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## Abstract

Many researchers have studied risk factors related to sexual violence, and few studies have explored what differences account for the various ways women seek information about sexual violence. This study accomplishes this by applying part of the Risk Information Seeking and Processing (RISP) model to sexual aggression among young females (18-25 years). The results from a national survey of females show that negative affect (worry and anger combined) showed a direct positive effect on risk information seeking. Also, binge drinking does not make women feel much more at risk from sexual assault. Some differences exist between women in school and out.

## Keywords

The issue of sexual aggression remains a serious and growing problem in society as many crimes go unreported by victims fearful of losing even more privacy, dignity, and sanity in the medical and legal processes that accompany a report (Sinozich & Langton, 2014). Even when these crimes are reported, actions by officials are sometimes minimal, according to the 2015 documentary, The Hunting Ground (Ziering & Dick, 2015). Although movements to encourage reporting have flourished recently, to the point that *Time* named as 2017 Persons of the Year the people behind the #MeToo and Silence Breakers efforts (Bever & Ohlheiser, 2017), data reveal consistent rates of victimization for American women, both collegiate and those living in the general population (Gidycz, McNamara, & Edwards, 2006). Since the late 1990s, college campuses have taken initiatives to lower the incidence of risky behaviors connected to sexual aggression, like binge drinking, with mixed results (Lonsway et al., 2009; *The Relationship Between Alcohol and Sexual Assault on the College Campus*, 2013).

An important question that remains open is the extent to which women seek information about sexual assault risks and self-protection behaviors. This study will examine that process using part of the Risk Information Seeking and Processing (RISP) model developed by Griffin, Dunwoody, and Neuwirth (1999). The model has been used to study differences in people's seeking and processing of information about a variety of health and environmental risks, such as those related to consuming unfamiliar foods (Fischer & Frewer, 2009), polychlorinated biphenyls (PCB)-contaminated fish (Fung, Griffin, & Dunwoody, 2018) and unsafe drinking water (Griffin, Neuwirth, Dunwoody, & Giese, 2004), enrollment in clinical trials (Yang et al., 2010), river flooding (Griffin et al., 2008), radon (Hwang & Jeong, 2016), hazardous chemicals, (Ter Huurne, Griffin, & Gutteling, 2009), and what Kahlor, Dunwoody, Griffin, and Neuwirth (2006) term "impersonal risks" (p. 163) to distant others or to natural ecosystems, such as the Great Lakes. Hwang and Jeong (2016, p. 693) report that there have been more than 100 studies conducted of the RISP model. Various reviews, conceptual definitions, and figures illustrating the full model can be found in Dunwoody and Griffin (2015), Griffin, Dunwoody, and Yang (2012), and Yang, Aloe, and Feeley (2014).

This study tests the model's ability to explain information seeking only, not information avoidance or processing. This study will have theoretical implications by helping to improve the understanding of why some women seek information more than others do about sexual assault to deal with that risk. Practical implications will help those trying to persuade women to become more informed through channels such as public service advertising, news coverage, and social media messaging tactics.

## Present Status of the Problem

Gidycz et al. (2006, p. 442) call sexual assault "an endemic problem in our society," with research consistently finding that around 15% to 20% of collegiate women surveyed report being victims of sexual assault (Gray, 2014a). In studies of the general public, an American woman's lifetime prevalence of sexual assault hovers between 5% and 25%, according to one study (Nasta et al., 2005). These rates actually peak in young women, who face a rate of sexual assault two to three times greater than older women (Nasta et al., 2005).

A report from the U.S. Department of Justice using National Crime Victimization Survey (NCVS) data on rape and sexual assault victimization against females aged 18 to 24 who are enrolled and not enrolled in college revealed some alarming facts (Sinozich & Langton, 2014):

> The rate of rape and sexual assault was 1.2 times higher for nonstudents (7.6 per 1,000) than for students (6.1 per 1,000); for both college students and nonstudents, the offender was known to the victim in about 80% of rape and sexual assault victimizations; most (51%) student rape and sexual

assault victimizations occurred while the victim was pursuing leisure activities away from home, compared to nonstudents who were engaged in other activities at home (50%) when the victimization occurred; and rape and sexual assault victimizations of students (80%) were more likely than nonstudent victimizations (67%) to go unreported to police.

While college students are less likely to report assaults, colleges have failed to investigate sexual assault cases properly, according to a national survey of 350 schools (Schoof, 2014). Thirty percent of campus police received no training on how to respond to reports of sexual violence. About 22% of schools allowed athletic departments to oversee cases when student athletes are involved. No consistent policies exist on reporting cases to local law enforcement.

Time magazine (Gray, 2014a) did an extensive expose on campus rape, identifying one school with over 80 reported rapes in a 3-year period, earning the campus nickname "America's Rape Capital." The report identified data showing almost one fifth of U.S. undergraduate women are victims of sexual assault while in college (p. 23). Best practices include training sessions for students, faculty, and staff; harsh adjudication for violators; bystander awareness programs; and annual reports of cases and results. The federal government is getting involved, debating whether or not to require the above best practices across campuses, threatening to withhold federal funds to campuses failing to meet certain standards. However, each new administration has a different agenda, but overall government efforts have transformed the way colleges are handling sexual misconduct.

Noncollege females face higher incidences of sexual aggression, according to the NCVS. However, they are rarely studied and reported on in the scholarly literature. When they are studied, some differences compared with college students emerge. For noncollege females, the typical sexual assault scenario involved a single assailant who was either an acquaintance or a friend and who used both verbal and physical pressure, which the woman tried to resist (Sorenson, Stein, Siegel, Golding, & Burnam, 1987). For college students, a typical sexual assault occurs on a date, usually at one's home, and is preceded by consensual kissing. In addition, the assault involves a single assailant who uses no weapon but may use physical force (Koss, 1988).

Noncollege females face risks at their job, in their social lives at clubs, restaurants, at the gym or park. They may have access to more sexual aggression prevention resources because of income, but those resources may not be convenient compared with college campuses with health and counseling services as well as public safety efforts on campus. The study reported here is an all-inclusive sample to provide insights on both groups to reveal whether approaches to risk information are shared or distinct.

What has been studied among noncollege females are other risks related to health, specifically skin and ovarian cancer (Jessop, Simmonds, & Sparks, 2009; Peipins et al., 2015; L. Walsh, Stock, Peterson, & Gerrard, 2013). Overall, these studies identified that cognitions (factual knowledge) had stronger influences on perceived risk than affective or emotionally based information. When emotional appeals had some impact on information seeking, the messages focused on self-affirmation or were framed negatively, such as inducing worry. How self-affirmation and negative affects trigger active seeking of risk information is the step forward for the current study.

This study borrows from the literature on risk communication and information seeking to spotlight some key factors that affect how women seek information related to the risk of sexual aggression. Other research on the subject of sexual violence has focused on different aspects of the problem. Investigators have looked into the impact of the perceptions people have about the probability and severity of the risk of sexual aggression. One major finding in this area is that many women carry an optimistic bias in which they perceive the risk of sexual aggression to be higher for their peers than it is for themselves (Nurius, 2000). In two studies looking at college campus drinking rituals (Wolburg, 2001, 2016), researchers found perceived vulnerability to the risks of sexual

assault associated with drinking was low, with many young adults feeling that bad things happen to other people, not themselves. With estimates of 25,000 alcohol-related sexual assaults annually on college campuses ([National Institute on Alcohol Abuse and Alcoholism, 2016](#)), this is a serious problem warranting investigation.

