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Men's Responses to Women's Sexual Refusals: Development and Construct Validity of a Virtual Dating Simulation of Sexual Aggression

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Objective: To provide evidence regarding the construct validity of a sexual aggression proxy in which male participants go on multiple virtual dates with a woman. A unique strength of this proxy is participants' opportunity to make choices throughout the simulation about how they interact with their virtual date. These decisions determine their exposure to the female agent's sexual refusals. **Method:** Piloting included focus groups ($n = 82$), surveys ($n = 95$), and cognitive interviews ($n = 32$). To establish construct validity, 87 male participants completed 2 separate sessions: a) an online survey with measures of discriminant and convergent validity; and b) a lab session in which they went on multiple dates that included nonsexual options, sexual options that the female agent accepted, and sexual options she refused. Sexual aggression was operationalized as the total number of sexual refusals that participants received. **Results:** There was strong correlational evidence for discriminant and convergent validity. As hypothesized, there were some differences in the risk factors associated with refusals received on casual as compared to steady dates. Additionally, the number of refusals received was associated with the types of thoughts and actions commonly reported by perpetrators. **Conclusions:** This simulation provides a new approach for examining sexual aggression in controlled experiments that vary factors within the simulation such as the man's and woman's intoxication and past sexual history. Because what happens is based on each individual's responses, it could be adapted for use in prevention and treatment programs.

Keywords: sexual aggression, sexual assault, perpetration, experimental analogues, etiology

Numerous surveys conducted with college and community samples have made important contributions to knowledge about the prevalence and etiology of sexual aggression (see Tharp et al., 2013 for a review). Surveys are essential for understanding phenomenon which are illegal, morally condemned, and/or conducted in private. Another strength of surveys is that through sophisticated sampling strategies they can gather representative samples of understudied groups as well as the general population. Surveys also have limitations including their reliance on individuals' ability to accurately recall past thoughts, feelings, and actions, as well as their willingness to honestly report them. Although prospective surveys can establish the temporal ordering of phenomenon, neither cross-sectional nor prospective surveys can establish the causal role of presumed predictors because they cannot rule out third variable explanations (Shadish, Cook, & Campbell, 2002). Experimental studies complement surveys because they examine individuals' immediate responses and they often include behav-

ioral measures. When individuals are randomly assigned to conditions, experiments also allow causal conclusions regarding manipulated independent variables (Shadish et al., 2002). A major challenge for experimental studies is determining optimal ways to operationalize sexual aggression. Two basic types of sexual aggression proxies have been used in past experimental research: sexual assault scenarios and confederates (see Abbey & Wegner, 2015 and Davis et al., 2014 for reviews). The following sections of this paper describe characteristics and challenges associated with each type. We then describe a dating simulation that uses a two-dimensional virtual reality paradigm to combine many of the strengths of other analogues. The purpose of the studies described in this paper is to provide preliminary evidence regarding the construct validity and usefulness of this new sexual aggression proxy in which male participants go on multiple virtual dates with a woman and make choices about how they spend their time together. Although women can be sexually aggressive and men can be victims of sexual violence committed by men or women, we focused on the most common form of sexual aggression, which involves a male perpetrator who knows his female victim (Black et al., 2011).

Characteristics of Sexual Aggression Experimental Proxies

Experimental researchers often make a distinction between mundane and experimental realism (Wilson, Aronson, & Carlsmith, 2010). Mundane realism is the extent to which the experimental setting and stimuli are similar to the real world, thus it is heightened when the experimental situation corresponds to natural

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situations on surface characteristics. Experimental realism is the extent to which participants become so caught up in the study that they feel, think, and respond in ways that correspond to their behavior in natural settings.

Many researchers have exposed male participants to a sexual assault scenario, through either a written vignette or brief film (Abbey, Parkhill, Jacques-Tiura, & Saenz, 2009; Davis et al., 2012; Noel, Maisto, Johnson, & Jackson, 2009; Norris, Davis, George, Martell, & Heiman, 2002). For example, Bouffard and Miller (2014) asked male college students to read a story about a date rape between two casual acquaintances who engage in some consensual sexual activities; however, when the man tries to remove the woman's clothes, she clearly states that she is not interested in having sex. Sexual aggression was operationalized as participants' self-reported likelihood of using various coercive strategies to get the woman to have sex with them. Some scenario studies also assess affective states and cognitions that are expected to increase the likelihood of sexual aggression (e.g., Davis et al., 2012).

Sexual assault scenarios are usually high in mundane realism because they are typically based on victims' and perpetrators' reports. Many are written in a sexually explicit style intended to enhance participants' involvement in the story and identification with the male character; thereby strengthening experimental realism. This paradigm is based on the premise that participants can imagine themselves in the depicted situation and report how they would act in a similar "real life" situation. Some participants may not want to acknowledge to themselves or the researchers that they would act aggressively. Marx and Gross' (1995) sexual assault proxy is unique because it uses a behavioral outcome measure. Participants listen to an audiotope of a simulated sexual assault that occurs in a man's apartment. The man initiates kissing that the woman clearly enjoys, but when he begins touching her breasts she asks him to stop. The man apologizes, but he soon tries again. Her refusals become stronger and the man eventually becomes verbally and physically violent. Participants are asked to stop the tape at the point the man in the story should stop making sexual advances; thus sexual aggression is operationalized as how long they allow the man to continue (i.e., response latency).

There is also a long tradition of using confederates to assess male participants' sexual aggression tendencies in experimental research (Diehl, Rees, & Bohner, 2012; Hall & Hirschman, 1994; Maass, Cadinu, Guarnieri, & Grasselli, 2003; Thomas & Gorzalka, 2013). Researchers who use confederates recognize that the situation does not directly correspond to sexual assault; however, their goal is to enhance experimental realism by inducing the sexual arousal, anger, and distorted cognitions that are hypothesized to produce a sexually aggressive response among men predisposed to sexual violence. Hall and Hirschman (1994) argued that a good proxy for sexual aggression is the imposition of sexual stimuli on a female confederate. Many variations of this paradigm have been developed, including versions in which male participants can choose to send pornographic material or sexist jokes via computer to a woman (Diehl et al., 2012; Maass et al., 2003).

These studies limit participants' interaction with the confederate to protect her physical and emotional well-being. Many of these studies also standardize the confederate's behavior; often they are not allowed to talk to participants or show an emotional reaction (for an exception see Thomas & Gorzalka, 2013). In actual sexual

assault situations, victims' emotional and physical responses are likely to affect whether potential perpetrators escalate or desist (Lopez, George, & Davis, 2007). Thus, there are unanswered questions regarding the types of perpetrators and situations to which findings from confederate paradigms are likely to generalize (see Abbey & Wegner, 2015 and Davis et al., 2014 for more detailed discussions of these issues).

