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# "Campus Craft": A Game for Sexual Assault Prevention in Universities

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#### **Abstract**

Objective: Sexual assault is prevalent among college students. In response, universities have implemented prevention education initiatives. These interventions, however, often ignore the broader sociocultural context in which sexual violence occurs. This calls for innovative approaches in prevention education, which address the broader context. Computer games provide such an opportunity by providing simulated real-life scenarios, nonlinear narratives, and an interactive medium. We report the development and pilot testing of "Campus Craft," a game prototype that focuses, among other things, on sexual assault prevention.

Materials and Methods: The prototype was developed through a participatory design process; students, educators, and subject matter experts helped design and develop scenarios, game mechanics, and learning objectives. The prototype was evaluated by college students (n = 141) in a multi-method approach. The evaluation encompassed issues of usability, game mechanics, attitudes, and learning outcomes.

**Results:** Findings indicated that participants rated various aspects of the game positively. Additionally, use of "Campus Craft" contributed to differences in student learning of prevention concepts between the pre- and post-test such that students scored higher on the post-test.

Conclusions: Findings demonstrate that, on average, students learned several core concepts related to sexual consent and rape culture through gameplay. Results suggest that computer-based gaming may be a viable avenue for sexual assault prevention education. Findings demonstrate that this approach could be effective in increasing student knowledge and understanding of factors that contribute to sexual assault in college. Future research is needed to corroborate findings and better understand the feasibility of using this approach among larger samples of college students.

# Introduction

SEXUAL ASSAULT IS A SUBSTANTIAL problem on college campuses in the United States and a salient public health issue. Approximately 15-38 percent of women experience sexual assault during their lifetime, 1,2 and college women are at an increased risk compared with the general population.<sup>3</sup> The wide range of lifetime rates cited is due, in part, to different methodologies in data collection and examinations of different samples of women, not in imprecision to measurement.<sup>4</sup> More specifically, 20–25 percent of female college students experience sexual assault during their time in college. Unfortunately, rates of sexual assault have not declined over the last 50 years. 5-7

According to Routine Activities Theory, 8 sexual assault occurs when factors coalesce that bring together potential victims and motivated perpetrators in the absence of bystanders (i.e., individuals witnessing part or all of a crisis event or emergency situation) who are willing and able to intervene. Armstrong et al.9 stated that "sexual assault is a predictable outcome of a synergistic intersection of both gendered and seemingly gender-neutral processes operating at individual, organizational and interactional levels" (p. 484). These include, among other factors, the following: (1) the overall expectation, among both college students who do and those who do not, to "party" (i.e., to consume alcohol often in individuals' non-residential environments such as fraternity houses, house parties, and bars, with other college students who may be friends, acquaintances, or strangers); (2) university policies that push students, particularly women, into partying in unfamiliar spaces (e.g., with underage students not allowed to consume alcohol in the residence halls and sororities not permitted to have parties, women tend to party in fraternity houses); and (3) discouraging

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underage (i.e., under the age of 21 years) victims who have consumed alcohol from reporting sexual assaults for fear of getting into legal trouble due to underage consumption of alcohol. Furthermore, the social expectation to consume alcohol and engage in sexual activity with unfamiliar partners cultivates situations in which power differentials occur between men and women, fostering the occurrence of sexual assault (see Armstrong et al., DeSantis, and Murnen et al. for a more thorough explanation of power structures, sociocultural factors, and gender inequality existing within the "party scene" on college campuses).

To counter the high rates of sexual assault, and driven by federal mandates, <sup>12</sup> universities implement different forms of sexual assault prevention education (SAPE) programs. Defined as any type of intervention or program that might "positively influence sexual assault-related attitudes, cognitions, emotions or behaviors," 13,14 SAPE interventions include classroom-based skills training workshops, Take Back the Night rallies, informational/educational program sessions as part of freshmen orientation, and anti-rape messaging in the form of posters or other visual media. The extent of student exposure to these programs and their format, caliber, and effectiveness vary across campuses. 13,15 Given that SAPE programs are generally not mandatory for all students and their evaluation is not required, the broad effectiveness of these prevention programs comes into question. Additionally, given the multilayered factors that contribute to sexual assault on college campuses, a multifaceted intervention model would be well suited. As such, it would be ideal to develop SAPE programs that not only appeal to students and increase their engagement, but also address sexual assault at multiple levels.

