

Alcohol Binge Drinking in First-Generation College Students

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Although alcohol drinking on college campuses has been intensively studied, little is known about alcohol consumption among students who are the first in their families to attend college. To fill this gap, we examined binge drinking of first- vs. continuing-generation college students in interaction with demographic and social support variables. The sample ($N = 7,476$) was derived from the data compiled by the Center for the Collegiate Mental Health across the U.S. The outcomes of log-linear analysis revealed that generational differences in binge drinking are moderated by demographic factors and peer support, with elevated risk of alcohol abuse in Non-Caucasian first-generation college males. Our findings represent a beginning contribution to virtually nonexistent literature on alcohol use among first-generation college students and highlight the need for more research on a role of hazardous alcohol drinking in adjustment to college among this important segment of college student population in the U.S.

First generation college students (FGCS), defined as undergraduates whose parents never enrolled in postsecondary education, account for a large proportion of students on college campuses. According to national estimates, FGCS make up approximately 36% of college freshman (U.S. Department of Education, National Center for Education Statistics, 2012). Studies comparing FGCS to their more traditional counterparts (i.e., continuing-generation college students, CGCS) revealed numerous differences in demographics, college preparation, college experience, and academic achievement between these two groups of students. FGCS compare to CGCS are more likely to be older, females, minorities, and come from low income families (e.g., Chen, 2005; Choy, 2001; Saenz et al., 2007). Further, they tend to be less prepared academically, financially and culturally to enter college (e.g., Chen, 2005; Rodriguez et al., 2003; Warburton et al., 2001), and are less likely to successfully integrate with a new college environment compared to their continuing-generation peers (e.g., Lohfink & Paulsen, 2005; Pascarella et al., 2004; Pike & Kuh, 2005). Once in college, FGCS tend to be less engaged in campus life, have fewer social contacts with other students (e.g., Dennis et al.,

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2005; Lundberg, et al., 2007) and their attrition rates are considerably higher even after controlling for differences in academic preparation (e.g., Chen, 2005; Choy, 2001; Ishitani, 2006; Warburton et al., 2001).

Numerous studies have investigated FGCS college experience with a primary focus on academic achievement but without addressing another common aspect of student life on college campuses in the U.S., namely, hazardous alcohol drinking. Past research has shown that the transition to college is associated with a significant increase in alcohol consumption among young adults (e.g., Fromme et al., 2008; LaBrie et al., 2008; Schulenberg et al., 2001; Slutske, 2005). College-bound students tend to consume less alcohol during high school years but more than their non-college peers, after entering college (e.g., Johnston et al., 2013; Schulenberg & Maggs, 2002; Substance Abuse and Mental Health Services Administration [SAMHSA], 2014). More importantly, excessive drinking among college students has been linked to numerous negative academic outcomes as well as detrimental social and health consequences (e.g., DeBerard et al., 2004; Hustad et al., 2009; Park, 2004; Randolph et al., 2009; Sheffield et al., 2005).

Although alcohol drinking on college campuses has been intensively studied, little is known about alcohol consumption among students who are the first in their families to attend college. It is well established that the risk of engaging in problem drinking on college campuses varies across racial/ethnic and gender groups. Non-Caucasian students are less likely to engage in heavy drinking compare to Caucasian college students (e.g. Ham & Hope, 2003; Lawrence et al., 2010; O'Malley & Johnston, 2002) and hazardous drinking is less common among females than males across all racial/ethnic groups (e.g., Borsari et al, 2007; Ham & Hope, 2003; O'Malley & Johnston, 2002). Therefore, our study sought to control contribution of these demographic factors while examining drinking behavior of FGCS. In addition, we have investigated the relationship between social support from peers on alcohol drinking. In the literature on college adjustment, peer social support is frequently discussed as a positive factor that has been shown to predict overall well-being (e.g., Solberg & Villareal, 1997; Wang & Castañeda-Sound, 2008), lower acculturation stress (e.g., Crockett et al., 2007) and more successful integration with a new environment (e.g., Dennis et al., 2005; Friedlander et al., 2007; Gerdes & Mallinckrodt, 1994). From this perspective, peer support, by improving overall well-being and reducing stress, may be expected to serve as a protective factor against excessive alcohol use, particularly for coping-motivated drinking. This protective influence of close peer relationships may be particularly important for FGCS who tend to experience higher levels of distress in transition to college compared to other peers (e.g., Jenkins et al., 2013). However,

close affiliation with college peer groups may also increase FGCS' risk of hazardous drinking if heavy alcohol drinking is a normative part of social life among these students (e.g., Baer, 2002; Thombs et al., 2005). For FGCS males in particular, closer relationships with peers may predict higher rates of hazardous drinking due to the prominence of alcohol abuse on social occasions among college males (e.g., Ham & Hope, 2003). Thus, we sought to examine whether reported levels of peer social support moderate risk of engaging in problem drinking across generational and demographic student groups.