Potential Advantages of Virtual Reality Proxies

All research involves trade-offs (Shadish et al., 2002), and much has been learned about the etiology of sexual aggression through studies that use sexual assault scenarios and confederates. Virtual reality paradigms have the potential to combine the strengths of both of these types of proxies because they contain aspects of each. Like proxies that use written, audio, and video sexual assault scenarios, participants react to a situation that is designed to reflect "real life" experiences. Like proxies that use confederates, participants react to a standardized woman and make behavioral choices that can be construed as sexually aggressive. The term *agent* is typically used when the virtual date's words and actions are preprogrammed; when a human confederate directs the action, the term *avatar* is used (Bailenson, Beall, Loomis, Blascovich, & Turk, 2005).

Although the virtual environment is obviously computer generated, people tend to react to computers that exhibit social responses as they do toward humans (von der Pütten, Krämer, Gratch, & Kang, 2010). Involvement in a virtual environment is heightened by a variety of factors (Blascovich et al., 2002), including the relevance of the virtual environment to participants (achieved through a thorough literature review and pilot testing) and by behavioral realism (achieved by the use of female agents that make eye contact, talk, have voice and mouth synchronization, realistic head movements, and posture shifts). Participants in a virtual environment typically experience physiological arousal that is comparable to what is experienced in actual social interactions (Slater et al., 2006). A unique strength of a virtual reality proxy is that participants are actively involved in developing the story. Participants are provided with choices at multiple points about how they want to interact with their partner, and these choices determine what happens next (Fox, Arena, & Bailenson, 2009). Participants have the opportunity to learn from their choices and make different decisions based on the woman's response. To our knowledge, virtual reality simulations have not been used to assess men's sexual assault perpetration proclivity, although they have been used to examine women's responses to potential sexual assault situations (Jouriles, Rowe, McDonald, Platt, & Gomez, 2011).

Goals of the Current Study

The first goal of the studies described in this paper was to develop a realistic dating simulation. We examined a number of options prior to writing the grant that funded this research, and ultimately selected WorldViz LLC to develop the simulation using the Vizard technology and Python programming language. Based on several criteria, we chose to develop a two-dimensional virtual reality simulation. Participants interact with their date through a large high-definition computer monitor and keyboard. Participants

see the room and the female agent from the first person perspective, as they would if they were actually in the room. The use of the first person perspective encourages participants to feel a part of the simulation, instead of viewing it from outside as an observer of someone else's interaction (Bailenson et al., 2005; Kim, 2005). Figure 1a, which is described in more detail in a later section, is a screen shot from the fully developed simulation. After participants make a selection, it is enacted (e.g., she talks about a topic he selects, he drinks some beer). The female agent uses verbal and nonverbal cues to refuse some sexual activities and her refusals become progressively stronger if he persists. Sexual aggression was operationalized as the number of refusals that participants received in the simulation.

We considered developing a more immersive three-dimensional environment that required participants to wear a helmet, headphones, and gloves. We had two concerns about this approach. Although we wanted participants to be drawn into the simulation and act as they would on an actual date, we were troubled by the possible ethical implications associated with developing a simulation in which participants could virtually touch a woman who had repeatedly refused them. Additionally, this technology is expensive; thus limiting its availability to most researchers.

The second goal was to provide evidence of construct validity with convergent and discriminant validity indicators assessed in a separate survey session (Campbell, & Fiske, 1959). Convergent validity demonstrates that concepts (operationalized with specific

measures) that should be related to each other actually are correlated with each other. In a complementary manner, discriminant validity is "the requirement that a test not correlate too highly with measures from which it is supposed to differ" (Campbell, 1960, p. 548). We are not aware of any theory or research that associates perpetration of sexual aggression with life satisfaction or perceived stress, thus these variables were selected to assess discriminant validity. We also included age, education, income, time spent playing computer games, and social desirability. Based on the available literature, we did not expect these variables to be significantly associated with this study's operationalization of sexual aggression (Bernat, Stolp, Calhoun, & Adams, 1997; Merrill et al., 1998; Tharp et al., 2013; Valadez & Ferguson, 2012), although we recognize that the literature is mixed regarding the association between social desirability and sexual aggression and that some researchers view demographic characteristics as potential covariates. Although, the null hypothesis cannot be formally accepted, to evaluate discriminant validity the first hypothesis is that the number of refusals that participants received in the simulation would not be significantly associated with life satisfaction, perceived stress, time spent playing computer games, age, education, income, and social desirability.

Convergent validity was assessed through three strategies. First, we assessed self-reports of past sexual aggression (in the earlier survey session). Men's likelihood of committing sexual assault can change over time, thus past perpetration is not always an indicator of the likelihood of future perpetration (Abbey, Wegner, Pierce, & Jacques-Tiura, 2012; Swartout, Swartout, Brennan, & White, 2015; Thompson, Swartout, & Koss, 2013). Consequently, we also assessed risk factors that have consistently been associated with sexual aggression (in the earlier survey session), including measures of personality characteristics, hostile masculinity, impersonal sex, alcohol consumption, and perceived approval from friends (Abbey & Jacques-Tiura, 2011; Malamuth, Sockloskie, Koss, & Tanaka, 1991; Tharp et al., 2013). Current beliefs and behavior may be more proximal indicators of current sexual aggression likelihood. Finally, participants completed a second experimental analogue of sexual aggression after completing our dating simulation. We selected Marx and Gross' (1995) audiotape of a simulated sexual assault because it uses a behavioral outcome measure and its construct validity has been established (Bernat et al., 1997). The second hypothesis is that there would be a positive relationship between the number of refusals that participants received in the simulation and each of these convergent validity indicators.