The questionable effectiveness of current SAPE efforts has triggered an interest in alternative and innovative approaches to SAPE such as bystander interventions. Bystander interventions differ from other forms of SAPE in that they focus on the role of the community in preventing sexual assault and sexual violence as opposed to focusing on individual risk factors. According to Banyard et al., 17 "this role includes interrupting situations that could lead to assault before it happens or during an incident, speaking out against social norms that support sexual violence, and having skills to be an effective and supportive ally to survivors" (p. 464). Recent findings suggest that young adults who witness sexually assaultive situations in social settings such as bars are not likely to intervene, <sup>18</sup> calling into question the practicality of bystander approaches to SAPE. However, according to Banyard, <sup>19,20</sup> it might be more effective to adopt a multitiered approach that allows prevention efforts to build on one another over time (e.g., sexual assault awareness campaigns followed by bystander intervention approaches). In fact, Bowman<sup>21</sup> stated that first-year students may not be as inclined to endorse the bystander intervention model because doing so would require students to break from the group when intervening—something that these students might be reluctant to do. Moynihan et al.,22 however, found that bystander-focused SAPE was more effective at a 1-year follow-up for participants who had a higher level of awareness regarding sexual assault on campus. These findings speak to the need for multifaceted approaches to SAPE, which include initial awareness followed by techniques that require in-depth reasoning such as bystander interventions.

Another innovative approach to SAPE includes programs that deconstruct rape culture and the sociocultural factors that contribute to sexual violence (Rape culture describes a culture in which rape and sexual violence are common and in which prevalent attitudes, norms, practices and media normalize, excuse, tolerate, or even condone rape. Rates of sexual assault are substantially higher in rape-supportive cultures. Universities and college campuses are, unfortunately, prime examples of rape culture.). Many researchers have suggested that such programming is highly effective in shifting rape-supportive attitudes and beliefs. 9,11,14,23,24 These types of interventions often occur as semester-long classes in order to allow enough time to deconstruct the social environment and to teach students the underlying factors that contribute to sexual assault and that often go unnoticed. An outrageous example of rape culture took place in 2010, when men at Yale University marched outside a freshmen female dormitory chanting "No Means Yes, Yes Means Anal." The underlying message behind this behavior was that women's refusals (and thus consent in general) are irrelevant because, according to the chant, even if a woman says no to sex men can disregard the refusal (because "no means yes"). Some researchers argue that a SAPE program focused on deconstructing such messages could help students understand how examples of such discourse on college campuses lead to rape-supportive attitudes and perspectives. 6,11-14 Additionally, the increased exposure to SAPE in longer-duration interventions (i.e., semester courses) has been shown to be a more effective approach. 15,19

Although research suggests that programs spanning a longer duration are often more effective, <sup>25,26</sup> the feasibility of such programs is questionable for several reasons. First, semester courses are time intensive on the part of both the instructor or educator and the students who participate. Second, universities would have to require all students take the course in order to reach the larger student body, which would imply large-scale investment from the university. Finally, if universities did not require the course, then students would enroll via a self-selection process, which may result in the course not reaching the more at-risk populations. As such, semester-long courses, while potentially ideal in theory, may not be feasible in practice.

In order to reach the larger student body, without creating a university requirement, SAPE programs need to be appealing to students. Given the popularity of videogames among young adults and college students, one innovative approach to SAPE would be the development of videogames aimed at reducing sexual assault. Computerized videogames are commonly used by young adults and college students as a form of recreation and can be disseminated through a variety of mediums (e.g., computers, tablets, cell phones). Public health has recognized the large-scale popularity of videogames and has begun tapping into this medium, developing and implementing serious videogames as a form of health intervention.<sup>27</sup>

Researchers have also identified videogame play as a model paradigm for problem-based learning, <sup>28</sup> where the student acts as the player (or vice versa), creating opportunities for active, experiential, constructive learning. This particular conceptualization of learning is well suited for SAPE as it provides students an opportunity to experience decisions, feelings, and situations that simulate the experiences related to sexual

assault and rape culture, without actually going through such experiences. A student, for example, can experience what it would be like if his or her friend were to tell him or her that she had been sexually assaulted. Via the avatar in the game, the student can experience the feelings associated with receiving this information, as well as helping the victim navigate her own experiences. In this example, students can learn through the gameplay how they should react if they have such an experience in reality. Theoretically, this would allow the student to develop a skill set that he or she can draw on in potentially similar real-life situations. The use of the videogame format can also be beneficial for SAPE because it allows for educators to address multiple factors contributing to sexual assault as part of the game experience.

This article reports the design, development, and testing of a videogame for college students that aims to address the sociocultural determinants of three specific health issues: (1) sexual health, including sexual assault prevention and consent negotiation, as well as sexually transmitted infection/ pregnancy prevention, (2) binge drinking, and (3) stress management. The first phase of the this project focused on sexual assault prevention/consent negotiation, specifically on deconstructing the sociocultural factors that contribute to sexual assault and rape culture on college campuses. In what follows, we first provide an overview of the approach and a brief description of the game prototype. Then, on the basis of preliminary data from an extensive evaluation of the effectiveness, feasibility, and likeability of the game, we will explain how the game, paired with other evidenced-based intervention models such as the bystander intervention, exemplifies a promising approach to SAPE.

