in the other studies described. Additionally, while participants objectively listed a similar number of cues, no information was provided regarding their overall appraisal of risk. In other words, it

is possible that people may agree on the number of risk factors but disagree on the overall level or labeling of the situation (e.g., moderately to high level of risk).

Overall, the majority of the studies in this section have identified differences between participants with and without a history of sexual victimization. Specifically, participants with a history of sexual assault took longer to identify and respond to risks presented in vignettes (Marx et al., 2001; Soler-Baillo et al., 2005; Wilson et al., 1999), were less likely to respond to threats in an assertive way (VanZile-Tamsen et al., 2005), and were more likely to indicate that they would be compliant in risky sexual situations (Naugle, 1999).

Taken together, these studies suggest that victimization may lead or be related to poor risk recognition and behavioral skill deficits. However, methodological problems and confounds limit the conclusions that can be drawn. For instance, in all of the studies in which written vignettes were used, participants had the opportunity to view the entire vignette, which may have escalated into a rape, prior to responding. As such, it is possible that knowing the outcome influenced risk detection. Additionally, in many of these studies the speed at which victims and non-victims respond (i.e., how long they stay in the scene) is one of the major differences that has been found in the literature. However, none of these studies controlled for the impact of depression. As discussed earlier, sexual assault is related to increased levels of depression, and depression has been shown to be related to psychomotor slowing (White et al., 1997) and slower processing speed (Gorlyn et al., 2006). Therefore, it is possible that the difference in response time reflects an increased level of depression, rather than a decrease in threat recognition. Similarly, response delays could also be related to potential difficulties in processing emotional cues (i.e., alexithymia) or a result of dissociation, rather than having been a direct response to

threat cues in the environment. However, none of these variables has been directly controlled for in the previous studies.

Furthermore, previous research indicates that victims fail to respond to threats in effective ways, and investigators have theorized that this is due to a lack of knowledge regarding appropriate courses of action or a behavioral skill deficit. However, it has also been suggested that victims may be more compliant and less active in their resistance because of differences in perceived social benefits in the situation (e.g., attention, affection), or as Naugle (1999) suggested, differences in the perceived social consequences if they refuse to comply. In addition, it has been theorized that a history of victimization, particularly in childhood, may be associated with changes to the person's self-efficacy or sense of self-worth (Cloitre & Rosenberg 2006). As such, it is possible that the person knows how they "should react," but fails to respond effectively due to this alteration in self-perception. Thus, there are several potential variables which could explain differences found in regard to how participants respond to these vignettes, but these variables have not been empirically studied.

Finally, many of the previous studies used a design in which participants were asked to identify when the male in a vignette had "gone too far," or indicate when they would leave the situation. These instructions potentially prime the participants to look for risks in a way that they may not in the natural environment, as it has been suggested that at some point, the male in the scenario will go too far. While this is a significant methodological problem, it is unclear how this can be controlled for in any study measuring response time.

The current study acted as both a replication and extension of previous studies. It was a replication in the sense that it examined risk perception and response time using similar methodology to previous studies and it utilized established vignette scripts. Additionally, it built

upon, and attempted to address some of the limitations of the previous work in several ways. To begin with, the current study extended previous work by investigating psychological variables that the literature suggests are associated with revictimization using the vignette or risk perception paradigm (i.e., alexithymia, depression, aspects of dissociation, and PTSD) and evaluating the extent to which these variables may impact how participants perceive risk in dating scenarios. Additionally, methodological changes were made to address some of the limitations from the previous studies, including exploring some of the potential reasons for differential behavioral responses. Specifically, the perceived benefits to staying and potential consequences of leaving the situation were examined, as well as assessing the amount of perceived control the women believed the female had in the scenario compared to the male, and also their general sense of self-efficacy. Further, in an attempt to test the hypothesis that women with a history of repeated assaults have behavioral deficits or a lack of knowledge regarding how to respond, the impact of character identification was explored, assessing whether women showed the same deficits or behavioral responses when they imagined they were the female in the scenario versus imagining the woman was a close friend or family member.

Finally, the current study differed from past work in regard to the mode of vignette administration. Specifically, the current study utilized a computer-assisted format which allowed participants to complete the study remotely. This mode of administration was chosen based on previous research suggesting that computer-assisted research may facilitate disclosure and reduce the impact of social desirability in studies examining potentially sensitive topics (Kissinger, Rice, Farley, Trim, Jewitt, Margavio, et al., 1999; Newman, Des Jarlais, Turner, Gribble, Cooley, & Paone, 2002; Perlis, Jarlais, Friedman, Arasteh, & Turner, 2004; Richman, Kiesler, Weisband, & Drasgrow, 1999; Villarroel, Turner, Eggleston, Al-Tayyib, Rogers, Roman, et al.,

2006). In particular, a meta-analysis examining the impact of modes of administration suggested that distortions in answers, or social desirability effects, were particularly low when participants were alone and completing the measures on the computer (Richman et al., 1999). Further, previous findings suggest that this mode of assessment is well tolerated and often preferred by participants (Dilillo, DeGue, Kras, Di Loreto-Colgan, & Nash, 2006; Locke & Gilbert, 1995; Maitland & Mandel, 1994; Perlis et al., 2004). For instance, a study examining childhood maltreatment that compared results from face-to-face interviews, paper and pencil self-report forms, and a computer administered version of the interview found that participants preferred the computerized method, and viewed it as the most confidential (Dilillo et al.).

Research Questions

This study examined the following questions:

1. Do participants' response latencies (time before they exit the scene) differ depending on their sexual assault history?
2. Is assault history related to how participants' rate the vignettes (i.e., how risky they rate the scene)?
3. Are levels of depression, alexithymia, PTSD, self-efficacy (both in the scene and general self-efficacy), and perceived risk related to response latency?
4. Are there differences between groups (sexual assault vs. no assault) in regard to the number of perceived risks and benefits for staying in the scene?
5. Does response latency (time before they exit the scene) differ depending on the character identification (self vs. other) of the female in the vignette?

Hypotheses

1. Based on the results from studies like Marx et al. (2001), Soler-Baillo et al. (2005), and Wilson et al. (1999), it was hypothesized that participants' response latency would differ based on their sexual assault history. Specifically, it was anticipated that women with an assault history would take longer to indicate that the male character has "gone too far."
2. It was anticipated, after reviewing the results from Naugle (1999), that participants with a history of sexual assault would not show deficits in risk recognition. Rather, it was theorized that they would rate the vignettes as more risky than participants without a history of assault.
3. It was hypothesized, based on the theories like those proposed by Chu (1992), Cloitre and Rosenberg (2006), van der Kolk (1989), and White et al. (1997), that psychological variables (i.e., depression, alexithymia, PTSD, and self-efficacy) would be significantly correlated with response latency. In particular, it was expected that the hyperarousal symptoms of PTSD would have the strongest correlation within the PTSD symptom clusters.
4. In accordance with the theory of Finkelhor and Browne[2], it was expected that participants would differ in terms of the number and type of anticipated reinforcers/consequences they endorse for staying in or leaving the scenario. Specifically, participants with an assault history were expected to endorse a greater number of possible outcomes.
5. It was theorized that differences would be seen based on character identification. Specifically, it was expected that participants with a sexual assault history would demonstrate significant differences based on character identification, with participants

[2] Specific direction of the relationship is not hypothesized as theories proposed by Chu (1992) and van der Kolk (1989) both suggest the importance of this symptom cluster but disagree on the impact it will have.

responding faster if the character is identified as someone other than herself. This hypothesis was exploratory in nature and was not directly tied to previous literature described above.

METHOD

Human subjects approval. Prior to the beginning of the study, the procedures and all of the material used in this research were reviewed and approved for use by the Eastern Michigan University Human Subjects Review Board (see Appendix A, for a copy of the current Human Subjects Review Board approval). Before beginning each phase of the study, participants viewed a consent form outlining the potential risks and benefits of the study and were asked to indicate agreement and understanding if they wanted to continue. They indicated their agreement by check a dialog box on the consent screen. Due to the nature and sensitivity of the topic being studied, a list of emergency contact numbers was provided at the end of each phase of the study in case a participant became distressed. The researcher did not receive any phone calls from participants and has no knowledge of any reports of distress or harm related to involvement in this study.

Participants

Participants were currently enrolled female college students, undergraduate and graduate, at a Midwestern university. In order to gain the greatest diversity of students, researchers obtained a random sample of 2503 e-mail addresses from the Information Technology Department. Over 300 (n=339, 13.5%) participants completed the initial screening phase of the study. Their ages ranged from under 18 to 62 years of age with an average age of 24.36 (SD=7.66). The initial sample was primarily Caucasian (82.2%), identified as being Christian

(62.7%), and was single but in a romantic relationship that did not include living together (42%). See Appendix B and C for more information on demographic characteristics of the full sample. See Figure 1 for the study flow chart.

Exclusionary Criteria. Participants' eligibility for Phase 2 of the study was determined based on their responses in Phase 1. Specifically, a person was ineligible for Phase 2 if any of the following three conditions were met:

1. Their sexual assault category was already full. Up to 60[3] participants were allowed in each of the two primary categories (i.e., assault history or no assault history). Thirty participants were excluded based on this criterion.
2. They were not between the ages of 18 and 25**.** An upper age restriction was used in order to restrict potential variance that may have impacted the ratings of the vignettes.[4] One hundred participants reported ages that excluded them from further participation, with seven indicating they were less than 18 years of age, and 93 reporting that they were 26 or older.
3. They indicated only homosexual attraction/activity on the demographic questionnaire. Restrictions were made regarding sexual orientation because the vignettes used in this study only displayed heterosexual couples interacting, and some of the vignette questions ask about attraction and romantic interest in the male character. Seven of the participants who responded to the initial e-mail reported that they were attracted

[3] A cell was considered full only after 60 responses had been collected, allowing for the potential of some overlap based on response time.
[4] The age of the actors, behaviors, and settings in the scene are geared towards a "typical" undergraduate college student.

to "only" or "mostly" women and four participants reported engaging in sexual activity with women, making them ineligible for further participation.[5]

