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Perceptions about Dormitory Wing-Mates and Alcohol-Related Secondhand Effects Among College Freshmen

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Abstract

Objective—This study examined secondhand effects college students experienced from others' alcohol use and their relationship with student characteristics and alcohol-related perceptions about wing-mates.

Participants—Incoming freshmen (n=509) residing in predominantly freshmen dormitories.

Methods—A web-based survey was administered two months into the 2006 fall academic semester. Linear Mixed Modeling was utilized to examine the independent relationships of secondhand effects with student characteristics and perceptions.

Results—Most (80%) students experienced at least one secondhand effect. Perceiving wing-mate acceptance and expectation of alcohol use, and inability to protect against wing-mate secondhand effects as well as being female and a drinker were related to experiencing secondhand effects.

Conclusions—Incoming college freshmen frequently experienced secondhand effects. Involving dormitory wings in norms-based interventions aimed at reducing secondhand effects warrant evaluation. Further research is also warranted on skill-building among college students to resist and intervene into others' drinking and on Resident Advisor negotiation of their roles as both engenderers of trust/cooperation and enforcers of alcohol rules.

Introduction

The effects college drinkers have on other college students, particularly those that they live with, have not been adequately examined or addressed in research. Heavy drinking is common on college campuses; recent surveys indicate that approximately 78.6% of college students drink with 37.1% recently bingeing.¹ This high rate of drinking causes many problems in college populations in terms of drinkers' health, safety, and academic problems, as well as social problems with peers, family, sexual partners and the community.^{2–4} The negative effects of alcohol use imparted by the college student drinker on others have been termed 'secondhand effects'.⁵ Secondhand effects are associated with exposure to heavy drinkers.^{2–10} Examples of secondhand effects include interruptions to sleep and study, having to take care of the drunk person, being inconvenienced by noise or vomit, being insulted or humiliated, having property damaged, or being a victim of assault or other crimes.^{2–10} Serious secondhand effects are reflected in alarming statistics among 18–24 year old students regarding high rates of physical

and/or sexual assault by others who are under the influence of alcohol.¹¹ Secondhand effects may also contribute to decreased well-being and school performance.¹²

Many incoming freshmen are underage for alcohol use and reside in on-campus dormitories which routinely have alcohol restrictions and are monitored by live-in residential staff. Nevertheless, the close proximity and interdependence of dormitory ‘wing-mates’ (those students who live on a single side of a dormitory floor) may exacerbate the impact that wing-mates have on other wing-mates. Dormitories often consist of multiple floors on which students are organized into living-units by wing. A wing is defined as one side of a residence hall floor that is separated from the other side by common lounge space. Wing-mates are frequently of the same gender, their rooms share a hallway, their shared hallway includes a communal bathroom, and their wing is overseen by a resident advisor (RA). The RA serves as a proxy parent and is responsible for creating a safe and functional living environment. Wings may have their own unique social environment reflecting the characteristics of wing-mates and may engender wing-specific alcohol-related norms and attitudes that influence alcohol use.^{13–14}

Incoming freshmen, in particular, may be vulnerable to the effects of their wings’ alcohol norms because they may look to wing-mates for social relationships, have yet to establish college social skills related to alcohol, and are newly free from direct parental monitoring. This transition into campus life for freshmen moving into campus residence halls has been associated with increased use of alcohol and related negative experience.¹⁵ While research has focused on understanding heavy alcohol consumption and related problems as freshmen acclimate to their new college environment,^{16–17} little is known about how incoming freshmen perceive and handle the secondhand effects of others’ alcohol use.