## **Methods and Methods**

The project was carried out in three stages: participatory design, usability testing, and prototype testing. A usercentric, iterative, and multi-method approach, involving students, health professionals, and subject matter experts, was followed in the design, development, and evaluation of the game. The involvement of various stakeholders took different forms and shapes, depending on the stage of the project. In the design phase, a series of 12 interviews with subject matter experts, 8 focus groups with students, and 2 participatory design workshops, were conducted. In addition, classroom discussions were used to elicit ideas from the target population in two courses related to the topic: one focused on sexual education taught by the first author and the other on human–computer interaction by the second author.

In the development phase, consultation with healthcare providers allowed the designers to identify the key areas of focus related to sexual behavior and drinking. Focus group discussions were held to assess alternative game design approaches (e.g., fantasy, SIMs, mystery, adventure) that would be of potential interest to students. These alternatives were further discussed, evaluated, and refined by the design team, leading to the final selection of the game strategy, design features, scenarios, dialogues, settings, etc. Lastly, in the evaluation phase, 11 sessions of prototype testing involving 141 students were conducted. Throughout these sessions, students interacted with the prototype game, playing mini-games, responding to quiz questions, solving a mystery, and so forth. The evaluation included:

- 1. Usability testing of the game prototype with the aim of receiving feedback on the game design, scenarios, and dialogues
- 2. Pre-/post-intervention testing of student learning of the key concepts, behaviors, and skills
- Focus group discussion of the feasibility of other approaches in terms of student engagement and interest, particularly compared with other interventions.

In the current report, we will present data examining the usability and learning outcomes. The study protocol was approved by the Institutional Review Board at the institution of data collection under exemption because no personally identifiable data were collected. Students were recruited through listservs, campus billboards, and advertisements in the student newspapers. Written consent was obtained from all participants before the participatory design workshop or pilot testing sessions, and participants were reimbursed at a rate of \$12/hour after completing the sessions.

# Game description

"Campus Craft" is a simulation game that provides a virtual university setting with familiar buildings and cues (specific to a given campus), where students can engage in activities, conversations, and mini-game play and also observe other non-player characters engaging in similar activities. In particular, students listen to and participate in health-related conversations (e.g., discussions about consensual sex, impact of drinking on sexual behavior), which in turn affect the ensuing scenario development. Table 1 gives specific characteristics of "Campus Craft." By playing the game, and thus through experiential learning, students develop basic knowledge and skills related to assessing their health risks, learning useful concepts that affect behavior or perception of others' behavior (e.g., token resistance, alcohol myopia, victim blaming), and negotiating behaviors and choices that affect their health (e.g., strategies for negotiating consent and condom use). Underlying the learning outcomes of the game are the game goals (e.g., solving a mystery related to a missing iconic item on campus) and the game mechanics (e.g., the protocols, navigation schemes, cues, embedded mini-quizzes) that make the game fun and engaging and that motivate students to play. Figures 1 and 2 show screen shots of "Campus Craft" in action.

#### Measures

Game features. Participants were asked to rate 16 different game features on a 10-point scale, indicating the degree of appeal of that specific feature of the game. An option was available for participants to select "unsure" for their rating, but this was not included when calculating mean scores. Table 2 lists the game features that students were asked to rate.

Attitudes. Three preliminary assessments of rape-supportive attitudes were assessed at pre- and post-test: endorsement of rape myths (i.e., false, but widely held beliefs about sexual assault) through a modified version of the Illinois Rape Myth Acceptance Scale<sup>29</sup>; endorsement of sexual double standards through a modified version of the Sexual Double Standards Scale<sup>30</sup> (i.e., the belief that men and women

#### TABLE 1. CHARACTERISTICS OF "CAMPUS CRAFT"

Characteristic Description

General game characteristics Health topics addressed

Target age group Other targeted group characteristics Short description of game

Target players Guiding theory or behavior change theory

Intended health behavior change

Knowledge elements to be learned Behavior change procedures used Clinical or parental support needed

Data shared with parent or clinician Type of game

Story

Synopsis

How the story relates to targeted behavior change

Game components

Player's game goal/objective(s)

Rules

Game mechanic(s)

Procedures to generalize or transfer what's learned in the game to outside the game:

Virtual environment Setting Sexual health including sexual assault prevention, clear consent negotiation, condom use, sexually transmitted infection testing College students/young adults

College men, college freshmen, high school students

The goal of "Campus Craft" is to provide a simulated environment for students to experience typical situations that they face on college campuses. The actual "game" includes a mystery task in which the player is charged with solving a mystery on campus for which he or she will earn points that can be translated into products and services students can consume in the real world (e.g., group exercise classes, clothing from the student book store). During the game, players use a college student avatar to interact with other students on their campus, dealing with conflicts and decisions similar to what general college students face. Through experiential learning, students are taught the benefits of engaging in healthful decision-making, including clear consent communication, dispelling rape myths, and understanding the influence of alcohol use on decision-making.

Individual

Theory of Planned Behavior—The game focuses on changing attitudes, norms, and control factors in order to increase engagement in positive health behaviors.

