Not All Those Who Wander Are Lost: Examining the Impact of Sojourner Adjustment and Drinking Motives on Alcohol Consequences Experienced by Americans Studying in Foreign Countries

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ABSTRACT. Objective: American students studying in foreign countries represent a unique group at risk for increased and problematic drinking. Examination of risk and protective factors for negative alcohol-related consequences can lead to the development of efficacious preventive interventions for reducing high-risk drinking while abroad. The present study examined the relationship between sojourner adjustment (i.e., the sociocultural and psychological adjustment of short-term residents in foreign environments), drinking motives, and alcohol-related consequences. **Method:** Participants were 248 college students (81% women) who recently completed study-abroad trips and completed online surveys about their drinking motives and behavior, alcohol-related consequences, and sojourner adjustment. **Results:** In general, positive sojourner adjustment (i.e., social interaction with host nationals, language development and use, and host culture identification) was protective against negative consequences, whereas negative sojourner adjustment (i.e., social interaction with co-nationals and homesickness/feeling out of place) was associated with increased reporting of consequences. Unexpectedly, the positive sojourner adjustment factor of cultural understanding and participation was associated with greater alcohol-related consequences. Social motives for drinking also predicted consequences. Drinking motives moderated several of the relationships between sojourner adjustment and consequences. **Conclusions:** Interest in and adoption of the host country culture may protect against problematic alcohol use; however, this may vary based on students' reasons for drinking. These findings support the need for further examination of sojourner adjustment in college students abroad and indicate potential areas for development of preventive interventions. (*J. Stud. Alcohol Drugs, 73,* 1005–1015, 2012)

AFTER DECADES OF RESEARCH, there is no doubt that American college students are at risk for heavy drinking and resulting consequences (Hingson et al., 2009; Wechsler et al., 2002). In an effort to improve interventions by targeting specific risk factors in this population, researchers have developed a stronger focus on "event-specific drinking," that is, drinking that occurs during specific events and activities that promote heavier than average levels of consumption (Neighbors et al., 2007). These events include one-time celebrations such as 21st birthday parties (Neighbors et al., 2005; Rutledge et al., 2008), weekly events such as football games and tailgating events (Neal and Fromme, 2007; Neighbors et al., 2006), and weeklong drinking events such as spring break (Grekin et al., 2007; Lee et al., 2009).

Drinking during study-abroad experiences has recently been identified as an at-risk temporary event for American college students. More than 270,000 college students complete study-abroad trips each year (Institute of International Education, 2011), and this number is expected to rise substantially over the next several years (Senator Paul Simon Study Abroad Act, 2009). Study-abroad students have been found to double their alcohol consumption during trips and report multiple alcohol-related negative consequences from use while abroad (Pedersen et al., 2010). Hummer and colleagues (2010) found that within just a 1-month period of study-abroad trips, more than half of the students surveyed drank enough to report a hangover; more than one third drank on nights they had not planned to, took foolish risks, or embarrassed themselves; and nearly one fifth reported changes in tolerance levels, regretted sexual experiences, or alcohol-induced blackouts. Students in a foreign environment not only can experience typical student drinking effects such as hangovers, regretted sexual experiences, and physical harm, but they are also uniquely at risk for countless abroad-specific consequences, such as complications with a foreign

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government, promoting negative stereotypes of Americans, trouble with both the home and host institutions, offending local people and/or host families, and placing oneself in a dangerous situation without resources and with limited understanding of a foreign country and language.

The limited available research with American students abroad identifies multiple risk factors that can lead to increased drinking and negative consequences. These risks include region of study, legal drinking age status in the United States, perceptions about the drinking behavior of other students and of local people, per capita drinking rates in the country of study, social enhancement expectancies, sensation seeking, and expectations regarding the acceptability and accessibility of alcohol abroad (Hummer et al., 2010; Pedersen et al., 2009, 2010, 2011a; Smith and Klein, 2010). Although these studies represent a foundation of attention to this topic, the research identifying the risk and protective factors for study-abroad drinking is nascent. If researchers can discover factors that potentially protect students from increased harm while abroad, we may be able to design preventive approaches promoting these ideas during predeparture programs with prospective study-abroad students.

Sojourner adjustment

Sojourner adjustment refers to the psychological and sociocultural adjustment of short-term residents of foreign environments (Church, 1982). Similar to what is found in the acculturation literature that targets long-term or permanent residents in foreign countries, students who make attempts to engage their new culture may be the least at risk for psychological and sociocultural adjustment difficulties during programs abroad (Berry, 1998; Searle and Ward, 1990; Ward and Kennedy, 1994; Ward and Rana-Deuba, 2000). Sojourner adjustment has recently been assessed with a measure identifying four aspects of positive sojourner adjustment (social interaction with host nationals, cultural understanding and participation, language development and use, and host culture identification) and two negative sojourner adjustment factors (social interaction with co-nationals, homesickness/feeling out of place) specific to study-abroad students (Pedersen et al., 2011b). The positive factors of sojourner adjustment capture active attempts to engage the host culture while abroad, whereas the negative factors identify a greater emphasis placed on home culture identification and psychological adjustment difficulties adapting to life in the foreign environment.