Alcohol consumption is part of almost 50% of sexual assaults, according to most data (see [Gilligan, Kaysen, Desai, & Lee, 2011](#)). Sexual assaults involving alcohol are more likely to occur between people who are strangers or have just met. Alcohol-involved sexual assaults are more likely to occur at parties or bars, rather than in someone's home, with both people drinking ([Abbey, Zawacki, Buck, Clinton, & McAuslan, 2003](#)).

A person who is drinking alcohol experiences several types of cognitive deficits affecting abstraction, conceptualization, planning, and problem solving, making it difficult to evaluate complex stimuli ([Hindmarch, Kerr, & Sherwood, 1991](#)). Alcohol has been found to make people less likely to process potentially contradictory cues and realize that a partner is misperceiving the other ([Abbey, 2002](#)). Cognitive deficit theories ([Steele & Josephs, 1990](#); [Taylor & Chermack, 1993](#)) suggest that when drinking, it is very easy to focus only on the part of the message that one wants to hear. Alcohol consumption must be considered as a factor in any approaches to risk.

## Advocacy for Safe Behaviors—Drugs, Driving Drunk, Safe Sex, Ultraviolet Ray Exposure

Advocacy promoting the avoidance of risky behaviors comes in a variety of forms, including information sessions, brochures, advertising, videos, and social media sites. For example, advertising campaigns have tried to get people to stop smoking ([Fox, Krugman, Fletcher, & Fischer, 1998](#)), drink alcohol responsibly ([Wolburg, 2001](#)), stop using drugs ([Fishbein, Hall-Jamieson, Zimmer, vonHaeften, & Nabi, 2002](#)), and stop illegal piracy of music and video ([Sheehan, Tsao, & Pokrywczynski, 2012](#)). The majority of these campaigns have been directed at adolescents and young adults with the hope that there is still time to change risky behaviors. Most of these campaigns have met with limited success, despite the expenses of creating and placing professionally produced messages for television, radio, billboard, print, and other media. Each of these risky behavior campaigns has been studied without finding the formula for successful persuasion.

Consistent across these studies of risk among young people are findings that perceived vulnerability to the risks is low, with many young adults feeling invincible. Bad things happen to other people, not themselves. This age group seems to feel they are invulnerable to risks and sees no need to heed warnings. When they do heed warnings, it is because they perceive risk as relevant to them, there are perceived costs (e.g., health risk, arrest, job loss, computer damage), and the suggested solution is doable ([Cho & Boster, 2007](#); [Manyiwa & Brennan, 2012](#); [Sheehan et al., 2012](#)).

There are numerous ways that people face risk in their daily lives, and that list seems to grow daily with threats from terrorism, economic calamity, and new, resistant virus strains like Zika. How information is attended to regarding each of these risks may be slightly different. How information is sought about an established hazard like sexual assault is important to understand to reverse this growing risk.

## Applying the RISP Model

The theoretical approach in this study uses part of the RISP model, developed to understand how people seek, avoid, process, and respond behaviorally to messages about risks to their health and well-being or to the natural environment ([Griffin et al., 1999](#)). RISP takes a bottom-up approach by studying how and why individuals seek, interpret, and apply information about risks in their lives. It is an integration of concepts from several areas of the literature regarding risk perception, information seeking and processing, and planned behavior.[1]

The RISP model proposes that information seeking and processing are affected by a combination of one's motivations to do so (information insufficiency, informational subjective norms, and indirectly by affective

responses to the risk); one's ability to seek and process the information (perceived information gathering capacity); and one's beliefs about the channels of information that one might use for the information (relevant channel beliefs). Each of these factors may have relatively stronger or weaker effects on seeking and processing depending on the specific application of the RISP model (see, for example, Kahlor et al., 2006). In addition to these proximate predictors, the RISP model employs various distal predictors (e.g., relevant hazard experience, perceived hazard characteristics [PHC]) adapted primarily from risk perception research (see Griffin et al., 1999).

The study reported herein concentrates only on the experiential–cognitive–affective paths of relationships within the RISP model (relevant hazard experience, PHC, affective response, and information insufficiency), and their relationships with information seeking about the risks of sexual assault, based on a sample of young adult women in the United States (see Figure 1). This chain of variable relationships represents the single most elaborate series of components in the RISP model, with origins reaching back into the risk perception and affective literature. Not all of the RISP model's variables from this chain are employed here, but the order of variables in Figure 1 was determined based on the RISP model. Even though it is not a standard part of RISP, we will pay special attention to young women's binge drinking of alcohol and their awareness of increased risk of thus becoming a victim of sexual assault.
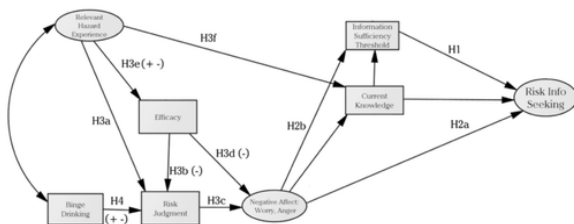


**Figure 1.** Tested components of risk information seeking and processing model.

We will not be including information processing in this analysis, nor other predictors of risk information seeking and processing from the RISP model: informational subjective norms, perceived information gathering capacity, relevant channel beliefs, and their interactions. Nor will we be examining changes in, or maintenance of, risk-reduction behaviors that might be subsequent to risk information seeking and processing (see Griffin et al., 1999). We recommend that future research examine these factors as related to sexual assault.

## Information Seeking

Griffin et al. (2012) define information seeking as "more or less effortful attempts to gather information through a variety of mediated and interpersonal channels to achieve personal goals, including those representing various cognitive and affective motivations" (p. 335). Seeking as a concept falls on a continuum from routine, defined as "fairly passive exposure to risk-related information based on media use habits," to nonroutine, considered as "more active efforts to gather risk-related information that go beyond habitual sources" (p. 335).

## Proximate Predictors

As noted above, this analysis will employ only a limited set of predictors. As Figure 1 illustrates, information seeking would be affected directly by a cognitive motivation, information insufficiency, and directly or indirectly by affective responses to the risk.

## Information insufficiency

Because nonroutine information seeking requires a larger investment of time and energy, people must be motivated to make that extra effort and be able to do so (Griffin et al., 2012). Expanding on Eagly and Chaiken's (1993) Heuristic-Systematic Model (HSM), RISP focuses on "information insufficiency" or the "gap" between what people believe they know (current knowledge) and how much they believe they need to know to feel

adequately confident in their judgments about how to deal with a particular risk in their lives (information sufficiency threshold; Griffin et al., 1999; Ter Huurne et al., 2009). The greater the information insufficiency gap, the stronger the motivation to seek relevant risk information. Therefore, we hypothesize the following:

- **H1:** Information insufficiency will be positively related to information seeking.

## Affective response

While the emphasis on emotion's impact on risk perception has waxed and waned throughout the years, research into "risk as feelings" (Slovic, 2010, p. ix) has been gaining momentum. RISP includes two major concepts pulled from the affective side of the perception debate (Griffin et al., 2012). Negative emotions, especially worry and anger, have evidence as antecedents for seeking and processing behavior, and have been investigated by Slovic (2010) in the form of dread and by Sandman (1987) in the form of outrage. In RISP, negative emotions can influence an individual's likelihood to actively seek risk information by increasing the information insufficiency gap. The need to manage fear and anxiety levels is quite strong. It should be noted that Witte and Allen's (2000) meta-analysis of fear appeal research found emotional response helpful in generating positive health behaviors and reducing negative health behaviors when messages also included clear behavioral recommendations.