The present study reports results of analysis conducted on the sample derived from data compiled by the Center for the Collegiate Mental Health (CCMH, 2016) from the college counseling centers across the U.S. We examined alcohol binge drinking rates and perceived need for reducing alcohol/drugs consumption among first-generation college students compared to other college peers, in interaction with demographic (i.e., race/ethnicity, gender) and peer social support variables.

METHOD

Participants

Our sample was derived from the Pilot Study data collected by 66 college/university counseling centers across the U.S. and compiled by the Center for the Collegiate Mental Health (CCMH; for more information about the Pilot Study sample see Hayes et al., 2011). Since first-generation college students tend to be older than their continuing-generation peers (e.g., Saenz et al., 2007) and drinking behavior changes with age (e.g., Carter et al., 2010), only students 25 years or younger and who provided a complete set of answers to items relevant to this study were included. In addition, 125 students who admitted to coping with military trauma or with history of alcohol/drug abuse were excluded from statistical analysis.

Our final sample consisted of $n = 7,476$ participants (65.9% females; 19.5% FGCS). The majority of participants were White/Caucasian (80.6%) followed by African-American/Black (8.9%), Hispanic/Latino (5.3%) and Asian-American/Asian (5.2%). The mean age of the sample was $M = 20.72$, $SD = 1.70$ (FGCS $M = 20.91$, $SD = 1.79$; CGCS $M = 20.68$, $SD = 1.67$).

Measures

The *Standardized Data Set* questionnaire (SDS) is one of the assessment instruments used by the college counseling centers that contribute data to the CCMH database. The instrument consists of 58 items regarding respondents' demographic characteristics and various aspects of college experience pertinent to mental health (Hayes et al.,

2011). Only responses collected during a student/client first visit to the participating counseling center (i.e., student/client intake data) were included in the present analysis to control for the potential impact of therapeutic contact on reported drinking behaviors. The SDS items that are relevant to this investigation include questions about student age, gender, ethnicity, generation status (“*Are you the first in the family to attend college*”, Yes/No); alcohol bingeing (“*Think back over the last two weeks. How many times have you had five or more drinks in a row (for males) OR four or more drinks in a row (for females)*”, 6-points response scale; a drink was defined as a bottle of beer, glass of wine/wine cooler, a shot of liquor or a mixed drink); perceived need for alcohol use (“*Please indicate if you have had the following experience: Felt the need to reduce your alcohol and drug use*”), 4-points response scale; peer social support (“*Please indicate how much you agree with this statement: I get the emotional help and support I need from my social network (e.g., friends and acquaintances)*”, 5-points response scale).

Statistical Analysis

A Chi-Square (χ^2) test was used to analyze simple relationships between variables of interest. The higher order associations were examined by log-linear modeling. The log-linear modeling allows analyzing data from multiway contingency tables (i.e., representing more than two categorical variables) and examining higher-order interactions among cross classified variables (e.g., Tabachnick & Fidell, 2001). This analytical strategy was well suited for the main purpose of our study, which was to compare the alcohol binge drinking rates among the first- and continuing-generation students while controlling for the influence of other demographic and peer social support variables. To simplify the statistical design and assure adequate subgroup frequencies in multi-way comparisons that explored complex interactions (Agresti, 2002), the variables were converted into dichotomous categories: college-generation (FGCS vs. CGCS), binge drinking (none vs. one or more binge drinking episodes within last two weeks), gender (male vs. female), race/ethnicity (Caucasian vs. non-Caucasian), peer social support (low vs. high). The effect size of differences between two proportions was measured by Cohen’s *h* in order to stabilize the sampling distribution of proportion differences. The interpretation of Cohen’s *h* effect size uses the following guidelines: small 0.20, medium 0.50, and large 0.80 (Cohen, 1988).