Sojourner adjustment and drinking risks

For many acculturated groups, limited engagement in the novel culture can be a risk factor for heavy and problematic drinking (Chun et al., 2003; Zemore, 2007). Specifically for American study-abroad students, research suggests that separation from the host environment (i.e., placing more emphasis on the home/U.S. culture) predicted increased drinking for students during trips (Pedersen et al., 2011a). Additionally, perceived cultural differences and anxiety about interacting in the foreign environment predicted greater alcohol-related consequences for students abroad (Hummer et al., 2010). An understanding of how sojourner adjustment factors protect students from or place them at risk for alcohol-related consequences would assist in the development of preventive interventions with study-abroad students. However, to date there has been no investigation as to how these specific factors contribute to risky drinking abroad.

Drinking motives

In addition to understanding how sojourner adjustment factors affect negative experiences with alcohol abroad, students' reasons for drinking alcohol within the study-abroad context are important factors to examine. Recent evidence suggests that reasons for using alcohol change over time for young adults (Patrick and Schulenberg, 2011), and as environments change for study-abroad students, individuals may adapt their motives for drinking to fit the new context. The desire to initiate new friendships and relationships with other study-abroad students may lead to drinking for socialization reasons—a primary drinking motive among the college population at home (Cooper, 1994; Kuntsche et al., 2005). These may be even more prominent as individuals are motivated to connect quickly with peers because of the limited duration of study-abroad trips. Beyond social reasons for drinking, other students may drink to cope with feelings of loneliness/homesickness and may establish patterns of problematic use because of this new pattern of drinking. Although social reasons for drinking have been shown to be associated with negative consequences on campus (LaBrie et al., 2007), coping reasons are more likely to be associated with longer term problematic and heavy drinking patterns (Carey and Correia, 1997; Cooper et al., 1995; Hasking, 2006; Wood et al., 1992). Students may drink to cope with the negative feelings of depression, anxiety, loneliness, and difficulty adapting to life in the foreign environment. Students may also drink abroad for conformity reasons (e.g., drinking to fit in with a group) to possibly gain acceptance into a new peer group or avoid potential disapproval by peers (e.g., social embarrassment) (Stewart et al., 2001). Finally, students may also drink for enhancement reasons (e.g., drinking because the feeling is enjoyable), which have the potential to regulate both positive and negative emotions for students during periods of stress within the new social environment (Armeli et al., 2010; Cronin, 1997). Although all four drinking motives (social, coping, conformity, and enhancement) have demonstrated moderate relationships with alcohol-related consequences among college students

on campus (Martens et al., 2008), these motives have not been examined within the study-abroad context.

Drinking motives may interact with aspects of sojourner adjustment in meaningful ways to increase risk. In the acculturation literature, Mexican Americans who reported more acculturation tended to endorse more reasons for drinking related to social aspects, whereas less acculturated individuals reported drinking for more coping reasons (Caetano and Medina Mora, 1988; Neff et al., 1987). Similarly, it is possible that study-abroad students with greater positive sojourner adjustment would be more likely to endorse social reasons for drinking, whereas those with more negative sojourner adjustment would be more likely to drink to cope with feeling detached, anxious, or depressed in the foreign environment. Students who spend more time with other American students abroad may drink for more conformity or social reasons. These exploratory relationships represent important ideas warranting empirical examination in the continued effort to better understand study-abroad context-specific drinking risk.

Present study

Focusing on study-abroad context-specific drinking risk, we examined the factors of sojourner adjustment as risk or protective factors for American students studying abroad. Building on previous work demonstrating a relationship between adjustment abroad and increased drinking risk (Hummer et al., 2010; Pedersen et al., 2011a), we sought to evaluate the extent to which different aspects of sojourner adjustment were uniquely related to harmful consequences of drinking during trips abroad and the extent to which these relationships were moderated by students' drinking motives. The present study focused on alcohol-related consequences rather than general alcohol use, because increased drinking while abroad may not be particularly problematic; indeed, drinking may be a culturally appropriate response to the environment (e.g., drinking wine with dinner). However, when drinking crests above moderate levels, consequences may begin to be emerge. Thus, it was hypothesized that when controlling for drinking and time spent abroad, positive sojourner adjustment (i.e., social interaction with host nationals, cultural understanding and participation, language development and use, host culture identification) would protect students from experiencing alcohol-related consequences, whereas negative sojourner adjustment (i.e., social interaction with co-nationals, homesickness/feeling out of place) would serve as risk factors for such consequences abroad. In addition, we examined how drinking motives predicted consequences while abroad, hypothesizing that higher motives would positively predict more consequences abroad. We looked at drinking motives as moderators of the relationships between sojourner adjustment and alcohol-related problems because students' reasons for drinking alcohol in the context could have an effect on these relationships. We hypothesized that students with less engagement with the culture abroad (limited positive sojourner adjustment and more negative sojourner adjustment) who also showed greater endorsement of drinking motives while abroad would demonstrate the greatest risk. Concerning the control variables, we hypothesized that participants who were abroad longer would have more time/opportunity to experience at least one problem, and those who drank the heaviest would experience the most consequences from use.

