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Sex on the Beach: The Influence of Social Norms and Trip Companion on Spring Break Sexual Behavior

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Abstract

Spring Break trips are associated with heavy drinking and with risky sexual behavior (e.g., unprotected sex, multiple partners, unwanted sexual contact), especially for those students who go on trips with friends. The present study adds to this growing event-specific risk literature by examining Spring Break-specific normative perceptions of sexual risk behavior and the role that these perceptions and taking a trip with a friend or with a romantic partner have on Spring Break sexual behavior. College students ($N = 1,540$; 53.9% female) were asked to report descriptive normative perceptions of sex with casual partners, drinking prior to sex, number of drinks prior to sex, and condom use as well as their own Spring Break drinking and sexual behaviors. Students perceived the typical same-sex student to have engaged in more frequent sexual behavior for all outcomes than students' own self-reported sexual behavior. Furthermore, results revealed that these perceptions were positively associated with behavior. The choice of travel companion (friend(s) vs. romantic partner) also differentially predicted sexual behaviors. Results suggested that intervention efforts aimed at reducing risks for Spring Break trip-takers may be strongest when they incorporate corrective normative information and target those traveling with friends.

Keywords

Spring Break; event-specific risk; social norms; sexual behavior; alcohol; college students

Spring Break is a time of high-risk drinking and sexual behaviors (Grekin Sher, & Krull, 2007; Lee, Maggs, & Rankin, 2006; Patrick & Lee, 2012). However, the role of the Spring Break context and students' particular beliefs about Spring Break in contributing to high-risk behavior has just begun to be explored (Patrick, Lewis, Lee, & Maggs, 2013). Based on the tenets of social learning theory, Spring Break sexual behavior should be shaped by both the environment (e.g., going on trip with friends or romantic partners) and personal factors (e.g., normative perceptions). Therefore, the present study aims to extend the event-specific risk literature by examining aspects of the Spring Break environment and personal factors as influences on sexual behaviors, including sex with casual partners, using alcohol before sex, and condom use.

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Over the past decade, research has begun to focus on risks associated with specific events or contexts; as a result, a new prevention paradigm emerged in the alcohol use literature that places greater emphasis on specific days, windows of risk, and patterns of risk within weeks and across weeks of the year (e.g., Neighbors, Foster, Fossos, & Lewis, 2012). Subsequently, research on event-specific prevention has identified holidays and windows of time that are related to high-risk health behaviors, including elevated drinking and risky sex. It is important to study high-risk health behaviors that occur during specific events and windows of risk because individuals at risk during these times may differ from those individuals who are more generally at risk (Lewis, Lindgren, Fossos, Oster-Aaland, & Neighbors, 2009). Examining behavior during especially high-risk time periods is necessary for understanding who is at risk, when they are at greatest risk, and what increases risk behaviors during these times. In addition, understanding event-specific risk behaviors will enable us to develop more targeted prevention and intervention programs that are salient to these individual contexts, including Spring Break.

In the United States, Spring Break is a one-week break for college students, which occurs in February or March. Roughly 38% of US college students traveled during Spring Break in 2003, which equates to an estimate of 2.14 million students who go on Spring Break trips annually (Reynolds, 2004). During Spring Break, US college students report risky sexual behavior. For example, Apostolopoulos, Sönmez, and Yu (2002) found that roughly one-third of students reported that they had sex with someone they met on Spring Break, and that 16% of males and 4% of females had two or more sexual partners they knew less than one week during Spring Break. Furthermore, research indicates that during Spring Break, 6% of all men and 12% of all women had sex without a condom (Patrick, Morgan, Maggs, & Lefkowitz, 2011). Of those students who had sex over spring break, 45% did so without a condom at least once during Spring Break. In addition, alcohol use on a given day during Spring Break is associated with engaging in sexual behavior that day, especially for students who are single (Patrick, 2013). However, single students were also more likely to use condoms after drinking, suggesting that some students may plan to engage in sex with new partners during Spring Break (Patrick, 2013).

According to social learning theory (Bandura, 1969) and its extension, social cognitive theory (Bandura, 1986), the interrelationships among behavior, environmental factors, and personal factors (i.e., cognitive, affective, and biological events) cause individuals to acquire and maintain health and risk behaviors. Bandura described the interactive relationships among behavior, environmental factors, and personal factors as reciprocal determinism (Bandura, 1969) and suggested that change in one of these factors is shaped by the other two factors. Thus, Spring Break sexual behavior should be shaped by the environment (e.g., going on trip with friends or romantic partners) and personal factors (e.g., normative perceptions).