The third goal of this study was to explore differences in the risk factors associated with sexual aggression in casual and serious relationships. Existing proxies focus on casual relationships between the perpetrator and victim. However, many sexual assaults, including those reported by young, single adults, occur in the context of steady relationships (Koss, Gidycz, & Wisniewski, 1987; Testa, VanZile-Tamsen, & Livingston, 2007; Wegner, Pierce, & Abbey, 2014). Thus, we compared participants' first date to their fourth date, which occurred 3 months later, after they had recently been sexually intimate and were not seeing anyone else. Overall, we expected many similar associations. Based on the limited relevant past research, the third hypothesis is that the number of refusals received in a casual relationship would be uniquely and positively associated with alcohol consumption and number of sex partners (Harrington & Leitenberg, 1994;

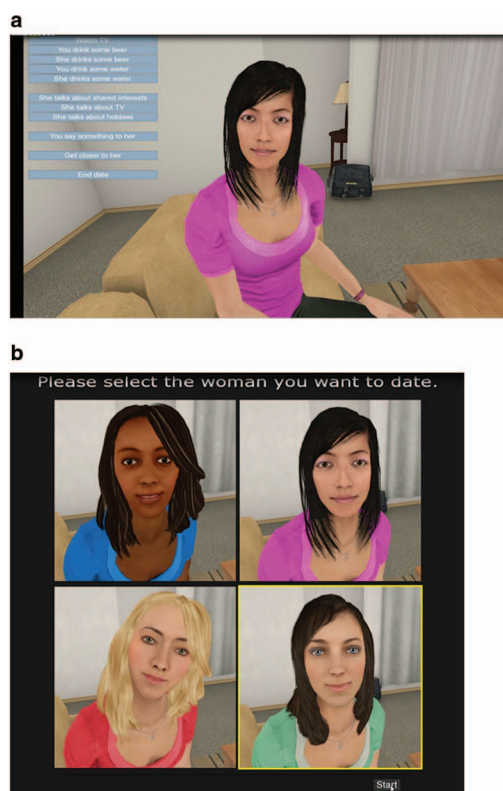


Figure 1. a and b: Sample screenshots from simulation. a: Initial behavioral options. b: Participants' date choices. See the online article for the color version of this figure.

Wegner et al., 2014); whereas, the number of refusals received in a committed relationship would be uniquely and positively associated with narcissism (Baumeister, Catanese, & Wallace, 2002; Livingston, Buddie, Testa, & VanZile-Tamsen, 2004).

The fourth goal was to examine the relationships between the number of refusals received and other actions taken during the simulation. Based on victims' and perpetrators' descriptions of incidents, the fourth hypothesis is that the number of refusals that participants received would be positively associated with (a) engaging in sexual activity in the simulation; (b) the woman's and man's alcohol consumption; and (c) the man's use of compliments, apologies, insults, and threats (Abbey & Jacques-Tiura, 2011; Harrington & Leitenberg, 1994; Livingston et al., 2004).

The fifth goal was to demonstrate that participants' self-reported feelings and thoughts during the simulation were similar to those reported by perpetrators as justifications for their behavior in survey research and found to mediate sexual aggression proclivity in experimental research (Bouffard & Miller, 2014; Davis et al., 2012; Norris et al., 2002; Ward, Hudson, Johnston, & Marshall, 1997; Wegner, Abbey, Pierce, Pegram, & Woerner, 2015). The fifth hypothesis is that the number of refusals that participants received would be positively associated with (a) feeling immersed in the simulation, (b) feeling sexually aroused, (c) being mad at the woman for refusing them, and (d) thinking that she was playing hard to get and was leading them on.

General Method

The following sections describe the shared aspects of the methodology of the pilot tests and the construct validity study.

Participants

Participants for all of the studies were required to (a) be between the ages of 18 and 29 years old, (b) have dated someone of the other sex within the past 2 years, (c) be currently single (not engaged, married, cohabiting, or in a relationship in which they had agreed to date exclusively), and (d) have engaged in some type of sexual activity with someone of the other sex.

Procedures

Participants were recruited for a study of dating decisions and behavior through a variety of strategies. Ads were posted on Craigslist, Classifiedads.com, and other local online sites. Flyers were posted in shops and restaurants in the local community and on the university's internal website. Students were recruited through e-mails using the Registrar's list and through the psychology department's participant pool. All ads included the eligibility criteria and all study materials were approved by the university's human investigations committee.

Participants who completed online surveys were asked to read an information sheet prior to starting the survey that described the purpose of the study, the eligibility criteria, their right to stop the study at any time, information about whom they could call for information, and their compensation. Participants who completed a session in the laboratory were asked to read and sign a consent form that included similar information. Consent forms also indicated that sessions would be audio recorded unless participants

refused and that they could ask to stop the recording at any time (none did). All the studies allowed compensation through research credit for an eligible psychology course. Depending on the length of the study, participants who did not want research credit were paid by the hour or were entered into a drawing for a gift card.

Pilot Study 1: Focus Groups

Participants and Procedures

Five single sex focus groups were conducted with women ($n = 46$) and five with men ($n = 36$), with group size ranging from 5 to 11. A same-sex trained research assistant led the group and a second same-sex research assistant took notes. Audio recordings were transcribed and checked against the notes. The first, second, and fourth authors identified key themes through an iterative process.

Results and Discussion

The group leader guided a discussion about the typical progression of relationships in participants' peer group. Overall, male and female participants provided similar responses. Although there was variability, many participants met potential partners through other friends, at parties, and through social media sites. Participants said that most people they knew did not spend much money on dates early in a relationship; expensive dinner dates were more likely in committed relationships. At early stages of relationships, people were most likely to hang out at someone's home. Based on these findings, we concluded that participants would view a dating relationship as realistic that began with a woman and man who have known each other a while deciding at a party that they are attracted to each other. Additionally, we concluded that as the relationship progressed, it would be realistic for them to make plans that involved advanced commitment and greater expense.

Participants were also asked for advice about the language that we should use in research materials. Most participants thought that the word *dating* was best, even though they did not use that term often with their friends. Furthermore, terms like *hanging out*, *hooking up*, or *seeing each other* had somewhat different meanings in different social networks and were viewed as too colloquial for use in research.

Pilot Study 2: Survey Assessment of Potential Female Agents

At the beginning of the simulation, participants select whom they want to date to increase realism and involvement. Information from two surveys guided development of the female agents.

Phase 1

WorldViz has a library of agents that were available for use in this study. To guide our selection, an online survey was completed by 12 male participants who rated photographs of the 18 young female agents. Using 7-point Likert-type scales, they rated each agent's physical attractiveness, their interest in dating a woman who looked like the agent, and their interest in having sex with a woman who looked like the agent. Participants were also asked to

make suggestions about what would make the agents look more like someone they would want to date. Based on participants' ratings, we selected four agents that varied in ethnicity and hair color. In general, participants suggested that female agents would be most appealing if they wore casual clothing, had large breasts, and long, loose hair.

Phase 2

After WorldViz programmers modified the four agents' appearance and clothing based on participants' suggestions, an online survey was completed by 83 male participants who answered questions similar to those described above. Eighty-four percent of participants found at least one of the agents somewhat attractive, 76% were at least somewhat interested in dating one of them, and 85% were at least somewhat interested in having sex with at least one of them. WorldViz programmers made a final set of modifications to the female agents based on participants' feedback regarding some of the agents' hair, lips, and skin tone.