RESULTS

Preliminary analysis

As shown in Table 1, FGCS compared to CGCS had a significantly higher representation of females and minority students and lower social

peer support. An overall comparison of binge drinking rates of FGCS vs. CGCS, without accounting for demographic differences, showed a significantly higher proportion of binge drinkers among CGCS, $\chi^2(1) = 26.08$, $p < .001$; Cohen's $h = .14$. An examination of standardized residuals on all frequency levels of reported alcohol bingeing (i.e., before original responses were collapsed to dichotomous Y/N alcohol bingeing

TABLE 1 The 2-way Associations of Student College-generation Status (FGCS vs. CGCS) with Demographic, Binge Drinking & Peer Social Support Variables ($n = 7476$)

	<i>n</i>	FGCS%	CGCS %	χ^2
Gender: Female	4929	69.7	65.1	
Male	2547	30.3	34.9	10.89**
Ethnicity: Caucasian	6010	69.6	82.9	
Non-Caucasian	1466	30.4	17.1	131.08***
Binge Drinking: Yes	3334	40.9	45.5	
No	4142	59.1	54.5	9.73**
Peer Support: High	4610	58.9	62.3	
Low	2866	41.1	37.3	5.79*

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

categories) revealed that this pattern was consistent for all but the most severe binge drinking of "10 or more times" within last 2 weeks (1% in each college-generation group).

Student college-generation status and alcohol binge drinking in multi-way relationships

The purpose of the log-linear analysis was to test for evidence of higher order interactions of demographic and peer social support variables with a focus on the two-way relationship of student college-generation status and alcohol bingeing behavior. All relevant 2-way contingency tables were examined for meeting assumptions of log-linear analysis (Agresti, 2002).

We have tested the log-linear model of 5-way interaction between the student college-generation status (FGCS/CGCS), alcohol binge drinking (Y/N), race/ethnicity (Caucasian/ non-Caucasian), gender (females/ males) and peer social support (High/Low). The saturated model with

TABLE 2 Hierarchical Log-linear Model: College-generation Status, Binge Drinking, Race/ethnicity, Gender & Peer Support with Partial Associations & Parameter Estimates, Likelihood Ratio of $G^2(7) = 6.62, p = .47; n = 7476$

Effect	Par. Est.	Z	95% CI	
			Lower	Upper
CG x A x G x E x PS	.02	1.08	-.017	.059
CG x A x G x E	.05	2.43**	.009	.085
CG x A x G x PS	-.04	-2.10*	.078	-.003
CG x A x E x PS	.04	1.93	-.001	.075
CG x G x E x PS	.02	0.76	-.023	.052
A x G x E x PS	-.003	-0.17	-.041	.035
CG x A x G	.02	0.94	-.020	.056
CG x A x E	.05	2.55**	.011	.087
CG x G x E	-.003	-0.16	-.041	.035
A x G x E	-.03	-1.30	-.063	.013
CG x A x PS	-.04	-1.98*	-.076	.000
CG x G x PS	.05	2.37*	.008	.084
A x G x PS	.04	2.28*	.006	.082
CG x E x PS	-.008	-0.41	-.046	.030
A x E x PS	-.03	-1.31	-.063	.013
G x E x PS	-.03	-1.48	-.066	.009
CG x A	-.004	-0.23	-.042	.033
CG x G	.06	2.87**	.018	.093
A x G	-.09	-4.80***	-.130	.055
CG x E	-.19	-10.0***	-.231	-.155
A x E	.17	8.87***	.133	.209
G x E	.01	0.53	-.028	.048
CG x PS	-.02	-0.87	-.055	.021
A x PS	.05	2.41*	.009	.084
G x PS	.00	0.03	-.037	.038
E x PS	.07	3.51***	.030	.106
CG	.64	32.90***	.597	.672
A	.22	11.36***	.181	.257
G	-.34	-17.84***	-.382	-.306
E	-.63	-32.55***	-.666	-.590
PS	-.18	-9.42***	-.219	-.144

Note: CG = college generation, A = alcohol bingeing, G = gender, E = ethnicity, PS = peer support; * $p < .05$, ** $p < .01$, *** $p < .001$

stepwise selection method was employed for model fitting. The final model removed the 5-way association of variables entered and retained two out of five, 4-way effects. The selected model had a likelihood ratio of $\chi^2(7) = 6.62, p = .47$, evidencing a good fit of observed and expected frequencies generated by the model.