Increase explicit consent communication; decrease endorsement of rape myths; increase condom use; increase sexually transmitted infection testing

Common misconceptions about sexual violence; consent negotiation skills Vicarious learning

University support needed for college students; parental and school district support for game to be implemented with high school students

Adventure, mystery, role-playing, simulation, strategy, educational

A freshman college student moves into the residence halls and is asked to solve a mystery by an older classmate. The student must interact with other students to obtain information about how to solve the mystery. In the process, he or she is faced with real-life challenges and scenarios, which force him or her to make decisions that could benefit or infringe on his or her health. Players will then have an opportunity to debrief with other non-player characters, which provides teachable moments for students.

Over the course of the "story" of the game, the player's avatar will encounter situations that are typical to college students' experiences and will confront examples of rape culture. Throughout the game, the player will be challenged to figure out how to approach such instances in which he or she is confronted with rape culture.

The player is challenged to solve a mystery. In the course of the trying to solve the mystery, the player will be confronted with situations in which he or she will decide how best to act in response to examples of rape culture.

The majority of the rules are decision rules that lead to different outcomes, depending on the choices that the player makes in any given situation.

The overall mechanism used is vicarious learning, which enables people to learn by observing other people's actions and experiences. The student avatar and non-player characters in the game provide this opportunity for the player.

College campus; ideally the college campus depicted in the game will match the campus where the student is playing.

(continued)

Table 1. (Continued)

Characteristic	Description		
Avatar			
Characteristics	Students will have the opportunity to create their own avatars based on their personal characteristics (e.g., age, race, gender).		
Game platform needed to play the game	The current version works in both Windows and Mac OS, but it is portable to mobile platforms as well.		
Sensors used	No sensors are used in this game.		
Estimated play time	The game is set up to be played over several days, weeks, and months with a mini-game format wherein students can play a series of 10-minute mini-games.		

should be held to different standards in regard to sexual conduct); and endorsement of token resistance (i.e., the belief that women do not mean no when they refuse sex) through the Token Resistance to Sex Scale. Higher scores on these measures suggest greater endorsement of the belief, and endorsing the belief indicates stronger rape-supportive attitudes. Not all participants completed both the pre- and post-test, answered all items, or provided a usable response (i.e., "Unsure" was not included in the analyses but rather was considered missing data).

Learning outcomes. Data were collected from participants at pre- and post-test to examine their conceptual un-

derstanding of a variety of social determinants that contribute to sexual assault. Participants were asked six multiple-choice knowledge-based content questions, four applied-knowledge questions in which they were given real-life scenarios and asked to apply concepts to the scenarios, and five true/false questions (see the Appendix for a list of the questions). All of the questions aimed to assess participants' understanding of sexual assault prevention content and their ability to apply it to real-life scenarios. For all of the learning measures, participants were scored by receiving a point if they answered the question correctly and receiving a zero if they answered the question incorrectly.



FIG. 1. Screenshot of active gameplay in "Campus Craft." Color images available online at www.liebertonline.com/g4h



FIG. 2. Another screenshot of active gameplay in "Campus Craft." Color images available at www.liebertonline.com/g4h

# Analyses

Means and standard deviations were computed for participants' ratings on the various game features, as well as their pre-and post-test scores on the attitude assessments and learning measures. A series of paired-samples *t* tests were

Table 2. Ratings of Game Features

Game feature	Mean	SD
Storyline	6.31	1.73
Characters	6.57	1.76
Character dialogue	6.20	2.14
Graphics	5.66	1.88
Interface/navigation	6.10	1.94
Day 1: Story/activities	6.24	1.62
Day 2: Story/activities	6.54	1.61
Gameplay mechanics	5.48	2.13
Content	6.69	1.66
Non-player characters	5.96	1.66
Gameplay choices	5.12	1.84
Feedback in game	6.10	2.10
Embedded resources	5.71	2.24
Embedded quizzes	6.37	2.25
Authenticity of college experience	6.39	1.92
Design of learning	6.58	1.85

SD, standard deviation.

computed to examine differences in participants' pre- and post-test attitude and learning scores, respectively.

#### Results

## Participant characteristics

Participants' demographic characteristics are displayed in Table 3. In brief, just over half the sample was male (52.5 percent); most participants were between the ages of 18 and 22 years (77.9 percent) and identified as white (66.7 percent). Approximately 37 percent of the sample indicated they were first-year college students (36.9 percent).

# Ratings of game features

Students indicated moderate to high ratings for all game features (means ranged from 5.12 to 6.69). According to Table 2, the lowest ratings were given to gameplay choices, gameplay mechanics, and graphics. Students rated content, design of learning, characters, and story/activities the highest.