Pilot Study 3: Cognitive Interviews

Cognitive interviews were conducted at two stages of simulation development to insure that participants perceived the elements of the simulation as realistic and involving.

Phase 1

The first cognitive pilot was conducted with 11 male participants after several key elements of the simulation were developed. Participants interacted with the simulation in a room by themselves. They were asked to say out loud what they were thinking throughout the experience (Knafl et al., 2007). Then a male research assistant went through the simulation with them, asking them to comment on how realistic each element was and if they had suggestions for improvement. The most common suggestions were to include an option for watching TV and to provide more topics of conversation.

Phase 2

After most of the simulation was developed, a second pilot was conducted with 11 male and 10 female participants. Procedures were similar to those described above. Female participants interacted with a female experimenter and were asked to take the female agent's perspective.

Overall, participants' reported that they found the simulation realistic and involving. Both female and male participants stated that the ways the woman refused the man's sexual advances were realistic and escalated appropriately when he continued despite her refusals. Both female and male participants felt that it would be unusual if the man and woman had not engaged in sexual intercourse by the final date, which was described as occurring after they had been seeing each other 3 months. Thus, this information was added to the background material (see Simulation Content section below for more information). Participants also made suggestions that were integrated into the final version of the simulation regarding additional topics of conversation and ways that participants could talk to the female agent. Some of their sugges-

tions were cost prohibitive (e.g., show them in a different setting for each date rather than always in her apartment).

Construct Validity Study

Participants

The 87 male participants were on average 22.06 years old ($SD = 3.07$). Forty-seven percent self-identified as Caucasian or White, 16% as African American or Black, 12% as Middle Eastern or Arabic, 12% as Asian or Pacific Islander, 8% as Multiracial, 2% as Hispanic, and 3% as other. Eighty-five percent of participants reported that they were full-time students.

Procedures

Participants completed an online survey that included the eligibility criteria, measures of discriminant and convergent validity, and demographic information. Eligible participants (e.g., between the ages of 18 and 29, not in a committed relationship) were scheduled for a laboratory session that was run by a male experimenter. After reviewing the consent form, experimenters explained that participants were going on a series of virtual dates with a woman on the computer. Participants were shown several screen shots so they would know what to expect. Participants were asked to talk out loud throughout the simulation, saying whatever they would say to a date in real life. They were also told that it was important to act how they would on a real date, thus they should make choices based on what they would want to do in this situation with a woman they were dating. The experimenter told participants that if they were curious about options they did not select, they could explore them after the simulation ended.

After the simulation, participants completed a computerized survey. Then they were given instructions for the simulated sexual assault audiotape that was described in the introduction in which a man's verbal and physical aggression steadily increases, ending with a physically violent rape (Marx & Gross, 1995). Because the original audiotape was spoken by actors with Southern accents, we recorded it with two local acting students. The original script was followed except the movie they discussed was updated. Participants were told that they were going to listen to an audiotape of a sexual interaction and that their task was to press the space bar when the man should stop his sexual advances to the woman. Participants were asked to repeat the instructions before the experimenter started the tape and left the room. After listening to the audiotape, participants completed a computerized survey. They were then given their compensation and a brochure, as well as the opportunity to ask questions about the study. The brochure included information about a variety of topics relevant to young adults (e.g., nutrition, depression). One section was titled "Sexual assault: It is more common than you think," and included definitions and prevalence information. On average, participants took 2 hours to complete the study and received 2 hours of research credit, \$30 (\$15/hour), or a combination of the two based on their preference.

Simulation Content

As can be seen in Figure 1b, participants were presented with head shots of four women and asked to select the woman they

wanted to date. Participants went on four dates with the same woman before the simulation ended. Each date began in the woman's apartment with both of them sitting on her couch. Participants saw what happened through a first-person perspective, thus they only saw some of "their own" legs and arms during the simulation.

A brief "back story" was provided in large font on the computer screen before each date began, which set the context for how long they had known each other and where they had been that evening. When participants pressed a key indicating they were ready, the woman talked about where they had just been (e.g., a party on Date 1). As can be seen in Figure 1a, participants were then presented with choices about what they wanted to do which included watch TV, you drink some beer, she drinks some beer, you drink some water, she drinks some water, she talks about a topic (three included on first date; others added on later dates), you say something to her, get closer to her, or end date. For example, if participants selected "she drinks some beer" they saw her reach for a beer, drink some of it, and smile. Each animation lasted 10 to 30 seconds. Then the female agent went into an active idle mode, smiling and making eye contact with participants until they made their next selection.

When participants selected "you say something to her" they were provided a list of options regarding what they wanted to say: give her a compliment, tell her you care about her, apologize, insult her, threaten to end the relationship, or say something else, whatever you want. Although participants were encouraged to talk throughout the simulation, this option was recommended by pilot participants because it allows them to make the intended meaning of the message clear.

If participants selected "get closer to her," then after she moved physically closer to them on the couch, an additional list of 10 sexual activities were displayed which ranged from putting your arm around her to kissing her to touching her breasts to oral sex to vaginal sex. The woman agreed to some types of sex, but refused others. She accepted more types of sex on later dates than on earlier dates (e.g., touching her breasts through her shirt, touching her breasts without her shirt), but she never agreed to take her pants off or to penetrative sex. When participants selected a type of sex she was programmed to accept, they saw, for example, her face come close and her eyes close, while kissing sounds were made. When participants selected a type of sex she was programmed to refuse, she used words and body language to do so. Her refusals become progressively stronger and after the fifth refusal, the screen faded out and the date ended. After the third refusal, the idle mode changed to an angry one in which she sat sideways avoiding eye contact with crossed arms.

Participants could choose to end a date at any time. The simulation was programmed to end each date after 10 min if participants had not ended it themselves.

Measures: Survey Preceding Laboratory Session

Sexual aggression. A modified 16-item version of the Sexual Experiences Survey was used (Abbey, Jacques-Tiura, & LeBreton, 2011; Abbey, Parkhill, BeShears, Clinton-Sherrod, & Zawacki, 2006; Koss et al., 1987). Behaviorally specific questions assessed a range of sexual activities (e.g., sexual touching; oral, vaginal, and anal intercourse) that happened since age 14 "when she didn't

want to" through the use of verbal pressure, physical force, or when the woman was too impaired to consent. The modifications of the original Sexual Experiences Survey (Koss et al., 1987) included additional verbal coercion items that asked about pressure through swearing, getting angry, and threatening to end the relationship. Questions were also added that asked about sexual activities that occurred (or were attempted) when the woman was incapacitated or unable to give consent. The original and modified versions of this instrument have demonstrated good internal consistency, test-retest, and criterion validity in past research (Abbey et al., 2006; Abbey & Jacques-Tiura, 2011; Koss et al., 1987). The highest level of past sexual aggression was coded using the mutually exclusive categories developed by Koss et al. (1987): 0 (*none*), 1 (*sexual contact using any tactic*), 2 (*verbally coerced penetrative sex*), 3 (*attempted penetrative sex through force or the victim's inability to consent*) and 4 (*penetrative sex through force or the victim's inability to consent*). Cronbach's coefficient alpha was .88.