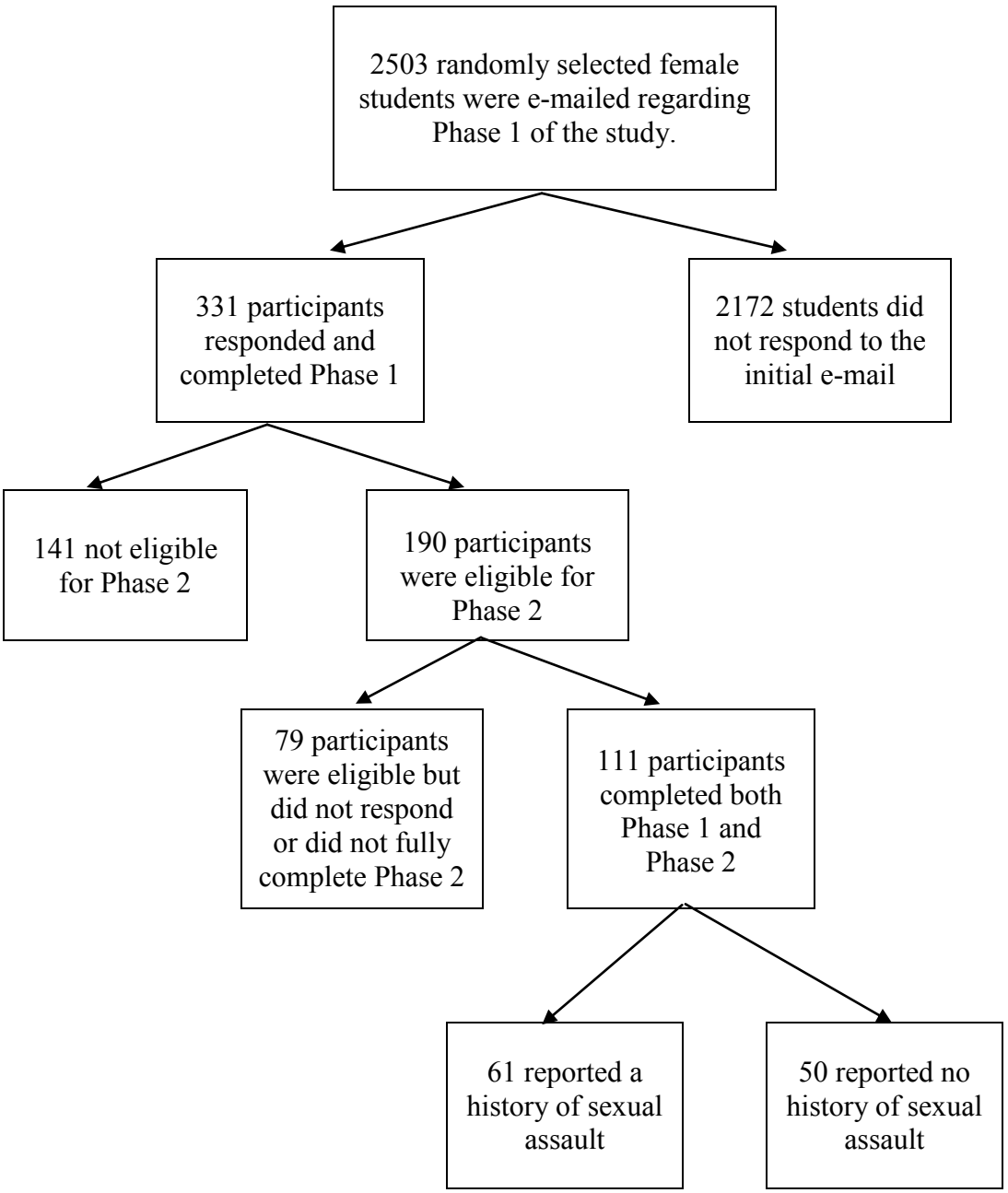

Figure 1. Study Flow Chart.

[5] An additional 5 participants were excluded because of partial responses.

Measures

Demographics (see Appendix D). Participants completed a short, nine-item demographic questionnaire covering age, race, relationship status, educational standing and major, religiosity, and sexual orientation.

Sexual Experience Survey (SES). The SES (Koss & Gidycz, 1985; Koss & Oros, 1982) consists of 10 "yes" or "no" questions that ask about different degrees and experiences of sexual victimization, including attempted assaults. This measure was utilized in each of the risk recognition studies reviewed and was described as the measure for adult/adolescent assault. Specific age ranges can be applied to the questions for research purposes. For instance, the scale can be used to exclusively assess for sexual victimization in childhood and adolescence or it can be used to assess for victimization across the lifespan. In this study, as was the case in the majority of previous studies, the SES was used to assess for victimization occurring at 14 years or older. Psychometric findings suggest that this measure has strong test-retest reliability, with 93% agreement found at one week (Koss & Gidycz). Internal consistency for female participants was reported at .74 (Koss & Gidycz). Previous research has proposed severity cut-offs for this scale, dividing types of assaults into moderate and severe categories (Gidycz, Hanson, & Layman, 1995). Moderate events in adulthood included pressured or forced fondling, kissing, or petting (but not intercourse), as well as intercourse that results from coercion, but not physical force. Severe events were reports of attempted or completed rapes that involved physical force or the threat of physical force.

Childhood Sexual Abuse Questionnaire (CSAQ). The CSAQ (Lesserman, Drossman, & Li, 1995) consists of six yes or no items that address various types of sexual assault experiences. The scale was developed to assess for both childhood and adult assault but was used

only as a childhood measure (events occurring prior to the age of 14) in this study. Psychometric findings regarding this scale indicate that it possesses strong convergent validity with interview measures (81% agreement; Lesserman et al.). In regard to severity, previous research has classified participants who endorse only acts of exposure and/or touching during childhood as moderate, while threatened or completed intercourse has been classified as severe (Gidycz et al., 1995).

New General Self-Efficacy Scale (NGSE). The NGSE is a brief measure (8 items) designed to assess a person's overall sense of self-efficacy or beliefs about the ability to handle or perform in a variety of situations (Chen, Gully, & Eden, 2001). Participants are asked to respond to items on a five-point scale, and answers are summed to produce a total score where higher values represent a greater sense of general self-efficacy. Total scores can range from 8-40 for this measure. Psychometric properties of the questionnaire are strong, with reported internal consistencies ranging from 0.85 to 0.93 and factor analytic data supporting a single-factor solution (Chen, Gully, & Eden, 2001; Chen, Gully, & Eden, 2004).

Twenty-Item Toronto Alexithymia Scale (TAS-20). The TAS-20 is a shortened version of the original Toronto Alexithymia Scale, which consists of 20 items that measure three factors of alexithymia: difficulty identifying emotions, difficulty describing emotions, and externally-oriented thinking (Bagby, Parker, & Taylor, 1994). The TAS-20 has been shown to have strong psychometric properties. Bagby et al. reported internal consistency of .81 for the full scale, and between .66 and .78 for the subscales in a college sample, strong test-retest reliability (.77), as well as good convergent validity and concurrent validity. Scores on this measure can range from 20-100, with greater than 61 being considered positive for clinical levels of alexithymia (Taylor, Bagby, & Parker, 1997).

Patient Health Questionnaire-9 (PHQ-9). The PHQ-9 is a self-report measure that can be used to assess symptoms of depression and as a screener for major depressive disorder (Kroenke, Spitzer, & Williams, 2001). The participants are asked to identify how often in the past two weeks symptoms of depression have been a problem for them. Previous research has demonstrated that this scale has good test-retest reliability (.84) and internal consistency (.89; Kroenke et al.). The total score can range from 0 to 27, with 10 and above being used as a cutoff for major depression (Kroenke et al). For the purposes of this study, a total symptom score rather than diagnostic cut-off will be used, with higher totals representing greater levels of depression.

PTSD Checklist-Civilian (PCL-C). The PCL-C (Weathers, Litz, Herman, Huska, & Keane, 1993) is a 17-item questionnaire that assesses the severity of PTSD symptoms. Each symptom is rated on a five-point scale with the following anchors: 1= *not at all*, 2= *a little bit*, 3= *moderately*, 4= *quite a bit*, and 5= *extremely*, producing a total score ranging from 17-85. While several potential cutoff scores have been suggested, research looking at the diagnostic efficiency of different cutoff scores in a sample of college students found that a score of more than 44 in addition to appropriate symptoms presence was the best diagnostic cutoff (Ruggiero, Rheingold, Resnick, Kilpatrick, & Galea, 2006). The internal consistency and test-retest reliability for this scale are high, with reported values of .97 and .96 respectively (Weathers et al., 1993). The scale also has high convergent validity with the Clinician-Administered PTSD Scale (CAPS; $r = .93$), which is the gold standard measure for PTSD (Blanchard, Jones-Alexander, Buckley, Forneris, 1996).

Vignette Rating Questionnaire-Modified (see Appendix E). The original questionnaire, developed by Naugle (1999), consists of 10 items that are answered on rating scales. All of the rating scales, except for the first item, are rated on a 1 to 8 scale. The first item,

which asks about the realism of the vignette, is on a one to five scale. Items on the questionnaire assess for such things as the amount of perceived benefit, degree of romantic interest, level of anxiety, and amount of potential risk evoked by the vignette.

In addition to the standard items from this scale, some open-ended questions were added to the questionnaire. Specifically, an open-ended item which asked the participant to identify aspects of scene that they found risky was inserted following the question regarding the amount of perceived risk. Similarly, open-ended questions about the positive features of the interaction and description of the male character were added. Further, control questions were added to this questionnaire to ensure that the participant actually viewed the clip. These questions asked the participants to identify facts regarding the vignette that they just viewed; for instance, they were asked about the location of the scene.

Furthermore, two questions from the Dissociative Experiences Scale (DES; Bernstein & Putnam, 1986), a validated measure of dissociation, were added to each of the vignette rating forms. These items assessed for "absorption" into the video and "zoning out." These two items were used as experimental indicators of dissociation while viewing the vignettes.

Finally, two more items were added to each of the vignette-rating questionnaires. These items related to what the participant viewed would happen if they chose to stay in the situation, and what they believed would happen if they left. Several potential options were given and the participant was asked to check all of the items they believed applied. Choices encompassed a range of options that were negative, positive, or neutral in nature.

The Vignette Rating Questionnaire-Modified was the primary measure used to assess the participants' evaluation of the vignettes, as well as assess differences in behavioral responses and

perceived consequences and rewards for those responses. Psychometric properties for this scale in the current version, as well as the original version, are unknown.

Materials and Technology

This study was internet-based and completed in two phases. The first phase of the study, which included the demographic questionnaire, the SES, and the CSAQ, was housed on SurveyMonkey™. This secure internet site allowed participants to enter and respond to the questionnaires using a unique link that was specific to the study. Participants completed all of the questionnaires in one session. If they left the site and re-entered later, they would be required to begin again. Data collected using this program were stored in a password-protected file and accessed only by the researchers.

Phase 2 was held on the university's main network, in an internet-based program typically used to provide course materials and tests. A separate and secure page was developed for this study. This program was used for the second phase of the study because it had the capability to run a video vignette while simultaneously running and recording a timer, which allowed the researcher to gain a response time measure. All eligible participants were provided with a unique name and password to enter the site, which insured confidentiality (i.e., they were not require to provide their names or IDs) and enabled data from Phase 1 and 2 to be joined. This phase of the study included videos and surveys. The computer program was written in such a way that participants could complete the surveys on line, and the amount of time they spent watching the video was timed and recorded.

Video Vignettes. Two videos were produced and used specifically for this study. Actors in both films were volunteers from the community and university. Scripts for both of the videos were derived from vignettes used in previous studies; specifically, adaptations were made to the

Marx et al. (2001) audio vignette and the written vignette originally developed by Messman-Moore and Brown (2006). In particular, any reference to the female character's name was removed and both scenes were edited to end prior to the rape. These changes allowed for the manipulation in terms of character identification, and also reduced potential hindsight biases in term of risk perception, by allowing the scene to end in an ambiguous manner. Some additional changes were made to the script based on the Messman-Moore and Brown vignette in order to extend the length of the clip and to make filming the clip easier. All of the aspects from the original vignette were included in the same order; however, more time was spent in the beginning of the clip showing the male and female talking at a party. In general, this phase of the vignette was low risk, with the exception of one time when the male goes out of the room and comes back with an alcoholic drink for the female character. Additionally, the party in the current video is a small house party, rather than a larger college party depicted in the written vignette. The Marx et al.-based script had a running time of 181 seconds, and the Messman-Moore and Brown based video was 441 seconds in length (scripts for the two vignettes can be found in Appendices F and G).

Vignette A, or the script based on Marx et al. (2001), revolves around an individual male and female who are returning to the male's apartment following a date. While there are no direct references to how long they have been dating, it is implied that it is not their first date, but is early on in their relationship. In Vignette B, based on Messman-Moore and Brown (2006), the main female and male characters are at a party thrown by some mutual friends. They have met before but are not dating.

Procedures

Randomly selected female students were sent an e-mail describing the study and included an e-mail link to the initial screening materials. The initial e-mail, as well as all other research materials, indicated that the study was an internet-based study examining evaluations of dating interactions. The consent form indicated that the participants would be asked about sexual assault history, but none of the material highlighted this variable in order to reduce any potential biases in terms of responses.