# Preliminary attitude assessments

Table 4 shows students' attitudes scores for rape myth acceptance, endorsement of the sexual double standard, and endorsement of token resistance. When comparing pre- and post-test scores, across all three attitudes measures, scores

TABLE 3. DEMOGRAPHIC CHARACTERISTICS

Demographic characteristic	n	Percent	
Gender			
Female	67	47.5	
Male	74	52.5	
Age (years)			
18–22	114	80.9	
23–25	17	12.1	
26–30	7	5.0	
31–35	2	1.4	
Over 35	1	0.7	
Year in school			
First year	52	36.9	
Second year	16	11.3	
Third year	19	13.5	
Fourth year	28	19.9	
Graduate student	25	17.7	
Other	1	0.7	
Race/ethnicity			
White/Caucasian	94	66.7	
Black/African American	11	7.8	
Asian/Asian American	30	21.3	
Multiracial	6	4.3	
Latino/Hispanic	7	5	

decreased, indicating less endorsement of these rape-supportive attitudes. However, only token resistance had statistically significant differences at pre- and post-test, indicating that after gameplay, students were significantly less likely to endorse token resistance.

# Mean learning: Pre- and postintervention scores

According to Table 5, all of the learning scores were higher at post-test after participants had played the game. Such findings indicate that students were more likely to answer correctly on both the knowledge-based and the applied-conceptual questions after they had been exposed to the game, although only the summed total score was statistically significant at post-test.

#### Discussion

Sexual assault has gained national attention as a public health crisis as of late. In a recent weekly address, President Barack Obama announced that his administration would be taking action to end sexual assault with a specific focus on college sexual assault. He announced creating the White House Task Force to Protect Students from Sexual Assault in

order to "help schools do a better job of preventing and responding to sexual assault on their campuses." Because of this new push toward campus sexual assault prevention, innovative approaches to SAPE are warranted. Our findings, although preliminary, suggest that computer games focused on deconstructing rape culture may offer a unique approach to conducting SAPE. In conjunction with other prevention efforts, "Campus Craft" may be an effective, innovative strategy on a continuum of intervention to address sexual assault on campuses.

When comparing pre- and post-test attitude measures, our findings suggest that participants' endorsement of token resistance significantly decreased at the immediate post-test. In regard to endorsement of rape myths and the sexual double standard, participant scores did trend toward being less rape-supportive, although the pre- and post-test comparisons were not statistically significant. These findings suggest an overall decrease in attitudes that would facilitate a rape-supportive climate on campus. Such attitudes are linked to engagement in sexually assaultive behavior among men. Therefore, a reduction in endorsement of such attitudes could also potentially reduce rates of sexual assault over time.

In regard to the learning measures, our findings suggest that participants demonstrated greater understanding for some of the underlying factors that contribute to sexual assault. Specifically, participants reported more correct responses after gameplay for questions related to defining key concepts such as non-consent, token resistance, trust by association, and victim blaming, although the individual item scores were not significantly different—only the total score. Improved understanding of this terminology reflects a greater understanding of concepts related to sexual assault in college. As students develop a better understanding of rape culture, previous research suggests that they may be more willing to engage in behaviors that contribute toward breaking down rape culture and thus reducing sexual assault. 9,24

Finally, when asked to apply what they learned from the game in scenario-based questions, students again improved at the post-test, potentially indicating a better applied understanding of these concepts, although the differences were not statistically significant. Specifically, students' scores improved on knowledge-based questions related to different patterns of arousal, token resistance, consent, and alcohol use and consent. Similar to the applied scenario-based questions, students' improved scores demonstrate a better understanding of these concepts, which are related to deconstructing rape culture and can theoretically help improve campus climates in regard to sexual assault.

TABLE 4. ATTITUDE ASSESSMENTS

Subscale	n	Pre		Post		
		Mean	SD	Mean	SD	t
Overall	102	2.61	0.825	2.46	0.432	2.317 <sup>a</sup>
Rape myth acceptance	123	1.80	0.748	1.73	0.772	1.729
Sexual double standard	128	2.69	0.388	2.68	0.401	0.261
Token resistance	119	2.30	2.327	1.82	0.639	2.373 <sup>a</sup>

<sup>&</sup>lt;sup>a</sup>Significant difference.

SD, standard deviation.

Table 5. Pre- and Post-Intervention Scores

Content learning item	Pre-test		Post-test	
	Mean	SD	Mean	SD
Multiple choice items				
Nonconsensual sex	0.44	0.499	0.59	0.495
Token resistance	0.61	0.488	0.66	0.476
Trust by association	0.53	0.501	0.76	0.431
Victim blaming	0.81	0.390	0.83	0.377
Alcohol myopia	0.77	0.422	0.75	0.436
Applied Scenario 1 items				
Description of scenario <sup>a</sup>	2.24	0.815	2.32	0.852
Risk reducers <sup>b</sup>	2.30	0.766	2.31	0.767
Who can prevent sexual assault	0.59	0.493	0.80	0.401
Applied Scenario 2 items				
Definition of sexual assault	0.84	0.371	0.90	0.296
True/false items				
Difference in arousal patterns	0.83	0.377	0.89	0.315
Sexually transmitted infections	0.87	0.341	0.83	0.377
Token resistance	0.94	0.237	0.96	0.207
Rape	0.93	0.263	0.95	0.223
Consent under intoxication	0.74	0.440	0.82	0.384
Total <sup>c</sup>	14.29	2.662	15.19	2.528

All items had a possible score range of 0 to 1 except where indicated.