Personality traits related to psychopathy. Two 10-item subscales from Williams, Paulhus, and Hare's (2007) Self-Report Psychopathy III (SRP-III) scale were used to assess callous affect and interpersonal manipulation. This measure was designed to be used with nonclinical populations and has demonstrated good internal consistency and predictive validity in college and community samples (Abbey et al., 2012; Williams et al., 2007). Responses were made on 5-point scales with options ranging from 1 (*disagree strongly*) to 5 (*agree strongly*) and averaged. Cronbach's alpha for the combined measure was .81.

Narcissism. Modified versions of the 5-item exploitativeness and 6-item entitlement subscales from the Narcissistic Personality Inventory (Raskin & Terry, 1988) were used. Previous research with a community sample determined that participants had difficulty with the original measure's forced choice format; thus, participants were presented with the narcissistic statement and asked how much it applied to them (Abbey & Jacques-Tiura, 2011). Responses were made on 5-point scales with options ranging from 1 (*not at all*) to 5 (*very much*) and averaged. Cronbach's alpha for the combined measure was .85.

Sexual dominance. Nelson's (1979) 8-item sexual dominance measure assesses the extent to which individuals are motivated sexually by the desire to control their partner. It has demonstrated strong internal reliability and convergent validity in past research (Abbey & Jacques-Tiura, 2011). Responses were made on 4-point scales with options ranging from 1 (*not important at all*) to 4 (*very important*) and averaged. Cronbach's alpha was .86.

Stereotypic attitudes about women that justify forced sex. Abbey and Jacques-Tiura (2011) developed a 9-item updated rape myth acceptance measure that does not use the label *rape*. Responses were made on 7-point scales with options ranging from 1 (*strongly disagree*) to 7 (*strongly agree*) and averaged; Cronbach's alpha was .91.

Number of sex partners. Participants were asked open-ended questions about the number of women with whom they had consensual sexual intercourse during their lifetime and the number with whom they had consensual sexual intercourse on just one occasion (Abbey & Jacques-Tiura, 2011; Abbey, McAuslan, Zawacki, Clinton, & Buck, 2001). These items were skewed so a square root transformation was used.

Alcohol consumption. The National Institute on Alcohol Abuse and Alcoholism's (2003) recommended alcohol questions were used to assess participants' alcohol consumption in the past 12 months. A drink was defined as 12 ounces of beer or cooler, 5 ounces of wine, or one shot of liquor. Participants answered questions about their frequency of consumption in the past year, usual quantity consumed, and the largest number of drinks they consumed on one occasion. Participants also were asked how much alcohol they consumed in consensual sexual situations and how much their partners typically consumed in consensual sexual situations (Abbey et al., 2001, Abbey & Jacques-Tiura, 2011). Response options ranged from 0 (*none*) to 7 (*13 or more drinks*).

Friends' approval and pressure for coerced and forced sex. This measure was developed by Abbey et al. (2001). Participants answered three questions that asked the extent to which their friends would approve of lying, getting a woman drunk, and using force to get a woman to have sex with them. They were then asked how much pressure they felt from their friends to engage in each of these behaviors. Responses were made on 5-point scales with options ranging from 1 (*not at all*) to 5 (*very much*) and averaged. Responses to the two subscales were highly correlated so they were combined into a single measure with a Cronbach's alpha of .83.

Social desirability. Stöber's (2001) 16-item measure was used, which has demonstrated good convergent and discriminant validity in past research. Response options were 1 (*true*) and 0 (*false*). Affirmative responses were summed. Cronbach's coefficient alpha was .70.

Life satisfaction. A subset of 10 global and domain-specific life satisfaction items were included (Andrews & Robinson, 1991). The original and modified versions of this scale exhibit high internal consistency and moderate test-retest reliability establishing its sensitivity to life changes over time (Andrews & Robinson, 1991). Response options ranged from 1 (*terrible*) to 7 (*delighted*) and averaged. Cronbach's alpha was .83.

Perceived stress. The short form of the Perceived Stress Scale was used (Warttig, Forshaw, South, & White, 2013). Responses are made on 5-point scale with options ranging from 0 (*never*) to 4 (*very often*) and averaged. Cronbach's alpha was .75.

Demographics. Participants' age, education, and household income were assessed.

Measures: Actions During Simulation

For each action in the simulation, we created a variable that summed the number of times it was selected on each date, as well as a total across all dates. We summed across all topics of conversation (e.g., upcoming party, vacation plans) to create a measure of the number of times he asked her to talk about a topic. We also summed across all the different types of sex to which she agreed (e.g., back rub, kiss, make out) to create a measure of the number of sexual activities in which they engaged.

Measures: Post Simulation Survey

Immersion. Six items were developed by the authors to create a measure of how immersed participants were in the simulation. Sample items were "I felt really involved in what I was doing." and "I forgot I was in a study." Responses were made using 7-point

scales with options that ranged from 1 (*not at all*) to 7 (*completely*) and were averaged. Cronbach's coefficient alpha was .85.

Affect and cognitions in simulation. Based on past research (Abbey et al., 2009; Davis et al., 2012), participants read a number of statements and were asked to respond using a 7-point scale with options that ranged from 1 (*strongly disagree*) to 7 (*strongly agree*). These questions stated that (a) the participant was sexually aroused; (b) the woman was sexually aroused; (c) the woman was playing hard to get; (d) the participant felt like the woman was leading them on; (e) the participant got mad at the woman; and (f) the woman got mad at the participant. Using a 7-point response scale with options that ranged from 1 (*not at all*) to 7 (*very much*), participants also rated the extent to which (g) most people would approve of what he did and (h) what she did.

Time spent playing computer games. Participants were asked how often they played computer role-playing games that reminded them of the simulation. Responses were coded on a 7-point scale with options from 1 (*never*) to 7 (*every day*).

Measures: Audiotape Latency

DirectRT Precision Timing software version 2012 (Jarvis, 2012) was used to administer the audiotape of a simulated sexual assault. Response latency was recorded in milliseconds.

Results

Mean substitution was used for the limited amount of missing data (<0.5%). Frequency distributions were examined for all variables and scales were formed as described in the Measures sections. Thirty percent of participants ($n = 26$) reported that they had used verbal coercion and 12% ($n = 10$) reported that they used the woman's incapacitation to obtain penetrative sex since age 14.