Extensive research has demonstrated social influences to be among the strongest factors associated with college student health-risk behavior (e.g., Borsari & Carey, 2001; Lewis, Litt, Cronce, Blayney, & Gilmore, in press; Wetherill, Neal, & Fromme, 2010). Social influences on health-risk behavior can vary along multiple dimensions including specificity (e.g., other people in general vs. one particular person), importance (i.e., some people may

be viewed as more important than others), and level of directness (e.g., cognitions about society's approval of a behavior, direct peer pressure to engage in a behavior, or modeling of a behavior; Borsari & Carey, 2001; Marston & King, 2006). Sexual partners also have an important influence on sexual behavior, including decisions to have sex and use condoms (Marston & King, 2006). Specific to Spring Break, students who go on trips with friends during are at particular risk for heavy drinking and risky sex (Grekin et al. 2007; Lee et al., 2006; Patrick & Lee, 2012). However, it is unknown to what extent travelling with romantic partners may be either risky or protective in terms of engaging in risky sex during Spring Break; this study will extend research by examining travel with a romantic partner.

Generally, college students overestimate risky peer alcohol use (e.g., Baer, Stacy, & Larimer, 1991) and risky peer sexual behavior (e.g., Lewis, Lee, Patrick, & Fossos, 2007). Research shows that these normative perceptions are associated with greater engagement in these risk behaviors (Lewis, Litt et al., in press). Perceived norms regarding Spring Break sexual risk behaviors have not yet been documented; thus this study will make a novel contribution to the literature. Furthermore, while it is well documented that students overestimate risk behavior, there is also evidence that students underestimate protective behaviors. For example, students underestimate the use of drinking protective behaviors strategies (Lewis, Rees, & Lee, 2009) and condom use (Chernoff & Davison, 2005). As found with risk behaviors, normative perceptions are positively associated with the protective behavior (Lewis et al., 2009). There is no available research documenting whether normative perceptions of protective behaviors are associated with Spring Break behaviors; thus, this study will make important contributions to the literature.

The present study adds to this growing event-specific literature by examining three research questions. Specific research questions are: (1) Do college students perceive their same-sex peers to engage in more sexual risk behaviors and less sexual protective behaviors during Spring Break when compared to their own behavior? (2) Are normative perceptions associated with an individual's sexual behavior during Spring Break? (3) Are trips with friends or trips with romantic partners most predictive of sexual risk behaviors?

Method

Participants and Procedures

Participants included 1,540 undergraduate college students (53.9% female) at a large public northwestern university who completed an online survey during the weeks immediately following Spring Break 2009. Ethnic composition included 68.8% Caucasian, 19.2% Asian, and 12% other. Mean age was 20.3 years ($SD = 1.50$). Sexual orientation included 95.8% Straight/Heterosexual, .9% Lesbian, 1.3% Gay Male, 1.3% Bisexual, and 0.7% Questioning. Approximately a week after Spring Break, 2,823 students were mailed and emailed an invitation to participate in a confidential 60-minute online survey about their Spring Break. Students received \$30 for completing the survey. The survey was open for approximately one month, during which time non-responding participants received e-mail and telephone reminders to complete the survey. Of those invited, 54.5% of students completed the online survey ($n = 1,540$). All procedures were approved by the university's Institutional Review Board and a federal certificate of confidentiality was obtained.

Measures

Items assessing sexual behavior and related items assessing normative misperceptions were adapted from those used by Lewis and colleagues (2007). Unless otherwise indicated, items utilized response options ranging from 0 = *none* to 10 = *10+ times*. Definitions of sexual behavior may differ across participants, although survey instructions asked participants to define sexual intercourse as consensual activities (i.e., sexual experiences they wanted to have), including any of the following: penile-vaginal intercourse (putting a penis into a vagina), penile-anal intercourse (putting a penis into an anus or rectum), oral intercourse (someone's mouth or tongue making contact with your genitals or anus, or your mouth or tongue making contact with someone else's genitals or anus).

Relationship status—Students were asked to report on their relationship status. Responses options were coded as 1 = *in a relationship* if a participant indicated s/he was single, exclusively dating; engaged; or married/life partner. Response options were coded as 0 = *not in a relationship* if a participant indicated s/he was *single, not dating* or *single, casually dating*.

Spring Break trip with friend or romantic partner—Participants were asked, “Who did you go with on your Spring Break Trip?” Response options were coded as 1 = *with friend* if a participants indicated friends (non-fraternity/sorority), fraternity/sorority, and roommates. Response options were coded as 0 = *without friend* if a participant indicated family members, casual acquaintances, partner (boy/girlfriend), or alone. Participants were also asked, “Who did you go with on your Spring Break Trip?” Response options were coded as 1 = *with romantic partner* if a participants indicated partner (boy/girlfriend). Response options were coded as 0 = *without romantic partner* if a participant indicated friends (non-fraternity/sorority), fraternity/sorority, roommates, family members, casual acquaintances, or alone.

Number of sexual partners during the past three months—Number of sexual partners in the past three months was assessed with the following item, “How many partners, in total, have you had sexual intercourse with during the last 3 months?” Response options ranged from 0 = *none* to 20 = *20+ partners*. This item was assessed prior to asking participants about their Spring Break sexual behavior.