Phase one. The initial phase of the study was used for screening purposes. It included a demographics questionnaire, the SES, and the CSAQ. Participants who were not eligible for the second phase of the study as a result of demographic variables (e.g., age or sexual orientation; see below) were stopped after completing the demographics and did not complete the sexual assault measures. This was designed to reduce the burden on these participants and to prevent any unnecessary distress from completing these questionnaires.

Defining of Groups/ Randomization Procedure

Phase two. Following the completion of Phase 1, all participants received an e-mail indicating either that they were ineligible to continue or providing instructions regarding the second phase of the study. Prior to beginning Phase 2, participants were divided into those with and without a history of sexual assault based on their answers to the assault questionnaires in Phase 1. Participants were categorized as having a history of assault if they endorsed any item on the CSAQ or the SES). Participants were then randomly assigned to one of four video cells (see Table 1).

Each group was presented with the same two vignettes; however, depending on the cell, which video was viewed first was altered. Additionally, the character identification instruction

varied depending on cell assignment (see instructions below). These alterations were done in order to control for order effects and differences in the two scenes.

Table 1
Four Video Cells

Cell 1 Video A- Self Instructions Video B-Other Instructions	Cell 2 Video B- Self Instructions Video A-Other Instructions
Cell 3 Video A- Other Instructions Video B- Self Instructions	Cell 4 Video B- Other Instructions Video A- Self Instructions

Instructions

Self Instructions. Those in the "Self Instructions" conditions were told, "*While watching the following video, please imagine that **YOU** are the female in the video. As you are watching the video, please push the button in the upper right corner of the screen if you believe the male in the scene has gone too far or when you would choose to leave the date. If you watch the whole video, please push the button following the conclusion of the clip."*

Other Instructions. Those assigned to the "Other Instructions" conditions were told, "*While watching the following video, please imagine that the female in the scene is a **close friend or family member** of yours that is roughly your age. As you are watching the video, please push the button in the upper right corner of the screen if you believe the male in the scene*

has gone too far or when you believe your friend/relative should leave the date. If you watch the whole video, please push the button following the conclusion of the clip."

Following the viewing of each video, the participant completed the Vignette Rating Questionnaire-Modified. Additionally, self-report questionnaires assessing for general self-efficacy, depression, PTSD, and alexithymia were completed after both videos were viewed.

Participant Compensation. Participants who completed both phases of the study were eligible to receive a $10 electronic gift card for their participation. Each participant was able to select a card from one of three retailers and gift cards were sent electronically to the e-mail address of their choice. All participants who completed the first phase of the study, regardless of the eligibility or participation in phase two, were entered into a raffle to receive one of 10 possible gift cards. These cards were again distributed through e-mail.

RESULTS

Analysis of Completers vs. Non-completers

Demographic data were examined for the full group of participants, to see if significant differences existed between participants who completed both phases of the study; those who were eligible for both but only completed one, and those who were not eligible for both. ANOVA result indicate that there were significant difference between groups in regard to age, sexual attraction, sexual activity, college standing, and relationship status. Findings from Post Hoc comparisons demonstrated significant differences between participants who were not eligible for phase two, and one or more of the groups that were. The differences found were related to many of the demographic variables that were used as exclusionary criteria (age, sexual activity, and sexual attraction). As such, these differences can be explained by the screening

procedures. Additional differences were not directly the result of exclusions but are most likely related to the differences in age. Specifically, the non-eligible group was more likely to be in the "other" (e.g., second degree) category or a higher class standing. Additionally, they were more likely to be married. No significant differences were found between those who completed both, and those who were eligible to complete both but dropped out after one.

Preliminary Analyses

In order to determine if there were significant demographic differences between sexual assault groups in participants who completed both phases of the study, an ANOVA was conducted comparing these groups (see Appendix H). The findings of this analysis showed that there were significant differences between the groups in terms of age and sexual activity, with participants without a history of assault being younger and more likely to report never having been sexual active. Analyses were run to evaluate whether these demographic variables were related to the primary outcome measures of response latency or risk perception for either video. Correlations were conducted with age (see Table 2), and an ANOVA was run with sexual activity because of the categorical nature of this variable (see Table 3). Findings from both analyses demonstrated that there was not a significant relationship between the demographic variables and the outcome variables, suggesting that the demographic differences between the assault groups would not significantly interact with the primary outcome measures.

Table 2
Correlations with Age.

	Video A Time	Video A Risk	Video B Time	Video B Risk
Age	-0.05	0.04	0.02	-0.04

Table 3
One-way ANOVA- Response Latencies and Risk for Sexual Activity Categories.

Between Subject Effects	SS	MS	F	P
Video A Time	6518.61	3259.31	1.93	0.15
Video A Risk	1.46	0.73	0.28	0.76
Video B Time	3854.73	1927.37	0.75	0.47
Video B Risk	3.12	1.56	0.75	0.48

Note. Df= (2,108)

Additionally, information regarding the severity and time of assault was examined (see Table 4). Out of the 61 participants who reported a history of assault, 43% indicated at least one event that would classify as a severe sexual assault. Further, 80.77% of participants who reported childhood sexual assault reported an additional assault in adolescence/adulthood. For all of the analyses in this study, the assault group was considered as one total group and was not broken down by severity or developmental period, as the number in each of these subcategories was insufficient to produce statistical power.

Table 4
Assault Information.

	Number of Participants
History of assault	61
Severity of assault	26-severe 35-moderate
Childhood sexual assault	26
Adolescent/adult assault	56
Repeat assault	21

Note. Repeat assault category indicates participants reporting a history of assault both as a child and an adolescent/adult.

Results for Study Research Questions

Research Question 1. Do participants' response latencies (time before they exit the scene) differ depending on their sexual assault history? Prior to conducting analyses to see if differences were found between sexual assault categories, the data were examined to assess the average amount of time participants took to respond and the percentage of participants who chose to leave or believed that the male had "gone too far" (see Table 5). Results demonstrated that the majority of participants never chose to end either vignette. In fact, less than 1/3 of participants indicated that they would leave the scene depicted in Vignette B. Response latency for participants who watched the entire video (did not choose to leave) was entered as the actual running time of the video in all analyses, which allowed for control of any variance in response time following the conclusion of the video.

Table 5
Response Latency in Seconds for all Participants.

	Video A	Video B
Average Response Time	151. 21 (41.41)	416.17 (50.46)
Percentage of Participants that indicated male had "gone too far."	42.3%	31.5%

Note. Df= (1,109)

In order to explore if differences existed in the length of time participants remained in the scene based on sexual assault history, a repeated measure ANOVA was conducted comparing the response time for both videos. The two videos differed in terms of overall length and the timing of risk factors; therefore, the primary result of interest from the repeated measure ANOVA was the between-subjects effects. These findings revealed that there were significant differences in response latencies based on assault history, with those participants reporting a history of assault taking significantly longer to indicate that the male in the scene had "gone too far" and they would leave (see Table 6).

Given the skewed distribution and the percentage of participants who watched the whole video, a log transformation was run on the latency variable and the repeated measures ANOVA was run again. Results continued to show significant difference between assault groups with females in the assault condition taking significantly longer to respond ($F=7.50$, $p=0.01$).

Table 6
Repeated Measures ANOVA for Response Latencies; Assaulted (APs) vs. Non-assaulted (NAPs) Participants.

	Video A		Video B	
	APs	NAPs	APs	NAPs
	M (SD)	M (SD)	M (SD)	M (SD)
Response Latency	160.48 (34.02)	139.90 (46.86)	420.56 (49.18)	410.82 (51.97)

Between Subject Effects	SS	*Df*	MS	F	P	Partial η^2
Assault Category	12624.05	1	12624.05	5.09	.03*	.05

Note. Response time is reported in seconds. *indicates significant at a p <.05 level. Df= (1,109).

Analyses were also conducted to see if differences emerged in terms of who was more likely to stop the video. Using repeated measures ANOVA, it was found that participants without a history of assault were significantly more likely to stop the video and indicate that they would leave (F= 4.37, *p*=.04*)*.

Research Question 2. **Is assault history related to how participants' rate the vignettes (i.e., how risky they rate the scene)?** Repeated measures ANOVAs were also utilized to see if participants with a history of assault interpreted or responded to the vignettes differently than those without a history of assault. Results from these analyses showed that participants did not differ in terms of their ratings of risk for the two vignettes (F=.06, *p*=.80). In fact, based on assault history, the only dimension where significant differences were noted was the percentage of time in which the participants felt "absorbed" into the video (see Table 7). On

Table 7
Repeated Measures ANOVA for Vignettes; Assaulted (APs) vs. Non-assaulted (NAPs) Participants.

	Video A		Video B			
	APs M (SD)	NAPs M (SD)	APs M (SD)	NAPs M (SD)	F	P
Realism Rating	2.43 (0.96)	2.60 (1.01)	2.02 (0.90)	2.24 (0.92)		
Video					12.14	.001**[b]
Assault Category					1.94	.166
Video * Assault					.51	.822
Risk Rating	3.92 (1.64)	3.74 (1.58)	3.07 (1.56)	3.36 (1.27)		
Video					12.12	.001**[b]
Assault Category					.06	.802
Video * Assault					1.78	.185
Interpersonal Benefit Rating	5.34 (1.68)	5.54 (1.62)	4.38(1.70)	4.58 (1.64)		
Video					19.14	.000**[b]
Assault Category					. 00	.987
Video * Assault					.76	.385
Support Rating	6.68 (1.44)	6.38(1.64)	4.60 (2.04)	4.58 (1.68)		
Video					85.99	.000**[b]
Assault Category					.41	.525
Video * Assault					.46	.500
Social Pressure Rating	3.24 (1.88)	3.24 (1.68)	3.36 (1.60)	3.51 (1. 37)		
Video					.91	.343
Assault Category					.11	.744
Video * Assault					.13	.717
Discomfort Rating	4.38 (2.05)	4.46 (1.91)	4.75 (1.91)	5.22 (1.86)		
Video					7.37	.008**
Assault Category					.79	.376
Video * Assault					.89	.345
Anxiety Rating	4.93 (2.14)	4.80 (1.98)	5.15 (2.06)	5.20 (1.80)		
Video					2.08	.152
Assault Category					.02	.898
Video * Assault					.19	.661

Arousal Rating	7.69 (.67)	7.47 (1.28)	7.77 (.64)	7.71 (.79)		
Video					3.08	.082
Assault Category					1.02	.315
Video * Assault					.77	.383
Romantic Interest Rating	7.46 (1.16)	7.62 (.90)	7.44 (1.01)	7.60 (.90)		
Video					.02	.883
Assault Category					1.16	.284
Video * Assault					.00	.99
Female Control	3.80(.78)	3.72(.54)	3.67(.86)	3.64(.83)		
Video					1.39	.241
Assault Category					.21	.644
Video * Assault					.09	.769
Male Control	3.08(.83)	3.10(8.3)	3.07(1.01)	3.20(.84)		
Video					.20	.656
Assault Category					.31	.580
Video * Assault					.39	.536
Dissociation Rating 1 (zoning out)	3.28(12.07)	2.40 (8.22)	4.75(12.60)	5.40(16.19)		
Video					2.80	.097
Assault Category					.00	.953
Video * Assault					.33	.570
Dissociation Rating 2 (absorbed into video)	7.50(19.97)	19.40(32.79)	13.83(26.43)	22.20(31.58)		
Video					4.05	.047*
Assault Category					4.49	.037*
Video * Assault					.61	.438

Note. The scale for Realism is between 1 and 5. Lower scores represent a higher degree of realism (1= *entirely realistic*, 5= *not at all realistic*). Ratings from Risk to Romantic Interest were rated on an 8 point scale. On these scales 1= *extremely* and 8= *not at all*. Items related to Control were rated on a 5 point scale where 1= *none of the control*, and 5= *all of the control*. Dissociation items were answered in terms of percentage of time (0-100) on 10-point intervals (e.g., 0, 10, and 20). A higher percentage indicated a greater period of time when the person experienced the symptom. *= significant at $p < .05$level. **= significant at $p < .01$ level. [b]= significant with a bonferroni correction (p=0.004). For realism, risk, benefit, anxiety, romantic interest, zoning out Df= (1,109), support, discomfort, arousal, female control, absorption Df= (1,108), male control Df= (1,107), pressure Df= (1,106)

this item, participants with a history of sexual assault tended to report less absorption into the scenes (F=4.49, *p*=.04). Additionally, significant differences were found between videos regardless of assault status. Specifically, participants viewed Vignette B as more risky (F=12.12, *p*= .001) and more realistic (F=12.14, *p*= .001). They also viewed this scene as having more potential for interpersonal benefits (F=19.14, *p*= <.001), and they rated the male as more supportive than the male in Vignette A (F=85.99, *p*= <.001). Finally, participants indicated being significantly more uncomfortable with Video A (F=7.37, *p*= .01), and they reported greater absorption into Video B (F=4.05, *p*= .05).