While people often worry to varying degrees about many things simultaneously, anger is considered a more acute, intense reaction. People get angry when they want to control a situation, and often their anger is provoked by situations involving risks (Frijda, 1986). Anger is of interest to RISP because it can be related to institutional trust when blame is attributed externally, as Dunn and Schweitzer (2005) found, and because, as Weiner (2000) found, anger may increase active campaigning against institutions involved in risk mitigation. RISP studies predict, then, that anger may be capable of indirectly impacting information seeking via information insufficiency (Griffin et al., 2008).

Some RISP-related studies have found direct paths between negative affective responses and risk information seeking and processing (see, for example, Griffin et al., 2012; Kahlor, 2010). One recent study that focused on information seeking in a risk context (climate change) found information avoidance driven by positive affect, while information seeking is more heavily influenced by negative affect (Yang & Kahlor, 2013). The study reported here will explore the direct relationship of negative affect (worry and anger) with information seeking, as well as the indirect influence through information insufficiency. Therefore, we expect the following:

- **H2a:** Negative affect will have a positive direct relationship with information seeking.
- **H2b:** Negative affect will have a positive relationship with information insufficiency.
- **H2c:** Negative affect will have a positive indirect relationship with information seeking via information insufficiency.

## Distal Predictors

Distal predictors in the RISP model (Figure 1) include PHC and a set of individual characteristics which include relevant hazard experience and various sociodemographic and psychological variables. All of these have extensive literatures in the field of risk perception, so we will briefly describe only those of central interest in this study.

A large set of PHC variables relevant to the RISP model had been harvested from the risk perception literature (Griffin et al., 1999), but over time they have been modified and distilled to only a key foursome (Griffin et al., 2012, see especially pp. 340-341): risk judgment, institutional trust, causal attribution, and efficacy. In a risk context, efficacy is a sense of personal control, a perception that one can mitigate the amount of harm from a

threat ([Griffin et al., 1999](); [Griffin et al., 2012]()). The controllability of a risk is a fundamental part of individuals' reactions to a risk ([Slovic, 1987]()). While all four PHC variables could play a role in young women's perception of the sexual aggression hazard to themselves, our analysis concentrated on self-efficacy ([Bandura, 1977]()) and risk judgment—the person's perception of how likely she is to be affected by the hazard and her perception of how serious that would be. For example, a sense of efficacy in protecting oneself from a hazard would be expected to reduce one's sense of risk from it.

Relevant hazard experience reflects the extent to which a person has experienced the hazard in the past, in this case, having been the victim of unwanted sexual aggression or something similar to it ([Griffin et al., 1999]()). The relationships among relevant hazard experience, PHC, and other key variables such as risk judgment and negative affects are important to understand in determining the right message content to be persuasive.

Therefore, we hypothesize the following:

- **H3a:** Greater hazard experience—having been the target of unwanted sexual aggression—will have a positive relationship with risk judgment (i.e., feeling more at risk).
- **H3b:** Feeling more efficacious in dealing with the risk will have a negative relationship with risk judgment (i.e., feeling less at risk).
- **H3c:** Risk judgment will have a positive relationship with negative affect (i.e., feeling more worried, angry).
- **H3d:** Feeling more efficacious in dealing with the risk will have a negative relationship with negative affect (i.e., feeling less worried, angry).

The RISP model also proposes that relevant hazard experience could affect a person's sense of efficacy, but does not offer guidance in terms of the direction of that relationship in this application. So the following is offered as a nondirectional hypothesis:

- **H3e:** Past experience with the hazard of sexual aggression will have a statistically significant relationship with a women's sense of efficacy in dealing with it.

Individuals who have more experience with a hazard might also feel more knowledgeable about it. The RISP model is silent about a relationship between these variables, proposing only that sociocultural factors such as socioeconomic status would affect current knowledge directly. Not specified in the model is the potential impact of specific knowledge gained formally or informally—including through experience with the hazard—on current knowledge. Nonetheless, it is consistent with the cognitive components of the model:

- **H3f:** There will be a positive relationship between hazard experience and current knowledge about the risk.

Another individual characteristic of interest in this study, along with demographic/sociocultural factors, is the woman's alcohol consumption behavior, specifically the risky behavior of binge drinking. The RISP model does not provide specific guidance on how this auxiliary behavior might affect risk perception. However, women may infer that binge drinking can affect their risk from sexual aggression. Thus, we cautiously offer the following as a nondirectional hypothesis:

- **H4:** Binge drinking will have a statistically significant relationship with a woman's judgment of risk from sexual aggression.

We will also examine the total effects of these distal variables on risk information seeking.

## In School or Not?

Comparatively little research has been conducted into the ways noncollege women respond to the risks of sexual assault and aggression—especially their relevant risk information seeking behaviors. If noncollege women (i.e., those currently no longer in school, regardless of whether they had ever attended) perceive these risks differently than do their peers who are still in school, and are differentially motivated to seek information, then sexual assault information campaigns may need to be designed somewhat separately for these two groups. Although it is also exploratory, our research question is as follows:

- **RQ1:** Do women no longer in school differ from their peers currently in school in terms of the patterns of relationships among the proximate and distal predictors of risk information seeking?

# Method

This study's purposes are to further test aspects of the RISP model—in this case, as applied to a personal safety risk—and thus to understand some of the factors that might motivate young women to seek risk information related to potentially being victimized by unwanted sexual aggression. Testing the full model would be highly complex, so we are concentrating on a key set of selected variables that may have the most implications for constructing impactful advertising messages and other communication strategies.

## Participants

An online survey was sent to a national panel pool of females aged 18 to 25 in the United States, obtained through the Qualtrics online survey research firm. Respondents meeting the criteria were sent an invitation to participate (*n* = 630), with several reminders, generating an 80% response rate. This effort generated 505 completed responses.

## Measures

The questionnaire had 44 questions, including those covering the following concepts, and could be completed in about 10 min. The study was approved by the human subjects review committee at the authors' university.

The Appendix illustrates the key measures used in the analysis and their descriptive statistics. The proximate predictors of risk information seeking (measures based on Griffin et al., 2008) are information insufficiency (measures based on Griffin et al., 2004) and affective response to the risk—worry and anger (measures based on Griffin et al., 2008).

Distal predictors of information seeking include other select variables from the RISP model (Griffin et al., 1999): two of the PHC variables (risk judgment and efficacy, measures based on Griffin et al., 2004), Relevant Hazard Experience, and Individual Characteristics.

Relevant hazard experience was represented by a triad of measures (Koss et al., 2007) asking the women whether they had ever experienced each of three types of sexual aggression. These results (see Appendix) compare closely to national statistics from the NCVS (Sinozich & Langton, 2014). Respondents were reminded of the confidentiality of their answers before these questions were asked.

Relevant individual characteristics for this study included the respondent's alcohol binge drinking and various demographic control variables.

To measure binge drinking, the women were first asked how many standard servings of alcohol they have in an average week (a standard serving was defined for them). If one or more, they were asked whether, in the past 3 months, they had ever consumed more than four alcoholic drinks on the same day (considered as binge drinking): 28.3% of the total sample reported binge drinking, the rest either did not drink or did not binge drink.