These quantitative results were also corroborated by the qualitative findings from focus groups. The statements made by students during the discussions affirmed the potential efficacy of gaming over traditional methods of SAPE, at least among this population: "Rather play a game than read a book," "Easier to play a game [because] you have to pay attention," "Liked getting to know the characters—similar to reading a book," and so forth. The findings also point to the appealing aspects of the game to students: "More easy to relate to," "Seeing characters help it stick more," and "If in these situations in real life, might refer back to what they learned in this because it's more relatable." Focus group participants also provided ideas and suggestions that can be used to improve future iterations of the game.

Although our findings are preliminary, the positive shift in attitudes and the improved scores on the scenario-based and knowledge-based questions are at least encouraging. It is important to keep in mind that for the current study participants were only exposed to brief mini-sessions of gameplay. Presumably, with continued gameplay, allowing students to engage more intensely or more frequently with the game, we may see an even greater shift in attitude measures and improved scores on the learning measures.

# "Campus Craft" as a sex-positive approach to SAPE

"Campus Craft" demonstrates a sex-positive example of SAPE because it deviates from fallacious assumptions underlying many traditional programs—assumptions that might actually contribute toward rape-supportive cultures. By questioning these assumptions, "Campus Craft" offers an innovative approach to conducting SAPE. Here we briefly discuss three such fallacies:

- 1. Fallacy 1: Women are the target audience. Many SAPE programs target risk-reduction tactics toward women exclusively, or emphasize risk-reduction tactics for women without an equal emphasis on men. Common risk-reduction messages, for example, tell women to watch how much alcohol they consume at parties and to watch their drink at all times in order to avoid unknowingly consuming a date-rape drug. Although we believe these messages are important, they imply that women should be responsible for preventing sexual assault by circumventing and avoiding perpetrators' "bad" behavior. Additionally, these messages presume that men cannot control their actions, and as a result women need to control men's behaviors in order to avoid being assaulted. "Campus Craft" evades this common assumption because the content presented during the game emphasizes the role that men play in preventing sexual assault. It does this by abating common stereotypes of male and female behavior, by advocating support for victims of sexual assault, and by highlighting acts of sexism. Additionally, given that videogames in general are more commonly used by men and that the game design allows for both male and female avatar players, "Campus Craft" aims to target a dominantly male audience.
- 2. Fallacy 2: Individual behaviors are more important than the sociocultural environment. Traditional SAPE also assumes that individual behaviors are more important than a contextualized analysis of rape culture in regard to reducing sexual assault. 14,33 Previous research suggests that SAPE programming aimed at promoting consent or reducing individualized risk

<sup>&</sup>lt;sup>a</sup>This item had a possible score range of 1 to 3.

bThis item had a possible score range of −1 to 3.

<sup>&</sup>lt;sup>c</sup>The total score had a possible score range of –1 to 19.

SD, standard deviation.

behaviors are generally ineffective in the long run because they focus on single behaviors and ignore the influence of the larger rape culture highly visible on college campuses. Sec. 11,13 Alternatively, researchers suggest that programming aimed at deconstructing rape culture stands to be more effective than individualized risk-reduction tactics. As such, "Campus Craft" stands poised to potentially contribute toward shifting attitudes related to sexual assault and rape because the game highlights the different ways in which the college environment might be supportive of sexually violent behavior. In this manner, the game can help students understand how they can confront and combat these issues.

3. Fallacy 3: "Just get consent." A great deal of SAPE programming focuses on consent promotion—the take-home message being "just get consent" or, more broadly, to promote "no means no" and "yes means yes." Although on the surface these campaigns seem promising, in reality they do not truly speak to how young adults and college students negotiate con-As a result, consent promotion-based programming may seem less relevant to men and fail to address the situational, contextual, and relational factors that influence consent negotiation, 14,33,35 as well as gender inequity in the American college culture that contributes to power imbalances leading to sexual assault. 9,24 Alternatively, "Campus Craft" highlights key aspects of college culture that contribute to the occurrence of sexual violence (e.g., the incorrect assumption that women mean yes when they say no to sex [token resistance], or how differences in male and female patterns of arousal can lead to misunderstandings about interest in sexual activity, which could potentially lead to sexual assault).