Separate analyses were run to see if differences between the groups remained when only those participants who chose to stop the video were examined. Results of one-way ANOVAs showed that in the Video A condition, women with a history of sexual assault took significantly longer to respond (F= 7.17, *p*=.01), but there was not a significant difference in terms of risk rating (F=0.02, *p*=0.90). There was, however, a significant difference in risk rating when participants who chose to end the video were compared with those who did not, with results indicating that those participants who stopped the video tended to rate the scene as riskier (F=5.61, *p*=0.02). Significant differences were also noted in regard to the amount of pressure that was perceived, with the group of participants who stopped Video A rating the video as containing less pressure (F= 7.22, *p*=0.01).

In the Video B condition, no significant differences were found on measures of risk ratings or response latencies when only those participants who stopped the video were examined. In comparisons of those who did and did not stop Video B, the only significant difference found was in their rating of how supportive the male in the video was. Results showed that women who stopped the video rated that male as more supportive than those who did not (F=8.31, *p*=0.01).

It is important to note that in both videos, the male became more aggressive and pressure increased. As such, differences may reflect genuine disparities between groups, or it may reflect differences in the material that was viewed.

Research Question 3. Are levels of depression, alexithymia, PTSD, self-efficacy (both in the scene and general self-efficacy), and perceived risk related to response latency? A bivariate correlational analysis was conducted to examine if psychological variables that have been theorized to play a role in revictimization were related to response latency and/or the participants' rating of risks in the vignettes (see Table 8). Initially, response latency and risk ratings were compared. Objectively, risk increased throughout each of the vignettes. As such, it was expected that there would be a positive relationship between latency and risk perception as those who watched longer viewed more risk. However, a significant relationship between latency and risk was not found (Video A, r=-.18; Video B, r=.04). A significant positive relationship was found between response latencies in Videos A and B, and significant relationships were found between overall self-efficacy (r=.20), amount of perceived control of the female in the scene (r=.30), and the alexithymia subscale examining externally-oriented thinking (r=.19) for Video A. However, none of these findings was replicated in Video B. In fact, none of the psychological variables was significantly correlated with responses in the Video B condition.

Similar discrepancies were found when correlations between the theoretical variables and ratings of risk were examined. Again, there was a positive relationship between ratings for Video A and B (r=.25). Additionally, PTSD total score (r=.25), as well as the avoidance and numbing symptoms (r=.24) and hyperarousal symptoms of PTSD (r=.21) were significantly related to risk ratings for Video B. Depression scores (r=.22) and the subscale of alexithymia measuring

Table 8

Pearson Product Bivariate Correlations for Latency, Risk, and Psychological Variables

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1.	Time (A)	~~	.21*	-.18	.01	.20*	.30**	-.03	-.14	-.01	-.13	-.10	-.02	-.12	-.07	.10	.01	.07	.19*
2.	Time (B)		~~	-.01	.04	-.10	.16	.09	-.02	-.10	.08	-.04	-.02	-.04	.01	.11	.14	.07	.01
3.	Risk (A)			~~	.25**	.06	-02	.08	.05	-.05	.06	.08	.01	.05	.11	-.07	-.02	-.05	-.09
4.	Risk (B)				~~	-.01	.01	-.04	-.15	.11	.22*	.25**	.11	.24*	.21*	.15	.10	.20*	.05
5.	NGSE					~~	.23*	.20*	-.20*	-.16	-.18	-.06	.07	-.09	-.10	-.15	-.15	-.13	-.04
6.	Female Control (A)						~~	.24*	-.38**	-.21*	-.07	-.13	-.10	-.10	-.08	-.10	-.09	-.15	.03
7.	Female Control (B)							~~	-.13	-.46**	.01	-.03	.02	.02	-.10	-.03	-.04	-.01	-.01
8.	Male Control (A)								~~	.37**	.14	.20*	.15	.17	.16	.14	.20*	.17	-.12
9.	Male Control (B)									~~	.01	.03	-.07	.02	.07	.06	.06	.14	-.09
10.	Depression										~~	.77**	.41**	.72**	.77**	.52**	.67**	.28**	.14
11.	PTSD Total											~~	.76**	.91**	.86**	.55**	.69**	.37**	.09
12.	PTSD- B												~~	.57**	.61**	.30**	.43**	.23*	-.07
13.	PTSD-C													~~	.71**	.53**	.64**	.34**	.13
14.	PTSD-D														~~	.53**	.69**	.35**	.06
15.	Alexithymia Total															~~	.83**	.85**	.57**
16.	Alexithymia Factor 1																~~	.60**	.16
17.	Alexithymia Factor 2																	~~	.32**
18.	Alexithymia Factor 3																		~~

Note. Time (A)=response latency for vignette A. Time (B)=response latency for vignette B. The sign of the correlation for relationship with the risk variables (A and B) were reversed so that each measure was coded in the same direction. A positive correlation indicates that as the perception of risk went up, so did the other variable. The NGSE was used as a measure of general efficacy, while the female and male control questions were used to assess perceived efficacy or control in the scene. PTSD clusters correspond to symptom clusters in the DSM-IV TR (B= intrusive symptoms, C= avoidance/numbing, D=hyperarousal). Alexithymia Factor 1=difficulty identify emotions. Alexithymia Factor 2=difficulty describing emotions. Alexithymia Factor 3=externally-oriented thinking. * $p < .05$, ** $p < .01$.

difficulties describing emotions (r=.20) were also significantly related to Video B. However, none of these variables (or any of the other psychological variables) was shown to be significantly related in the Video A condition.

In addition to completing a correlational analysis examining how psychological variables were related to risk and response latency, a one-way ANOVA was conducted to compare levels of psychological distress in women with and without a history of sexual assault (see Table 9). Results showed that overall, the sample reported subclinical levels of distress. In regard to significant differences between the groups, women with a history of assault reported greater levels of depression, total PTSD symptoms, and hyperarousal symptoms. They also tended to report greater levels of alexithymia overall, as well as difficulties with identifying emotions specifically. Finally, contrary to our hypothesis, participants who had a history of assault reported significantly greater levels of overall perceived self-efficacy.

Research Question 4. Are there differences between groups (sexual assault vs. no assault) in regards to the number of perceived risks and benefits for staying in the scene? Participants with and without a history of sexual assault were compared to identify differences in the number of potential outcomes they identified for the female character in the vignette if she chose to stay in the scene or if she chose to leave. Potential outcomes were reported as a yes/no dichotomous variable (participants were asked to identify all of the outcomes they believed would happen). Based on previous research which demonstrated the suitability of ANOVAs in comparing results with dichotomous variables (Lunney, 2005), a repeated measures ANOVA was chosen for these analyses. This statistic was chosen over the use of chi-squares because it allowed for an examination for potential interactions. Results of repeated measures ANOVAs demonstrated that there were no significant differences in the number of perceived outcomes

Table 9
One-Way ANOVA for Psychological Variables; Assaulted (APs) vs. Non-assaulted (NAPs) Participants.

	APs M (SD)	NAPs M (SD)	F	P
Self Efficacy Total	34.15 (3.96)	32.70 (3.35)	4.22	0.04*
Depression total	5.38 (4.27)	3.82 (3.52)	4.25	0.04*
PTSD Total	30.30 (11.21)	25.70 (8.43)	5.74	0.02*
PTSD B	9.30 (3.78)	8.16 (5.52)	1.48	0.22
PTSD C	11.66 (4.43)	10.36 (3.97)	2.58	0.11
PTSD D	9.34 (3.76)	7.76 (2.83)	6.06	0.02*
Alexithymia Total	46.31 (11.70)	42.36 (10.67)	3.39	0.07^{t}
Alexithymia Factor 1	14.98 (6.38)	12.84 (5.25)	3.63	0.06^{t}
Alexithymia Factor 2	12.90 (4.75)	11.46 (4.81)	2.51	0.12
Alexithymia Factor 3	18.43 (4.22)	18.06 (3.85)	0.22	0.64

Note: The NGSE was used as a measure of general efficacy. Higher scores represent greater self efficacy. Depression-on the PCL-9 higher scores indicate more severe depression. PTSD clusters correspond to symptom clusters in the DSM-IV TR (B= intrusive symptoms, C= avoidance/numbing, D=hyperarousal). Higher scores represent a greater severity of symptoms. Alexithymia Factor 1=difficulty identify emotions. Alexithymia Factor 2=difficulty describing emotions. Higher scores indicated a greater level of alexithymia. *=significant at $p \leq .05$level, ^{t}= trending towards significance. For all variables, Df= (1,109).

indentified based on sexual assault history. This was true when comparing the number of consequences and reinforcers for staying and leaving, as well as the overall total number (see Table 10).

However, when individual responses were compared, a significantly greater number of participants with a history of sexual assault indicated that they believed the male and female would have consensual sex if the female remained in the scenario (F=9.63, *p*=.002) than those without a history of assault. This group also reported that the female character may miss out of a meaningful relationship if she left the scene more often than the no-assault group (F=4.19, *p*=.04). Further, there was a trend toward participants with an assault history indicating that a rape or assault was a possible consequence of remaining in the scene (F=3.04, *p*=.08), but this did not reach the level of significance (see Table 11).

Additionally, there were also significant differences between videos, with more participants indicating that the female would have a good time if she stayed in Vignette B (F=10.29, *p*=.002) and would have an argument if she stayed in Vignette A (F=24.87, *p*=<.001). Further, they tended to view little consequence to leaving B (greater percentage of participants reported that "nothing" would happen, F=28.56, *p*=<.001), but more participants indicated that the male in Video A would tell others about her and that others would think poorly of her if she left (F=4.40, *p*=.04). Finally, significantly more participants responded that the female would find someone else to date if she chose to leave in Video A than B (F=10.61, *p*=.001).

Research Question 5. Does response latency (time before they exit the scene) differ depending on the character identification (self vs. other) of the female in the vignette? One-way ANOVAs were conducted, looking at each video separately, in order to explore potential

Table 10
Repeated Measures ANOVAs- Number of Consequences/Reinforcers for Staying in, or Leaving the scene.