Method

Participants

Two hundred forty-eight college students from one university in the Pacific Northwest participated in the study. These participants were part of a larger longitudinal study documenting drinking norms of American students studying in foreign countries. Participants were recruited through the university's study-abroad office and were offered entry into a drawing for filling out a survey within 1 month of their return to the United States from trips abroad. Participants reported a mean age of 21.97 years (SD = 3.60) and were mostly female (81%) and White (69%). One fifth identified as Asian or Pacific Islander American, 2% identified as African American or Black, and 2% identified as Native American or Alaska Native. Six percent identified as "mixed ethnicity," and 2% identified as "other ethnicity." Participants reported studying abroad for approximately 3 months (M = 12.40 weeks, SD = 8.30) in 52 different countries. The majority of participants (61%) studied in Europe, with 16% studying in Asian countries (e.g., Japan, China), 12% studying in Latin American countries (e.g., Chile, Ecuador), and 14% studying in Australia, New Zealand, and countries in Africa and the Middle East.

Procedure

Participants were emailed a link to the online survey approximately 4 weeks after returning to the United States from their trips. These surveys contained a Human Subjects Review Board–approved online information statement with an area for indicating consent for participation. Measures for the present study included demographic information, alcohol use behavior, alcohol-related consequences, drinking motives, and a measure of sojourner adjustment.

Drinking behavior. Participants completed a modified Daily Drinking Questionnaire (DDQ; Collins et al., 1985), which assessed the typical number of drinks consumed on each day of a typical week during the study-abroad trip. This measure was used to calculate the typical number of drinks per week consumed while abroad during the first month and last month of the trip. Total drinks per week calculated from the two DDQs were highly correlated (r = .79) and were thus

averaged together to form a single drinks-per-week-while-abroad variable used for parsimony in analyses.

Alcohol-related consequences. Consequences resulting from alcohol use while abroad were assessed with a modified Rutgers Alcohol Problem Index (RAPI; White and Labouvie, 1989). Several items from the RAPI were modified to reflect study-abroad–specific situations, and items were added based on discussions with American study-abroad students. Participants indicated whether they experienced each of 39 consequences (1 = yes, 0 = no) during the trip abroad (α = .87). Items included in this modified measure and the percentages of participants reporting each consequence can be found in Table 1. A sum of consequences was computed.

Drinking motives. The four subscales from the 20-item Drinking Motives Questionnaire–Revised (Cooper, 1994) were included to assess (a) coping motives (e.g., "to forget your worries," α = .76), (b) social motives (e.g., "to be sociable," α = .91), (c) conformity motives (e.g., "because friends pressure you to drink," α = .84), and (d) enhancement motives (e.g., "because you like the feeling," α = .89). These reliability statistics (and means reported below) are consistent with those reported in other samples of college students (Martens et al., 2008; Neighbors et al., 2004). Participants rated the frequency with which they drank for each of the reasons during their study-abroad trip on a scale from 1= *almost never/never* to 5 = *almost always/always.*

Sojourner adjustment. The Sojourner Adjustment Measure (SAM; Pedersen et al., 2011b) contained 24 items assessing the degree to which participants felt that they had engaged in each aspect of sojourner adjustment during their entire trip abroad. Participants indicated their agreement with four items from each of the SAM's four positive factors: (a) social interaction with host nationals (e.g., "socialized a good deal with local people from my host country"), (b) cultural understanding and participation (e.g., "enhanced my understanding of my host country's culture"), (c) language development and use (e.g., "increased my understanding of my host country's language [or dialect/idioms]"), (d) host culture identification (e.g., "subscribed to the values of my host country"); and each of the SAM's two negative factors: (a) social interaction with co-nationals (e.g., "had meaningful social interactions with Americans") and (b) homesickness/feeling out of place (e.g., "felt out of place in my host country"). Participants rated each item on a scale from 1 = *strongly disagree* to 7 = *strongly agree.* The SAM factors have demonstrated adequate internal reliability and convergent validity with established measures of acculturation in this sample (see Pedersen et al., 2011b).

Table 1. Percentage of participants experiencing each of the alcohol-related consequences

