ALCOHOL USE IN STUDY ABROAD PROGRAMS: AN APPLICATION OF TWO THEORIES

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ABSTRACT

Study abroad is a self selecting activity that exposes individuals to cultural differences that may influence alcohol consumption. Two models may explain alcohol use among students studying abroad: sensation seeking and Ajzen and Fishbein’s Theory of Planned Behavior (TPB). The goal of this research was to determine if studying abroad influences alcohol consumption differently for U.S. and international students and to assess sensation seeking as well as components of the TPB in these populations. A group of students not studying abroad served as a control comparison. Americans studying abroad scored higher on sensation seeking and drank more alcohol than both the international students studying in the U.S. and the control group both before studying abroad and during study abroad. Results show that sensation-seeking, more access to alcohol, and importance placed on friends was associated with increased alcohol use. These findings support sensation seeking and the TPB as possible explanations for higher rates of drinking reported by U.S. students studying abroad. Knowing more about the specific factors that influence drinking may help identify students who are more at risk for problem drinking while studying abroad, and may assist in developing predeparture interventions.
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INTRODUCTION

Studying abroad

Studying abroad is a growing trend both in America and internationally. The Institute of International Education has been collecting study abroad statistics since 1919 and has published them in the publication *Open Doors* since 1949. According to their records, 623,805 international students studied abroad in the United States in 2007-2008 (http://opendoors.iienetwork.org/). This is a 7% increase from the previous year alone. Asian students are among the most represented of those studying abroad in the United States. Although these international students are well dispersed across the country, California and New York are of the most popular locations chosen. Business and management, engineering, and physical and life sciences are some of the leading fields of study attracting international students to the United States.

The number of American students studying abroad has also risen rapidly by about 150% over the past decade. In 2006-2007, 241,791 U.S. students studied abroad with over half (57.4%) enrolled in colleges and universities in European countries. The top fields of study for Americans abroad were social sciences, business and management, and humanities. Kitsantas (2004) found that students were studying abroad to improve cross-cultural skills, become more proficient in a subject matter, and to socialize. Furthermore, it was found that studying abroad to enhance cross-cultural skills was a predictor of improving those skills.

More striking than the increase in numbers of students studying abroad is the increase in variety of study abroad programs and student experiences. With the abundance of available
programs and increased financial aid opportunities, more students are taking advantage of the study abroad experience. American students tend to select programs that are short in duration and take place in locations where English is spoken. The statistics from Open Doors on the duration of programs suggests that the study abroad experience of immersing oneself in another countries’ culture may be viewed as more of a vacation as opposed to a learning experience. The amount of time spent abroad seems to support this perception. Of the number of Americans studying abroad in 2006-2007, only 4.4% of them were abroad for a long term program (an academic year or a calendar year) compared to 15.1% in 1993-1994. Forty percent of U.S. students were abroad for a mid-length term in 2006-2007 (one or two quarters, or one semester) compared to 45.5% in 1993-1994. The largest increase was found among U.S. students attending a short-term program (summer, January term, or 8 weeks or less during the academic year) 55.4% compared to 38.2% in 1993-1994.

These changes raise an important question: are students studying abroad to become culturally enriched and further themselves in their field of study or are they going to vacation, travel, and party? The answer is beginning to be documented by news sources such as the New York Times, The Seattle Times, and SAFETI On-Line Newsletter. Americans have been reported as drunk and out of control in foreign countries (Winter, 2004; Epstein 2005; Kim & NEXT team, 2005). These reports indicated that many American students have earned a negative reputation in the minds of others abroad, and these students are also placing themselves at risk with their drinking behavior. Alcohol use among American students abroad has become a safety concern of many study abroad programs across the country preparing to send students off into the world.
Rising safety concerns for study abroad students stimulated the creation of the Study Abroad First-Educational Travel Information Clearinghouse Project (SAFETI; http://www.globaled.us/safeti/indexsafeti.html). The SAFETI website includes a comprehensive section dedicated to alcohol use information. The material covers information on alcohol use, alcohol and the culture, why students are at risk, resisting social and cultural pressures to drink, and getting help.