Table 2 shows the summary of the model with results of partial association tests, parameter estimates and 95% confidence intervals. The model revealed a significant 4-way interaction of student college generation status, alcohol bingeing, gender and race/ethnicity. The alcohol binge drinking rates across the college generation status, race/ethnicity and gender groups are presented in Table 3.

TABLE 3 Binge Drinking (%) by College-generation Status, Race/ Ethnicity & Gender

	CGCF	FGCF	CGCM	FGCM
Caucasian	47.2	42.5	55.5	49.2
Non-Caucasian	28.7	26.3	31.9	41.0

Note: FGCF = first-generation college student females
 FGCM = first-generation college student males
 CGCF = continuing-generation college student females
 CGCM = continuing-generation college student males

TABLE 4 Binge Drinking (%) by College-generation Status, Gender & Peer Support

	CGCF	FGCF	CGCM	FGCM
Peer Support: High	43.1	39.0	57.9	55.7
Peer Support: Low	41.5	36.1	51.0	35.5

Note: CGCF = continuing-generation college student females
 FGCF = first-generation college student females
 CGCM = continuing-generation college student males
 FGCM = first-generation college student males

The breakdown of this effect by separate χ^2 tests of the alcohol bingeing and generational status conducted separately for each level of ethnic and gender groups, showed that among Caucasian students of both genders, binge drinking rates were higher in CGCS compare to FGCS (males: FGCS 49.2% vs. CGCS 55.5%, $\chi^2(1) = 5.83, p < .05$; Cohen's $h = .14$; females: FGCS 42.5%, vs. CGCS 47.2%, $\chi^2(1) = 6.91, p < .01$; Cohen's $h = .08$). By contrast, this pattern was reversed in non-Caucasian males who showed higher alcohol bingeing rates among first-generation students (FGCS 41% vs. CGCS 31.9%; $\chi^2(1) = 4.74, p < .05$, Cohen's $h = .19$). No generational difference in alcohol bingeing was noted in non-Caucasian females (FGCS 26.3% vs. CGCS 28.7%, $p > .05$).

The second largest higher order interaction retained by the model was of student college generation status, alcohol bingeing, gender and peer social support, $\chi^2(1) = 9.18, p < .01$. To examine this effect, we performed a series of χ^2 tests on rates of alcohol bingeing in college-generation groups,

done separately for each level of peer support and gender. The association between alcohol bingeing and peer social support was significant only for FGCS males, $\chi^2(1) = 17.09, p < .001$.

FGCS males with peer social support reported binge drinking at the same rate as CGCS males with peer support (55.7% vs. 57.9%, $p > .05$). However, binge drinking of FGCS males with low social support was significantly lower than in CGCS males with low social support (35.5% vs. 51.0% respectively; $\chi^2(1) = 13.94, p < .01$, Cohen's $h = .30$). For FGCS males, the odds ratio indicated that the odds of binge drinking were 2.29 times higher if they reported receiving high level of peer social support (55.7%) compare to low level of support (35.5%). A medium effect size was observed for this difference (Cohen's $h = .40$).

As a follow up to the first 4-way interaction revealed by the hierarchical log-linear model, a 2-factor ANOVA 2 (college generation status) x 2(race/ethnicity) examined differences in perceived need for reduction of alcohol/drugs use among binge drinking males. The results revealed a marginally significant interaction of college-generation status and race/ethnicity, $F(1, 1032) = 3.71, p < .06$. Among Non-Caucasian binge drinking males, the FGCS perceived lower need for reducing alcohol/drugs consumption compare to their CGCS counterparts; this pattern was reversed for Caucasian binge drinking males. Analogically, the differences corresponding to the second 4-way interaction identified by the hierarchical log-linear model were examined by a 2 (college-generation status) x 2 (peer social support) ANOVA conducted on the perceived need for alcohol/drugs reduction in binge drinking males. The only significant outcome was a main effect of peer social support, $F(1, 1032) = 5.39, p < .05$; male binge drinking students with high peer social support perceived less need to reduce alcohol/drugs use compared to their counterparts with lower peer support.

DISCUSSION

Our results showed that the generational differences in binge drinking among college students are moderated by demographic factors (race/ethnicity, gender) and reported peer social support. Among non-Caucasian students, first-generation males engaged in binge drinking at higher rates than their continuing-generation counterparts. However, we noted no evidence of generational differences regarding alcohol bingeing among non-Caucasian females. The trend reported in the literature of FGCS engaging in hazardous drinking at lower rates compared to their CGCS peers (Martinez et al., 2009) was consistent only with our findings for both male and female Caucasian students. Moreover, non-Caucasian FGCS males, who engage in hazardous alcohol drinking, perceived less need to reduce alcohol/drugs consumption than their CGCS counterparts.