Given that college freshmen often reside in dormitory wings and may be exposed to inebriated wing-mates, secondhand effects in this population need to be better understood so that they can be better addressed. This study provides descriptive information regarding the secondhand effects experienced by college freshmen and examines hypotheses aimed to determine whether incoming students’ perceptions of wing-mates are associated with their experience of secondhand effects. Subjective norms from the Theory of Reasoned Action suggests that normative beliefs perceived by individuals in a population drive behavioral intentions which are expected to drive behaviors, and by extension are expected to reflect experience of others’ behaviors, in that population.¹⁸ From this, it is hypothesized that wing-mates’ perceptions about: 1) how acceptable drunken behavior is on the wing (Wing Acceptability), 2) what others on the wing expect regarding drinking (Wing Norms), and 3) alcohol-related lenience of the wing Resident Advisor (RA Lenience) in implementing alcohol policy are associated with wing-mates’ experience of secondhand effects. Self-efficacy from the Social Cognitive Theory suggests that confidence in one’s ability to perform particular self-protective behaviors is associated with successfully executing self-protection.¹⁹ From this, it is hypothesized that wing-mates’ perceive confidence in their ability to: 1) protect themselves from risky alcohol behavior (Protection Confidence) and 2) intervene into others’ risky alcohol behavior (Intervention Confidence) are associated with less secondhand effects.

Methods

This study was a sub-study of a larger National Institute of Alcohol Abuse and Alcoholism funded college alcohol problem prevention trial and was approved by the university Institutional Review Board. The larger three-arm trial (comparing single gender, mixed gender, and control conditions) was conducted to determine whether a series of three educational workshops targeting freshmen dormitory wings could effectively reduce quantity and frequency of alcohol use as well as problems from alcohol use.

The data for this study were obtained as part of the larger trial as follows. The campus utilized for this trial was a large, public, suburban university near Washington, DC. The total first-year freshmen population numbered 3709. A purposive sampling frame was utilized with wings of students living in on-campus, traditional, high-rise, predominantly freshman dormitories. Of the eight on-campus, predominantly freshman, high-rise dormitories with wings supervised by an RA, four dormitories had wings with a preponderance of incoming freshmen relative to more senior students and afforded balance across trial arms on number of students per wing and number of wings by student gender and living-learning membership. Living-learning membership was defined as student residence on wings that were designated for participation in multiple special-interest residential and classroom learning programs in which students in a particular program reside together on the same wing. Of 64 wings in the four dormitories, 36 were chosen for the trial because they maximized the number of incoming freshmen per wing and balanced dormitory, student gender, and living-learning membership across arms of the trial. Approximately two months after the beginning of the academic school year (Fall 2006) [and 2 weeks after the final workshop in the trial], a web-based survey was conducted with all students in the 36 trial wings. This survey provided the data for the study described herein.

There were 1269 students (634 males, 635 females) on the 36 wings (18 male, 18 female) invited to participate in the overall trial web-based survey through flyers hung on each wing and up to five personalized e-mails. Of these students, only the 1155 incoming freshmen (572 males, 583 females) constituted the targeted sample for this sub-study (Table 1). Of the 1155 incoming freshmen, 204 males and 295 females provided useable responses to the web-based survey. To increase the web-based survey response rate (43.2%), a paper survey that exactly mirrored the format and questions in the on-line survey was mailed to non-responders after three e-mail recruitment attempts for the online survey. The paper survey respondents were tracked by a unique study ID and the same consent and incentive policies applied to on-line and paper responses. Incentives included a \$10 bookstore coupon for completion and entry into a lottery to win another \$40 gift coupon at a local department store. Ten useable paper surveys (2 from males and 8 from females) were received from non-respondents to the web-based survey. The significant associations between the independent and outcome variable were the same in the merged versus web-based only databases, hence only results of the merged database are reported. The final sample thus included 206 males (36.0% completion rate) and 303 females (52.0% completion rate) (43.7% overall completion rate).

Measures

Based on focus group findings obtained from 47 first-year students from a prior cohort and not included in this current sample²⁰, a review of the literature, review of experts, and input from key campus informants as well as proven theoretical perspectives, new sets of questions were created as needed for the key study variables. The resulting questions were pre-tested in one-on-one, face-to-face interviews and then converted for web administration and pilot tested with 245 freshmen college students (92 males, 153 females) from a prior cohort and not included in this study sample of students. The following information describes the final key measures used in the current study.