Number of drinks during Spring Break—Participants were asked, “During the 10 day Spring Break period, how much alcohol (measured in number of drinks) did you drink each day?” The questionnaire was similar to the daily drinking questionnaire (Collins, Parks, & Marlatt, 1985). Drinks per day were summed across days and the total score represented the total number of drinks participants consumed during Spring Break.

Frequency of Spring Break sexual behavior—Frequency of sexual behavior was assessed with the following question, “How many times did you have sexual intercourse with ANY partner during Spring Break?”

Frequency of casual sex during Spring Break—The frequency of casual sexual intercourse was indexed by asking “How many times did you have sex with casual partners during Spring Break?” Casual partners were defined as “a sexual partner with whom you are not in a committed relationship or as someone you just met.”

Perceived frequency of casual sex during Spring Break—The item, “How many times do you think the typical male/female [university name] student had sex with casual partners during Spring Break?” was used to determine the frequency of casual sexual intercourse for participants’ same-sex college peers.

Frequency of Spring Break drinking prior to sex—Alcohol use in conjunction with sex was measured by the question, “You said you had sex ____ time(s) during Spring Break. Of the ____ time(s), how many times did you consume alcohol before or during the sexual encounter?”

Perceived frequency of Spring Break drinking prior to sex—To address perceptions of same-sex college peers’ frequency of alcohol use prior to sex, participants were asked “You said the typical male/female [university name] student had sex ____ time(s) during Spring Break. Of the ____ time(s), how many times do you think the typical male/female [university name] student consumed alcohol before or during the sexual encounter?”

Typical number of drinks prior to sex during Spring Break—The number of drinks consumed prior to sex was examined using the question, “You said you had consumed alcohol before or during sex ____ time(s) during Spring Break. During the ____ time(s), how many drinks on average did you consume?” Response options ranged from 0 = *none* to 25 = 25+ *drinks*.

Perceived typical number of drinks prior to sex during Spring Break—Estimates for the number of drinks their same-sex college peers consumed prior to sex was assessed with the following question, “You said the typical male/female [university name] student had consumed alcohol before or during sex ____ time(s) during Spring Break. On average, how many drinks do you think they consumed?” Response options ranged from 0 = *none* to 25 = 25+ *drinks*.

Frequency of condom use during Spring Break—Condom use was assessed by the question, “You said you had sex ____ time(s) during Spring Break. Of the ____ time(s), how many times did you use a condom?”

Perceived frequency of condom use during Spring Break—Participants were asked to report their estimate of condom use for their same-sex college peers. Participants were asked, “You said the typical male/female [university name] student had sex ____ time(s) during Spring Break. Of the ____ time(s), how many times do you think the typical male/female [university name] student used a condom?”

Data Analysis Plan

Research Question 1 concerned the normative perceptions of Spring Break sexual behavior. Four behavioral norms were examined: frequency of casual sex, frequency of drinking before or during sex, number of drinks consumed before or during sex, and frequency of condom use. Paired samples *t*-tests were used to compare normative perceptions of each behavior to self-reported participant behavior. For Research Questions 2 and 3, participants in the final analyses included only those students who reported having sexual intercourse with any partner at least once during the 10 days of Spring Break ($n = 499$). All variables were screened for normality. Spring Break sexual behavior variables were positively skewed as they represent infrequent count variables. Moreover, there were a large number of zero values for outcomes: no sex with casual partner (84.2%), no drinking prior to sex (53.0%), an average of 0 drinks prior to sex (53.0%), and no condom use (52.4%). Because only 2% of students indicated having more than one casual sexual partner, this variable was recoded to represent not having sex with a casual partner over Spring Break (0) or having had sex with one or more casual partners during Spring Break (1). Thus, logistic regression was selected as the primary analysis strategy to examine having sex with a casual partner during Spring Break. Because of the distributions of the remaining outcomes (frequency of drinking prior to sex, average number of drinks prior to sex, and frequency of condom use), zero-inflated binomial regression (ZINB) was selected as the primary analysis strategy (Hilbe, 2011).

ZINB regression is a type of mixture model in which a negative binomial regression is fit and excess zeroes (i.e., over and above what is predicted by the negative binomial regression) are modeled using a logistic regression. Values can only be non-negative integers (i.e., zero or positive integers as values). The logistic portion of the model examines the likelihood of the observation being a zero-value, exceeding what would be expected in a negative binomial model and has a distribution in which the target behavior is always absent. The second set of tests focuses on the count portion of the model, in this case the negative binomial distribution, and has a distribution in which the sexual behavior can be any non-negative integer, including zero. Predictors can be the same or different for the logistic and counts portions of the model. In the present analyses, we included the same predictors for both dimensions when examining sexual behavior during Spring Break. For all analyses, gender, relationship status, number of drinks during Spring Break, and number of sexual partners during the past three months were included as covariates. Predictors of interest were going on a Spring Break trip with a friend or with a romantic partner, and descriptive Spring Break sexual behavior normative perceptions.