	Video A		Video B			
	APs	NAPs	APs	NAPs		
	M (SD)	M (SD)	M (SD)	M (SD)	F	P
Staying	1.89 (1.24)	1.68 (.82)	1.90 (1.14)	1.62 (.81)		
Video					.06	.80
Assault Category					1.89	.17
Video * Assault					.19	.66
Leaving	1.79 (.95)	1.60 (.83)	1.69 (.96)	1.54 (.86)		
Video					.96	.33
Assault Category					1.20	.28
Video * Assault					.06	.81
Total	3.67 (1.97)	3.28 (1.42)	3.59 (1.86)	3.16 (1.39)		
Video					.57	.45
Assault Category					1.93	.17
Video * Assault					.02	.89

Note. Participants were asked to check all of the possible outcomes from a list that they believe might happen if the female character in the scene chose to stay. The values next to "Staying" represent the number of these outcomes selected. Similarly, participants were also asked to indicate possible consequences if the character chose to leave. These data are presented as "Leaving." Finally, total represents the sum of all possibilities checked. AP=assaulted participants. NAP=non assaulted participants *=significant at $p \leq .05$level. **=significant at $p \leq .01$ level. Df= (1,109) for each of the analyses.

Table 11
Repeated Measures ANOVAs- Consequences for Staying or Leaving the Scene.

	Video A		Video B			
	APs M (SD)	NAPs M (SD)	APs M (SD)	NAPs M (SD)	F	P
If the Female Stays:						
They would have a good time.	.03 (.18)	.00 (.00)	.11 (.32)	.12 (.33)		
Video					10.29	.002**[b]
Assault Category					.15	.70
Video * Assault					.37	.55
There would be an argument.	.64 (.48)	.64 (.49)	.34 (.48)	.32 (.47)		
Video					24.87	.000**[b]
Assault Category					.03	.86
Video * Assault					.04	.84
They would talk and the male would back off.	.21 (.41)	.36 (.49)	.34 (.48)	.38 (.49)		
Video					1.59	.22
Assault Category					1.97	.16
Video * Assault					.84	.36
Male would try to convince her to have sex.	.33 (.47)	.26 (.44)	.33 (.47)	.30 (.46)		
Video					.11	.74
Assault Category					.55	.46
Video * Assault					.11	.74
A meaningful relationship would develop.	.03 (.18)	. 02 (.14)	.10 (.30)	.02 (.14)		
Video					1.66	.20
Assault Category					2.29	.13
Video * Assault					1.66	.20
They would have consensual sex.	.30 (.46)	.10 (.30)	.25 (.43)	.08 (.27)		
Video					.60	.44
Assault Category					9.63	.002**[b]
Video * Assault					.11	.74
Male would force her to have sex. (Rape)	.28 (.45)	.16 (.37)	.31 (.47)	.20 (.40)		
Video					.57	.45
Assault Category					3.04	.08
Video * Assault					.01	.94

Other	.07 (.25)	.14 (.35)	.11(.32)	.20 (.40)		
Video					1.82	.18
Assault Category					2.70	.10
Video * Assault					.02	.89

	Video A		Video B			
	APs M (SD)	NAPs M (SD)	APs M (SD)	NAPs M (SD)	F	P
If Female Leaves:						
Nothing	.28 (.45)	.22 (.42)	.51 (.50)	.54 (.50)		
Video					28.56	.000**[b]
Assault Category					.33	.86
Video * Assault					.77	.38
Male might tell others and they would think badly her.	.39 (.49)	.22 (.42)	.23 (.42)	.18 (.39)		
Video					4.40	.04*
Assault Category					2.74	.10
Video * Assault					1.63	.21
Female would find someone else to date.	.77 (.42)	.80 (.40)	.64 (.48)	.60 (.50)		
Video					10.61	.001**[b]
Assault Category					.01	.94
Video * Assault					.46	.50
Female would be alone for a long time.	.15 (.36)	.10 (.30)	.07 (.25)	.08 (.27)		
Video					3.25	.07
Assault Category					.11	.74
Video * Assault					1.20	.28
Female would miss out on a meaningful relationship.	.08 (.28)	.02 (.14)	.11 (.32)	.02 (.14)		
Video					.41	.53
Assault Category					4.19	.04*
Video * Assault					.41	.53
Other	.13 (.34)	.24 (.43)	.15 (.36)	.12 (.33)		
Video					1.76	.19
Assault Category					.50	.48
Video * Assault					3.05	.08

Note. AP=assaulted participants. NAP=non assaulted participants. For these items responses were coded as 0- if the participant did not indicate this would happen, and 1-if they indicated it would happen. *=significant at $p \leq .05$level. **=significant at $p \leq .01$ level. [b]= significant with a bonferroni correction (p=0.004). Df= (1,109) for the analyses.

differences based on character identification. One-way ANOVAs were used in the analyses as opposed to the repeated-measures ANOVAs (used previously) because all participants answered questions in both conditions (self and other), and differences existed between the videos (i.e., run time). As a result, responses to the videos were considered independently of one another.

Initial comparisons were conducted to see if there were differences in response latencies if the participant imagined that the female in the video was herself or a close female friend or relative. Results indicated that there were no significant differences in response time for either video (see Table 12). Additionally, significant differences were not found in regard to the number of people in each condition who chose to end the vignette, indicating that the male had gone too far (Video A- F=.24, *p*=.62; Video B- F=.30, *p*=.59).

Results from One-Way ANOVAs examining the participants' rating of the vignettes failed to reveal any significant differences in either video based on the how the female character was identified (see Table 13).

Further analyses were conducted to identify differences in perceived consequences for the female character if she remained in or chose to leave the date, and some significant differences were found (see Table 14). Specifically, in regard to Video A, participants were significantly more likely to indicate that if the female chose to stay, the characters would talk, and the male would "back off," when the character was themselves (F=3.92, *p*=.05). When asked to identify what would happen if the female left, participants were significantly more likely to indicate that the female would find someone else to date in the "self" condition (F=7.77, *p*=.01). However, they were more likely to indicate that there were other potential consequences to leaving in the "other" condition (F=12.78, *p*=.001).

Table 12
One-Way ANOVA-Character Identification and Latency

Rating	M (SD)	Sum of Squares	F	P
Video A Time		119.58	.069	.793
Self	152.25 (42.58)			
Other	150.18 (40.60)			
Video B Time		275.38	.107	.744
Self	417.73 (47.38)			
Other	414.58 (53.81)			

Note. Times are reported in seconds. *=significant at $p \leq .05$level. **=significant at $p \leq .01$ level.

In Video B, participants were significantly more likely to indicate that the male would try to convince the female to have sex (F=5.51, *p*=.02) and the characters would have consensual sex (F=8.38, *p*=.01) in the "other" condition. Differences in perceived consequences to leaving were also noted, with responses demonstrating that participants were more likely to indicate that nothing would happen (F=6.85, *p*=.01) when the female was labeled as themselves. Finally, in opposition to the results from Video A, significant differences were noted in terms of the likelihood that the female character would find someone else to date (F=5.33, *p*=.01). However, results from Video B suggested that participants were more likely to say this when the character was labeled as a close family friend or relative than in cases when they imagined the female to be themselves.

Table 13
One Way ANOVA-Vignette Rating form Based on Character Identification.

	Video A			Video B		
	M (SD)	F	P	M (SD)	F	P
Realism Rating		0.02	0.89		0.26	0.61
Self	2.49 (1.07)			2.16 (0.95)		
Other	2.52 (0.89)			2.07 (0.88)		
Risk Rating		3.63	0.06		0.88	0.35
Self	4.13 (1.55)			3.07 (1.49)		
Other	3.55 (1.62)			3.33 (1.39)		
Interpersonal Benefit		0.44	0.51		3.29	0.07
Self	5.33 (1.55)			4.75 (1.64)		
Other	5.54 (1.75)			4.18 (1.66)		
Support Rating		0.55	0.46		0.88	0.35
Self	6.44 (1.68)			4.75 (1.92)		
Other	6.65 (1.39)			4.42 (1.81)		
Social Pressure Rating		0.29	0.59		1.73	0.19
Self	3.33 (1.78)			3.64 (1.46)		
Other	3.15 (1.80)			3.27 (1.51)		
Discomfort Rating		0.01	0.92		1.34	0.25
Self	4.44 (1.87)			4.75 (1.87)		
Other	4.40 (2.10)			5.16 (1.89)		
Anxiety Rating		3.46	0.07		0.003	0.96
Self	5.24 (2.02)			5.16 (1.94)		
Other	4.52 (2.05)			5.18 (1.95)		
Arousal Rating		0.82	0.47		0.00	1.00
Self	7.51 (1.22)			7.75 (0.73)		
Other	7.68 (0.69)			7.75 (0.70)		
Romantic Interest Rating		0.58	0.45		0.002	0.96
Self	7.45 (1.20)			7.52 (0.85)		
Other	7.61 (0.89)			7.51 (1.07)		
Female Control		0.44	0.51		3.68	0.06
Self	3.82 (0.67)			3.80 (0.88)		
Other	3.73 (0.70)			3.50 (0.77)		
Male Control		1.58	0.21		0.11	0.74
Self	2.98 (0.81)			3.11 (0.99)		
Other	3.18 (0.83)			3.17 (0.89)		

Dissociation Rating 1 (zoning out)		0.32	0.57		2.70	0.10
Self	3.45 (13.08)			2.86 (7.32)		
Other	2.32 (7.13)			7.27 (18.70)		
Dissociation Rating 2 (absorbed into video)		0.97	0.33		2.93	0.09
Self	15.45 (39.37)			12.86 (22.21)		
Other	10.36 (24.64)			22.18 (31.90)		

Note. The scale for Realism is between 1 and 5. Lower scores represent a higher degree of realism (1=*entirely realistic*, 5=*not at all realistic*). Ratings from Risk to Romantic Interest were rated on an 8 point scale. On these scales 1=*extremely* and 8=*not at all*. Items related to Control were rated on a 5 point scale where 1=*none of the control*, and 5=*all of the control*. Dissociation items were answered in terms of percentage of time (0-100) on 10 point intervals (e.g., 0, 10, and 20). A higher percentage indicated a greater period of time when the person experienced the symptom. *= significant at $p < .05$level. **= significant at $p < .01$ level. For Video A realism, risk, benefit, anxiety, arousal, romantic interest, female control, zoning out Df= (1,109), support, discomfort, male control, absorption Df= (1,108), and pressure Df= (1,106). For Video B, all variables except for arousal and female control Df=(1,109). Video B arousal and female control Df= (1,108).

Table 14
One Way ANOVA-Consequences for Staying or Leaving the Scene Based on Character Identification.