Consequence	%
1. Had a hangover the day after drinking	48
2. Threw up during or after drinking	31
3. Found myself in a situation where I did not remember all or parts of a night	25
4. Embarrassed myself by saying or doing something I regretted	25
5. Spent more money than I had planned on alcohol	24
6. Ended up drinking on days that I had not planned on	20
7. Passed out from drinking (that is, fell asleep before I wanted to)	15
8. Missed class	15
9. Felt guilty or bad about myself	14
10. Noticed that I needed more alcohol in order to feel the same effect	12
11. Found that I spent more time than I wanted drinking or partying	12
12. Became emotionally homesick after I had been drinking	12
13. Found myself in a dangerous situation that I would not have been in sober	11
14. Had difficulty making my way back home at the end of the night (i.e., missed transportation, had to spend money on a cab)	10
15. Injured myself (e.g., fell, badly cut self, broke a bone)	9
16. Got into an argument or tense situation with another member(s) of my study-abroad group	7
17. Noticed that I was not acting/behaving like myself	6
18. Had someone from home or abroad tell me that I had not been acting like myself	5
19. Had sex with someone I would not have had sex with sober	5
20. Broke a local law while drinking but did not get caught	5
21. Tried to limit my drinking but found it difficult	4
22. Lost an important item (such as cell phone, keys, wallet, passport)	4
23. Had unprotected sex	4
24. Had a friend bail me out of a bad situation I would not have been in if sober	4
25. Neglected or avoided friends/family back home	3
26. Got into a fight, heated argument, or bad situation with a local	3
27. Got into a fight with a close friend from back home	3
28. Felt like my schoolwork or class attendance was suffering as a result of partying too much	3
29. Cheated (i.e., hooking up, sex) on a boyfriend/girlfriend who was back home	3
30. Missed flights, trains, or disrupted my travel plans	2
31. Felt like my cultural experience was suffering as a result of partying too much	2
32. Was confronted about my drinking by a member of the study-abroad staff or fellow student	1
33. Missed class or program field trips	1
34. Got mugged, robbed, or assaulted	1
35. Got in trouble with study-abroad staff at host country or with school back home	1
36. Got in trouble with local police or authorities	1
37. Friends/family back home avoided me	1
38. Did something to offend or upset my host family	1
39. Felt isolated from the group because of my behavior related to drinking	0

Data analytic plan

We were interested in examining the unique relationship of positive and negative SAM factors and drinking motives on the experience of alcohol-related consequences abroad. Alcohol-related consequences is a count variable (i.e., integer valued and bounded at zero), which can have skewed distributions when the overall mean of the variable is low. An alternative model with a Poisson distribution for the Level 1 errors was used (Atkins and Gallop, 2007). Coefficients in Poisson models are exponentiated for inter-

Table 2. Correlation table of variables used in analyses

Variable	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.
1. Alcohol-related consequences	–												
2. Weeks abroad	.21**	–											
3. Drinks per week while abroad	.54**	.07	–										
4. Social interaction with host nationals (SAM1)	-.10	.08	-.03	–									
5. Cultural understanding and participation (SAM2)	-.02	.06	-.05	.51**	–								
6. Language development and use (SAM3)	-.13	.20**	-.09	.42**	.28**	–							
7. Host culture identification (SAM4)	-.11	.08	-.07	.24**	.18**	.29**	–						
8. Social interaction with co-nationals (SAM5)	.16*	-.11	.14*	-.06	.03	.05	-.02	–					
9. Homesickness/feeling out of place (SAM6)	.05	-.06	-.06	-.19**	-.15*	-.02	-.11	.18**	–				
10. Coping motives	.36**	-.02	.25**	-.05	-.03	-.19*	-.12	.03	.13*	–			
11. Social motives	.51**	.09	.44**	.09	.22**	.00	-.01	.22**	-.03	.51**	–		
12. Conformity motives	.21**	.08	.06	-.12	-.02	-.02	-.02	.11	-.05	.33**	.39**	–	
13. Enhancement motives	.46**	.01	.48**	.14*	.18**	-.05	-.01	.23**	-.02	.54**	.77**	.23**	–

Notes: SAM = Sojourner Adjustment Measure.
*$p < .05$; **$p < .01$.

pretation and referred to as "rate ratios." Rate ratios of 1 indicate no effect, those with a value greater than 1 indicate a percentage increase in counts, and those less than 1 indicate a percentage decrease in the outcome. We predicted alcohol-related consequences with predictor variables specified as the six SAM factors and the four drinking motives. To examine the unique impact of sojourner adjustment factors on problems, we predicted consequences using a hierarchical model, examining the unique impact of the positive factors followed by the unique impact of the negative factors over and above that of the positive factors. This was preceded by a first step including two control variables to keep the number of weeks abroad and the level of drinking constant in all models. We examined the unique impact of the four drinking motives on the fourth step, followed by the two-way interactions between each of the SAM factors and drinking motives.

Results

Descriptive analyses

Participants drank on average 9.31 (*SD* = 8.11) drinks per week and experienced 3.51 (*SD* = 4.28) consequences over the course of their trips abroad. The consequences composite score ranged from 0 to 21. Approximately one third reported no consequences while abroad, one third reported between one and four consequences, and one third reported five or more of the 39 consequences assessed. The mean for the SAM factors ranged from approximately 3.80 (homesickness/feeling out of place) to 6.30 (cultural understanding and participation). Participants reported a mean of 1.45 (*SD* = 0.61) for coping motives, 2.81 (*SD* = 1.17) for social motives, 1.39 (*SD* = 0.58) for conformity motives, and 2.41 (*SD* = 1.09) for enhancement motives. Correlations between all variables are presented in Table 2.