In addition to deviating from these common fallacies that underlie many SAPE programs, "Campus Craft" is innovative in terms of the mode of content delivery—that is, through gameplay that facilitates experiential learning. Previous SAPE initiatives primarily deliver factual content focused on risk-reduction techniques, on promoting clear consent communication via textual materials, lectures and workshops, or on interactive Web-based tools. Alternatively, "Campus Craft" provides opportunities for experiential learning that deconstruct rape culture on college campuses. Previous research has demonstrated the utility and success of game-based learning models to promote active, experiential learning (e.g., Begg et al.<sup>28</sup> and Begg and Ellaway<sup>38</sup>), and thus this format is well suited for experiential SAPE.

#### Integration of multiple approaches of SAPE

Previous research suggests that sexual assault prevention interventions should build on one another over time <sup>15,20</sup> and that prolonged exposure to a myriad of intervention approaches results in greater success in terms of shifting rape-supportive attitudes. <sup>15,19,39</sup> As such, integration of "Campus Craft" as one prong of a multifaceted approach to addressing sexual violence on campus would serve to diversify prevention efforts while providing a unique format for conducting SAPE that would meet best-practice recommendations.

According to Banyard, 19 "we need to create a succession of messages working together over time since we know from research that attitude and behavior change is a process" (p. 346). Moynihan et al.<sup>22</sup> found that bystander approaches were effective at the 1-year post-test only among students who had a higher level of awareness about the problem of sexual violence prior to the prevention program. These findings provide a research-based trajectory for implementing SAPE wherein an awareness raising program such as "Campus Craft" could be implemented during students' first year on campus followed by implementing bystander interventions with students in subsequent years. Consistent with this trajectory, Bowman<sup>21</sup> argued that first-year students were less inclined to intervene (in regard to the bystander intervention approach) because they were worried about what other people think. As such, "breaking from the crowd" in order to intervene if witnessing a potential sexual assault is unlikely to occur. Therefore, implementing bystander approaches among older students with continued exposure to "Campus Craft" may be more consistent with students' trajectory of development.

Another approach might be to start gaming intervention with students prior to entry in college/university. Based on the findings of Smith et al., 40 sexual violence is common not only among college students, but also among high school students. Furthermore, individuals who were victimized during high school are more likely to experience repeat victimization in college. Given the recommendations that awareness-raising SAPE should build on bystander approaches, it may be fruitful to make students aware of the occurrence of sexual assault on college campuses via interventions like "Campus Craft" during high school or prior to entry to college. This can be followed up by bystander approaches once students get to campus. To be sure, this integrative approach to SAPE would require additional inquiry.

## Limitations and future research

Although "Campus Craft" represents an innovative approach to SAPE, the findings presented here are preliminary and should be approached with caution. There are some important limitations to note. First, the version of "Campus Craft" evaluated in the current study represented only a prototype, which is intended to be part of a larger, overarching game. Ideally, over an entire semester (or longer), students would interact with the game and its content more frequently. Findings suggest that prolonged exposure to SAPE helps increase the effectiveness of the intervention. <sup>25,26</sup> Additionally, this study was conducted at one university with a small sample of students; therefore, results are not generalizable to all college students.

Previous research suggests that the extent to which game environments appear realistic to students can vastly influence student engagement with the game and thus with the learning tasks. <sup>28,38</sup> The "Campus Craft" game design used a generic college environment for the current study. Moving forward, in regard to game design, it may be useful to "customize" the game, simulating the university environment of the game to mimic that of the actual university where the game is being implemented. In that vein, non-player characters as well as the student avatar play, could also wear t-shirts with

the university logo, attend popular university events such as a particular sporting event, or go to a particular restaurant unique to the town in which the university inhabits. These features may increase the "real-life" feel of the game, thus increasing students' willingness to identify with the avatar and their learning from the experiences provided during gameplay.

Continued research is needed to better understand the influence of both the game-based approach to teaching SAPE and teaching content that focuses on deconstructing rape culture. Future research should evaluate student exposure to more game scenarios over the course of an entire semester in order to understand the influence of repeated interactions over a longer duration on improving rape-supportive attitudes and better understanding content related to rape culture. Additionally, expanded quantitative assessments of students' attitudes and the knowledge acquired would continue to be beneficial to get a more refined understanding of the impact of the game on students. Qualitative data collection via interviews or focus groups may also be beneficial to understand, in more detail, the impact of the game on students' thoughts and learning about these issues.

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#### **APPENDIX**

# Part A. Attitudes on health and sex

1. If a woman is raped while she is drunk, she is at least somewhat responsible for letting things get out of control.

Strongly Disagree Strongly Agree Not Sure
1 2 3 4 5 0

2. If a woman is willing to "make out" with a guy then it's no big deal if he goes a little further and has sex. Strongly Disagree Strongly Agree Not Sure

1 2 3 4 5 0

3. If a woman goes home with a man she doesn't know, it is her own fault if she is raped.

Strongly Disagree Strongly Agree Not Sure

1 2 3 4 5 0

4. It is usually only women who dress suggestively that are raped.

Strongly Disagree Strongly Agree Not Sure
1 2 3 4 5 0

5. When women are forced to have sexual intercourse, it's often because the way they said "no" was ambiguous.

Strongly Disagree Strongly Agree Not Sure

1 2 3 4 5 0

6. I question the character of a man who has had a lot of sexual partners.

Strongly Disagree Strongly Agree Not Sure

1 2 3 4 5 0

7. A woman who initiates sex is too aggressive.

Strongly Disagree Strongly Agree Not Sure

1 2 3 4 5 0

8. I question the character of a woman who has had a lot of sexual partners.

Strongly Disagree Strongly Agree Not Sure

1 2 3 4 5 0

9. When a woman waits until the very last minute to object to sex in a sexual interaction, she probably really wants to have sex.