Secondhand Effects items were borrowed from the National Study of Living Learning Programs (NSLLP) instrument used to measure the negative experiences that students had as a result of others' alcohol use.⁸ The measurement time frame and response options were modified for this study. Students were asked "How often did you experience any of the following (See items in Table 2) as a result of others' alcohol use since arriving (on campus) for the Fall 2006 semester?" Modified coded response options were none=0, 1 time=1, 2 times=2, and 3 or more times=3, and the reference period was "since arriving on campus for

the semester". All ten items were summed to create a single continuous variable (Cronbach's $\alpha=0.71$, Mean=4.46 \pm 4.01, Median=3.00, Observed Range=0 to 18).

Wing Acceptability was a scale created by the researchers to measure students' perceptions about how acceptable drunken behavior was among their wing-mates. Students were asked: "On your wing of your residence hall floor, how acceptable would it be for you to do the following (See items in Table 2) as a result of your alcohol use?" Coded response options were unacceptable=1, somewhat unacceptable=2, somewhat acceptable=3, and acceptable=4. All eight items were summed to create a single continuous variable (Cronbach's $\alpha=0.88$, Mean=15.53 \pm 5.07, Median=15.00, Observed Range=8 to 32).

Wing Norms was a scale modified from Perkins and Wechsler's Campus Alcohol Norms measure.²¹ The reference group was changed from campus to wing. Students were instructed to "Indicate how much you think students on your wing (your side of your residence hall floor) agree with the statements below (See items in Table 2)." Coded response options were disagree=1, somewhat disagree=2, neither agree nor disagree=3, somewhat agree=4, and agree=5. All five items were summed to create a single continuous variable (Cronbach's $\alpha=0.69$, Mean=13.22 \pm 4.29, Median=13.00, Observed Range=5 to 25).

Protection Confidence was a scale created by the researchers to measure students' confidence in their ability to protect themselves from alcohol problems when going out to party or socializing with wing-mates. Students were asked "How confident are you that you could do the following (See items in Table 2) with your wing-mates?" Coded response options were unconfident=1, somewhat unconfident=2, somewhat confident=3, and confident=4. All eight items were summed to create a single continuous variable (Cronbach's $\alpha=0.85$, Mean=28.33 \pm 4.45, Median=30.00, Observed Range=8 to 32).

Intervention Confidence was a scale created by the researchers to measure how confident students would be intervening into their wing-mates' drinking-related behaviors. Students were asked "How confident are you that you could do the following (See items in Table 2) things with your wing-mates?" Coded response options were unconfident=1, somewhat unconfident=2, somewhat confident=3, and confident=4. All six items were summed to create a single continuous variable (Cronbach's $\alpha=0.88$, Mean=18.55 \pm 4.26, Median=19.00, Observed Range=6 to 24).

RA Alcohol Lenience was a scale created by the researchers to measure students' perceptions of their RA's monitoring and attitudes of alcohol use among wing-mates. Students were asked how much they agreed with various characterizations of their RA (See items in Table 2). Coded response options were strongly disagree=1, disagree=2, neither agree nor disagree=3, agree=4, and strongly agree=5. All five items were then summed to create a single continuous variable (Cronbach's $\alpha=0.74$, Mean=10.00 \pm 3.29, Median=10.00, Observed Range=4–22).

Student drinker status was determined by alcohol use (beer, liquor, wine, or alcohol of any type) in the last 30 days (yes=1, no=0) and was based on self-report data from the survey. Student race/ethnicity (Hispanic/Latino, Asian/Pacific Islander, Black/African American, Other/Mixed, White), age, gender (male=1, female=2), and membership in a formally identified group of students who have similar academic interests (living learning member; yes=1, no=0) were obtained from university records. Study condition (categorical variables with single gender workshop=1, mixed gender workshop=2, control group=9) was an assigned variable based on the larger trial condition assignments.

Analysis plan

Data were analyzed using SAS version 9.1. Descriptive analyses including chi-square statistics and student t-test were used to examine variable distributions and their mean differences by gender. Linear Mixed Modeling (LMM) was used to examine the relationships between the outcome of interest (Secondhand Effects) and each continuous independent variable (Wing Acceptability, Wing Norms, Protection Confidence, Intervention Confidence, RA Alcohol Lenience) while controlling for potential intra-class correlation among members of individual wings and gender, age, race, living-learning status, condition, drinker status, and the interaction between gender and condition. Fixed factors included the independent variables, gender, age, race, living-learning status, condition, drinker status, and the interaction effect between gender and condition. Individual study wing was treated as a random factor and was nested within condition, gender, and living-learning status.