As for social support, we found that in first generation males, independently of their race/ethnicity, peer support was positively associated with an increased risk of binge drinking. However, this relationship was not present among continuing generation males or females of either generational status. This finding may signal particular vulnerability of FGCS males to potential negative consequences of increased engagement in college social life, which is often dominated by heavy episodic drinking, especially among college males (e.g., Christiansen et al., 2002; LaBrie et al., 2007). The FGCS, relatively less familiar with college culture compared to CGCS, might be at higher risk of misperception of drinking norms in their new college environment. Males tend to be less resistant to peer influence (e.g., Steinberg & Monahan, 2007) and may be exposed to more peer pressure to engage in excessive drinking than females.

Numerous predictors of college drinking, such as drinking motives (e.g., Halim et al., 2012; Ham & Hope, 2003; Kuntsche et al., 2005), peer reference groups (e.g., LaBrie et al., 2010; Neighbors et al., 2008), social anxiety (e.g., Neighbors et al., 2007) or discrimination stress (e.g., Keyes et al., 2011) may all contribute to the college-generation differences in the relationship between the demographic factors, perceived social support, and alcohol binging identified herein. Their investigation was beyond the scope of the present study. Nonetheless, our results highlight the need for more research to better understand drinking behavior of first-generation college students, the role alcohol plays in their adjustment to college life, and the consequences of heavy alcohol use on academic performance in this important group of students on college campuses. In light of evidence that college men generally experience more alcohol-related problems than females (e.g., Geisner et al., 2004), alcohol abuse by FGCS males may have a particularly detrimental effect on the successful transition to college and academic success of these students.

The findings of this study have to be considered in the context of several limitations. First, our analysis was conducted on a national sample of college students who came in contact with college counseling centers and thus, may not be representative of the college student population at large. Sullivan and colleagues (2007) reported that students representing diverse race/ethnic groups appear to access campus counseling services at comparable rates. However, a student's acculturation level was suggested as a significant predictor of counseling service use. More recently, Stebleton et al., (2014) reported lower rates of college counseling services use among first-generation students when compared to other peers. The FGCS vs. CGCS demographics (i.e., age, race/ethnicity and gender) and social support characteristics of our sample appear to be consistent with demographic profiles reported in past

research in the general college student population (e.g., Choy, 2001; Saenz et al., 2007). Nevertheless, caution should be exercised in generalizing the present results to the overall population of college students without further research. Second, a relatively small number of students representing ethnic minorities in the sample limited our ability to examine the multilevel interactive effects for specific race/ethnic groups of students. Future research may profitably address this limitation and extend this study to larger samples of ethnic minorities. Clearly, more work is needed to identify key characteristics of FGCS non-Caucasian males who, as our findings suggest, may be at a relatively high risk of alcohol abuse. Better understanding of the mechanisms leading to hazardous alcohol drinking among FGCS could help to develop targeted prevention programs as part of collegiate efforts to support and increase success rates among this important group of students on college campuses.

Therefore, despite the limitations, our outcomes that suggest a relatively high risk of alcohol abuse among first-generation college males are intriguing and warrant further investigation. One may hope that this early contribution to an almost nonexistent empirical literature on alcohol use in FGCS will encourage more systematic research on alcohol consumption and other health risk behaviors among students who enter college campuses as the first in their families in order to increase effectiveness of college support services offered to these students.

REFERENCES

- Agresti, A. (2002). *Categorical data analysis (2nd ed.)*. New York, NY: Wiley.
- Baer, J. S. (2002). Student factors: Understanding individual variation in college drinking. *Journal of Studies on Alcohol, 14*, 40-53.
- Borsari, B., Murphy, J. G., & Barnett, N. P. (2007). Predictors of alcohol use during the first year of college: Implications for prevention. *Addictive Behaviors, 32*, 2062–2086. doi.org.libproxy.txstate.edu/10.1016/j.addbeh.2007.01.017
- Carter, A. C., Obremski, B. K., & Goldman, M. S. (2010). The college and noncollege experience: A review of the factors that influence drinking behavior in young adulthood. *Journal of Studies on Alcohol and Drugs, 71*, 742-750.
- Center for the Collegiate Mental Health (2016). Retrieved from <http://ccmh.psu.edu/>
- Chen, X. (2005). FGS in post-secondary education: A look at their college transcripts (NCES 2005-171). U.S. Department of Education, National Center for Education Statistics. Washington, D.C.: U.S. Government Printing Office. Retrieved from <http://nces.ed.gov/pubs2005/2005171.pdf>
- Choy, S. P. (2001). *Students whose parents did not go to college: Postsecondary access, persistence, and attainment* (NCES 2001-126). Washington, DC: U.S.