Results

Half (52.8%) of all students reported going on a Spring Break trip. More than one third (35.5%) of all students went on a Spring Break trip with a friend or friends and 10.9% of all students went on a Spring Break trip with a romantic partner. A smaller percentage of students (4.7%) went on a Spring Break trip with both a friend and a romantic partner. Of those students who had sex over Spring Break (32%), findings show that 15.5% reported having one or more casual sexual partner during Spring Break and that 52.2% reported never

using a condom during any sex that occurred over Spring Break. In addition, those who went on a Spring Break trip with a romantic partner reported having sex more frequently ($M = 5.43$, $SD = 2.98$) than those who traveled without a romantic partner ($M = 3.91$, $SD = 2.79$; $t[231] = -3.79$, $p < .001$). Finally, almost half (46.7%) of all students who had sex during Spring Break reported drinking alcohol prior to sex. Of those who drank, an average of 4.17 drinks ($SD = 2.93$) was consumed.

Means, standard deviations, and zero-order correlations are presented in Table 1. Overall, drinking and risky sexual behavior (casual sex, drinking before sex, and number of drinks before sex) during Spring Break were correlated, and normative perceptions were correlated among one another. Condom use was correlated only with perceptions of condom use and perceptions of drinking prior to sex. Finally, sexual behavior was positively associated with the respective normative perception, with the exception of drinking prior to sex.

Paired Samples *t*-tests Evaluating Normative Misperceptions

Four paired samples *t*-tests were used to compare perceived sexual behaviors and students' own self-reported behaviors to address Research Question 1. Students perceived the typical same-sex student to have engaged in all sexual behaviors more frequently than students' own self-reported behaviors. Perceived frequency of sex with casual partners was greater than students' own self-reported frequency of sex with casual partners ($t[1,512] = -31.99$, $p < .001$), perceived frequency of alcohol use before or during sex was greater than students' own self-reported alcohol use before or during sex ($t[1,523] = -38.91$, $p < .001$), perceived number of drinks before or during sex was greater than the students' own self-reported number of drinks before or during sex ($t[1,516] = -47.30$, $p < .001$), and perceived condom use was greater than students' own self-reported condom use ($t[1,511] = -32.66$, $p < .001$).

Logistic Regression Results Evaluating Casual Partner

Logistic regression analysis was used to evaluate the likelihood of having sex with a casual partner during Spring Break. The model was statistically reliable compared to a constant-only model, $X^2(7, N = 488) = 181.81$, $p < .001$, which indicates that the predictors reliably distinguished between students who had sex with a casual partner during Spring Break from those who did not. Classification was good, with 95.6% of those who did not have sex with a casual partner and 63.2% of those who did have sex with a casual partner classified correctly. The overall percentage correct was 90.5%. Results presented in Table 2 indicated that the model provided good fit for the likelihood of using a condom with most recent vaginal sexual partner (Nagelkerke $R^2 = .538$). When examining covariates, findings indicated that men ($p = .06$), students not in a relationship, students who consumed more alcohol during Spring Break, and students who had more sexual partners during the past three months prior to Spring Break were more likely to have sex with a casual partner during Spring Break.

To address Research Question 2, higher perceived frequency of having sex with casual partners during Spring Break trended toward ($p = .09$) being associated with a greater likelihood of having sex with a casual partner during Spring Break. To address Research Question 3, findings further indicated that students who went on a trip with a friend had

more than twice the odds of having sex with a casual partner during Spring Break and that students who went on a trip with a partner were 67% less likely to have sex with a casual partner during Spring Break.

ZINB Regression Results Evaluating Frequency of Drinking prior to Sex

Results of the ZINB regression evaluating frequency of drinking prior to sex are presented in Table 3. Results for the logistic portion of the model represent unique associations between each predictor and expected zero-scores (i.e., no drinking prior to sex vs. any drinking prior to sex), and are presented at the top of Table 3. Results for the counts portion of the model represent unique associations between each predictor and the number of times drinking occurred prior to sex (count) and are presented at the bottom of Table 3. The likelihood ratio for the full ZINB model was $X^2(14) = 245.30, p < .001$; maximum likelihood $R^2 = .39$, which indicated that the overall model was significant. Findings indicated strong support for the ZINB model over other possible count models. The Vuong test for non-nested models supported the use of a zero-inflated model over a standard negative binomial model, $z = 5.53, p < .01$. The LR test of overdispersion was significant (LR, $X^2(7) = 64.41, p < .001$, which indicates that a zero-inflated Poisson model would not be appropriate.

Logistic results—Results of the logistic portion of the model indicated that gender, relationship status, number of sexual partners, going on a Spring Break trip with a friend, going on a Spring Break trip with a romantic partner, and perceived frequency of drinking prior to sex were not significantly associated with zero-inflation (i.e., zeroes in excess of what is predicted by the negative binomial regression). Number of drinks during Spring Break was negatively associated with zero-inflation, indicating that those reporting not drinking prior to sex drank fewer drinks during Spring Break.