	Video A			Video B		
If the Female Stays:						
	M (SD)	F	P	M (SD)	F	P
They would have a good time.		2.08	0.15		0.07	0.80
Self	0.04 (0.19)			0.13 (0.33)		
Other	0.00 (0.00)			0.11 (0.32)		
There would be an argument.		0.51	0.48		0.28	0.60
Self	0.67 (0.47)			0.36 (0.48)		
Other	0.61 (0.49)			0.31 (0.47)		
They would talk and the male would back off.		3.92	0.05*		2.29	0.13
Self	0.36 (0.49)			0.43 (0.50)		
Other	0.20 (0.40)			0.29 (0.46)		
Male would try to convince her to have sex.		1.94	0.17		5.51	0.02*
Self	0.24 (0.43)			0.21 (0.41)		
Other	0.36 (0.48)			0.42 (0.50)		
A meaningful relationship would develop.		3.17	0.08		1.31	0.26
Self	0.05 (0.23)			0.09 (0.29)		
Other	0.00 (0.00)			0.04 (0.19)		
They would have consensual sex.		2.54	0.11		8.38	0.01**
Self	0.15 (0.36)			0.07 (0.26)		
Other	0.27 (0.45)			0.27 (0.45)		
Male would force her to have sex. (Rape)		2.38	0.13		0.07	0.79
Self	0.16 (0.37)			0.25 (0.44)		
Other	0.29 (0.46)			0.27 (0.45)		
Other		2.43	0.12		3.30	0.07
Self	0.05 (0.23)			0.21 (0.41)		
Other	0.14 (0.35)			0.09 (0.29)		
If Female Leaves:						
Nothing		0.66	0.42		6.85	0.01**
Self	0.22 (0.42)			0.64 (0.48)		
Other	0.29 (0.46)			0.40 (0.49)		
Male might tell others and they would think badly her.		3.18	0.08		0.03	0.85
Self	0.24 (0.43)			0.21 (0.41)		
Other	0.39 (0.49)			0.20 (0.40)		

Female would find someone else to date.		7.77	0.01**		5.33	0.02*
Self	0.89 (.32)			0.52 (0.50)		
Other	0.68 (0.47)			0.73 (0.45)		
Female would be alone for a long time.		2.84	0.10		2.08	0.15
Self	0.07 (0.26)			0.11 (0.31)		
Other	0.18 (0.39)			0.04 (0.19)		
Female would miss out on a meaningful relationship.		0.001	0.98		2.08	0.15
Self	0.05 (0.23)			0.11 (0.31		
Other	0.05 (0.23)			0.04 (0.19)		
Other		12.78	0.001**[b]		0.05	0.81
Self	0.05 (0.23)			0.14 (0.35)		
Other	0.30 (0.46)			0.13 (0.34)		

Note. Item responses were coded as 0- if the participant did not indicate this would happen, and 1-if they indicated it would happen. *= significant at $p < .05$level. **= significant at $p < .01$ level. [b]= significant with a bonferroni correction (p=0.004). Df= (1,109) for the analyses.

DISCUSSION

The current study had several aims, including an attempt to replicate findings from previous research. Specifically, the goal was to replicate differences between participants with and without a history of sexual assault in regard to when they indicate they would leave a risky vignette and examine potential explanations for this difference. Scripts that were developed for previous studies were used as the basis of the vignettes in this study. However, as opposed to the studies that they were originally developed for, vignettes in this study were shown in video format to evaluate whether visual cues (e.g., body language) made an impact. Additionally, scripts ended prior to a rape to determine if results were consistent when the situation involved a more ambiguous outcome. Finally, in contrast with all of the previous studies, the current investigation was administered completely over the internet as a way of increasing privacy in hopes of facilitating disclosure and limiting the impact of social desirability.

Additionally, this study investigated possible explanations for the previously discussed differences in response latencies (time spent in scene). In particular, psychological factors that have been theoretically linked to sexual assault revictimization, including alexithymia, depression, aspects of dissociation, PTSD, and perceived potential reinforcers and consequences, were explored to see if they were related to response latencies or ratings of risk. Finally, an investigational aim was to see if results would differ depending on how the female in the vignette was identified (self vs. other). The findings from the current investigation, as well as the limitations are discussed below, beginning with an examination of the main hypotheses.

Hypothesis 1. Based on the results from studies like Marx et al. (2001), Soler-Baillo et al. (2005), and Wilson et al. (1999), it was hypothesized that participants' response latency would differ based on their sexual assault history. Specifically, women with an assault history would take longer to indicate that the male character had "gone too far." Results from the current study are commensurate with previous research and support the hypothesis that there is a difference based on sexual assault history in the amount of time the participant takes to indicate that she would leave the scene or when she would indicate that the male went too far. As with the previous research, results from this examination indicated that women with a history of assault took significantly longer to indicate that they would leave the scene. Additionally, females with a history of sexual assault were more likely to watch the entire vignette, never indicating that the male had gone too far and the female should leave.

Interestingly, it was found that in both vignettes, the majority of the participants (more than half in Vignette A and more than two-thirds in Vignette B) regardless of assault history did not indicate that they would leave the scene. This may highlight a potential limitation of previous studies and suggest that when the risk is presented in an ambiguous way (i.e., does not escalate to

a full rape) and the participants are asked to respond in real time rather than in retrospect, participants in general are unlikely to respond that they would leave. Additionally, on a broader scale, it may suggest that within this population (female college students), there is a tendency to remain in situations even in the face of risk. The fact that Vignette B had a lower response rate, even with significant risk (i.e., alcohol, leaving with an unfamiliar male alone, going to an isolated area), could point to the role of social factors (e.g., friends being present, implication of support/trust of the male). This theory is supported by the finding that participants rated this video as having significantly more interpersonal benefits and they rated that male in this video as significantly more supportive.

Hypothesis 2. It was anticipated, after reviewing the results from Naugle (1999), that participants with a history of sexual assault would not show deficits in risk recognition. Rather, it was anticipated that they would rate the vignettes as more risky than did participants without a history of assault. This hypothesis was supported by the findings of the current investigation. In agreement with the conclusions from Naugle (1999), results from a repeated-measures ANOVA failed to show significant differences in risk ratings depending on sexual assault history. However, it did reveal significant differences based on the video, with participants overall reporting that Video B was significantly more risky. When compared with the results discussed under Hypothesis 1, a clear distinction between participants' response latencies and the reported amount of risk emerges. It is the case that risk objectively increases throughout both vignettes. As such, it is possible that the distinction between latencies and risk ratings reflects the fact that participants who watched a greater portion of the vignettes were exposed to aspects of the scene that were more unsafe. However, a significant correlation between risk ratings and response latencies was not found, making this explanation unlikely.

Rather, it appears more probable that the lack of consistency between latency and risk is indicative of the fact that response latency, as used in this study and previous studies like it, is not a measure of risk as it was originally hypothesized. Rather, it may be a more complex decision-making measure.

Hypothesis 3. It is hypothesized, based on the theories like those proposed by Chu (1992), Cloitre and Rosenberg (2006), van der Kolk (1989), and White et al. (1997), that psychological variables (i.e., depression, alexithymia, PTSD, and self-efficacy) would be significantly correlated with response latency. In particular, it was anticipated that the hyperarousal symptoms of PTSD would have the strongest correlation within the PTSD symptom clusters. Correlational analyses examining the relationship between the psychological variables theorized to be related to response times and perceptions of risk failed to produce consistent findings across vignettes. In regard to how long the participant chose to remain in the scene, overall self-efficacy ratings of the females' level of control and the alexithymia subscale examining externally-oriented thinking were all significantly positively related to response latency in Vignette A. In other words, in the scene where an individual male and female were alone following a date, participants who reported having a greater self-efficacy viewed the female in the scene as having more control and/or having an increased tendency to focus on environmental cues or external details rather than emotional or internal cues, and were more likely to stay in the scene for a longer period of time. However, none of these findings was replicated in the other vignette. This may suggest that these variables do not consistently relate to responses in all situations. However, the lack of significant findings with response latencies in Vignette B could also be related to the fact that the majority of participants watched the entire video, thereby limiting the amount of variability in the measure and reducing the ability to detect

potential relationships. Finally, the fact that the sample reported subclinical levels of distress may have contributed to the lack of findings with some variables.

When the proposed psychological variables were examined in relation to the participants' risk ratings, several of the hypothesized outcomes were supported, but only on Vignette B. Participants' assessment of risk in this video was significantly positively related to the total PTSD score, all three symptom clusters of PTSD, depression and the subscale of alexithymia measuring difficulties describing emotions. These results are consistent with previous theories in some regards. Specifically, the finding that higher levels of PTSD symptoms were related to a greater perception of risk is somewhat consistent with Chu's theory (1992), which suggested that hyperarousal and re-experiencing symptoms would be positively correlated with risk perception. However, this theory suggested that avoidance and numbing symptoms should be negatively related, which was not a conclusion supported by the present study. Similarly, van der Kolk (1989) theorized that PTSD symptoms would be associated with the risk for revictimization, suggesting that avoidance and numbing, as well as hyperarousal symptoms, would inhibit appropriate responses. As such, this theory would have suggested differences on the latency measure, rather than the risk assessment measure. Likewise, theories regarding the impact of alexithymia and depression both posited that symptoms would slow a person's response but offered little in the way of overall risk perception. However, a link between depression and risk perception would be reasonable from a cognitive perspective, which might suggest that participants with greater levels of depression would be likely to view stimuli in a more negative light.

Overall, however, as was the case with the response latency correlations, results did not generalize across vignettes, suggesting that the impact of these variables is not reliable across

scenarios. This lack of consistency in terms of the variables that were significantly associated with latency or risk ratings again supports the notion that these two variables are measuring different constructs. The inconsistency between videos within each of these domains raises the possibility that contextual factors may influence the impact or the manner in which psychological variables relate to and potentially influence decision-making and perception.

Nevertheless, one important and consistent finding was observed: results demonstrated that there were significant positive relationships between response times across videos and between risk assessments across vignettes. This suggests that individuals who took longer to respond did so regardless of the scene, and those who viewed one scene as riskier were also more likely to view the next in similar fashion. This suggests that these variables may be consistent individual difference variables that may be helpful in understanding who is at greatest risk for revictimization.

Hypothesis 4. In accordance with the theory of Finkelhor and Browne (1985), it was expected that participants would differ in the number and type of anticipated consequences they endorsed for staying in or leaving the scenario. Specifically, participants with an assault history were expected to endorse a greater number of possible outcomes. Findings from the current study did not support the hypothesis that women with a history of sexual assault would indicate a greater number of potential outcomes for remaining in or choosing to leave the scenario. This hypothesis was made in part because of theories such as that proposed by Finkelhor and Browne (1985), which suggests that sexual abuse as a child often includes very negative consequences but also includes reinforcing aspects such as attention, privileges, or tangible gifts. As a result it was theorized that women with an assault history may be able to identify and may consider more reinforcers and consequences than women without this history.

While this hypothesis was not supported, significant differences in types of outcomes endorsed did emerge. In particular, participants with a history of sexual assault were significantly more likely to report that the male and female would have consensual sex if the female remained in the scenario, and they were also significantly more likely to indicate that the female character may miss out of a meaningful relationship if they left the scene. Such differences in perceived outcome may have an impact on the way in which a person responds in a situation. In particular, the idea that they may miss out on something meaningful might lead to a delay in responding or a more passive response style, as they may be more likely to tolerate the risk because they see a greater chance for significant reward (e.g., a caring relationship). The impact of these differences cannot be fully explored in this study, as the retrospective nature of this rating makes it impossible to determine if participants were considering these outcomes as they were watching the vignettes or if they were only considered as a result of the questions that followed. However, it does lend some support to Finkelhor and Browne's theory (1985), as it suggests that potential for reinforcers (e.g., gaining a relationship, preventing the loss of a future relationship), may play a role in response.

Hypothesis 5. It was theorized that differences would be seen based on character identification. Specifically, it was anticipated that participants with a sexual assault history would demonstrate significant differences based on character identification, with participants responding faster if the character is identified as someone other than herself. In general, this hypothesis was not supported. No significant differences were noted in regard to when or if the participant chose to leave or how risky the scenes were rated based on character identification. However, some differences in regard to perceived consequences were noted. In Vignette A, participants were more likely to indicate that the female could get the male to

understand and back down if she stayed and would be more likely to find someone else to date if she chose to leave, when the female was identified as themselves. In Vignette B, the same differences were not found. Rather, with this video, participants were significantly more likely to indicate that the male would try to convince the female to have sex and the characters would have consensual sex when the female was labeled as a close friend or relative. Additionally, in direct opposition to the results from the previous vignette, participants were more likely to indicate that the woman would find someone else to date in the other condition with this video.