Demographic control variables included the individual's age, educational achievement, minority status, marital status, employment status, and whether she was currently enrolled in school. To validate the sample, we compared sample data (95% confidence interval [CI] = ± 4.4%) to population parameters for these variables among American women aged 18 to 25, using census data from the 2014 Current Population Survey (U.S. Census Bureau, 2014). There was a reasonably close match within the age group, although the sample appears slightly older and a little better educated: 59.1% of the sample are aged 22 to 25, as compared with 53.2% of the population; 67.8% of the sample have education beyond high school, as compared with 59.7% of the population in their age group; 47.3% of the sample are enrolled in school (including still in high school), as compared with 51.1% of the population; 30.7% of the sample are minority, as compared with 26.5% of the population; 79.0% of the sample have never been married, as compared with 85.3% of the population; 25.7% of the sample have full-time jobs, as compared with 31.7% of the population.

## Analysis

The IBM Statistical Package for the Social Sciences (SPSS) and the AMOS structural equation modeling (SEM) program were used for the analyses. SPSS multiple regression was used to create standardized residuals of the 14 observed variables that were to be used in the SEM analysis (e.g., including each of the observed component variables for the latent variables information seeking, negative affect, and relevant hazard experience). The six demographic control items were entered as the independent variables in these regression analyses, thus removing their covariance.

The structural model was constructed to test the patterns of key relationships among the chosen subset of variables from the RISP model, as applied to the ultimate endogenous latent variable of women's seeking information about the risk of sexual assault. Figure 2 shows the tested model (for graphic clarity, error terms are not shown, nor are the observed variables related to the three latent variables, even though all were included individually in the SEM analysis). Standardized path coefficients are shown on the lines; squared multiple correlations ($R^2$) are shown to the upper right of each endogenous variable. Where relevant, indirect and total effects coefficients, as generated by AMOS, will be reported. Hypothesis tests will be based on the entire sample. To address **RQ1**, the tested model was also run separately on the two subsamples: those women still in school and those not. We used an alpha level of .05 as the minimum for demonstrating statistical significance throughout.



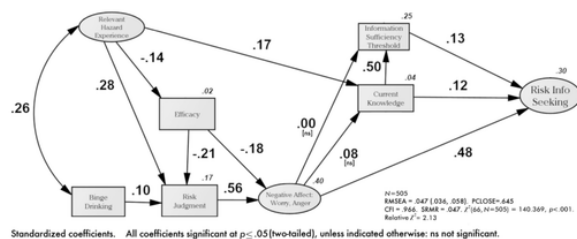**Figure 2.** Tested model (entire sample).

The right side of Figure 1 illustrates the proximate predictors of risk information seeking employed in this study, that is, information insufficiency and negative affect, showing the patterns of relationships among them as proposed from the RISP model.[2] The left side of the figure shows the tested patterns of relationships among the

distal predictors in this study based on expectations for these variables from the RISP model. Added for this study are paths from binge drinking to participants' judgments of risk from sexual aggressiveness, and from relevant hazard experience to self-reported current knowledge of the risk.

## Results

### Goodness of Fit

The results indicate a fairly close fit, although certainly not perfect, between the model and the data (see lower right of Figure 2). According to Byrne (2016), root mean square error of approximation (RMSEA) and standardized root mean square residual (SRMR) values less than .05 indicate a good fit, as do comparative fit index (CFI) values of .95 or greater. Relative chi-square values ($\chi^2/df$) up to 2 or 3 represent an acceptable fit (see Carmines & McIver, 1983).[3] The tested model accounts for 30% ($p \leqslant .05$) of the variance in risk information seeking. Although the higher value of the 90% CI for the RMSEA is .058, RMSEA values between .05 and .08 still represent a reasonable error of approximation (Byrne, 2016; Kline, 2005). The RMSEA for the measurement model is .051 (.032-.069); PClose = .451; CFI = .983; SRMR = .038; $\chi^2(22, N= 505) = 50.35, p \leqslant .001$; relative chi-square = 2.29.

Using modification index (MI) values of 10 or greater, as recommended by Byrne (2016, p. 103), MI post hoc analyses indicate that four variable-to-variable linkages might add to model fit. However, only two new paths remained statistically significant after all of them were added to the model experimentally. The strongest was a path from efficacy to information seeking ($\beta = -.17, p \leqslant .01$), and the other was a path from information sufficiency threshold (information insufficiency) to information seeking item S1 ($\beta = .12, p \leqslant .05$).[4] However, various scholars warn against making changes to a tested model post hoc based just on the results of MI tests without careful consideration of whether the changes have theoretical meanings and implications (e.g., Kline, 2005; Loehlin & Beaujean, 2017). Kline (2005) specifically calls for a greater role for theory in model respecification to avoid the "capitalization on chance" (p. 147) that can readily yield Type I and Type II errors. Thus, we will not be changing this tested model based on these MI results, but offer them as grist for future theorizing and testing.

### Proximate Predictors

#### Insufficiency, information seeking (H1)

As Figure 2 shows, information insufficiency—represented by information sufficiency threshold variable—is positively related to risk information seeking ($\beta = .13, p \leqslant .05$, one-tailed), thus supporting **H1**. Current knowledge also has a significant positive relationship with risk information seeking ($\beta = .12, p \leqslant .05$). The "gap" in knowledge (if any) between current knowledge and sufficiency threshold represents the woman's perception of information insufficiency. It is noteworthy that, on average, the women in this study felt they already knew just about all they needed to know about the risk: On scales of 0 to 100, the mean for current knowledge was 61.4 ($SD = 27.8$) and for sufficiency threshold 69.4 ($SD = 27.5$).

#### Affect, insufficiency, seeking (H2a-H2c)

The second set of hypotheses concerned the relationships of negative affect with information insufficiency and information seeking. All these relationships were expected to be positive.

As Figure 2 shows, only one of the three hypotheses (**H2a**) was supported. Notably, in this analysis, negative affect bears only a direct—and positive—relationship with risk information seeking ($\beta = .48, p \leqslant .01$, one-tailed), and does not have the indirect relationship via information insufficiency (indirect effect = .02, $p > .05$, ns) that

the RISP model has proposed ([Griffin et al., 1999](#)). Furthermore, negative affect is unrelated to information insufficiency (β = .00, *ns*). Thus, neither **H2b** nor **H2c** is supported.

## Distal RISP Variables

### Experience, hazard characteristics, affect, knowledge (H3a-H3f)

The third set of hypotheses proposed relationships among relevant hazard experience, PHC, and some key downstream variables.

Six specific hypotheses were generated and supported. Those with greater hazard experience as being the target of unwanted sexual aggression currently feel more at risk from it (**H3a**, β =.28, $p \leqslant .01$, one-tailed). Those who feel less efficacious also feel more at risk (**H3b**, β = −.21, $p \leqslant .01$, one-tailed). Those who feel more at risk also experience much greater negative affect (**H3c**, β = .56, $p \leqslant .01$, one-tailed). Those who feel less efficacious also experience greater negative affect (**H3d**, β = −.18, $p \leqslant .01$, one-tailed). Those with more hazard experience feel less efficacious in dealing with it in the future (**H3e**, β = −.14, $p \leqslant .05$, two-tailed), but feel more knowledgeable about it currently (**H3f**, β = .17, $p \leqslant .01$, one-tailed).

Ultimately, what are the total effects (based on indirect effects) of these distal variables on information seeking? Risk judgment—a greater sense of risk—does ultimately promote some information seeking (total effect = .28, $p \leqslant .01$), as does relevant hazard experience (total effect = .13, $p \leqslant .01$). Those with less of a sense of efficacy in dealing with a future sexual assault are also more likely to seek risk information (total effect = −.15, $p \leqslant .01$).