Count results—Results from the count portion of the model indicated that number of drinks consumed during Spring Break, going on a trip with a partner, and normative perceptions were positively associated with frequency of drinking prior to sex during Spring Break. Gender, relationship status, number of sexual partners during the past three months, and going on a Spring Break trip with a friend were not significant.

ZINB Regression Results Evaluating Typical Number of Drinks prior to Sex

Results of the ZINB regression evaluating typical number of drinks prior to sex are presented in Table 4. The likelihood ratio for the full ZINB model was $X^2(14) = 289.62, p < .001$; maximum likelihood $R^2 = .49$. The Vuong test, $z = 7.27, p < .001$, and the LR test of overdispersion were significant (LR, $X^2(7) = 87.12, p < .001$).

Logistic results—Results of the logistic portion of the model indicated that relationship status, number of sexual partners during the past three months, going on a trip with a friend, and perceived number of drinks prior to sex were not significantly associated with zero-inflation. Gender was associated with zero-inflation, indicating that men were more likely to report no drinks prior to sex than women. Number of drinks prior to sex and going on a trip with a partner were negatively associated with zero-inflation, indicating that those reporting

no drinks prior to sex drank fewer drinks during Spring Break and did not go on a trip with a partner.

Count results—Results from the counts portion of the model indicated that those who were not in a relationship drank more drinks prior to sex during Spring Break than those in a relationship. Number of drinks during Spring Break and perceived number of drinks were positively associated with average number of drinks prior to sex during Spring Break. Gender, number of sexual partners during the past three months, and going on a Spring Break trip with a friend or romantic partner were not associated with number of drinks prior to sex.

ZINB Regression Results Evaluating Condom Use

Results of the ZINB regression evaluating condom use are presented in Table 5. The likelihood ratio for the full ZINB model was $X^2(14) = 54.82, p < .001$; maximum likelihood $R^2 = .11$. The Vuong test, $z = 3.75, p < .001$. and the LR test of overdispersion were significant (LR, $X^2(7) = 36.93, p < .001$).

Logistic results—Results of the logistic portion of the model indicated that gender, relationship status, number of sexual partners during the past three months, and perceived condom normative perceptions were not significantly associated with zero-inflation. Number of drinks consumed during Spring Break was positively associated with zero-inflation ($p = .06$), indicating that those who consumed more drinks were more likely to use condoms during Spring Break. Going on a trip with a friend was negatively associated with zero-inflation such that those who went on a trip with friends were less likely to use condoms. Finally, going on a trip with a partner was positively associated with zero-inflation ($p = .07$), such that going on a trip with a partner predicted greater condom use.

Count results—Results from the counts portion of the model indicated that being male, in a relationship, not going on a trip with a friend, going on a trip with a partner, and having higher normative perceptions for condom use were positively associated with frequency of condom use during Spring Break. Number of drinks during Spring Break and number of sexual partners during the past three months were not associated with frequency of Spring Break condom use.

Discussion

The present study extends our knowledge of environmental and personal factors associated with risk behavior during Spring Break. Findings continue to document high-risk sexual behavior during Spring Break. Of college students who report having sex during Spring Break, rates for risk behaviors ranged from 16% (sex with casual partner) to 52% (not using a condom). It is important to note that women were at greater risk for drinking before sex and for not using condoms than men during Spring Break. Moreover, risk behaviors were cumulative in that those who engaged in one risk behavior (e.g., drinking during Spring Break) also appeared to engage in others (e.g., sex with a casual partner during Spring Break).

As found in previous research on alcohol use and risky sex during Spring Break (Grekin et al., 2007; Lee et al., 2006; Patrick et al., 2011; Patrick & Lee, 2012), our findings show that going on a Spring Break trip with friends is a risk factor. Students who went on a trip with a friend or friends were more likely to have sex with a casual partner during Spring Break, and reported less frequent condom use. This could be due to factors such as modeling of risk behaviors or that those who go on trips with friends have motives to engage in risk behaviors during Spring Break (Sönmez, Apostolopoulos, Yu, Yang, Mattila, & Yu, 2006). For example, Sönmez, et al. (2006) found that pacts with friends to get drunk significantly predicted heavy drinking during Spring Break. Clinically, this suggests that by identifying those students planning to go on trips with friends that we may be able to address multiple related risk factors as well as identify those students most at risk for negative consequences. This has important implications for indicated prevention strategies.