Overall, these findings suggest that there are not behavioral differences in terms of response time or interpretation of risk based on character identification. There appear to be some differences in perceived outcome, often in a way that supports a positive self-bias. However, as discussed previously, the lack of consistent results across vignettes suggests that contextual factor may impact how strong this bias is and in which direction it goes.

Limitations

The findings of this project need to be considered in light of the limitations created by the study design. Of primary consideration, the sample used in this research combined any history of assault into one group. It is possible that results may differ if only participants with a history of repeat victimization are considered. However, this sample did not provide sufficient power to examine this. Further, the fact that sample in the current study was subclinical limits the conclusions that can be drawn regarding the impact of psychological variables in more clinical samples.

Additionally, while the vignette method is one that is commonly used in this type of research, it cannot be assumed that it is analogous with real world situations. As such, the generalizability of the findings is unknown. Further, while questions were embedded into the

surveys in an attempt to insure that participants actually watched the videos, there was no way to check if participants were responding to the manipulation regarding character identification and actually imagining the characters differently as directed. As a result, whether this manipulation was effective cannot be verified.

Further, while several differences were noted in regard to ratings on the Vignette Rating Questionnaires (i.e., risk ratings, consequences for leaving or staying), the fact that participants completed this following the completion of the video makes it impossible to know if these differences were present while watching the vignettes or if they had an impact on if or when the participant chose to stop the video.

Finally, given the large number of students who were sent e-mails regarding the study and the small percentage of participants who chose to respond, it is possible that some selection biases are present as people who chose to open and respond to the e-mail may be significantly different from those who did not. However, means of reducing sample bias were used in this study, including the fact that the students who received the initial e-mail represented a truly random sample of all female students enrolled at the university.

Future Directions

While these limitations restrict some of the conclusions that can be drawn, several findings raise interesting questions that warrant further exploration. In particular, the reoccurring finding that there were differences between vignettes suggests that it could be important to examine how social or contextual factors may play a role in a person's interpretation of risk, as well as how these factors might interact with psychological variables. Additionally, given that differences were found in regard to the perceived outcomes of different behavioral responses (staying or leaving), based on sexual assault history, a better understanding of how these

perceptions impact decision-making and actual responses would be beneficial. Further, given that response latencies and risk assessments did not appear to be related, future studies should focus on better understanding the factors besides perceived risk that contribute to the decisions to remain in or leave these types of situations.

Additionally, an area of research that has been expanding recently has explored the role of substance use in sexual assault and revictimization (e.g., Davis, Stoner, Norris, George, & Masters, 2009; Krebs, Lindquist, Warner, Fisher, & Martin, 2009; Messman-Moore, Ward, & Brown, 2009; Testa, Hoffman, & Livingston, 2010; Ullman, Najdowski, & Filipas, 2009). This research has suggested that the majority of sexual assaults in a college population involve voluntary alcohol consumption on the part of the female (Krebs et al.) and that problematic drinking patterns are a risk factor for assault (Ullman et al.). Further, findings from recent studies have demonstrated that alcohol use may mediate the relationship between adolescent and adult sexual assault (Testa et al.), as well as the relationship between PTSD symptoms and revictimization (Messman-Moore et al). In total, this area of research indicates that alcohol use is an important variable that may help to explain the pattern of revictimization. As such, future research should further explore the impact of alcohol use, in particular, investigating if alcohol use has equivalent effects for women without a history of victimization, as well as exploring if risk reduces following substance abuse treatment.

Conclusions

The results from this study replicated several previous studies in demonstrating that there are differences based on sexual assault history in terms of the amount of time a participant will stay in a risky impersonal situation. Additionally, it supports previous findings that suggest that this delay in response time is not related to a deficit or differences in risk detection. These

findings have significant clinical implications. In particular, these findings indicate that prevention efforts should not be focused solely on teaching women, particularly with a history of assault, about risk detection, but should also focus on developing assertive behavioral responses that can help them to remain safe.

In addition to replicating previous work, the present study extended previous findings by examining differences in perceived consequences to behavioral responses. Results in this area provided initial evidence suggesting that women with a history of assault may view situations differently in regard to what they might gain by staying in a situation in spite of risk, as well as what they might miss if they choose to leave. While this is a preliminary finding, it may have important implications in regard to understanding why participants with a history of assault tend to stay longer even when they recognize the danger. It also suggests other potential avenues for therapy, including focusing on ways to set appropriate boundaries in relationships and get emotional needs meet in safe and secure ways.

Further, this study also attempted to expand the previous literature by exploring the impact of psychological variables and character identification on responding and risk detection. Results of these analyses demonstrate the complex nature of these phenomena and suggest that these variables might play different roles in different situations or contexts. This should also be investigated further. Finally, this study was the first of this kind to use an internet-based approach. The fact that several results from this study replicated findings from previous work utilizing alternative methods suggests that this is a valid and promising method for conducting this type of research.

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Appendix A

EASTERN MICHIGAN UNIVERSITY

Education First

April 9, 2010

UHSRC Continuation
Application Determination
EXPEDITED CONTINUATION APPROVAL

To: Katherine Porter
Psychology

Re: **UHSRC #** 100411C
Approval Date:
Category: Approved Continuation Expedited Research Project
April 9, 2010

Title: The Impact of Prior Sexual Victimization and Victim Identification on Threat Recognition in a College Sample

The Eastern Michigan University Human Subjects Review Committee (UHSRC) has completed their review of your continuation for a previously approved expedited project. I am pleased to advise you that **your research continuation has been approved** in accordance with federal regulations.

Renewals: Expedited protocols need to be renewed annually. If the project is continuing, please submit the **Human Subjects Continuation Form** prior to the approval expiration. If the project is completed, please submit the **Human Subjects Study Completion Form** (both forms are found on the UHSRC website).

Revisions: Expedited protocols do require revisions. If changes are made to a protocol, please submit a **Human Subjects Minor Modification Form** or new **Human Subjects Approval Request Form** (if major changes) for review (see UHSRC website for forms).

Problems: If issues should arise during the conduct of the research, such as unanticipated problems, adverse events, or any problem that may increase the risk to human subjects and change the category of review, notify the UHSRC office within 24 hours. Any complaints from participants regarding the risk and benefits of the project must be reported to the UHSRC.

Follow-up: If your expedited research project is not completed and closed after three years, the UHSRC office will require a new **Human Subjects Approval Request Form** prior to approving a continuation beyond three years.

Please use the UHSRC number listed above on any forms submitted that relate to this project, or on any correspondence with the UHSRC office.

Good luck in your research. If we can be of further assistance, please contact us at 734-487-0042 or via e-mail at human.subjects@emich.edu. Thank you for your cooperation.

Sincerely,

[Signature Removed]

Deb de Laski-Smith, Ph.D.
Interim Dean
Graduate School
Administrative Co-Chair
University Human Subjects Review Committee

University Human Subjects Review Committee · Eastern Michigan University · 200 Boone Hall
Ypsilanti, Michigan 48197
Phone: 734.487.0042 Fax: 734.487.0050
E-mail: human.subjects@emich.edu
www.ord.emich.edu (see Federal Compliance)

Appendix B

Full Sample Demographics

Age M (SD)	24.36 (7.66)
Sexual Attraction	74.3% - only men 18.7% – mostly men
Sexual Activity	68%- males only 16%- males and females 14.8%- never active
College Standing	32.9%- Seniors 20.8 %- Junior 20.5%- Other
Race	82.2%- Caucasian 8.8%- African American 2.1%- Hispanic
Major	22.4%-Education 12.4%-Undecided 10.9%-Social sciences/ not psychology 10.9%-Arts
Religion	62.7%- Christian 14.2%- Not religious
Spirituality M (SD)	4.15 (1.79)
Relationship Status	42%- relationship/not living together 28.4%- single/ no relationship 13%- cohabitating 12.1%-married
Length of Current Relationship	48%- More than a year 28.7%-N/A

Appendix C

Full Sample Demographics ANOVA and Post Hoc

	Not Eligible	Completers	Non- Completers	F	*p*
Age M (SD)	29.32 (9.45)	20.63 (1.92)	20.77 (2.28)	74.42	0.00**
Sexual Attraction	67.4% - only men 23.4% – mostly men	77.7%-only men 15.2%-mostly men	82.1%-only men 15.4% mostly men	4.82	0.01**
Sexual Activity	68.8%- males only 21.3%- males and females 7.1%- never active	68.8%-only males 17.0%-never active 14.3%- males and females	65.4%- only males 25.6%- never active 9.0% Males and females	7.72	0.01**
College Standing	36.2%- Other (graduate) 32.6 %- Seniors 16.3%- Junior	34.8%-Senior 25.9%-Junior 17.9% -Sophomore	30.8%-Senior 25.6%-Freshman 21.8% Junior	19.49	0.00**
Major	22.0%- Education 16.3%- Business 13.5%-Pre-med 12.8%-Social Sciences	24.1%- Education 15.2%- Arts 11.6%-Pre-med 10.7%-Undecided	20.5%- Education 16.7%- Pre-med 14.1%-Social Sciences 10.3%-Psychology	0.26	0.77
Race	80.1%- Caucasian 9.2%- African American 5.7%- other/multi	83.9% Caucasian 8.0% -African American 3.6%- other/multi	83.3%-Caucasian 9.0%-African American 3.8%-Hispanic	0.87	0.42
Religion	62.4%- Christian 14.2%- Not religious 12.8%- Agnostic/Atheist	65.2%-Christian 15.2%- Agnostic/Atheist 11.6%- Not religious	50.9%-Christian 17.9%-not religious 11.5%-Agnostic/Atheist	0.39	0.68
Spirituality M (SD)	4.27 (1.81)	3.96 (1.78)	4.19(1.78)	0.94	0.39
Relationship Status	29.8%- relationship/not living together 28.4%- married 23.4%- single/ no relationship	51.8%- relationship/ not living together 30.4-- single/ no relationship 13.4%- cohabitating	50.0%- relationship/not living together 34.6%- single/ no relationship 11.5%- cohabitating	17.20	0.00**

Length of Current Relationship	56.0%- More than a year 27.7%-N/A	45.5%-more than 1 year 29.5- N/A	37.2%-more than 1 year 29.5- N/A	1.32	0.27

Note. Not eligible indicates that they responded to phase 1, but were not eligible for phase 2. Completer indicates that they were eligible and completed Phase 1 & 2. Non-Completer indicates they were eligible for both phases, but only completed Phase 1. *=significant at $p \leq .05$level. **=significant at $p \leq .01$ level.

Significant Bonferrioni Post Hoc Comparisons

			F	*P*
Age	Not Eligible	Non-Completer Completer	0.90 0.81	<0.001 <0.001
Sexual Attraction	Not Eligible	Non-Completer	0.10	0.01
Sexual Activity	Not Eligible	Non-Completer Completer	0.12 0.11	0.001 0.04
College Standing	Not Eligible	Non-Completer Completer	0.17 0.16	<0.001 <0.001
Relationship Status	Not Eligible	Non-Completer Completer	0.14 0.16	<0.001 <0.001

Appendix D
Demographics Questionnaire

What is your age?_____

Which of the following best describes whom you are sexually attracted to?

- Only women
- Mostly women
- Men and women equally
- Mostly men
- Only men

In your lifetime, with whom have you engaged in sexual activity?

- Never sexually active
- With males only
- With females only
- With both males and females

What is your current standing in college?

- Freshman
- Sophomore
- Junior
- Senior
- Other (e.g. graduate student, second bachelors)

What is your major? _____

What is your race/ethnicity?