Strongly Disagree Strongly Agree Not Sure
1 2 3 4 5 0

10. Women usually say "no" to sex when they really mean "yes."

Strongly Disagree Strongly Agree Not Sure

1 2 3 4 5 0

11. A woman having casual sex is just as acceptable as a man having casual sex.

Strongly Disagree Strongly Agree Not Sure
1 2 3 4 5 0

12. Going home with a man at the end of a date is a woman's way of communicating to him that she wants to have sex.

Strongly Disagree Strongly Agree Not Sure
1 2 3 4 5 0

#### Part B. Multiple choice

For each term, circle the correct response.

- a. Nonconsensual sex:
  - 1. A sexual activity performed without the consent of all parties involved
  - 2. Rape

- 3. Often justified through the use of alcohol
- 4. All of the above
- b. Token resistance
  - 1. Initially refusing to engage in sex when a person actually intends to do so
  - 2. Applies only to women
  - 3. Applies only to men
  - 4. This means saying no and meaning no.
- c. Trust by association
  - 1. Leaving the bar to go home with someone you vaguely know and feeling a sense of trust or confidence that you are safe with this person
  - 2. Going out with a complete stranger and having trust in this person
  - 3. None of the above
- d. Victim blaming
  - 1. Placing blame on the victim (rather than the perpetrator) for causing his or her own assault based on their own actions, choices or characteristics
  - 2. Placing blame on a man for taking advantage of a woman who has had too much alcohol
  - 3. Both 1 and 2
- e. Alcohol myopia
  - 1. When the use of alcohol increases token resistance
  - 2. When women use alcohol, they are more likely to say no to sex.
  - When the use of alcohol enhances pleasure of immediate events and reduces awareness of distant events
  - 4. Using alcohol for the explicit goal of experiencing euphoria

# Part C. Scenario analysis

Directions: Read each of the scenarios below and choose the best response.

Scenario A. Amanda is a freshman on a large campus and decides to go to her first fraternity party. At the party, she meets her roommate's cousin, Jeff, whom she just met last week. Jeff tells Amanda that he will show her the ropes of partying so she can have fun this year. Amanda feels lucky to have Jeff helping her, and he introduces her to a few friends. They are laughing and having a good time, and Jeff continues to offer Amanda drinks. Eventually, Amanda finds herself on Jeff's couch in his room, where he is kissing her and taking her shirt off. She does not want to turn him down because he has been so nice to her. She wants to slow wayyy down but feels too guilty to ask. After all, Jeff went out of his way to be nice to her, and he was her roommate's cousin, after all. She didn't want to reject him, but she didn't want to have sex either. Jeff pushed hard, but she froze and could not say anything. Then things happened so fast, and it was too late. Amanda's roommate told her that she was stupid for letting Jeff take advantage of her like this.

a. Amanda's story is an example of (*circle all that apply*):

- 1. Nonconsensual sex
- 2. Trust by association
- 3. Victim blaming
- 4. All of the above
- b. In order to reduce the risk of being in a situation where nonconsensual sex may occur, what risk reducers might Amanda have used? (*circle all that apply*):
  - 1. She could have told Jeff that she was on her period.
  - She could have asked Jeff to cool down and talk about boundaries.
  - 3. She could have brought a condom with her.
  - 4. She could have told him she was not interested in sex.
- c. In this situation, who is responsible for preventing an assault (*circle one*):
  - 1. Jeff's actions made the event non-consensual, therefore he is the one responsible for the assault.
  - Amanda brought on this assault because she did not reduce the risk of being in this type of situation.

**Scenario B.** Read the quote below and choose the best response:

If a girl comes home with me and is too drunk to know what she's doing, then it's not my fault if she has sex with me [quote from John].

This is an example of:

- a. Consensual sex
- b. Nonconsensual sex
- c. Token resistance
- d. All of the above

# Part D. True/false responses

- 1. There are no differences in arousal patterns between men and women.
  - o True
  - o False
- Sexually transmitted diseases cannot be spread via oral sex.
  - o True
  - o False
- 3. When women say *no*, they often mean *yes*. When they say *no*, they mean *maybe*.
  - o True
  - o False
- 4. Having sex with an unconsenting partner is rape.
  - o True
  - o False
- If a person is intoxicated, he or she cannot legally give sexual consent.
  - o True
  - o False