- Department of Education, National Center for Education Statistics. Retrieved from <http://nces.ed.gov/pubs2001/2001126.pdf>
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Mahwah, NJ: Lawrence Erlbaum.
- Crockett, L., Iturbide, M., Torres Stone, R., McGinley, M., Raffaelli, M., & Carlo, G. (2007). Acculturative stress, social support, and coping: Relations to psychological adjustment among Mexican American college students. *Cultural Diversity & Ethnic Minority Psychology, 13*, 347–355. doi: 10.1037/t10027-000
- Christiansen, M., Vik, P. W., & Jarchow, A. (2002). College students heavy drinking in social context and alone. *Addictive Behaviors, 27*, 393–404. DOI: 10.1016/S0306-4603(01)00180-0
- DeBerard, M. S., Spielmans, G. I., & Julka, D. L. (2004). Predictors of academic achievement and retention among college freshmen: A longitudinal study. *College Student Journal, 38*, 66–80. doi: 10.1037/t07639-000
- Dennis, J. M., Phinney, J. S., & Cuateco, L. I. (2005). The role of motivation, parental support, and peer support in the academic success of ethnic minority FGS. *Journal of College Student Development, 46*, 223–236. DOI: 0.1353/csd.2005.0023
- Friedlander, L. J., Reid, G. J., Shupak, N., & Cribbie, R. (2007). Social support, self-esteem, and stress as predictors of adjustment to university among first-year undergraduates. *Journal of College Student Development, 48*, 259–274. DOI: 10.1353/csd.2007.0024
- Fromme, K., Corbin, W. R., & Kruse, M. I. (2008). Behavioral risks during the transition from high school to college. *Developmental Psychology, 44*, 1497–1504. DOI: 10.1037/a0012614
- Geisner, I. M., Larimer, M. E., & Neighbors, C. (2004). The relationship among alcohol use, related problems, and symptoms of psychological distress: Gender as a moderator in a college sample. *Addictive Behaviors, 29*, 843–848. DOI: 10.1016/j.addbeh.2004.02.024.
- Gerdes, H., & Mallinckrodt, B. (1994). Emotional, social and academic adjustment of college students: A longitudinal study of retention. *Journal of Counseling and Development, 72*, 281–288.
- Halim, A., Hasking, P., & Allen, F. (2012). The role of social drinking motives in the relationship between social norms and alcohol consumption. *Addictive Behaviors, 37*, 1335–1341. Doi: 10.1016/j.addbeh.2012.07.004
- Ham, L. S., & Hope, D. A. (2003). College students and problematic drinking: a review of the literature. *Clinical Psychology Review, 23*, 719–759. DOI: 10.1016/S0272-7358(03)00071-0
- Hayes, J. A., Locke, B. D., & Castonguay, L. G. (2011). The Center for Collegiate Mental Health: Practice and Research Working Together. *Journal of College Counseling, 14*, 101–104. DOI: 10.1002/j.2161-1882.2011.tb00265.x
- Hustad, J. T. P., Carey, K. B., Carey, M. P., & Maisto, S. (2009). Self-regulation, alcohol consumption and consequences in college student heavy drinkers: A simultaneous latent growth analysis. *Journal of Studies on Alcohol and Drugs, 70*, 373–382.