Sojourner adjustment

The coefficients, standard errors, and Wald chi-square tests from the five-step hierarchical model predicting alcohol-related consequences can be found in Table 3. In Step 1, the model predicting alcohol-related problems from weeks abroad and alcohol use was significant, log likelihood $\chi^2(2, n = 232) = 313.90$, $p < .001$. As expected, weeks abroad and alcohol use each had a positive effect on consequences; the longer one stayed abroad and the more one drank while abroad, the greater the rate of consequences from drinking. The overall model predicting alcohol-related problems from the four positive sojourner adjustment factors in Step 2 was significant, log likelihood $\chi^2(6, n = 228) = 347.59$, $p < .001$. Three of the four positive SAM factors predicted decreased rates of alcohol-related consequences: social interaction with host nationals, language development and use, and host culture identification, with this latter factor exhibiting a marginally significant influence on consequences after controlling for weeks abroad, drinking, and other factors. These coefficients generally suggest that for each 1-unit increase in one of these sojourner adjustment components, we would expect rates of alcohol-related consequences to decrease by approximately 6%–9%. Cultural understanding and participation had a nonhypothesized significant positive effect on consequences.

In Step 3, the overall model including the negative SAM factors was also significant, $\chi^2(8, n = 226) = 381.23$, $p < .001$, with both social interaction with co-nationals

TABLE 3. Poisson regression results evaluating alcohol-related problems as a function of weeks abroad, drinking, sojourner adjustment factors, and drinking motives

Parameter	*B*	*SE B*	Exp *B*	Wald χ^2 (1 *df*)	*p*
Step 1: Covariates					
Weeks abroad	0.02	0.00	1.02	34.50	.000
Drinks per week while abroad	0.06	0.00	1.06	335.09	.000
Step 2: Positive sojourner adjustment factors					
Social interaction with host nationals (SAM1)	-0.08	0.03	0.92	7.65	.006
Cultural understanding and participation (SAM2)	0.21	0.06	1.23	11.09	.001
Language development and use (SAM3)	-0.09	0.03	0.91	11.49	.001
Host culture identification (SAM4)	-0.06	0.03	0.94	3.09	.080
Step 3: Negative sojourner adjustment factors					
Social interaction with co-nationals (SAM5)	0.11	0.03	1.12	15.39	.000
Homesickness/feeling out of place (SAM6)	0.12	0.03	1.13	14.48	.000
Step 4: Drinking motives					
Coping	0.09	0.07	1.10	1.71	.191
Social	0.33	0.05	1.38	36.66	.000
Conformity	0.09	0.06	1.10	2.15	.142
Enhancement	0.09	0.05	1.09	2.46	.117
Step 5: Sojourner Adjustment × Drinking Motive interactions					
SAM1 × Coping	-0.24	0.08	0.79	8.49	.004
SAM1 × Social	0.01	0.06	1.01	0.02	.884
SAM1 × Conformity	0.02	0.06	1.02	0.12	.729
SAM1 × Enhancement	0.19	0.06	1.21	9.23	.002
SAM2 × Coping	-0.26	0.19	0.77	1.97	.161
SAM2 × Social	0.01	0.10	1.01	0.00	.960
SAM2 × Conformity	0.25	0.19	1.29	1.80	.179
SAM2 × Enhancement	-0.05	0.14	0.96	0.10	.752
SAM3 × Coping	0.00	0.07	1.00	0.00	.993
SAM3 × Social	-0.09	0.05	0.91	2.96	.085
SAM3 × Conformity	0.01	0.05	1.01	0.02	.885
SAM3 × Enhancement	0.01	0.08	1.01	0.03	.860
SAM4 × Coping	-0.12	0.13	0.89	0.88	.347
SAM4 × Social	0.14	0.06	1.15	5.53	.019
SAM4 × Conformity	-0.26	0.11	0.77	5.89	.015
SAM4 × Enhancement	-0.03	0.06	0.97	0.18	.674
SAM5 × Coping	0.03	0.05	1.03	0.37	.544
SAM5 × Social	-0.07	0.05	0.93	2.08	.150
SAM5 × Conformity	0.12	0.06	1.13	4.27	.039
SAM5 × Enhancement	-0.01	0.05	0.99	0.01	.907
SAM6 × Coping	0.01	0.07	1.01	0.01	.925
SAM6 × Social	-0.05	0.05	0.95	0.85	.356
SAM6 × Conformity	-0.02	0.08	0.98	0.10	.758
SAM6 × Enhancement	0.02	0.06	1.02	0.18	.672

Notes: B = unstandardized regression coefficient; exp *B* = exponentiated regression coefficient; SAM = Sojourner Adjustment Measure.

and homesickness/feeling out of place positively predicting alcohol-related consequences. Thus, we would expect alcohol-related consequences to increase by a rate of 12% and 13% for every 1-unit increase in social interaction with co-nationals and homesickness/feeling out of place, respectively.

Drinking motives

The model incorporating coping, social, conformity, and enhancement drinking motives in Step 4 was significant, $\chi^2(12, n = 210) = 475.95$, $p < .001$. Social motives emerged as the only unique predictor in the model, such that a 1-unit increase on the social motives scale predicted an increased rate of 38% more consequences while abroad.