### Binge drinking (H4)

This two-tailed hypothesis concerned the relationship of binge drinking with the women's sense of being at risk from unwanted sexual aggression and, ultimately, the likelihood that they would seek information about the risk. As [Figure 2](#) shows, in the entire sample binge drinking has a small but statistically significant positive relationship with the women's judgments of being at risk from unwanted sexual aggression (β = .10, $p \leqslant .05$). In addition, binge drinking has a small indirect relationship with their seeking information about the risk (total effect = .03, $p \leqslant .05$). Binge drinking also correlates positively with personal experience with unwanted sexual aggression ($r = .26$, $p \leqslant .01$).

### The in-school contingency (RQ1)

This research question wondered whether the young women no longer in school ($n = 266$) differ from their peers still in school ($n = 239$) in terms of the patterns of relationships among the proximate and distal predictors of risk information seeking. The tested model ([Figure 3](#)) generally fits better among those women out-of-school, a fairly good fit, than among those still in school, at best a mediocre fit.
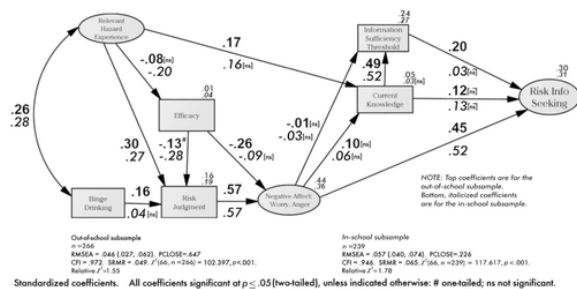


**Figure 3.** Subsample comparisons.

Various patterns replicate across both groups. In particular, past experience with being the victim of sexual aggression seemingly promotes a greater sense of risk, which in turn produces more worry and anger, which then becomes—in this analysis, at least—the main driver for risk information seeking in both groups. Negative affect does not drive information insufficiency.

There are some different patterns, however. A few are especially noteworthy:

Among women not in school, information insufficiency (a sense that they need to know more than they do about the risk of sexual aggression, to deal with it in their lives) motivates some risk information seeking ($\beta$ = .20, $p \leqslant .01$); it does not do so among those currently in school ($\beta$ = .03, $p > .05$, $ns$).

Women not in school recognize some relationship between their binge drinking and being at risk of sexual aggression ($\beta$ = .16, $p \leqslant .05$), whereas women in school do not ($\beta$ = .04, $p > 05$, $ns$). As a result, binge drinking does contribute indirectly, but slightly, to risk information seeking among the former group (total effect = .04, $p \leqslant .05$), but not among the latter (total effect = .01, $p > .05$, $ns$).

Past experience with being the victim of sexual aggression is related to less of a sense of efficacy among women currently in school ($\beta$ = −.20, $p \leqslant .01$), but not so among those out of school ($\beta$ = −.08, $p > .05$, $ns$). Efficacy seems to promote less worry and anger among those out of school ($\beta$ = −.26, $p \leqslant .01$), but not so among those in school ($\beta$ = −.09, $p > .05$, $ns$). Nonetheless, despite different paths, past experience in each group does have a small but positive indirect relationship with information seeking, and of the same magnitude (total effect = .13, $p \leqslant .01$, in each group).

## Discussion

The results indicate that those components of the RISP model that were tested in this study for their relevance to seeking information on the risk of sexual aggression performed reasonably well. The study attempted to shed some light on why young women nationally might seek information about the risk of sexual aggression in their lives. Some patterns of results are especially telling and suggest further research directions and practical applications for informative and persuasive messaging.

### These findings stand out:

Despite some association—in the literature and in the survey data—between heavier drinking and having experienced unwanted sexual advances, the young women in this study who binge drink do not feel much more at risk from sexual assault and are not much more likely to seek information about that risk. In particular, those women currently in school seem not to be making the connection between binge drinking and greater risk, whereas their nonschool peers do seem to recognize that risk to themselves from binge drinking. The latter group thus is somewhat more attuned to seeking information about the risk.

Negative affect (worry and anger combined) showed a direct positive effect on risk information seeking, bypassing information insufficiency. This suggests adding a direct link from affect to information seeking in the RISP model, although more research should be done first into contingencies affecting the patterns of influence (direct and indirect) of affect on information seeking and processing (see Griffin et al., 2012). One caution is that the relative lack of an information insufficiency "gap" in this study might have attenuated the direct effect of negative affect on information insufficiency.

Indeed, the women overall believe they already have about as much information as they need to deal with the risk of sexual aggressiveness in their lives. That might explain why information insufficiency was not a strong or consistent motivator of information seeking about this risk and played only a weak and contingent role in this analysis. In contrast, for example, Fung et al. (2018) applying the RISP model found a much stronger path

coefficient between information insufficiency and information seeking (β = .47, $p \leqslant$ .001), accompanied by a much larger gap between current knowledge ($M$ = 36.65, $SD$ = 22.67) and information sufficiency threshold ($M$ = 66.29, $SD$ = 22.12) on the same 0 to 100 scale as used in this study. Worry and anger (employed separately in their analysis) also had statistically significant total effects on information insufficiency (β = .17 and .14 respectively, each $p \leqslant$ .05), albeit mediated by uncertainty about the risk.

Consistent with the RISP model, negative affect was influenced by risk judgment. Greater negative affect occurred among those who had felt more at risk from unwanted sexual aggression. Those with more past experience with having been victims of sexual aggression (relevant hazard experience) felt more at risk currently, as did those with less of a sense of efficacy in dealing with future incidents.

## Messaging Implications

Based on the findings from this national sample of females 18 to 25 years, the biggest challenge facing communication campaign strategists about the risks connected with sexual aggression and violence is to convince women, especially those currently in school, that they are uninformed or underinformed and at risk. The information sufficiency motivator (threshold) would require that females discover there is more to know about sexual aggressiveness, and protecting themselves from it, than they currently know (i.e., raise the threshold). Documentaries like *The Hunting Ground*, that generated almost a half million dollars in box office receipts (The Hunting Ground Box Office Receipts, 2016), may be one way to deliver key information in a creative way.

A threshold-raising message tactic would be to persuade more women that what they currently believe they know about the risks of sexual aggression may be insufficient to protect them from it. There is more to know, for example, about drinking and being at risk of sexual advances. A "Did you know?" campaign that would deliver facts like percentage of women sexually assaulted by acquaintances or the percent assaulted while under the influence of alcohol could address this finding. Other ad campaigns, one for the Georgia health department on substance abuse, and another for GEICO insurance, have recently used "did you know?" themes with some levels of success. Messages combining discussion of risks related to sexual aggression and alcohol consumption may draw attention and resonate with this young audience. Table tents at campus bars and restaurants, as well as off campus that provide relevant information on such risks, can serve to remind not only potential victims, but friends (both male and female) and those present as well. Facts on how many drinks define binge drinking and the percentage of sexual assaults related to alcohol consumption may be key messages to trigger the negative affects (worry and anger) that were found to have predictive power in this study. Centers for Disease Control and Prevention programs that focus on educating middle schoolers before they develop resistance to processing risk information, and that attempt to raise their thresholds for information sufficiency, may be effective given the results of this study (www.cdc.gov/violenceprevention/sexualviolence/prevention.html).