Results

The composition of study participants and non-participants did not differ in age or intervention condition, but proportionally more females, Whites, and living-learning students completed the survey (Table 1). For comparison purposes in terms of absolute proportions, the study sample included more females, Whites, and living-learning community members than the Fall 2006 population of first-year freshmen students at the University of Maryland of whom 44.6% were female, 59.3% were White, and 45.1% were living-learning members.

Most incoming freshmen (79.8%) reported experiencing secondhand effects at least once during the first two months on campus. The most commonly reported secondhand effects included having sleep or study interrupted (52.3% had ever experienced the effect), being inconvenienced by vomit in common spaces (49.2%), having to take care of a student who had been drinking (46.2%), and being affected by drinking guests on the wing (45.7%).

Although overall summative scale scores for Secondhand Effects indicated that females were no more likely than males to experience secondhand effects, individual scale items indicated that females were more likely than males to have their studying or sleep interrupted and to experience an unwanted sexual advance (Table 2). Overall summative scales scores indicated that drinkers were more likely than non-drinkers to experience secondhand effects. Individual items indicated that drinkers were more likely than non-drinkers to have to take care of a drinker, be inconvenienced from vomit, be affected by the behavior of guests, be harassed/insulted/humiliated, experience an unwanted sexual advance, and have had a serious argument (Table 2).

Comparing overall summative scores for Wing Acceptability, males perceived more acceptance of disruptive behaviors of inebriated wing-mates than females. All eight individual scale items mirrored this gender difference (Table 2). The overall summative scale for Wing Acceptability did not indicate that drinkers and non-drinkers differed in their perceived acceptance of disruptive behaviors of inebriated wing-mates. Individual items of this scale indicated however, that non-drinkers perceived more acceptance than drinkers for vandalism, interrupting others' studying and sleep, whereas drinkers perceived more acceptance than non-drinkers for passing out and coming home drunk (Table 2).

Comparing overall summative scores for Wing Norms, there were no differences between males versus females, non-drinkers versus drinkers in perceptions about what others on one's wing expect regarding drinking (Table 2). Individual items revealed, however, that males and drinkers more than females and non-drinkers perceived others to believe that drinking is an important part of the college experience. Furthermore, males more than females perceived that others believed that it is important to show how much you can drink. Females more than males

perceived that others believed that school rules about drinking are almost never enforced (Table 2).

Comparing overall summative scores for Protection Confidence, females had more confidence that they can avoid alcohol when socializing than males. Individual scale items indicated that females were more confident than males that they could drink an alcohol look-alike, carry around a cup but not drink alcohol, and socialize in a manner that does not include alcohol (Table 2). The overall summative scale for Protection Confidence indicated that non-drinkers were more confident than drinkers that they could avoid alcohol when socializing. Non-drinkers indicated greater confidence in this regard than drinkers for seven of eight individual Protection Confidence items (Table 2).

Comparing overall summative scale and individual item scores for Intervention Confidence, there were no differences between males and females. Drinkers were, however, more confident than non-drinkers that they could intervene into the drinking behavior of others on the wing as indicated by the overall summative scale scores and the individual items regarding making a wing-mate leave a bar/party, taking a drink away from a wing-mate, and preventing a wing-mate from drinking too much.

The only significant gender or drinking status difference observed regarding perceived RA Alcohol Lenience overall summative scale score or the five item scores was that males were more likely than females to perceive that if the RA knew about underage drinking on the wing, s/he would do nothing about it (Table 2).