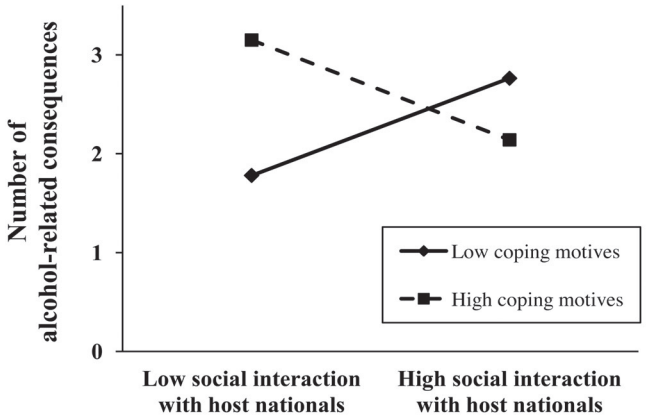

FIGURE 1. Interaction effects for Social Interaction With Host Nationals × Coping Motives for Drinking

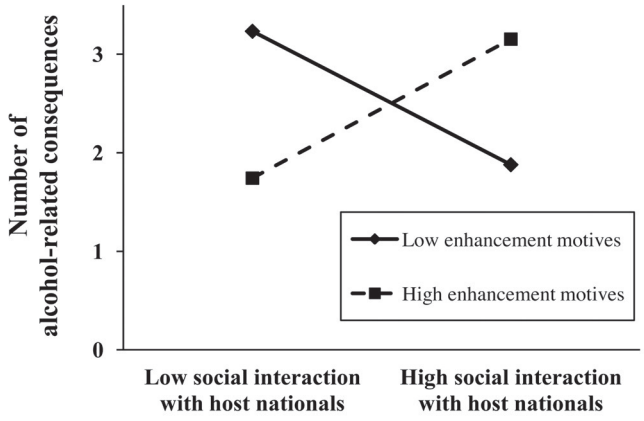

FIGURE 2. Interaction effects for Social Interaction With Host Nationals × Enhancement Motives for Drinking

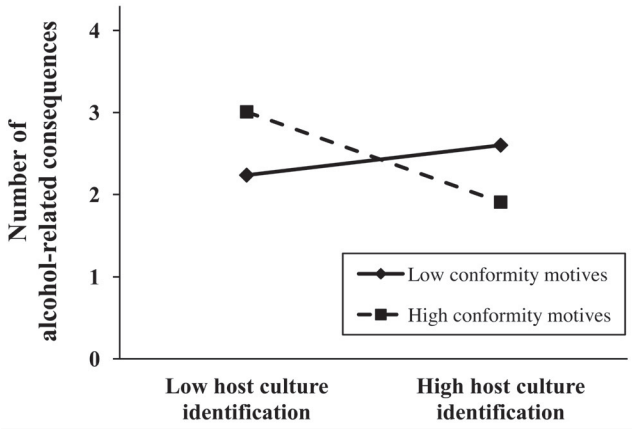

FIGURE 4. Interaction effects for Host Culture Identification × Conformity Motives for Drinking

Sojourner adjustment and drinking motive interaction effects

In Step 5, 24 two-way interactions between each of the SAM factors and the four drinking motives were entered. This model was significant, $\chi^2(36, n = 186) = 524.98$, $p < .001$. Of these 24 interactions, 5 were significant and graphed with low levels of variables specified as 1 *SD* below the mean and high levels specified as 1 *SD* above the mean (Aiken and West, 1991).

Positive sojourner adjustment. The relationship between social interaction with host nationals was moderated by both coping and enhancement motives. For coping motives, the greatest risk for consequences was apparent for high coping drinkers who reported low levels of social interaction with host nationals (Figure 1). For enhancement motives, greater risk for consequences was found for both high-enhancement drinkers who reported high levels of social interaction with host nationals and low-enhancement drinkers who reported low levels of social interaction with host nationals (Figure 2). The relationship between host culture identification and alcohol-related consequences was moderated by both social and conformity drinking motives. For social motives, the greatest risk for consequences was evident among high social drinkers with greater identification with the host culture (Figure 3). Those at the least risk for consequences were those with low social motives and high host culture identification. For conformity motives, a higher degree of host culture identification and high conformity drinking motives combined to protect participants from experiencing multiple consequences, whereas high conformity drinkers with low levels of host culture identification experienced the most consequences (Figure 4).