- Ishitani, T. T. (2006). Studying attrition and degree completion behavior among first-generation college students in the United States. *The Journal of Higher Education, 77*, 861-865.
- Jenkins, S. R., Belanger, A., Connally, M. L., Boals, A., & Duron, K. M. (2013). First generation undergraduate students' social support, depression, and life satisfaction. *Journal of College Counseling, 16*, 129-142. DOI: 10.1002/j.2161-1882.2013.00032.x.
- Johnston, L. D., O'Malley, P. M., Bachman, J. G., & Schulenberg, J. E. (2013). *Monitoring the Future national survey results on drug use, 1975-2013. Volume 2: College students and adults ages 19-45*. Ann Arbor: Institute for Social Research, The University of Michigan.
- Keyes, K. M., Hatzenbuehler, M. L., & Hasin, D.S. (2011). Stressful life experiences, alcohol consumption, and alcohol use disorders: The epidemiologic evidence for four main types of stressors. *Psychopharmacology, 218*, 1-17. DOI:10.1007/s00213-011-2236-1
- Kuntsche, E., Knibbe, R., Gmel, G., & Engels, R. (2005). Why do young people drink? A review of drinking motives. *Clinical Psychology Review, 25*(7), 841-861. doi: 10.1016/j.cpr.2005.06.002.
- LaBrie, J. W., Hummer, J. F., Neighbors, C., & Larimer, M. E. (2010). Whose opinion matters? The relationship between injunctive norms and alcohol consequences in college students. *Addictive Behaviors, 35*, 343-349. Doi: 10.1016/j.addbeh.2009.12.003.
- LaBrie, J., Lamb, T., & Pedersen, E. (2008). Changes in drinking patterns across the transition to college among first-year college males. *Journal of Child & Adolescent Substance Abuse, 18*(1), 1-15, DOI:10.1080/15470650802526500
- LaBrie, J. W., Hummer, J. F., & Pedersen, E. R. (2007). Reasons for drinking in the college student context: The differential role and risk of the social motivator. *Journal of Studies on Alcohol and Drugs, 68*, 393-398.
- Lawrence, S. A., Mazur-Abbel, E., & Hall, T. (2010). Protective strategies and alcohol use among college students: Ethnic and gender differences. *Journal of Ethnicity in Substance Abuse, 9*, 284-300. DOI: 10.1080/15332640.2010.522894
- Lohfink, M. M., & Paulsen, M. B. (2005). Comparing the determinants of persistence for first-generation and CGS. *Journal of College Student Development, 46*, 409-428.
- Lundberg, C., Schreiner, L., Hovaguimian, K., & Slavin Miller, S. (2007). First-generation status and student race/ethnicity as distinct predictors of student involvement and learning. *NASPA Journal, 44*, 57-83.
- Martinez, J. A., Sher, K. J., Krull, J. L., & Wood, P. K. (2009). Blue-collar scholars? Mediators and moderators of university attrition in first generation college students. *Journal of College Development, 50*, 87-103. Doi:10.1353/csd.0.0053.
- Neighbors, C., Lee, C. M., Lewis, M. A., Fossos, N., & Larimer, M. E. (2007). Are social norms the best predictor of outcomes among heavy-drinking college students? *Journal of Studies on Alcohol and Drugs, 68*, 556-565.
- Neighbors, C., O'Connor, R. M., Lewis, M. A., Chawla, N., Lee, C. M., & Fossos, N. (2008). The relative impact of injunctive norms on college student