LMM results indicated that as Wing Acceptability of Drunken Behaviors ($b=.08$, $SE=.04$, $P=.03$) and Wing Norms about Alcohol Use ($b=.14$, $SE=.04$, $P=.002$) increased, the number of Secondhand Effects among first-year freshmen also increased. The LMM results also indicated that as Protection Confidence ($b=-.12$, $SE=.04$, $P=.004$) decreased, Secondhand Effects increased. Furthermore, being a drinker ($b=.86$, $SE=.39$, $P=.03$) and being female ($b=.51$, $SE=.73$, $P=.01$) correlated with increased Secondhand Effects. Intervention Confidence and RA Alcohol Lenience were not correlated with Secondhand Effects. Study condition and wing were not associated with Secondhand Effects. Student gender and drinker status were included with the other independent variables as interaction terms in LMM models, but no interactions were significant.

Comment

The study findings address the lack of description in the literature of perceptions about wing-mates and secondhand effects among incoming freshmen newly living in dormitory wings. The measures used to capture incoming freshmen perceptions about alcohol use among wing-mates had acceptable internal consistency and proved to be revealing with regard to gender and drinking status differences. The measures indicated, for example, that males were more tolerant of disruptive alcohol-related behavior among their wing-mates than females. Females had more self-efficacy than males to avoid heavy drinking when among their wing-mates. Not unsurprising, drinkers were less confident than non-drinkers in their ability to avoid heavy drinking when among wing-mates and more confident in their ability to intervene into wing-mates' heavy drinking. Drinkers likely have more friends that drink than non-drinkers and potentially have greater experience with alcohol and other drinkers which may allow them more confidence in their ability and more opportunity to intervene into others' drinking (Jamison, 2008; Forney, 1988). Both gender and drinking status remained significant independent correlates of secondhand effects in multivariate models and should be considered when addressing the peer-to-peer impact of drinking.

The vast majority (80%) of incoming freshmen reported at least one secondhand effect from others' drinking. "Nuisance secondhand effects" (had to take care of another student, was inconvenienced from vomit, had study or sleep interrupted, was affected by the behavior of a drinking guest) were reported by over 40% of students, and over 20% of freshmen reported being harassed, insulted, or humiliated. Over 20% of females reported experiencing an unwanted sexual advance by a drinker. Females and drinkers reported more secondhand effects than males and non-drinkers whose rates of secondhand effects were, nevertheless, appreciable. Such secondhand effects may decrease students' quality-of-life, endanger them, and/or decrease chances for academic success (Wechsler 1995 or Weitzman 2005). As the high rate of drinking observed on this campus (75%) is similar to the average rate among college campus populations nationwide (79%), the observed rates of secondhand effects among these incoming freshmen are probably not unique.^{1,22} The high rates of secondhand effects in this sample of freshmen are consistent with results from other cross-sectional data reporting the frequencies with which college students experience secondhand effects.^{3-4,6-10}

Increases in perceived wing acceptance and normative expectations of drinking were independently correlated with increases in secondhand effects. Wing-mates may have been the basis for initial college social groupings that influenced exposure to alcohol and its effects early in these students' college careers.²³ Extrapolating these findings further, it could be hypothesized that programs to decrease wing acceptability and expectations of drinking may decrease wing-mates' secondhand effects. Small group interventions on group alcohol norms have recently been examined on college campuses with some success but these interventions have not directly addressed freshmen dormitory living unit norms (Reilly, 2008; LeBrie, 2008; Caudill, 2008; LeBrie, 2007; LeBrie, 2007). Norms-based interventions with dormitory wings aimed at reducing secondhand effects, in addition to consequences suffered by drinkers themselves, warrant evaluation.

As first-semester freshmen perceptions that they can protect themselves from risky alcohol use when among wing-mates increased, their secondhand effects decreased. If these perceptions are found in future studies to predict secondhand effects, this inverse relationship would suggest that programs aimed at increasing incoming freshmen's confidence to resist wing-mate pressure to drink, perhaps through tailored skill-building¹⁹, may have the potential to decrease secondhand effects. Helping students to resist peer pressure to drink abusively as well as to confront others on their alcohol-related adverse behavior (secondhand effects) are critical issues for freshmen who are often away from home for the first time and have no parents present to mediate such issues or disputes. Recent attention has been given to preventive behavioral strategies, intervention into peer's drinking, and related skill-building among college students and further investigation in this area is warranted (Martens, 2007; Howard, 2007; Graham, 2004; Boekeloo, 2009).

