

BRIEF REPORT

Daily associations of alcohol use with sexual behaviour and condom use during Spring Break

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Introduction and Aims. *Spring Break is associated with high levels of alcohol use and related consequences, and with risky sexual behaviour, among North American college students. However, the extent to which Spring Break drinking and sexual behaviours are related has not been well documented.* **Design and Methods.** *Undergraduate students (n = 263) were surveyed prior to and immediately after Spring Break, including retrospective reports of daily behaviour for each day of Spring Break.* **Results.** *Hierarchical linear modelling was used to predict penetrative sex and condom use. Binge drinking on a day was associated with a greater likelihood of penetrative sex and of condom use, moderated by relationship status. Binge drinking led to a greater increase in penetrative sex among single students. Single students were more likely to use condoms after drinking; those in a relationship were less likely to use condoms after drinking.* **Discussion and Conclusions.** *Single college students are more likely to have sex after binge drinking on Spring Break, but also more likely to use condoms after drinking, compared to students in a relationship. Intervention efforts may need to acknowledge relationship status.* [Patrick Megan E. Daily associations of alcohol use with sexual behaviour and condom use during Spring Break. *Drug Alcohol Rev* 2013;32:215–217]

Key words: drinking, alcohol, sexual behaviour, condom, Spring Break.

Introduction

Spring Break is associated with peak levels of alcohol use, including binge drinking [1–3], for North American college students. These behaviours lead to consequences, including hangovers, vomiting, passing out, injuries and regrettable sexual situations, with data showing that typically lighter-drinking students face a particularly high risk [4]. Spring Break *trips* are an especially high-risk context, with students engaging in more alcohol use and sexual behaviour on days they are on Spring Break trips, compared with Spring Break days they are not on trips with their friends [5]. Primary motives for going on Spring Break include opportunities for drinking and sex, and students report sexual behaviour as a result of drinking during Spring Break [6–8]. Spring Break is associated with permissive sexual norms and behaviours [9,10], and condom use is reportedly rare [6,8]. However, available evidence for

the links between alcohol and sexual behaviour comes from cross-sectional or pre–post designs that do not include measurement of day-to-day covariations in the behaviours.

Methods*Participants and procedures*

Participants were college students ($n = 263$; 55% women) who were screened into the Spring Break Behavior and Health study [5]. Eligible students were: (i) 18–21 years old; (ii) planning to go on a Spring Break trip; and (iii) willing to be contacted. Eligible students ($n = 320$) were mailed a pre-notification letter and emailed a link to a Web survey (Wave 1), with a response rate of 84% ($n = 270$). At Wave 2, 97% of students provided data ($N_{\text{people}} = 263$), including reports of behaviour during each of the 10 days of Spring Break ($N_{\text{days}} = 2569$). The Spring Break Behavior and Health

study was designed to test the effect of an intervention administered prior to Spring Break on alcohol use and risky sexual behaviors. Students were randomly assigned to intervention and control groups. In the present analyses intervention is a control variable.

Measures

Within-person measures were available for each day of Spring Break (10 days total) and used as Level 1 predictors and dependent variables in the hierarchical linear models.

To assess Spring Break trip, participants reported where they spent each night of Spring Break. Spring Break trip with friends was coded as 1; all else was coded as 0.

Sexual behavior was assessed for each day [had penetrative (i.e. vaginal or anal) sex = 1, did not = 0]. On days students reported having sex, they were asked if they used a condom every time they had penetrative sex that day (0 = no, 1 = yes).

Students were asked about alcohol use for each day as the number of standard drinks consumed. Binge drinking was defined as 4+ drinks for women and 5+ drinks for men.

Between-persons (Level 2) predictors included gender (male = 1, female = 0) and relationship status, with 0 = 'I am not dating anyone right now' and 1 = in a casual or serious relationship.

Plan of analysis

Two hierarchical linear models document associations between binge drinking and sexual behaviours, using a Bernoulli distribution for dichotomous dependent variables. Between-persons predictors were gender, person-mean binge drinking across days (calculated for each person to isolate the effect of drinking on a given day), person-mean number of days spent on a Spring Break trip (to isolate the effect of being on a trip on a given day), and relationship status. Within-person predictors were whether they were on a Spring Break trip that day and whether they engaged in binge drinking that day, as well as whether binge drinking that day was moderated by relationship status.