Another threshold-raising messaging approach might directly inform and promote self-efficacy. Efficacy is embedded in the information sufficiency threshold concept in the RISP model, operationalized in this study as the level of knowledge the woman thinks she would need to have "to be able to deal adequately with the possible risks from unwanted sexual advances" (see Appendix). Indeed, a woman's sense of efficacy in dealing with unwanted sexual advances played an important role in this study, affecting her perception of being at risk from sexual assault. Campaigns, for example, might promote self-efficacy and self-defense training for women (see, for example, Söchting, Fairbrother, & Koch, 2004; J. F. Walsh & Foshee, 1998).

Other survey results indicated that the women perceived health professionals, nonprofit organizations, and to some extent government agencies as the most likely channels to consult if they want to learn information that they do not already know about the risks of sexual aggression. These sources are likely the best sponsors of public service announcements (PSAs). All three sources require active information seeking, with access to health

professionals hindered by costs (money and time to make office visits) and other aspects of information gathering capacity. National health care insurance programs may help lower that hurdle in the near future. Access to risk information from all three sources through websites, chat rooms, and social media outlets should make these efforts easier today than 20 years ago.

## Limitations and Future Research

Although all predictors of the RISP model involving information seeking and processing were not incorporated into this study, the variables that were included played key roles in audience responses to strategic communication. PHC, cognitive motivation, and affective responses are all important in advertising, public relations, and public service communication campaigns.

A limitation of this study is that only females were sampled, even though males are also victims of sexual aggression, as NCVS statistics and the documentary *The Hunting Ground* point out. Also, the need for perpetrators and potential perpetrators to be reached with risk information is another avenue to address this social problem.

Generally speaking, while it is valuable to examine the seeking of risk information, as this study did, it is through research into the processing of risk information that much can be learned formally about how people learn informally. Unfortunately, comparatively little RISP-based research has explored processing as compared with seeking, despite the importance of risk information processing to understanding risk communication and risk-related behavior change (Hwang & Jeong, 2016). For example, applying the HSM of information processing (Eagly & Chaiken, 1993) and the Theory of Planned Behavior (TPB; Ajzen, 1983, 1991; Fishbein & Ajzen, 2010), RISP proposes that risk information processed in a deeper, systematic manner will result in more stable risk-related behavioral beliefs, attitudes, and behaviors than would superficial, heuristic processing (Griffin et al., 1999; Griffin, Neuwirth, Giese, & Dunwoody, 2002). Thus, the women's manners of information processing could influence the extent that they adopt longer term, habitual changes in their beliefs, attitudes, and behaviors related to protecting themselves from the risks of sexual assault. These longer term outcomes, and the factors that lead to them, are important to examine further for sexual assault prevention programs (Söchting et al., 2004) and information campaigns.

Further theoretical investigations into the RISP model should also include a look at the contingent conditions that cause different RISP motivations, such as affect, information insufficiency, and informational subjective norms (e.g., see Kahlor et al., 2006), to play more central or, instead, sometimes more background roles in risk information seeking and processing from study to study. Similarly, no RISP research to date has tested the effects of the proximate variable interactions proposed in the model (Griffin et al., 1999). Specifically, risk information seeking, avoidance, and processing should be affected by interactions among one's motivations to seek and process the information, one's ability to do so, and one's beliefs about the value of different channels of risk information toward meeting one's seeking and processing goals. Significant variance in seeking, avoidance, and processing might be accounted for by these interactions that might not otherwise be manifested in analyses of direct effects. A worthwhile follow-up to the Yang et al. (2014) meta-analysis of the proximate predictors of seeking and processing, which in consolidating data from 13 RISP studies found no significant total impact of information insufficiency, would be an analysis which examines interactions such as those noted above.

The next step in the research presented in this study is to test some of the message forms that have been suggested above based on the findings in this analysis. RISP-based experiments in a lab or field environment that systematically vary message content (e.g., Hwang & Jeong, 2016), frequency and duration of exposure, and various media forms (TV, print, billboard, Internet) will be needed. Information processing variables should certainly be included in such research.

An important advantage of this study is that it featured a national sample of females 18 to 25 years rather than college students at a single university, as many studies of this topic have utilized. A more representative sample of young females across the United States strengthens the generalizability of the findings which are important to apply in the next steps for advocacy campaign planners trying to deal with a serious social problem. Although research panel participants are self-selected and may approach survey completion nonchalantly at times, the demographic comparisons to U.S. Census data mirror the broader population fairly closely.

**Appendix** Descriptive Statistics for Key Variables (*N* = 505).

**Appendix**

Descriptive Statistics for Key Variables (N = 505).

| Concept | M, % | SD | Measures |
|---|---|---|---|
| Information seeking (Four items on a 5-point scale: 1 = strongly disagree to 5 = strongly agree). Alpha = .86 | 3.46 | 0.87 | When it comes to information about the risk and prevention of unwanted sexual advances . . . |
| | 3.65 | 0.96 | (S1) I try to learn more about it. |
| | 3.24 | 1.04 | (S2) I'm likely to go out of my way to get more information. |
| | 3.46 | 1.03 | (S3) I'd give special effort to finding information about the ways I might prevent unwanted sexual advances. |
| | 3.49 | 1.02 | (S4) I'd give special effort to finding information about the risk of unwanted sexual advances to women like me. |
| **Information insufficiency** | | | |
| Current knowledge | 61.37 | 27.77 | We would like you to rate your knowledge about the risks of unwanted sexual advances. Please use a scale of zero to 100, where zero means knowing nothing and 100 means knowing everything you could possibly know about this topic. Using this scale, how much do you think you currently know about the risk of unwanted sexual advances? |
| Sufficiency threshold | 69.38 | 27.54 | Now, using the same 0 to 100 scale, estimate the level of knowledge you think you would need to have to be able to deal adequately with the possible risks from unwanted sexual advances. Recall that 100 represents all that you could possibly know about unwanted sexual advances. |
| Negative affect (Two items on a 0-10 scale) Alpha = .76 | 5.55 | 2.68 | Now we'd like to know your feelings about the risk of unwanted sexual advances. Please use a scale from zero to 10, where zero means you have "none of this feeling" and 10 means you have "a lot of this feeling." When you think about the possible consequences posed to you by unwanted sexual advances. . . |
| Worry | 5.50 | 2.92 | (A1) How much worry do you have? |
| Anger | 5.60 | 3.05 | (A2) How much anger do you have? |
| Risk judgment (Two items on a 0-10 scale, multiplied) | 26.58 | 24.68 | These next questions have to do with your feelings about how much you might be at risk of experiencing an unwanted sexual advance in the future. We know that you don't know for sure, so please answer them based on your best estimates. |
| Perceived likelihood | 4.93 | 2.85 | (J1) Please use a scale from zero to 10, where zero means that you will absolutely never experience an unwanted sexual advance in the future, and 10 means that you are certain to experience at least one. Within the next year, about how likely are you to experience an unwanted sexual advance? |
| Perceived severity | 6.09 | 2.74 | (J2) If you were to experience an unwanted sexual advance, how serious do you think it would most likely be? Please use a scale from zero to 10, where zero means not serious at all, and 10 means it would probably be as serious as it can possibly be. |
| Efficacy (5-point scale: 1 = strongly disagree to 5 = strongly agree; then reverse coded) | 3.10 | 1.16 | It would be a challenge for me to stop an unwanted sexual advance from someone I know. |
| Relevant hazard experience (Three 0-1 items summed) Alpha = .71 | 1.53 | 1.17 | We'd like to know about your personal experiences with unwanted sexual advances. Please remember that your answers are completely confidential. In no way will you personally be linked to any information you have provided us. Have you ever: |
| | 56% | | (H1) Experienced an individual attempting to verbally coerce you into a sexual act? |
| | 61% | | (H2) Experienced unwelcome touching or dancing? |
| | 35% | | (H3) Experienced an attempted sexual assault (any involuntary act in which a person is threatened, coerced, or forced to engage against their will, or any sexual touching of a person who has not consented)? |
| Binge drinking | 28% | | In the last 3 months, have you consumed more than four alcoholic beverages on the same day? |