Perceived RA lenience was unrelated to secondhand effects. It is possible that perceived RA lenience is not associated with secondhand effects because it is not associated with RAs' ability or actions to prevent secondhand effects. RA prevention of secondhand effects requires that they can and do: 1) manage how wing-mates act on the wing once they are inebriated, 2) manage how wing-mates drink on and off the wing, and 3) manage wing-mate exposure to others that are inebriated on and off the wing. RA ability and desire to manage wing-mates in all these ways is probably limited. Five qualitative interviews were conducted with non-study RAs in preparation for this study, and the RAs indicated that maintaining wing-mate trust and cooperation while implementing university policy is difficult sometimes leading to their taking a "don't ask, don't tell" approach to alcohol use. The RAs revealed that drinking in dormitory rooms and other places on- and off-campus by underage wing-mates does occur, and secondhand effects of inebriated students on the wings is an on-going problem. There is scant research on the success of RA training for negotiating their roles as engenderers of trust and

cooperation and enforcers of alcohol rules. Research in this area is warranted to identify the most successful training strategies.

Limitations

There are several notes for interpretation of this study. First, as survey respondents and non-respondents differ on gender, race and living-learning membership, and this study was conducted at one university, the generalizability of the results to all incoming freshmen living in dormitories on this and other college campuses warrants confirmation. The findings from this survey are plausible given the pervasiveness of secondhand effects on college campuses^{3–4,6–10}, however, and the implications of this study are likely to be relevant to other freshmen living in dormitories on other campuses. Second, the independent variables refer to perceptions about wing-mates whereas the Secondhand Effects questions ask about effects from “others’ drinking”, not specifically “wing-mates’ drinking.” While secondhand effects likely regard predominantly wing-mates at this early stage in their college career, non-wing-mates are also regarded. University policy dictates that alcohol possession and use by minors is not allowed in residence halls but the number of campus citations for wing alcohol-related behavior and our own qualitative research²⁰ indicate that such behavior does occur at high frequency in residence halls. Wing-mates also experience other wing-mates’ drunkenness after drinking that occurs elsewhere. Third, Wing Acceptability, Wing Norms, Protection Confidence, and Intervention Confidence, were not examined by expert theorists to ensure that they reflected the theoretical construct used to inform their development. For this reason, they are interpreted as possible, but unconfirmed, measures of the theoretical constructs. Fourth, as the study is cross-sectional, the Linear Mixed Model findings do not establish directionality of associations between independent variables and secondhand effects.

Because this study examined cross-sectional data, the associations resulting from the study analyses cannot be interpreted as predictive. Also, the secondhand effects may have occurred on the wing or elsewhere and were not necessarily universally the result of wing-mates’ drinking. Nevertheless, these findings indicated that perceptions about alcohol among wing-mates were associated with exposure to secondhand effects. The observed associations enhance understanding of the context of secondhand effects in residential college environments.

Conclusion

In conclusion, secondhand effects are a frequent problem among freshmen wing-mates. Furthermore, increased perceived acceptance of drunken behavior and lack of protection confidence among freshmen wing-mates were associated with increased secondhand effects. If these perceptions are shown to predict secondhand effects in future studies, this would suggest that programs to decrease wing acceptability and expectations of heavy drinking, and to increase confidence to resist wing-mate pressure to drink may have the potential to decrease secondhand effects. More research should address secondhand effects and evaluate programs aimed at addressing those factors shown in this study to be related to the experience of secondhand effects.