Results

Descriptive statistics are shown in Table 1. Hierarchical linear models results are shown in Table 2. Of all Spring Break days, 6% were days on which participants had sex. Participants used condoms on 55% of days they had sex. Between-persons (i.e. on average over days), the average level of binge drinking and the average trip days were not significantly associated with sexual

Table 1. Descriptive statistics of daily sexual behaviours and binge drinking during Spring Break

	Mean (SD)	Range	<i>n</i>
Between-persons (Level 2)			
Male gender	0.44 (0.50)	0–1	263
Person mean binge days	0.19 (0.25)	0–1	263
Person mean trip days	0.38 (0.35)	0–1	263
In a dating relationship	0.47 (0.50)	0–1	263
Within-person (Level 1)			
Days on a trip	0.37 (0.48)	0–1	2590
Binge drinking	0.18 (0.39)	0–1	2573
Sexual behaviour	0.06 (0.24)	0–1	2594
Condom use	0.55 (0.50)	0–1	164

Person mean binge days and person mean trip days represent the average proportion of days students reported engaging in binge drinking and being on trips, respectively.

behaviour or condom use. Men and students who were in a dating relationship were more likely to report having sex, but there were no differences in condom use during Spring Break. Within-person, being on a trip that day was associated with more sexual behaviour, but there were no differences in condom use. Binge drinking that day was associated with a greater likelihood of penetrative sex and of condom use. The effects of binge drinking on a given day were moderated by relationship status. Binge drinking led to a greater increase in penetrative sex among single students. Students who were in a relationship were less likely to use condoms after drinking; single students were more likely to use condoms after drinking.

Discussion

Binge drinking is associated with both a greater likelihood of having sex and, among days students have sex, a greater likelihood of condom use. This effect is moderated by relationship status, such that binge drinking is associated with increases in sex and condom use only among students who do not report being in a dating relationship. These results suggest that single students are more likely to pair drinking and sex on Spring Break, and that drinking may mediate the effect of a Spring Break trip on sexual risk [5]. Single students may be more willing and prepared to use condoms, although they may also be more likely to have previously unknown partners, placing them at higher risk for sexually transmitted infections. As barriers to condom use on Spring Break include alcohol, impulsivity and being unprepared [9], students with expectations of drinking-related sex with a new partner may be more likely to use condoms. The extent to which this generalises beyond Spring Break should be examined.

Table 2. Multilevel models predicting sexual behaviour and condom use by binge drinking during Spring Break

	Sex OR [CI]	Condom use OR [CI]
Average over days intercept, β_0	0.00 [0.000, 0.001]***	1.28 [0.023, 71.6]
Male gender, γ_{01}	2.14 [0.867, 5.26]†	1.79 [0.112, 28.7]
Intervention, γ_{02}	1.78 [0.703, 4.53]	0.17 [0.011, 2.53]
Average binge drinking, γ_{03}	1.21 [0.084, 17.4]	0.14 [0.000, 103]
Average trip days, γ_{04}	1.76 [0.305, 10.2]	3.37 [0.061, 186]
In a relationship, γ_{05}	32.61 [10.18, 104]***	3.91 [0.104, 147]
Average fluctuations with trip, β_1		
Intercept, γ_{10}	2.48 [0.892, 6.93]†	1.72 [0.732, 4.06]
Average fluctuations with binge drinking, β_2		
Intercept, γ_{20}	13.20 [2.08, 83.9]**	9.13 [1.55, 54.0]*
In a relationship S1, γ_{21}	0.08 [0.009, 0.758]*	0.00 [0.000, 0.017]***

† $P < 0.10$; * $P < 0.05$; ** $P < 0.01$; *** $P < 0.001$. $n = 263$ people and $n = 2569$ days for sex; $n = 52$ people (i.e. only among those who had sex during Spring Break) and $n = 161$ days (i.e. only among days with sex) for condom use. CI, 95% confidence interval; OR, odds ratio.

Situational and environmental characteristics influence behaviours, and students report that their behaviours are influenced by being in the atmosphere of Spring Break [6,9]. For example, students are more likely to have sex on days they are on trips than other days [5]. Specific norms for Spring Break, including permissive attitudes toward uncommitted sex [9,10], may provide an opportunity for interventions to support the social acceptability of buying and carrying condoms when intending to have sex. This may be a key strategy for interventions designed to reduce health risks associated with Spring Break and other high-risk events.

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