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# Declaration of Conflicting Interests

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## Notes

1.The full RISP model ([Griffin, Dunwoody, & Neuwirth, 1999](#)) also combines [Eagly and Chaiken's (1993)](#)HSM with [Ajzen's (1985](#), [1991](#)) TPB. The RISP concept of informational subjective norms is an adaptation of TPB's concept of subjective norm (perceived social pressures to behave) as applied to information seeking and processing. RISP's concept of perceived information gathering capacity combines HSM's concept of capacity with TPB's concept of perceived behavioral control (e.g., efficacy, voluntariness) as applied to information seeking and processing. In addition, RISP employs TPB in its entirety in predicting behavioral intention and actual behaviors individuals take in response to a risk; based on HSM, systematic information processing is expected to ultimately affect the stability (e.g., habitual performance) of such behaviors over time.

2.Rather than use difference scores to represent information insufficiency, the analysis employs the strategy of regressed change (or difference) typically employed in tests of the RISP information insufficiency concept (e.g., [Dunwoody & Griffin, 2015](#); [Griffin, Neuwirth, Dunwoody, & Giese, 2004](#); [Griffin et al., 2008](#); also see [Cohen & Cohen, 1983](#)). This technique uses multiple regression to remove the variance in the threshold variable that is accounted for by current knowledge, as well as removing the covariance accounted for by current knowledge from variables predicting to information insufficiency and from it (in this analysis, information seeking and affective response). The residual variance in "threshold" represents information insufficiency. Thus, the paths from negative affect to current knowledge, and from current knowledge to risk information seeking, simply form the baseline for the paths to and from information sufficiency threshold and are of no conceptual consequence in this analysis. Thus, no hypotheses have been generated for those paths.

3.Traditionally, a nonsignificant chi-square indicated of a good model fit, and a significant chi-square a poor fit. However, as [Holbert and Grill (2015)](#) caution, chi-square "should not be used in its pure form as an estimate of model fit" in large measure because it is "overly sensitive to mild differences between a proposed theoretical model and the data when sample sizes are even moderate in size (e.g., 200)" (p.298). To perform well, chi-square also requires multivariate normality, a high threshold in the social sciences, they note. Over the past several decades, in response to the shortcomings of chi-square, alternate goodness-of-fit statistics have been developed (e.g., RMSEA, CFI), one of the first being relative chi-square, dating to the 1970s ([Byrne, 2016](#)).

4.Model fit improved, but not dramatically, by adding these two paths: RMSEA = .039 (.027-.051), PClose = .978, CFI = .978, SRMR = .042, $\chi^2$(64, $N$ = 505) = 113.083, $P \leqslant$ .001; relative chi-square = 1.77. Removing the two nonsignificant paths from affect made little difference in model fit.

## References

| | |
|---|---|
| | Abbey, A. (2002). Alcohol-related sexual assault: A common problem among college students. Journal of Studies on Alcohol, 14, 118-128. |
| | Abbey, A., Zawacki, T., Buck, P., Clinton, A., McAuslan, P. (2003). Alcohol and sexual assault. National Institute on Alcohol Abuse and Alcoholism Newsletter. Retrieved from https://pubs.niaaa.nih.gov/publications/arh25-1/43-51.htm |
| | Ajzen, I. (1985). From intentions to actions: A theory of planned behavior. In Kuhl, J., Beckmann, J. (Eds.), Action-control: From cognition to behavior (pp. 11-39). Heidelberg, Germany: Springer. |
| | Ajzen, I. (1991). The theory of planned behavior. Organizational Behavior and Human Decision Processes, 50, 179-211. |
| | Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. Psychological Review, 84, 191-215. |
| | Bever, L., Ohlheiser, A. (2017, December 6). Time's person of the year: "The Silence Breakers" for speaking out against sexual harassment. Time. Retrieved from https://www.washingtonpost.com/news/the-intersect/wp/2017/12/06/times-person-of-the-year-the-silence-breakers-for-speaking-out-against-sexual-harassment/?utm_term=.59eff3a47dae |

Byrne, B. M. (2016). Structural equation modeling with AMOS (3rd ed.). New York, NY: Routledge.

Carmines, E. G., McIver, J. P. (1983). An introduction to the analysis of models with unobserved variables. Political Methodology, 9, 51-102.

Cho, H., Boster, F. (2007, May). Effects of gain vs. loss framed antidrug ads on adolescents. Paper presented at International Communication Association conference, San Francisco, CA.

Cohen, J., Cohen, P. (1983). Applied multiple regression/correlation analysis for the behavioral sciences (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum.

Dunn, J. R., Schweitzer, M. (2005). Feeling and believing: The effects of emotion on trust. Journal of Personality and Social Psychology, 88, 736-748.

Dunwoody, S., Griffin, R. J. (2015). Risk information seeking and processing model. In Cho, H., Reimer, T., McComas, K. (Eds.), The SAGE handbook of risk communication (pp. 102-116). Thousand Oaks, CA: SAGE.

Eagly, A. H., Chaiken, S. (1993). The psychology of attitudes. Sand Diego, CA: Brace.

Fischer, A. R. H., Frewer, L. J. (2009). Consumer familiarity with foods and the perception of risks and benefits. Food Quality and Preference, 20, 576-585.

Fishbein, M., Ajzen, I. (2010). Predicting and changing behavior: The reasoned action approach. New York, NY: Psychology Press.

Fishbein, M., Hall-Jamieson, K., Zimmer, E., vonHaeften, I., Nabi, R. (2002). Avoiding the boomerang: The need for experimental tests of the relative effectiveness of anti-drug public service announcements prior to their use in a national campaign. American Journal of Public Health, 92, 238-245.

Fox, R., Krugman, D., Fletcher, J., Fischer, P. (1998). Adolescent attention to beer and cigarette print advertisements and associated product warnings. Journal of Advertising, 27(3), 57-68.

Frijda, N. H. (1986). The emotions. Cambridge, UK: Cambridge University Press.

Fung, T. K. F., Griffin, R. J., Dunwoody, S. (2018). Testing links among uncertainty, affect, and attitude toward a health behavior. Science Communication, 40, 33-62.

Gidycz, C., McNamara, J., Edwards, K. (2006). Women's risk perception and sexual victimization: A review of the literature. Aggression and Violent Behavior, 11, 441-456.

Gilligan, M. B., Kaysen, D., Desai, S., Lee, C. M. (2011). Alcohol-involved assault: Associations with post trauma alcohol use, consequences, and expectancies. Addictive Behaviors, 36, 1076-1082.

Gray, E. (2014a, May 26). The crisis in higher education. Time, pp. 20-29.

Griffin, R. J., Dunwoody, S., Neuwirth, K. (1999). Proposed model of the relationship of risk information seeking and processing to the development of preventive behaviors. Environmental Research, 80, 230-245.

Griffin, R. J., Dunwoody, S., Yang, Z. (2012). Linking risk messages to information seeking and processing. In Salmon, C. (Ed.), Communication yearbook 36 (pp. 323-362). New York, NY: Routledge.