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Table 1
 Characteristics of the study sample of incoming freshmen (n=1155)

Characteristic	Participants (n=509)	Non-Participants (n=646)	χ^2 (P value)
Sex			
Male	206 (40.5%)	366 (56.7%)	29.83 (<0.001)
Female	303 (59.5%)	280 (43.3%)	
Age (Years)			
17	57 (11.2%)	74 (11.5%)	1.43 (0.488)
18	423 (83.1%)	524 (81.1%)	
19+	29 (5.7%)	48 (7.4%)	
Ethnicity/Race			
Hispanic/Latino	38 (7.5%)	48 (7.4%)	36.68 (<0.001)
Asian/Pacific Islander	85 (16.7%)	68 (10.5%)	
Black/African American	43 (8.4%)	132 (20.4%)	
White	312 (61.3%)	363 (56.2%)	
Other/Mixed	31 (6.1%)	35 (5.4%)	
Member Living-Learning (LL)			
Non-LL	177 (34.8%)	405 (63.8%)	88.77 (<0.001)
LL	332 (65.2%)	241 (36.2%)	
Study Condition			
Control	186 (36.5%)	200 (31.0%)	4.43 (0.109)
Single gender	173 (34.0%)	228 (35.3%)	
Mixed gender	150 (29.5%)	218 (33.7%)	
Used Alcohol in Last 30 Days			
Yes	309 (60.7%)	N/A	N/A
No	200 (39.3%)		

Table 2 Student's T-Test Analysis of Summative Scales and Chi-Square Analysis of Scale Items

	Males	Females	Non-Drinkers	Drinkers
Summative Secondhand Effects Scale, range 0–30 [Mean (SD)]	4.13 (3.93)	4.69 (4.05)	3.63 (3.82)	5.00 (4.04) ††
Secondhand Effects items [% experienced at least one time]				
Was the victim of sexual assault or date rape	1.0	1.7	1.0	1.6
Experienced an unwanted sexual advance	6.8	20.8**	7.5	20.1**
Was pushed, hit, or assaulted	10.2	8.6	6.5	11.0
Had a serious argument or quarrel	13.1	14.5	6.5	18.8**
Had my property damaged	13.7	13.6	11.6	14.9
Was harassed, insulted, or humiliated	18.4	25.7	17.5	26.2*
Was affected by the behavior of guests who were drinking	41.0	48.8	40.0	49.4*
Had to “baby-sit” or take care of another student	43.2	48.3	30.2	56.6**
Had my studying or sleep interrupted	46.6	56.0*	54.0	51.1
Was inconvenienced from vomit in the hallway or bathroom	52.2	47.2	43.2	53.1*
Summative Wing Acceptability Scale, range 8–32 [Mean (SD)]	16.94 (5.32)	14.55 (4.66) ††	15.44 (6.02)	15.58 (4.37)
Wing Acceptability of Drunken Behaviors items [% acceptable⁶¹]				
Vandalize or destroy property	9.8	2.7*	8.6	3.6*
Interrupt someone else's studying	18.1	10.1*	20.8	8.6**
Throw up in the bathroom, hallway, or other common area	20.5	10.5*	15.3	14.1
Interrupt someone else's sleep	20.6	11.8*	21.8	11.2*
Pass out (in a common area)	38.7	27.4*	26.0	35.9*
Use being drunk as an excuse for my behavior	39.0	26.8*	33.3	30.8
Be loud and obnoxious	41.0	24.9**	33.5	30.2
Come home drunk	82.4	69.4*	64.5	81.3**
Summative Wing Norms Scale, range 5–25 [Mean (SD)]	13.65 (4.40)	12.93 (4.19)	12.84 (4.74)	13.47 (3.95)
Wing Norms items [% agree⁶¹]				
You can not make it socially at this school without drinking	17.1	17.8	17.1	17.8
I feel that there is pressure for me to drink	28.8	32.8	29.6	32.1
It's important to show how much you can drink and still hold your liquor	30.2	27.6	23.7	31.9*