- drinking: The role of reference group. *Psychology of Addictive Behaviors*, 22, 576–581. DOI: 10.1037/a0013043
- O'Malley, P. M., & Johnston, L. D. (2002). Epidemiology of alcohol and other drug use among American college students. *Journal of Studies on Alcohol*, (Suppl. 14), 23-39.
- Park, C. L. (2004). Positive and negative consequences of alcohol consumption in college students. *Addictive Behaviors*, 29, 311–321. DOI:10.1016/j.addbeh.2003.08.006
- Pascarella, E. T., Pierson, C. T., Wolniak, G. C., & Terenzini, P. T. (2004). First-generation college students: Additional evidence on college experiences and outcomes. *Journal of Higher Education*, 75, 249-284.
- Pike, G. R., & Kuh, G. D. (2005). First and second-generation college students: A comparison of their engagement and intellectual development. *Journal of Higher Education*, 76, 276-300.
- Randolph, E. M., Torres, H., Gore-Felton, C., Lloyd, B., & McGarvey, E. L. (2009). Alcohol use and sexual risk behavior among college students: Understanding gender and ethnic differences. *The American Journal of Drug and Alcohol Abuse*, 35, 80–84. DOI:10.1080/00952990802585422
- Rodriguez, N., Mira, C. B., Myers, H. E., Monis, J. K., & Cardoza, D. (2003). Family or friends: Who plays a greater supportive role for Latino college students? *Cultural Diversity and Ethnic Minority Psychology*, 9, 236 –250. doi:10.1037/1099-9809.9.3.236.
- Saenz, V. B., Hurtado, S., Barrera, D., Wolf, D., & Yeung, F. (2007). *First in my family: A profile of first-generation college students at four-year institutions since 1971*. Los Angeles, CA: Higher Education Research Institute. Retrieve from <http://www.heri.ucla.edu/PDFs/resSummary051807-FirstGen.pdf>
- Schulenberg, J. E., & Maggs, J. L. (2002). A developmental perspective on alcohol use and heavy drinking during adolescence and the transition to young adulthood. *Journal of Studies on Alcohol, Supplement*, 14, 54 –70.
- Schulenberg, J., Maggs, J. L., Long, S.W., Sher, K. J., Gotham, H. J., Baer, J. S., Kivlahan, D. R., Marlatt, G. A., & Zucker, R. A. (2001). The problem of college drinking: Insights from a developmental perspective. *Alcoholism, Clinical and Experimental Research*, 25(3), 473–477, doi:10.1111/j.1530-0277.2001.tb02237.x
- Sheffield, F. D., Darkes, J., Del Boca, F. K., & Goldman, M. S. (2005). Binge drinking and alcohol related problems among community college students: Implications for prevention and policy. *Journal of American College Health*, 54, 137–141.
- Slutske, W. S. (2005). Alcohol use disorders among U.S. college students and their non-college-attending peers. *Archives of General Psychiatry*, 62, 321–327. doi: 10.1001/archpsyc.62.3.321.
- Solberg, V. S., & Villareal, P. (1997). Examination of self-efficacy, social support, and stress as predictors of psychological and physical distress among Hispanic college students. *Hispanic Journal of Behavioral Sciences*, 19, 182–201. doi:10.1177/ 7399863970192006
- Stebbleton, M. J., Soria, K. M., & Huesman, R. L. Jr. (2014). First-generation students' sense of belonging, mental health, and use of counseling services at

- public research universities. *Journal of College Counseling*, 17, 6-20. DOI:10.1002/j.2161-1882.2014.00044.x
- Steinberg, L., & Monahan, K. C. (2007). Age differences in resistance to peer influence. *Developmental Psychology* 43, 1531–1543. DOI:10.1037/0012-1649.43.6.1531.
- Substance Abuse and Mental Health Services Administration, *Results from the 2013 National Survey on Drug Use and Health: Summary of National Findings*, NSDUH Series H-48, HHS Publication No. (SMA) 14-4863. Rockville, MD: Substance Abuse and Mental Health Services Administration, 2014. Retrieved from <http://www.samhsa.gov/data/sites/default/files/NSDUHresultsPDFWHTML2013/Web/NSDUHresults2013.pdf>
- Sullivan, K. T., Ramos-Sanchez, L., & McIver, S. D. (2007). Predicting the use of campus counseling services for Asian/Pacific Islander, Latino/Hispanic, and White students: Problem severity, gender, and generational status. *Journal of College Counseling*, 10, 103-116. DOI:10.1002/j.2161-1882.2007.tb00011.x
- Tabachnick, B. G. & Fidell, L. S. (2001). *Using multivariate statistics (4th ed.)*. Needham Heights, MA: Allyn & Bacon.
- Thombs, D., Ray-Romasek, J., Osborn, C. J., & Olds, R. S. (2005). The role of sex-specific normative beliefs in undergraduate alcohol use. *American Journal of Health Behavior*, 29 (4), 342-351. DOI:10.5993/AJHB.29.4.6
- U.S. Department of Education, National Center for Education Statistics (2012) *Student Population at Increased Risk of Noncompletion: Selected Years, 1989-90 to 2008-09*. (NCES Publication No. 2012-254). Retrieved from <http://nces.ed.gov/pubs2012/201254.pdf>
- Wang, C., & Castañeda-Sound, C. (2008). The role of generational status, self-esteem, academic self-efficacy, and perceived social support in college students' psychological well-being. *Journal of College Counseling*, 11, 101-118. DOI: 10.1002/j.2161-1882.2008.tb00028.x
- Warburton, E., Bugarin, R., & Nunez, A. (2001). *Bridging a gap: Academic preparation and postsecondary success of first-generation students*. Washington D.C.: U.S. Department of Education. Retrieved from <http://nces.ed.gov/pubs2001/2001153.pdf>

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