Griffin, R. J., Neuwirth, K., Dunwoody, S., Giese, J. (2004). Information sufficiency and risk communication. Media Psychology, 6, 23-61.

Griffin, R. J., Neuwirth, K., Giese, J., Dunwoody, S. (2002). Linking the Heuristic-Systematic Model and depth of processing. Communication Research, 29, 705-732.

Griffin, R. J., Yang, Z., Ter Huurne, E., Boerner, F., Ortiz, S., Dunwoody, S. (2008). After the flood: Anger, attribution, and the seeking of information. Science Communication, 29, 285-315.

Hindmarch, I., Kerr, J., Sherwood, N. (1991). The effects of alcohol and other drugs on psychomotor performance and cognitive function. Alcohol and Alcoholism, 26, 71-79.

Holbert, R. L., Grill, C. (2015). Clarifying and expanding the use of confirmatory factor analysis in journalism and mass communication research. Journalism & Mass Communication Quarterly, 92, 292-319.

The Hunting Ground Box Office Receipts . (2016). Available from www.boxofficemojo.com

Hwang, Y., Jeong, S. (2016). Information insufficiency and information seeking: An experiment. Science Communication, 38, 679-698.

Jessop, D., Simmonds, L., Sparks, P. (2009). Motivational and behavioural consequences of self-affirmation interventions: A study of sunscreen use among women. Psychology & Health, 24, 529-544.

Kahlor, L. A. (2010). PRISM: A planned risk information-seeking model. Health Communication, 25, 345-356.

Kahlor, L. A., Dunwoody, S., Griffin, R. J., Neuwirth, K. (2006). Seeking and processing information about impersonal risk. Science Communication, 28, 163-194.

Kline, R. B. (2005). Principles and practice of structural equation modeling (2nd ed.). New York, NY: Guilford Press.

Koss, M. (1988). Hidden rape: Sexual aggression and victimization in a national sample of students in higher education. In Burgess, A. (Ed.), Rape and sexual assault (Vol. 2, pp. 3-25). New York, NY: Garland.

Koss, M., Abbey, A., Campbell, R., Cook, S., Norris, J., Testa, M., White, J. (2007). Revising the SES: A collaborative process to improve the assessment of sexual aggression and victimization. Psychology of Women Quarterly, 31, 357-370.

Loehlin, J. C., Beaujean, A. A. (2017). Latent variable models: An introduction to factor, path, and structural analysis (5th ed.). New York, NY: Routledge.

Lonsway, K., Banyard, V., Berkowitz, A., Gidycz, C., Katz, J., Koss, M., Edwards, D. (2009). Rape prevention and risk reduction: Review of the research literature for practitioners. National Online Resource Center on Violence Against Women. Available from https://VAWnet.org

Manyiwa, S., Brennan, R. (2012). Fear appeals in anti-smoking advertising: How important is self-efficacy? Journal of Marketing Management, 28, 1419-1437.

Nasta, A., Shah, B., Brahmanandam, S., Richman, K., Wittels, K., Allsworth, J., Boardman, L. (2005). Sexual victimization: Incidence, knowledge and resource use among a population of college women. Journal of Pediatric & Adolescent Gynecology, 18, 91-96.

National Institute on Alcohol Abuse and Alcoholism . (2016). College drinking. Retrieved from http://www.niaaa.nih.gov/alcohol-health/special-populations-co-occurring-disorders/college-drinking

Nurius, P. (2000). Risk perception for acquaintance sexual aggression: A social-cognitive perspective. Aggression and Violent Behavior, 51(1), 63-78.

Peipins, L., McCarty, F., Hawkins, N., Rodriguez, J., Scholl, L., Leadbetter, S. (2015). Cognitive and affective influences on perceived risk of ovarian cancer. Psycho-Oncology, 24, 279-286.

The relationship between alcohol and sexual assault on the college campus . (2013). Washington, DC: EverFi.com. Retrieved from https://www.nvcc.edu/support/_files/RelationshipBetween%20Alcohol%20and%20SexualAssault.pdf

Sandman, P. (1987, November). Risk communication: Facing public outrage. EPA Journal, 9, 21-22.

Schoof, R. (2014, July 10). Colleges ignore sex assault cases. Milwaukee Journal Sentinel, p. 6A.

Sheehan, B., Tsao, J., Pokrywczynski, J. (2012). Stop the music! How advertising can help stop college students from downloading music illegally. Journal of Advertising Research, 52, 309-321.

Sinozich, S., Langton, L. (2014, December 11). Rape and sexual assault among college-age females, 1995-2013 (Bureau of Justice Report NCJ248471). Retrieved from http://www.bjs.gov/index.cfm?ty=pbdetail&iid=5176

Slovic, P. (1987). Perception of risk. Science, 36, 280-285.

Slovic, P. (2010). The feeling of risk. London, England: Earthscan.

Söchting, I., Fairbrother, N., Koch, W. J. (2004). Sexual assault of women: Prevention efforts and risk factors. Violence Against Women, 10, 73-93.

Sorenson, S., Stein, J., Siegel, J., Golding, J., Burnam, M. (1987). The prevalence of adult sexual assault: The Los Angeles epidemiologic catchment area project. American Journal of Epidemiology, 126, 1154-1164.

Steele, C., Josephs, R. (1990). Alcohol myopia: Its prized and dangerous effects. American Psychologist, 45, 921-933.

Taylor, S., Chermack, S. (1993). Alcohol, drugs, and human physical aggression. Journal of Studies on Alcohol, 11, 78-88.

Ter Huurne, E., Griffin, R. J., Gutteling, J. (2009). Risk information seeking among U.S. and Dutch residents: An application of the model of risk information seeking and processing. Science Communication, 31, 215-237.

U.S. Census Bureau . (2014). Current Population Survey September 2014 [Data file and interviewer's manual]. Available from http://dataferrett.census.gov/

Walsh, J. F., Foshee, V. (1998). Self-efficacy, self-determination and victim blaming as predictors of adolescent sexual victimization. Health Education Research, 13, 139-144.

Walsh, L., Stock, M., Peterson, L., Gerrard, M. (2013). Women's sun protection cognitions in response to UV photography: The role of age, cognition and affect. Journal of Behavioral Medicine, 37, 553-563.

Weiner, B. (2000). Intrapersonal and interpersonal theories of motivation from an attributional perspective. Educational Psychology Review, 12, 1-14.

Witte, K., Allen, M. (2000). A meta-analysis of fear appeals: Implications for effective public health campaigns. Health Education & Behavior, 27, 591-615.

Wolburg, J. (2001). The "risky business" of binge drinking among college students: Using risk models for PSAs and anti-drinking campaigns. Journal of Advertising, 30(4), 23-39.

Wolburg, J. (2016). Insights for prevention campaigns: The power of drinking rituals in the college student experience from freshman to senior year. Journal of Current Issues & Research in Advertising, 37, 80-94.

Yang, Z. J., Aloe, A. M., Feeley, T. (2014). Risk information seeking and processing model: A meta-analysis. Journal of Communication, 64, 20-41.

Yang, Z. J., Kahlor, L. A. (2013). What me worry? The role of affect in information seeking and avoidance. Science Communication, 35, 189-212.

Yang, Z. J., McComas, K. A., Gay, G., Leonard, J. P., Dannenberg, A. J., Dillon, H. (2010). Motivation for health information seeking and processing about clinical trial enrollment. Health Communication, 25, 423-436.

Ziering, A. (Producer), &Dick, K. (Director). (2015). The hunting ground [Motion picture]. USA: Anchor Bay Entertainment.