	Males	Females	Non-Drinkers	Drinkers
School rules about drinking are almost never enforced	35.8	31.1	47.0	23.9 ^{**}
Drinking is an important part of the college experience	49.3	36.8 [*]	32.2	48.2 ^{**}
Summative Protection Confidence Scale, range 8–32 [Mean (SD)]	27.82 (4.93)	28.69 (4.06) [†]	30.11 (2.99)	27.17 (4.85) ^{††}
Protection Confidence items [% confident^d]				
Drink an alcohol look-alike	63.9	76.0 [*]	85.4	61.8 ^{**}
Carry around a cup but did not drink any alcohol	77.6	86.3 [*]	92.0	76.8 ^{**}
Avoid drinking games	81.0	85.6	94.9	76.5 ^{**}
Avoid drinking too much	89.8	93.3	97.5	88.2 ^{**}
Avoid being in situations where you would be encouraged to drink too much	90.2	92.0	95.0	88.9 [*]
Resist pressure from a wing-mate to drink too much	91.7	94.6	98.5	90.2 ^{**}
Socialize with my wing-mates in a manner that does not include alcohol	94.1	98.3 [*]	97.5	96.1
Avoid riding with a wing-mate who has been drinking	96.1	96.3	99.5	94.1 [*]
Summative Intervention Confidence Scale, range 6–24 [Mean (SD)]	18.15 (4.33)	18.82 (4.20)	17.61 (4.19)	19.09 (4.22) ^{††}
Intervention Confidence items [% confident^d]				
Make a wing-mate leave a bar/party	60.5	68.9	56.6	71.2 [*]
Take a drink away from a wing-mate	61.6	68.7	54.5	73.1 ^{**}
Prevent a wing-mate from drinking too much	67.3	74.2	64.3	76.1 [*]
Confront a wing-mate with a problem	67.6	68.7	67.7	68.6
Help a wing-mate who has had too much to drink	90.7	91.7	89.9	92.2
Drive or walk a wing-mate home	91.2	92.3	91.0	92.5
Summative RA Alcohol Lenience Scale, range 4–25 [Mean (SD)]	10.16 (3.54)	9.89 (3.10)	9.98 (3.39)	10.01 (3.22)
RA Alcohol Lenience items [% agree^b]				
I have drunk alcohol in front of my RA either at an on campus or off campus location	4.9	3.4	3.0	4.6
I have partied/socialized with my RA where alcohol was present	4.9	4.4	5.1	4.3
If I were caught with alcohol in my residence hall room, my RA would not document me	10.3	8.4	10.7	8.2
My RA does approve of underage drinking	12.7	12.4	15.2	10.8
If my RA knew about underage drinking on my wing, he/she would do nothing about it	15.1	9.1 [*]	13.7	10.2

* Chi square differences, $P < 0.05$;

** Chi square differences, $P < 0.001$

[†] Student's t-test difference between means $P < 0.05$;

^{††} Student's t-test difference between means $P < 0.001$

^a Four-point item scales were bifurcated 2 points/2 points. E.g. "Acceptable", "Somewhat Acceptable", "Somewhat Unacceptable", "Unacceptable" was collapsed as "Acceptable" vs. "Unacceptable" for ease of presentation and interpretation.

^b Five-point item scales were bifurcated 3 points/2 points as "Do Not Agree" vs. "Agree" for ease of presentation and interpretation.

Table 3
 Results of Linear Mixed Model Analysis Examining the Relationships Between Wing Acceptability of Drunken Behaviors, Wing Norms about Alcohol Use, Protection Confidence, Intervention Confidence, and RA Alcohol Lenience with Secondhand Effects (N=509)

Variables	Estimate	SE	p-value
Female	.507	.726	0.01
Age	-.355	.472	NS
Black/African-American	.648	.672	NS
Asian/Pacific Islander	-.281	.486	NS
Hispanic/Latino	.476	.675	NS
Mixed/Other	-.057	.743	NS
Living-Learning Member	-.152	.449	NS
Single Gender	-1.067	.766	NS
Mixed Gender	-.816	.815	NS
Female*Single Gender	1.605	1.031	NS
Female*Mixed Gender	.308	1.088	NS
Drinker	.860	.392	0.03
Wing Acceptability of Drunken Behaviors	.084	.039	0.03
Wing Norms about Alcohol Use	.137	.044	0.002
Protection Confidence	-.123	.042	0.004
Intervention Confidence	-.012	.045	NS
RA Alcohol Lenience	.077	.058	NS
Wing	.712	.552	NS
Residual	14.127	.955	<0.001

NS=Not significant