Descriptive information about participants' choices in the simulation. Table 1 provides information about the choices that participants made in the simulation. There was a great deal of variability in the number and types of options that participants selected (see table for ranges, means, and standard deviations). On Date 1, participants' modal choices were to watch TV once, ask her to talk to them three times, give themselves one drink of water and give her zero, give themselves two drinks of alcohol and give her one, engage in four sexual activities, and receive one refusal for trying a sexual activity she rejected. The modal number of compliments was one; telling her he cared and apologizing were less frequent and saying something else (not specified in our list) was somewhat more frequent. Very few participants chose to explicitly give her an insult or threaten to end the relationship.

Most options were selected less frequently on later dates as compared to the first date (see Table 1). This difference was significant for watch TV, ask her to talk about a topic, his water and his alcohol consumption, giving her compliments, and total number of options selected, $F(3, 84) = 5.08$ to 29.67 , $ps < .002$; all post hoc tests $p < .05$. However, the average number of sexual activities in which participants engaged with the female agent was significantly higher on Dates 3 and 4 than on Dates 1 and 2, $F(3, 84) = 5.82$, $p < .002$. The average number of refusals that participants received was significantly higher on Date 4 than on any other date; additionally, the average number of refusals was significantly lower on Date 2 than on Dates 1 and 3, $F(3, 84) = 27.02$, $p < .001$; all post hoc tests $p < .05$.

Table 1

Descriptive Information About Participants' Choices During Simulation (N = 87)

Activities chosen	Date 1			Date 2			Date 3			Date 4		
	Rg.	M	SD	Rg.	M	SD	Rg.	M	SD	Rg.	M	SD
Watched TV	0–5	1.13	.87	0–3	.62	.74	0–2	.31	.51	0–3	.57	.79
Asked her to talk about a topic	0–8	3.18	1.17	0–6	1.94	1.03	0–7	2.39	1.27	0–12	2.24	1.43
Drank water	0–3	.87	.77	0–3	.54	.76	0–3	.56	.77	0–3	.42	.60
Gave her water	0–3	.37	.57	0–2	.29	.55	0–3	.28	.60	0–3	.20	.50
Drank alcohol	0–9	1.61	1.78	0–7	1.31	1.58	0–5	1.02	1.39	0–8	1.08	1.59
Gave her alcohol	0–8	1.38	1.61	0–8	1.13	1.55	0–9	.92	1.50	0–6	1.01	1.48
Engaged in sexual activities	0–17	4.37	3.59	0–18	4.87	3.96	0–17	5.63	4.01	0–17	5.68	3.87
Received a refusal	0–5	.96	1.22	0–5	.68	.96	0–4	.88	.92	0–5	1.63	1.09
Gave her a compliment	0–4	1.31	.89	0–4	.88	.94	0–3	.59	.81	0–4	.64	.90
Told her he cared	0–2	.53	.62	0–2	.45	.61	0–2	.41	.62	0–2	.44	.62
Apologized	0–2	.23	.50	0–2	.29	.55	0–2	.29	.53	0–3	.39	.62
Said something else	0–7	1.71	1.71	0–8	1.52	1.73	0–7	1.82	2.05	0–7	1.41	1.83
Insulted her	0–1	.02	.15	0–1	.03	.18	0–1	.02	.15	0–1	.07	.25
Threatened to end relationship	0–1	.01	.11	0	N/A	N/A	0–1	.02	.15	0–2	.05	.26
Total No. options selected	5–60	18.59	9.50	2–44	15.46	8.92	2–38	16.06	8.55	2–35	16.79	8.35

Note. Rg. = range.

As described in the Method section, in addition to having a specific option on the screen to “say something to her,” participants were encouraged to talk out loud throughout the simulation, saying what they would say on an actual date. Many participants made frequent comments that demonstrated their involvement in the simulation. For example, after the woman’s opening comments on the third date (in which she discusses a movie they just saw), one participant said,

I liked the movie, too. But I agree, I do not really think the actor makes the movie so much as the actual plot of the movie. But, I mean, nowadays you do not really get that anymore. It’s not really about the movie as much as the effects, the actors, the production budget, all that. It was fun though. I’m glad you came with me.

At the end of a date, another participant stated,

Good night, babe. I had a great time tonight. See you soon. Text me tomorrow or call me.

After a refusal, one participant said,

Yeah, I’m really sorry. Um I just, I just get a little carried away sometimes. I hope you do not hold it against me. And um you never have to feel pressured or anything to do anything like that. I’m fine with um just taking it slow if you want to. Just cuddling or whatever. I swear it doesn’t upset me.

In contrast, another participant said in response to refusal, “Oh, why not? What the f*** is wrong with you?”

Descriptive information about refusals that participants received. Across the four dates, participants received on average 3.66 refusals ($SD = 2.84$). The highest refusal that participants received in the simulation was also coded. Only 1.2% of the sample ($n = 1$) received the highest possible refusal (Refusal 5), 8.0% ($n = 7$) received Refusal 4, 10.3% ($n = 9$) received Refusal 3, 31.0% received Refusal 2 ($n = 27$), 37.9% ($n = 33$) received Refusal 1, and 11.5% ($n = 10$) never received a refusal. Thus, just over half of the sample ($n = 44$; 50.6%) received at least two refusals on one date (i.e., received a Refusal 2 or higher), which

means they persisted with a sexual activity that the woman had refused.¹

Discriminant and convergent validity information. Table 2 addresses the study’s second goal of assessing discriminant and convergent validity through bivariate correlations. The top section of the table provides support for the first hypothesis regarding discriminant validity. As expected, the number of refusals that participants received was not significantly correlated with life satisfaction, perceived stress, time spent playing computer games, age, education, income, or social desirability.

The bottom section of Table 2 provides support for the second hypothesis regarding convergent validity. As can be seen in the first column, the total number of refusals that participants received during the simulation was significantly positively correlated with nine of the 13 indicators including past sexual aggression, narcissism, sexual dominance, stereotypes that justify forced sex, lifetime number of sex partners, lifetime number of one-time-only sex partners, partners’ usual number of drinks consumed in sexual situations, friends’ perceived approval and pressure to engage in coerced or forced sex, and how long it took participants to decide the man should stop making sexual advances in the audiotape of a sexual assault (at $p < .05$). The total number of refusals received was not significantly correlated with personality traits related to psychopathy, usual number of drinks consumed on a drinking occasion, maximum number of drinks consumed in one day, or participants’ usual number of drinks consumed in sexual situations.