Negative sojourner adjustment. Conformity motives moderated the relationship between social interaction with co-nationals and alcohol-related consequences. Low conformity motives did not appear to differentially predict alcohol-related consequences based on low or high social interaction with co-nationals; however, those with high conformity motives and high levels of social interaction with co-nationals

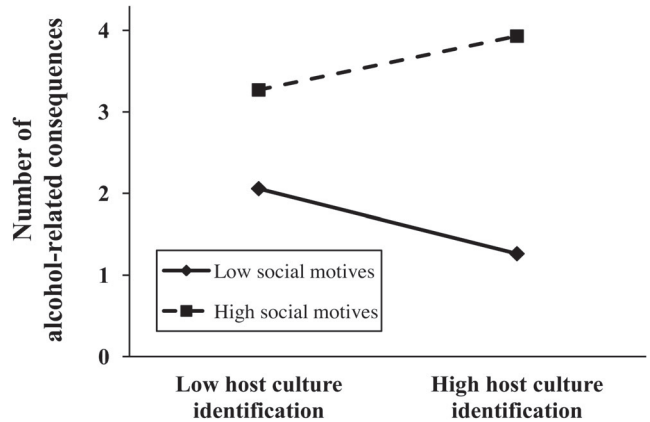

FIGURE 3. Interaction effects for Host Culture Identification × Social Motives for Drinking

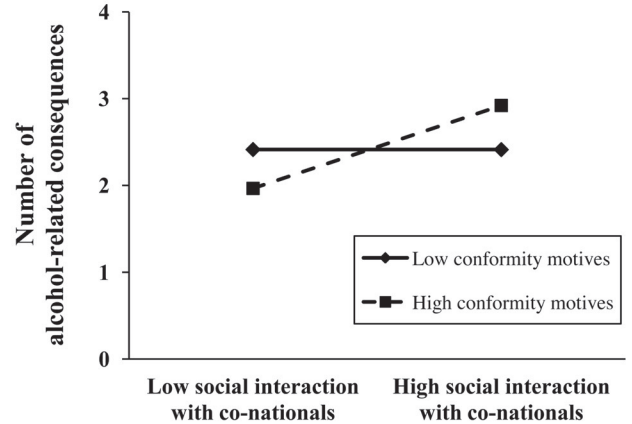

FIGURE 5. Interaction effects for Social Interaction With Co-Nationals × Conformity Motives for Drinking

experienced the greatest number of consequences abroad (Figure 5).

Discussion

This study was designed to provide a preliminary examination of how sojourner adjustment and drinking motives are associated with alcohol-related consequences among a sample of American students studying in foreign countries. Controlling for the length of time abroad and typical number of drinks consumed per week, three of the four positive sojourner adjustment factors (social interaction with host nationals, language development and use, and host culture identification) predicted decreased rates of alcohol-related consequences abroad. Both negative sojourner adjustment factors (social interaction with co-nationals, homesickness/feeling out of place) predicted increased rates of alcohol-related consequences while abroad. A nonhypothesized relationship was found such that cultural understanding and participation (a positive sojourner adjustment factor) predicted an increased risk for problems. Social drinking motives abroad uniquely predicted consequences. Meaningful interactions existed between sojourner adjustment factors and drinking motives. In general, high coping and conformity motives and low positive sojourner adjustment predicted increased risk for consequences, whereas low enhancement and social motives and high positive sojourner adjustment protected against risk for consequences. High conformity motives and high social interaction with other American students predicted increased risk for consequences.

Our overall findings here mirror acculturation and drinking research, which generally suggests that interest in and adoption of the host country culture may protect against problematic alcohol use for many (but not all) immigrant groups (e.g., Caetano and Clark, 2003; Fosados et al., 2007; Gong et al., 2003; Hendershot et al., 2008). The present study confirms reviews of the limited qualitative research with American study-abroad students positing that sojourner adjustment may ease the difficulties of adjusting to life in a new culture and may be associated with reduced risk for negative experiences abroad (Carlson et al., 1990; Kauffmann et al., 1992; Pitts, 2009; Thomlinson, 1991). Individuals who engage the environment may have less difficulty adapting to life abroad and therefore use alcohol in a moderate (or culturally appropriate) manner and do not experience multiple consequences, whereas those who spend the majority of their time with other Americans and feel out of place may be at increased risk for drinking consequences.

The nonhypothesized finding that cultural understanding and participation (which generally measures one's degree of participation in cultural activities) predicted alcohol-related consequences was puzzling. Theoretical rationale suggests that gaining insight, perspective, and understanding of the culture would be associated with fewer alcohol-related consequences because of limited time spent drinking with other Americans or struggling with negative feelings of being left out of the environment. Perhaps this factor, although still theoretically positive, was generally more endorsed overall by students who drank at both heavier and lighter levels. Engaging in cultural events may have involved drinking in some locations. Previous qualitative work by Smith and Klein (2010) found that both women who engaged in heavy episodic drinking (i.e., five or more drinks in a row as defined by the authors) and those who did not engage in heavy episodic drinking similarly reported drinking abroad as part of the cultural experience (e.g., to try a local specialty). The SAM items may also reflect aspects of the study-abroad experience that may be learned passively before or during trips abroad (e.g., learning about the culture in the classroom setting) and may not have required active attempts to engage the culture. While abroad, one's understanding of the culture (e.g., what people are eating, what people are wearing, how people interact with each other) would likely be strengthened by observing others even if one is not actively engaged in the culture, such as through learning the language, talking with local people, and identifying oneself as a host country member. Further research with larger samples examining how these factors interact with each other is necessary to provide a more detailed explanation for this finding.