The current study is the first to examine Spring Break risk behavior among those go on a trip with a romantic partner. Travelling with a romantic partner appears to confer both risk and protection in relation to alcohol use and sexual behaviors. The present findings suggest that going on a Spring Break trip with a romantic partner lowers risk for risky sex. Students who went on a trip with a romantic partner were less likely to have sex with a casual partner during Spring Break and reported more frequent condom use. This finding is surprising as prior research not specific to Spring Break has shown that condom use is usually greater within new and casual relationships than within long-term or monogamous relationships (e.g., Gold, Karmiloff-Smith, Skinner, & Morton, 1992; Lansky, Thomas, & Earp, 1998; Macaluso, Demand, Artz, & Hook, 2000; Patrick, 2013; Raj, 1996). However, research has also shown that during heavy episodic drinking events not specific to Spring Break women can be less likely to use a condom with a steady partner (Scott-Sheldon, Carey, & Carey, 2010). It may be that this finding is in part a reflection that those who go on a trip with a romantic partner have sex more often than those who do not go on a trip with a romantic partner. The current findings also indicated that students who went on a trip with a romantic partner drank more often prior to sex during Spring Break than students not on a trip with a partner. However, it should also be noted that those who were in a relationship consumed fewer drinks prior to sex during Spring Break than those not in a relationship.

This study also demonstrates that personal factors matter, even once environment is included. The current study is the first to document normative misperceptions for Spring Break sexual behavior, perceiving that other people engage in riskier behavior over Spring Break more often than students' own self-reported behaviors. Findings related to normative perceptions, with the exception of those related to condom use, are consistent with literature examining social norms and sexual behavior, not specific to Spring Break (Lewis, Litt et al., in press). Of importance, findings indicated that having greater normative perceptions for risk behavior was associated with riskier sexual behavior (i.e., casual partner, alcohol-related risky sex) and that having greater normative perceptions for condom use was associated with greater condom use. These findings are important as many preventative interventions, both general and event-specific, utilize normative comparison components. Thus demonstrating that these normative misperceptions are also present for risk behaviors and Spring Break suggests that these would be important avenues for clinical interventions to address.

Prior research has shown that college students underestimate condom use and that normative perceptions for condom use were not associated with one's own condom use (Lewis et al., in press). However, the present study shows that condom use for Spring Break was overestimated and that normative perceptions were positively associated with condom use behavior. It is unclear why this relationship is different for Spring Break. It may be that sexual behavior during Spring Break is more planned. Students may see sexual behavior, and in particular casual sexual behavior, as a normal part of the Spring Break experience, and therefore they may carry condoms in anticipation of the situation, and assume that others do the same (Sönmez et al., 2006). Students have drinking motives particular to Spring Break (Patrick et al., 2013), and they may also have different motives for sex and for protection during this specific event and/or while travelling in general. Although not examined in the present study, the current findings may generalize to other events like travel abroad. Thus, future research should examine social norms and travel companions as predictors of risky sexual behavior that occurs during other vacations or known windows of risk.

These findings have clear implications for prevention efforts, in terms of who to include, how to intervene, and which behaviors to address in reducing risky sexual behavior during Spring Break. Based on our findings, indicated prevention for students who intend to travel with friends would be the most parsimonious use of resources, at least in terms of reducing risky sexual behavior. Given that there are early promising findings on the effects of selective and targeted Spring Break interventions on reducing drinking (Lee et al., in press) it is possible that a similar strategy, potentially addressing both alcohol and risky sex (Patrick, Lee, & Neighbors, in press), would be one way that college health centers could address this. Given sparse resources at many campus health centers, this is a particularly important finding regarding how best to utilize resources. Women, in particular, appear to be at greater risk to drink before sex and seem less likely to use condoms, suggesting that targeted interventions for women may be important. Given the role of normative misperceptions, prevention strategies that work to correct these misperceptions for drinking or risky sex, may be of particular utility (e.g., Lewis & Neighbors, 2006) to reduce intentions prior to the Spring Break trip or behavior during the trip itself. Future research should also address ways that friends may be able to mitigate, rather than increase, risk behavior. It is possible that group interventions may be an effective way to address misperceptions or motives among groups of friends travelling together. There is preliminary research suggesting that couples based HIV interventions are useful in increasing condom use (Burton, Darbes, & Operario, 2010). Potentially friend-based interventions could increase social norms regarding condom use and condom negotiation. Groups of friends who jointly commit to lower risk behaviors during trips may be more likely to follow through (Patrick et al., 2011).

Although many colleges have Spring Break alcohol education programming, few focus on reducing risky sexual behavior during Spring Break. Despite the opportunity for Spring Break interventions to prevent risky sexual behavior and mitigate consequences, little research has examined preventative interventions focused on these risk behaviors during Spring Break (e.g., Lee et al., in press; Patrick et al., in press; Snyder & Misera, 2008). Snyder and Misera (2008) examined student perceptions of a Safe Spring Break event.