Similarities and differences in risk factors associated with casual and steady date refusals. The third goal is addressed by the bivariate correlations in Columns 2 and 3 in the bottom section of Table 2. The number of refusals received on both Dates 1 and

¹ We considered using persistence (i.e., receiving 2 or more refusals on the same date) as an outcome measure; however, it correlated .89 ($p < .001$) with the total number of refusals received. Given that there was more variance and fewer zero scores for total number of refusals received, it was selected for analyses.

Table 2

Correlations Between Number of Refusals Participants Received In Dating Simulation and Indicators of Discriminant and Convergent Validity (N = 87)

Measures	Total refusals	Date 1 refusals	Date 4 refusals
Discriminant validity indicators			
Life satisfaction	.01	-.06	.09
Perceived stress	-.04	-.11	-.08
Time spent playing computer games	-.07	-.14	-.02
Age	.04	-.03	.07
Education	-.13	-.08	-.14
Income	.08	.04	.15
Social desirability	.03	-.06	.01
Convergent validity indicators			
Highest level of past sexual aggression	.22*	.05	.18
Personality traits related to psychopathy	.19	.10	.18
Narcissism	.29**	.10	.34**
Sexual dominance	.45**	.24*	.36**
Stereotypes that justify forced sex	.41**	.23*	.34**
Lifetime # sex partners	.39**	.29**	.22*
Lifetime # one-time-only sex partners	.29**	.31**	.18
Usual # drinks consumed	.17	.24*	.08
Maximum # drinks in one day	.14	.22*	.04
Participants' # drinks in sexual situations	.16	.20†	.10
Partners' # drinks in sexual situations	.26*	.30**	.15
Friends' approval & pressure for coerced/forced sex	.51**	.39**	.40**
Audiotape reaction time	.54**	.25*	.51**

† $p < .06$. * $p < .05$. ** $p < .01$.

4 were significantly positively correlated with sexual dominance, stereotypes that justify forced sex, lifetime number of sex partners, friends' perceived approval and pressure to engage in coerced or forced sex, and how long it took participants to decide the man should stop making sexual advances in the audiotape of a simulated sexual assault (at $p < .05$). In support of the third hypothesis, only Date 1 refusals were significantly positively correlated with lifetime number of one-time-only sex partners, usual number of drinks consumed on a drinking occasion, maximum number of drinks consumed in 1 day, and partners' usual number of drinks consumed in sexual situations (at $p < .05$), as well as associated with participants' usual number of drinks consumed in sexual situations (at $p < .06$). Also in support of the third hypothesis, only Date 4 refusals were significantly positively correlated with narcissism (at $p < .05$).

Relationships between refusals and participants' other choices within the simulation. The study's fourth goal is addressed in the top section of Table 3, which shows the bivariate correlations between the total number of refusals that participants received and their other choices within the simulation. The total number of refusals that participants received during the simulation was not significantly correlated with the total number of times they asked the woman to talk about a topic, drank water, gave her water to drink, or said something unspecified to her. The total number of refusals that participants received during the simulation was positively correlated with the total number of times they watched TV and drank alcohol (at $p < .06$). In support of the fourth hypothesis, the total number of refusals that participants received during the simulation was significantly positively correlated with how much alcohol they gave her to drink; how many sexual activities they

experienced with her; how often they gave her a compliment, told her they cared, and apologized; as well as the total number of options selected in the simulation (at $p < .05$).

Relationships between refusals and participants' self-reports after the simulation. The study's fifth goal is addressed in the bottom section of Table 3, which shows the bivariate correlations between the total number of refusals that participants received and their self-reports after completing the simulation. In support of the fifth hypothesis, the total number of refusals that participants received during the simulation was significantly positively correlated with how immersed they felt in the simulation, their sexual arousal, their perception that the woman was leading them on and playing hard to get, as well as their perception of how mad they were at her and how mad she was at them (at $p < .05$). The total number of refusals that participants received during the simulation was significantly negatively correlated with their perception that they acted in a way of which most people would approve (at $p < .05$). Total number of refusals received was not significantly associated with perceptions of the woman's sexual arousal or if she acted in a way of which others would approve.

General Discussion

These findings support the first overarching goal of developing a realistic dating simulation that can serve as an experimental analogue for sexual aggression. Although the simulation did not provide participants with the full range of options that they would have on an actual date, many participants spoke to the female agent in ways that suggested they were treating her as they would treat a woman they were dating. Involvement was also demonstrated by

Table 3

Correlations Between Number of Refusals Participants Received in Dating Simulation, Other Actions in Simulation, and Self-Reports Made After the Simulation (N = 87)

Measures	Total number of refusals
Number of times chosen in simulation	
Watched TV	.20†
Asked her to talk about topic	.14
Drank water	-.04
Gave her water	-.13
Drank alcohol	.21†
Gave her alcohol	.46**
Engaged in sexual activities	.52**
Gave her a compliment	.26*
Told her he cared	.25*
Apologized	.38**
Said something else (unspecified)	-.13
Total # options selected in simulation	.51**
Self-reports after simulation	
Immersion	.22*
I was sexually aroused	.21*
She was sexually aroused	.07
I felt like she was leading me on	.41**
She was playing hard to get	.54**
I got mad at her	.42**
She got mad at me	.43**
I acted in a way most people would approve of	-.26*
She acted in a way most people would approve of	-.06

† $p < .06$. * $p < .05$. ** $p < .01$.

the choices many participants made to watch TV with the female agent, drink alcohol and/or water with her, ask her questions, ask her to talk to them, give her compliments, engage in sexual activities that she reacted to positively, apologize when they felt they had displeased her, and persist in attempting sexual activities that she had previously refused.

In support of the first and second hypotheses, the total number of refusals that participants received across the four dates was unrelated to discriminant validity measures and significantly associated with self-reported convergent validity measures assessed in a separate session including participants' highest level of past sexual aggression. Although the magnitude of this correlation was moderate, it was in the range that has been found for other sexual aggression proxies (Abbey et al., 2009; Bernat et al., 1997; Parrott et al., 2012), as well as what has been suggested more generally as good evidence of construct validity (Anderson & Bushman, 1997; Cohen, 1988). Prospective research has identified different patterns of perpetration over time, with some men remaining sexually aggressive over multiple assessments, others appearing to stop, and others initiating sexual aggression in early adulthood (Abbey et al., 2012; Swartout et al., 2015; Thompson et al., 2013). Thus past perpetration was not expected to predict all participants' current sexual aggression proclivity. The total number of refusals that participants received was also significantly correlated with risk factors that have consistently been associated with sexual aggression in past research, and many of these relationships were quite strong, particularly with friends' perceived approval and pressure for coerced and forced sex, sexual dominance, stereotypes that justify forced sex, lifetime number of sex partners, and one-time-only sex partners. This constellation of beliefs and behaviors provide proximal opportunities and justification for sexual aggression. The strongest correlation was between total number of refusals that participants received in the simulation and participants' responses to Marx and Gross' (1995) audiotape of a simulated sexual assault, which has been associated with self-reported sexually aggressive behavior in past research (Bernat et al., 1997).