- White/Caucasian
- Black/African American
- Hispanic/Latino
- Native American
- Asian
- Middle Eastern
- Pacific Islander
- Multi-racial/ or other (please specify)_____

Please describe your religious preference:_____

How religious or spiritual would you rate yourself to be?

Not at all			Somewhat			Very Much
1	2	3	4	5	6	7

What is your marital/ dating status?

- Single, no significant other
- Single, in relationship but no living together
- Cohabitating (living with significant other)
- Married
- Separated or divorced
- Other

How long you have been in your current relationship:

- N/A, not in a current relationship
- Less than 1 month
- 1-3 months
- 4-6 months
- 7 months-1 year
- More than 1 year

Appendix E
Vignette Rating Questionnaire
Adapted from Naugle (1999)

Please answer the following questions for the scenario you just watched. Circle the number that most appropriately corresponds to your reactions to the videotaped situation.

1. How realistic is the scene you just watched?

1	2	3	4	5
Entirely realistic	Very realistic	Moderately realistic	Somewhat realistic	Not at all realistic

2. How much potential interpersonal risk was involved in the scene you just watched?

1	2	3	4	5	6	7	8
Extremely risky		Moderately risky		Mildly risky			Not at all risky

3. What aspects or things in the scene did you find risky?_____

4. How much potential interpersonal benefit (e.g., social benefits, relationship development, enjoyment) was involved in the scene you just watched?

1	2	3	4	5	6	7	8
Extremely beneficial		Moderately beneficial		Mildly beneficial			Not at all beneficial

5. How supportive was the male depicted in the scene you just watched?

1	2	3	4	5	6	7	8
Extremely supportive		Moderately supportive		Mildly supportive			Not at all supportive

6. How much social pressure was involved in the scene you just watched?

1	2	3	4	5	6	7	8
High degree of social pressure		Moderate degree of social pressure		Mild degree of social pressure			No social pressure

7. How uncomfortable did you feel during the scene you just watched?

1	2	3	4	5	6	7	8
Extremely uncomfortable		Moderately uncomfortable		Mildly uncomfortable			Not at all uncomfortable

8. How anxious did you feel during the scene you just watched?

1	2	3	4	5	6	7	8
Extremely anxious		Moderately anxious		Mildly anxious			Not at all anxious

9. How sexually aroused did you feel during the scene you just watched?

1	2	3	4	5	6	7	8
Extremely aroused		Moderately aroused			Mildly aroused		Not at all aroused

10. How romantically interested were you in the male depicted in the scene you just watched?

1	2	3	4	5	6	7	8
Extremely interested		Moderately interested			Mildly interested		Not at all interested

11. What were some of the positive features about the male in the scene you just watched? In other words, what did you like about this person?_____

12. What were some of the negative features about the male in the scene you just watched? In other words, what did you dislike about this person?_____

13. What do you believe would happen if you (or your friend/relative)[6] stayed in the situation? (Check all that apply).

    a. You/ They would have a good time
    b. There would be an argument
    c. You/They would talk and male would eventually understand and back off
    d. Male would spend a lot of time and would do a lot for you/her in order to convince you/her to have sex.
    e. A meaningful relationship would develop and you/they would continue dating the male
    f. You/They would have sex
    g. Male would force you/them to have sex
    h. Other (please specify):_____

14. What do you believe would happen if you (or your friend/relative)[1] leave? (Check all that apply).

    a. Nothing
    b. Male might tell others and they might think badly of you
    c. You would find someone else to date
    d. You may end up alone for a long time
    e. You may miss out on a meaningful relationship
    f. Other (please specify):_____

[6] Wording will differ based on condition.

15. How much control do you believe you have (or your friend/relative has)[1] in determining the outcome of this interaction?

    a. None of the control
    b. A little control
    c. Some control
    d. A lot of control
    e. All of the control

16. How much control do you believe the male has in determining the outcome of this interaction?

    a. None of the control
    b. A little control
    c. Some control
    d. A lot of control
    e. All of the control

17. Where were the characters in the scene (e.g., fair, bookstore)?_____

18. What was this the last thing to occur prior to you stopping the video?

    _____

19. When you were listening to the vignettes, did you find that there were times when you were listening and then suddenly realized that you did not hear all or part of what was said because you had "zoned out?" [7]

    Yes No

    If you answered yes, what percentage of the time did this occur during the video vignettes?

    0% 10 20 30 40 50 60 70 80 90 100%

20. When you were watching the video vignettes, did you become so absorbed in the story that you were unaware of other events happening around you?[7]

    Yes No

    If you answered yes, what percentage of the time did this occur during the video vignettes?

    0% 10 20 30 40 50 60 70 80 90 100%

[7] Items 19 and 20 are taken from the Dissociative Experiences Scale (Bernstein & Putnam, 1986)

Appendix F
Vignette A Script
(Adapted Marx Script)[8]

The setting is the male's apartment. The scene begins with the male and female entering the apartment.

M: Please excuse my apartment. It's a real mess right now.
F: It's alright. I don't mind.
M: Would you like to sit down on the couch?
F: Sure.
M: I'm going to turn down the lights, if that's alright.
F: That's fine.
M: I don't know about you, but I really enjoyed that movie. Jack Nicholson is one of my all time favorite actors.
F: Yeah, I thought it was good although the ending was really predictable.
M: That's true, but it was still entertaining. Besides, the best part of the movie was being with you.
F: *(Giggles)* Thanks. I enjoy being with you too.
(Kissing)
F: Did anyone ever tell you you're a great kisser?
M: Maybe one or two. Your sitting too far away from me, I need to move closer to you. (Moves closer) Now this is much better.
F: You really know how to show a girl a good time. Kiss me.
(Kissing/ longer than time one)
M: You have such a hot body. *(Female giggling in back round)* When I am close to you, you drive me wild.
F: I love when you hold me like this, it feels so good.
M: Oh yeah. It feels good to me too. I would like to touch your breasts.
F: Oh, don't do that.
M: You really turn me on. Kiss me.
(Kissing / male moves hands toward breast)
F: *(Pushes hands away)* I'd like you to touch my chest, but not right now.
M: Okay, I'm sorry, but you know that when I get close to you I lose control. I apologize, it won't happen again.
F: It's alright. Now come here and kiss me.
M: Anything you say.
(Kissing)
F: *(Angrily)* Haven't you been listening to me? I just got done telling you that I don't want you to touching my chest and then you go and touch me on my butt? I want there to be something more to our relationship than just sex. Don't You?
M: Sure I do. But I need this as much as the other stuff. It's important to me.
F: Don't you care about what's important to me.
M: Yes. Of course I care about what's important to you, but I just want you so much.

[8] This script was modified from the vignette originally developed by Marx and Gross (1995) and used in (Marx et al., 2001; Soler-Baillo et al., 2005; Wilson et al., 1999).

F: No I can't right now.
M: Come on now don't tease me! I know how you feel about me and you know how I feel about you. I know you want to sleep with me.
F: No! Not tonight, I don't want our relationship to be based only on sex.
M: If it's more time you want than its more time you get.
F: I knew you would understand. Come here.
(Kissing)
M: I love you.
F: No *(pushes males hands away)* get your hands out of my pants!
M: If you don't let me do this I don't know what I'll do… I think I might have to stop seeing you. I know you don't want that to happen, so why don't we just sleep together.

After participant indicates that the male has gone too far insert prompt. "WHAT WOULD YOU SAY OR DO NOW?

Appendix G
Vignette B-Script
Adaptation of Messman-Moore & Brown, 2006 Script

Main female character and another female walk up towards a house a night. The main female thanks the other female for driving as they approach the door. House is "other" female's sister's house. Main female asks sisters name and her boyfriend's name. Other female provides information and indicates that her sister's boyfriend had invited another male over as well.

Sister opens door and all are invited in. Introductions are made and a reference to alcohol/drinking is made. Main male and female are introduce. Male recognizing female from a college course.

M: "Don't we have psych together?"

F: "*Yeah, I think so. Don't you sit in the back of the class?"*

Chit Chat occurs between group, and the male complements the female.

Short time later male offers to get female a drink

M: "I am going to grab another drink, do you want one?"

F: "Sure, that sounds great."

Male leaves the view. Other characters talk, make reference to male being a "good guy." Male returns and other female make excuse to go into other room, leaving the two characters alone.

They talk about school, hobbies, etc. No direct physical contact or overt flirtation

Montage of scene from several hours. Show male and female laughing, flirting, male touches female's arm, back, on occasion.

Following montage, scene opens with main female and female character who drove on a couch. Driver clearly drunk.

F: "How much have you had to drink?"

F- driver makes moaning sound. Sister comes over

Sister: "What wrong with her?" "Sis are you ok?"

F: "There is no way she can drive me home."

Sister: "Yeah will have to get you a ride home."

M: "Don't worry, I'll give you a ride home." Mentions that it would be on his way. Sister references that it would be a big help.

M: "Are you ok if I take you home?"

F: " Yeah, thanks."

They remain at the party for a while. You see them sitting close on a couch. Male references that it is getting late.

M: "It's getting late, we should probably get going. I could drop you off, or if you want we could go get something to eat, maybe go to my apartment and watch a movie?"

F: "That sounds like fun"

Hear them walking up to male's apartment. Opens door to dark apartment. They make small talk about the apartment. Female inquires about a roommate. Male indicates that he is not home. Male attempts to kiss female, she pulls away. Male pulls back, offer to take coat.

M: "*You look really good tonight,"*

F: *"Thanks" female replies in a hesitant tone.*

Female tries to engage the male in small talk. He continual moves closer and keeps trying to touch her.

M: "I'm so attracted to you. You are so smart and beautiful. Would you ever be interested in a guy like me?" He turns to female and begins kissing her.

Female gently pushes him away, tries to bring up movie, but he continues more passionately, reaching for her breast.

M: "I know that you have a secret crush on me. Otherwise you wouldn't have come here." Male begins trying to un-tuck/ open female's shirt

F: Grabs both of male's hands. In firm voice says "Stop."

Appendix H
Demographics Assault vs. Non-Assault Groups

	History of Assault	No Assault	F	*P*
Age M (SD)	21.10 (2.03)	20.20 (1.78)	5.99	0.02*
Sexual Attraction	73.8%-only men 19.7%- mostly men 6.6%-men and women equally	84.0%- only men 12.0%-mostly men 4.0%-men and women equally	1.46	0.23
Sexual Activity	80.3%- males only 18.0%- males and females 1.6%-never active	52.0%-males only 40.0%-never active 8.0%-males and females	14.42	<0.001**
College Standing	42.6%-senior 23.0%-junior 14.8%-sophomore	28.0%-senior 26.0%-junior 22.0%-sophomore	2.67	0.11
Major	24.6%-Education 14.8%-Science 13.1%-Arts	18.0%-Education 18.0%-Arts 14.0%-Pre-med	3.25	0.07
Race	80.3%- Caucasian 11.5%- African American 4.9%- Middle Eastern	86.0%- Caucasian 6.0%- Other/multi 4.0%-African American	0.04	0.85
Religion	65.6%- Christian 18.0%- Agnostic/Atheist 8.2%- Not religious	68.0%-Christian 12.0%- Agnostic/Atheist 10%- Not religious	0.00	0.99
Spirituality M (SD)	3.90 (1.67)	4.12 (1.84)	0.43	0.51
Relationship Status	55.7%- relationship/not living together 27.9% single, no relationship 13.1%-cohabitating	46.0%- relationship/not living together 34.0% single, no relationship 16.0%-cohabitating	0.00	0.95
Length of Current Relationship	45.9%-More than 1 year 27.9%- N/A	46.0%-More than 1 year 32.0%- N/A	0.00	0.93

*= significant at $p < .05$level. **= significant at $p < .01$ level.