Findings indicated that 89.9% of students learned something new at the event and 84.5% reported the information would be helpful while on Spring Break. Students also reported that the event was effective at increasing their knowledge regarding specific health behaviors surrounding Spring Break. However, students were not randomly assigned to a control group nor were students followed longitudinally to evaluate the efficacy of the Safe Spring Break event on Spring Break knowledge or health behaviors. Although not specific to risky sexual behavior, recent research by Lee and colleagues (in press) examined in-person and web-based personalized feedback interventions aimed to reduce Spring Break drinking. Findings indicated that an in-person intervention focused on reducing harm during Spring Break is effective at reducing Spring Break drinking, especially during trips. Moreover, findings suggested that personalized feedback interventions that focused on non-Spring Break content or that are web-based may be less effective than in-person interventions focused on the specific event. Patrick and colleagues (in press) tested the efficacy of a web-based intervention targeting Spring Break alcohol use and sexual behaviors. Findings were promising for reducing perceived norms, although Spring Break behaviors did not differ for the intervention and control conditions. More research is needed to enhance the efficacy of event-specific interventions for reducing risky sexual behavior.

It is important to note this study has several limitations. First, results were based on cross-sectional data, and longitudinal data are needed to determine causal relationships. Second, rates of sexual behavior were relatively low, which may make estimates unstable. Third, although this study is like most of the literature to date on Spring Break by focusing on college students, this research fails to include other individuals who may travel during this event and may also engage in riskier sexual behavior. Thus findings may not generalize to nonstudents, such as location residents, affected by college student tourist risk behavior or to nonstudents or high school students also travelling for Spring Break trips. Fourth, we did not differentiate different trip destinations. It may be that specific types of trips are more associated with risk than others. For example, trips to beach locations may provide greater opportunities to meet people or to consume alcohol in a party atmosphere and thus may be riskier than trips to camping or hiking locations that offer fewer such opportunities. In addition, beach locations may be associated with higher specific norms about drinking or sexual behavior than other destinations. Finally, we did not take into account the drinking or sexual risk behavior of friends or romantic partners traveling with the students, which may confer different levels of risk for individuals.

For college students, Spring Break continues to be a window of risk for sexual behavior. The present study indicates that those at high-risk are those students who have greater normative perceptions of risk behavior and those students who go on Spring Break trips with friends or without romantic partners. Research is needed to evaluate the use of these environmental and personal factors in interventions to reduce Spring Break risky sexual behavior.

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Table 1

Means, Standard Deviations, and Zero-order Correlations among Students who had Sex during Spring Break

Variable	M	SD	1	2	3	4	5	6	7	8	9	0
1. Number of drinks during Spring Break (SB)	5.64	5.57	-									
2. Number of sexual partners in the past three months	.35	.78	.33***	-								
3. Frequency of SB casual sex	.44	.50	.33***	.32***	-							
4. Frequency of condom use	.48	.26	-.05	.10	-.01	-						
5. Frequency of SB drinking prior to sex	.95	.56	.44***	.28***	.34***	.08	-					
6. Number of SB drinks prior to sex	.95	.88	.61***	.28***	.20***	-.11	.53***	-				
7. Perceived frequency of SB casual sex	.60	.41	-.12*	.03	.16***	.08	.05	-.09*	-			
8. Perceived frequency of SB condom use	.30	.57	-.17**	-.06	.06	.10*	.02	-.10*	.37***	-		
9. Perceived frequency of SB drinking prior to sex	.18	.55	-.14*	.01	.08	.09*	.07	-.06	.66***	.64***	-	
10. Perceived number of SB drinks prior to sex	.16	.49	.20**	.14*	.06	-.08	.05	.25***	.22***	.05	.24***	-

Note. Ns ranged from 485 to 491 due to missing data.

*
 $p < .05$.**
 $p < .01$.***
 $p < .001$.

Table 2
Summary of Logistic Regression Analysis Predicting Sex with a Casual Partner during Spring Break

Predictor	Odds ratio	SE	95% CI for Odds ratio		Z
			Lower	Upper	
Male gender	1.944	0.678	0.980	3.854	1.90 [†]
Relationship status	0.056	0.019	0.028	0.109	-8.41 ^{***}
Number of drinks	1.015	0.006	1.000	1.028	2.35 ^{**}
Number of sexual partners	1.247	0.106	1.050	1.474	2.59 ^{**}
Spring Break trip with friend(s)	2.244	0.815	1.100	4.573	2.23 ^{**}
Spring Break trip with partner	0.333	0.173	0.120	0.922	-2.11 ^{**}
Perceived frequency of sex with casual partners	1.196	0.125	0.973	1.470	1.70 [†]

Note. n = 488.

[†] p < .10.

* p < .05.

*** p < .001. Gender was coded as 0 = women and 1 = men. Relationship status was coded 0 = not in a relationship and 1 = in a relationship. Spring break trip with friend was coded as 0 = no and 1 = yes. Spring break trip with partner was coded as 0 = no and 1 = yes.