Social drinking motives contributed to the risk for consequences while abroad. It is possible, given the brief nature of study-abroad experiences, that students use alcohol in a social manner to connect with other American students and local people during the initial days of the trip in an effort to establish a friendship base during the experience. It is also possible—based on our findings that high coping drinkers with low social interaction with local people were at increased risk for consequences—that coping reasons for drinking are a reaction to failed attempts to establish friendships with home and host individuals, as individuals drink to cope with feeling out of place in a foreign environment. Failed attempts or disinterest in engaging local people will likely inhibit one from feeling like a member of the host environment and may lead to homesickness/feeling out of place. It is possible that individuals go abroad and begin spending the majority of their time with fellow American students. This leads to less learning of the local language and less time spent with local people. Eventually, one may begin to drink for reasons related to feeling out of place within the environment. More longitudinal work is needed to examine drinking motives over time for study-abroad students and the influential role that sojourner adjustment factors may have on each other that perhaps combine to exacerbate risk. It will also be important to examine how sojourner adjustment factors interact to protect or increase risk for students.

Limitations

Limitations exist in the present study. Our sample may not be generalizable to the study-abroad population on a national level because the sample contained more women and ethnic minority students than the national study-abroad population as a whole (63.5% female, 21.3% ethnic minority students; Institute of International Education, 2011). Our sample was generally representative of the region of study (e.g., 61% studied in Europe vs. 53.4% at the national level; Institute of International Education, 2011). In addition, we did not examine gender as a moderator or covariate in analyses. Whereas previous research has not found an effect for gender on rates of drinking-related consequences abroad between male and female students (Hummer et al., 2010), further samples with more representative numbers of male students are needed to determine the effects of sojourner adjustment and drinking motives on consequences. The SAM is a new measure that appears to be psychometrically sound in this sample (Pedersen et al., 2011b), but further examinations of reliability and validity of the measure are needed. Self-report and memory effects influencing reports of alcohol use may have led to either over- or under-reporting of behavior on the retrospective survey. In addition, although we looked at alcohol consequences only, other measures of psychological well-being are missing (in particular, measures of depression, anxiety, and self-esteem). These factors would likely be associated to some degree with either or both positive and negative SAM factors as well as drinking behavior abroad.

Additionally, the country of study was not included in the analyses. It is likely that where students choose to study abroad may affect their reported rates of alcohol-related consequences, and we have found in prior work that drinking rates do differ by the region of study (Pedersen et al., 2010, 2011a). However, in the present sample we did not have a large enough sample size in each of the countries to look at meaningful relationships between cultures on drinking variables or sojourner adjustment. In many of the countries students traveled to, alcohol use is a behavior most likely linked to some aspects of positive sojourner adjustment (e.g., drinking wine while eating dinner with local people). Thus, we attempted to control for culturally appropriate drinking by examining alcohol-related consequences after controlling for typical weekly drinking. We argue that drinking enough to experience hangovers, blackouts, injuries, and other negative consequences as assessed would represent drinking levels beyond cultural appropriateness. However, further work with large, representative samples of students traveling to different countries is needed to provide a clearer picture of the sojourner adjustment process on drinking and consequences between different cultures. Finally, drinking motives, alcohol use, and consequences before the departure abroad were not assessed. Because drinking motives and behavior may change over time (Jackson et al., 2001; Patrick and Schulenberg, 2011), and pre-departure drinking levels may affect one's engagement in the culture while abroad (e.g., a heavy social drinker may continue drinking heavily with other American students while abroad), longitudinal studies documenting changes in drinking motives, drinking behaviors, and sojourner adjustment over time are warranted in this population.

Conclusion

Given the limited attention study-abroad drinking has received in the literature, it is important to continue the empirical examination of the risk and protective factors associated with drinking and the resulting consequences. Additionally, no study to date has documented other drug use behavior (e.g., use of marijuana, stimulants) among students abroad. A logical next step to the present research would be to examine sojourner adjustment and drinking behavior with larger and more diverse groups of American study-abroad students and to expand this work to examine health outcomes in other groups of temporary residents (e.g., expatriates, foreign aid workers, military stationed overseas in noncombat zones). The prevalence rates of heavy drinking among young adults abroad (Bray and Hourani, 2007; Cardozo and Salama, 2002; Pedersen et al., 2010; Substance Abuse and Mental Health Services Administration, 2008; Zuckerman, 2001) makes focusing on young adult alcohol use while abroad an important area for intervention research. Despite these higher prevalence rates, there are limited empirical evaluations of targeted intervention and prevention programs with young Americans abroad. Perhaps promoting healthy and positive sojourner adjustment during pre-departure interventions may help prevent young adults from establishing problematic drinking patterns abroad. Encouraging cultural engagement may promote a restructuring of students' expectations about drinking while abroad and their motivations about social interactions with other Americans abroad into goals related to increasing cross-cultural skills and sensitivity, expanding world knowledge, and preparing for careers in a global environment (Hummer et al., 2010; Kitsantas, 2004).

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