The third goal of this study was to determine if there were differences between men who were sexually aggressive in casual and serious relationships. A core set of risk factors were significantly related to the total number of refusals that participants received with both casual (Date 1) and steady (Date 4) dates: sexual dominance, stereotypes that justify forced sex, lifetime number of sex partners, and friends' approval and pressure for coerced and forced sex. Participants' highest level of past sexual aggression was not significantly associated with the number of refusals participants received on Date 1 (casual) or 4 (serious), perhaps because this sexual aggression measure did not take into account participants' relationship with the victim. In support of the third hypothesis, one-time-only sexual partners, as well as participants' and partners' alcohol consumption in sexual situations were positively related to the total number of refusals that participants received on the first, casual date. This supports the existing literature that links casual sex and alcohol consumption to sexual assault with a casual partner (Flack et al., 2007; Harrington & Leitenberg, 1994; Wegner et al., 2014). Much less is known about predictors of sexual aggression in steady dating relationships, despite how frequently they are reported in college and community samples of victims and perpetrators (Abbey et al., 2001; Koss et al., 1987). Narcissism was positively associated with the total

number of refusals that participants received on the fourth date, which was depicted as a committed relationship. Narcissism might be associated with a sense of entitlement such that men predisposed to sexual aggression feel entitled to persist after a refusal due to a sense of ownership, obligation, and rights based on sexual precedence and traditional gender roles (Baumeister et al., 2002). Most of these findings replicate those of Wegner et al. (2014) from a community survey of self-acknowledged perpetrators, although in that study perpetrators who sexually assaulted casual partners had higher levels of sexual dominance than those who did not. These findings highlight the need to recognize that different constellations of risk factors are likely to be relevant for different types of perpetrators and in different settings (Hoyt & Yeater, 2011).

An important strength of this paradigm is that participants made multiple choices about what they wanted to do throughout the simulation, including ending the date. Providing a variety of behavioral options made the simulation more realistic and allowed evaluation of the fourth goal, which was to determine how refusals were related to other actions chosen by participants during the simulation. In support of the fourth hypothesis, the total number of refusals that participants received was significantly correlated with how much alcohol they gave her to drink, as well as how frequently they apologized, told her they cared, and gave her a compliment. Although these correlations do not provide information about the order in which these actions occurred or participants' motives, they support past research that suggests some perpetrators strategically use flattery and attempts to get the woman drunk after she has refused them (Abbey & Jacques-Tiura, 2011; Livingston et al., 2004).

The fifth hypothesis was supported by the finding that the total number of refusals that participants received was correlated with self-reports of sexual arousal and anger, as well as feeling that the woman was leading him on and playing hard to get. These findings demonstrate that this simulation produced the "in the moment" affect and cognitions that appear to motivate sexual aggression among men predisposed to act this way. Additionally the negative correlation between refusals and the perception that participants acted in ways that would be approved of by others, shows that perpetrators have some awareness that their behavior is not mere seduction or gentle persuasion (Ward et al., 1997; Wegner et al., 2015).

Limitations

Although a number of pilot tests were conducted, the sample size for the primary study was relatively small. The authors view these findings as promising preliminary support for the value of this analogue; however, replication is important. A larger sample size would also allow for more complex analyses that took into account recency and pattern of past sexual aggression as well as perpetrators' relationship to past victims.

This simulation did not use the most advanced virtual reality technology. This technology is expensive, limiting its availability to most researchers. We were also concerned about the ethical challenges associated with developing a fully immersive three-dimensional environment. Although we wanted to enhance the types of feelings and cognitions that perpetrators use to justify sexual aggression, there is a line that we did not want to cross

associated with allowing participants to feel themselves committing an act of sexual aggression in the simulation.

Research Implications

Most sexual assault experimental proxies provide participants with one basic choice, whether it is deciding if they should send a sexist joke to a female confederate, or at what point in an escalating sexually aggressive situation a male character should stop making sexual advances, or on a scale of 1 to 7 how likely they are to act like a sexually aggressive man depicted in a story (Diehl et al., 2012; Marx & Gross, 1995; Noel et al., 2009). A great deal has been learned from these studies; however, a strength of this virtual reality paradigm is that participants make multiple choices about how to interact with a woman over an extended period of time. If the woman refuses them, they make their own personal decision as to how they want to respond. This allows for more realistic and complex patterns of behavior. Additionally, participants can be randomly assigned to conditions that are hypothesized to increase men's likelihood of engaging in sexual aggression against a woman. For example, the effects of alcohol consumption or peer behavior could be examined by manipulating these constructs separately or in combination in the simulation. In addition to determining if these situational factors increase the likelihood of sexual aggression, this paradigm would also allow researchers to potentially determine how these factors influence multiple decisions made throughout the interaction that lead up to the sexual aggression. For example, do participants who experienced peer pressure in the simulation initiate sexual activities more quickly than other participants? As compared to sober participants, do intoxicated participants show more anger and make more threats when refused? The ability to examine the sequence of decisions made by participants and to potentially identify turning points allows much more detailed hypotheses to be evaluated.

Prevention, Clinical, and Policy Implications

In this study, the strongest individual difference predictors of our proxy measure of sexual aggression were friends' perceived approval for coerced sex, sexual dominance, and stereotypes that justify forced sex. The strongest predictors from the simulation were engaging in consensual sexual activities and giving the woman alcohol. Given the extremely high rates of sexual assault that occur throughout the United States, researchers need to look beyond individuals and address social norms and policies that encourage sexual objectification of women, trivialize sexual harassment and verbal coercion, and support justifications for forced sex by suggesting that there are circumstances that make the use of force acceptable. Because there are so few evidence-based sexual assault prevention programs, the Centers for Disease Control and Prevention encourage program developers and policymakers to adapt programs that have successfully addressed other public health issues (Tharp et al., 2013). In the field of public health, the campaign to reduce cigarette smoking is often held up as a model because it required efforts on multiple levels (e.g., laws and regulations, mass media campaigns, community- and individual-level interventions targeted at nonusers and users) and sustained efforts for many years to produce significant reductions in cigarette smoking. A similar long-term, systemic campaign is needed

to eliminate sexual aggression and other forms of violence against women.

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