Table 3

ZINB Regression Results Examining Frequency of Drinking Prior to Sex

Predictor	B	SE B	Z	Ratio	(95% CI)
Logistic Portion of the Model					
Male Gender	0.606	0.73	0.83	1.834	0.436 7.714
Relationship status	-0.949	1.04	-0.91	0.387	0.050 3.022
Number of drinks	-0.819	0.198	-4.12***	0.441	0.301 0.651
Number of sexual partners	-0.462	4.24	-0.11	0.630	0.000 76.018
Spring Break trip with friend	-0.516	0.893	-0.58	0.596	0.104 3.421
Spring Break trip with partner	-0.297	0.602	-0.49	0.743	0.230 2.420
Perceived frequency of drinking prior to sex	-0.204	0.161	-1.27	0.815	0.594 1.118
Count Portion of the Model					
Male Gender	-0.145	0.128	-1.13	0.864	0.671 1.112
Relationship status	-0.231	0.152	-1.52	0.793	0.587 1.069
Number of drinks	0.010	0.002	4.57***	1.010	1.006 1.015
Number of sexual partners	0.029	0.023	1.25	1.029	0.983 1.077
Spring Break trip with friend	-0.131	0.131	-1.01	0.876	0.678 1.133
Spring Break trip with partner	0.556	0.132	4.19***	1.745	1.345 2.264
Perceived frequency of drinking prior to sex	0.093	0.034	2.68**	1.098	1.025 1.176

Note. $n = 427$.

* $p < .05$.

$p < .001$. Ratio = zero-inflated odds ratios are presented for the logistic portion of the model and negative binomial incidence rate ratios are presented for the counts portion of the model.

Table 4
ZINB Regression Results Examining Average Number of Drinks Prior to Sex

Predictor	B	SE B	Z	Ratio	(95% CI)
Logistic Portion of the Model					
Male Gender	1.030	0.395	2.63**	2.826	1.302 6.135
Relationship status	-0.125	0.570	-0.22	0.882	0.288 2.706
Number of drinks	-0.280	0.070	-3.78***	0.756	0.653 0.874
Number of sexual partners	-2.050	1.600	-1.28	0.128	0.006 2.954
Spring Break trip with friend	0.313	0.436	0.72	1.368	0.581 3.220
Spring Break trip with partner	-0.872	0.367	-2.37*	0.418	0.203 0.859
Perceived number of drinks prior to sex	0.014	0.080	0.18	1.015	0.867 1.188
Count Portion of the Model					
Male Gender	0.129	0.101	1.28	1.138	0.933 1.388
Relationship status	-0.560	0.121	-4.63***	0.571	0.450 0.724
Number of drinks	0.005	0.001	3.22***	1.005	1.002 1.009
Number of sexual partners	0.010	0.019	0.54	1.010	0.972 1.050
Spring Break trip with friend	0.057	0.105	0.55	1.059	0.861 1.302
Spring Break trip with partner	0.179	0.121	1.47	1.190	0.942 1.519
Perceived number of drinks prior to sex	0.055	0.017	3.18***	1.057	1.021 1.093

Note. n = 427.

* p < .05.

*** p < .001. Ratio = zero-inflated odds ratios are presented for the logistic portion of the model and negative binomial incidence rate ratios are presented for the counts portion of the model.

Table 5
ZINB Regression Results Examining Frequency of Condom Use during Spring Break

Predictor	B	SE B	Z	Ratio	(95% CI)
Logistic Portion of the Model					
Male Gender	0.133	0.283	0.47	1.143	0.656 1.992
Relationship status	1.401	1.094	1.14	4.059	0.000 68.040
Number of drinks	0.016	0.008	1.94 [†]	1.016	1.000 1.033
Number of sexual partners	1.171	1.185	0.99	3.225	0.316 32.955
Spring Break trip with friend	-0.883	0.381	-2.32 ^{**}	0.413	0.196 0.873
Spring Break trip with partner	0.521	0.292	1.79 [†]	1.685	0.950 2.987
Perceived condom use	-0.001	0.082	-0.02	0.998	0.849 1.174
Count Portion of the Model					
Male Gender	0.378	0.136	2.78 ^{**}	1.459	1.117 1.900
Relationship status	0.509	0.167	3.04 ^{**}	1.664	1.198 2.312
Number of drinks	-0.001	0.003	-0.11	0.999	0.993 1.005
Number of sexual partners	0.029	0.026	1.11	1.029	0.978 1.083
Spring Break trip with friend	-0.436	0.151	-2.89 ^{**}	0.646	0.480 0.869
Spring Break trip with partner	0.307	0.155	1.98 ^{**}	1.360	1.002 1.845
Perceived condom use	0.101	0.042	2.38 ^{**}	1.107	1.018 1.204

Note. $n = 427$.

[†] $p < .10$.

^{**} $p < .05$.

^{***} $p < .001$. Ratio = zero-inflated odds ratios are presented for the logistic portion of the model and negative binomial incidence rate ratios are presented for the counts portion of the model.