There have been a number of suggestions to keep American students safe and out of trouble while abroad but many of these strategies involve the selection process of who is chosen to go abroad. Greg Winter (2004) in the New York Times and Joel Epstein (2000) in the SAFETI Online Newsletter suggest that possible solutions to this problem start with better recruiting and important strategies including educating students about alcohol use before going abroad, working with international universities on alcohol use policy, and concentrating on safety. Many universities have implemented their own way of dealing with the problem such as having the student sign a written contract before they leave, putting actual grades from study abroad on transcripts rather than a pass/fail grade, providing letters of recommendation, or taking a prerequisite course to prepare for the experience (Winter, 2004).

Despite the material in these reports and websites, there is little empirical evidence or supporting research about alcohol use abroad by students studying abroad. A study by Cronin (1993) examined how culture can influence drinking patterns. His research revealed that American students living in Germany for more than ten years were less likely to endorse reasons for drinking than American students who had lived abroad for less than two years. These reasons for drinking included social interaction, pleasure seeking, and tension reduction.
Furthermore, the results of this study revealed that students living abroad for more than ten years were more likely to report responsible alcohol use and to recognize of possible harm caused by misuse of alcohol than did students studying abroad for less than two years. This study demonstrates the potential cultural impact on alcohol use and emphasizes the importance of the length of time spent abroad.

Theory of Planned Behavior

The Theory of Planned Behavior (TPB), developed from the Theory of Reasoned Action, is a model used to predict behavior (Ajzen, 1985; Fishbein & Ajzen, 1975). TPB highlights the main components that contribute to the intention of performing a behavior. As shown in Figure 1, from an article by Beadnell, Wilsdon, Morison, Hoppe, & Gillmore (2007, p. 4), this theory demonstrates that there are a number of interpersonal and intrapersonal factors that influence norms, attitudes, and efficacy related to behavior. These three predictor variables, attitudes about the behavior, normative and subjective norm beliefs about the behavior, and perceived control of the behavior also known as self-efficacy, influence the intention to carry out the behavior. These beliefs predict intention, and intention, in turn, predicts the behavior.

The TPB has been utilized in predicting many different types of behavior such as sexual activity, exercise, and diet (Beadnell et al., 2007; Gao & Kosma, 2008; Gardner & Hausenblas, 2005). In relation to the current study, the TPB has been applied to college students and their use of alcohol. Hutching, Lac, and LaBrie (2008) applied the theory to alcohol consumption in sorority members. It was found that subjective norms, beliefs about how others feel about the individual performing the behavior or failing to perform the behavior, were the strongest
predictor of intention. These results indicated that both intention and perceived control predicted the behavior despite that perceived control failed to predict intention.

Collins and Carey (2007) found that self-efficacy and attitudes predicted intention of heavy episodic drinking among college students but subjective norms did not. The later finding is inconsistent with the theory and findings from the previous study. This difference in findings may be due to salience or importance of subjective norms of the group being studied. Perhaps subjective norms are more relevant to sorority members. Additional finding of Collins and Carey (2007) revealed that intention and past heavy episodic drinking was predictive of heavy episodic drinking.

Johnston and White (2003) examined TPB with binge drinking among college students with an emphasis on group relevance when studying subjective norms. Results revealed that attitude, subjective norm, and self-efficacy were predictive of intentions of binge drinking which was, in turn, predictive of engaging in the binge drinking behavior. Findings also revealed that subjective norms were significantly predictive of binge drinking intention when the group was relevant to the participant and if the participant strongly identified with the group. This finding supports the possible explanation of the inconsistency between the prior two studies mentioned.

Norman and Conner (2006) found that the three predictor variables according to the TPB (attitude, norms, and self-efficacy) were predictive of intention, which predicted the behavior of binge drinking among college students. Attitude was found to be the strongest predictor of intention to drink. A negative relationship was found between perceived control and the intention of engaging in alcohol use meaning that low perceived control was correlated with high intentions of binge drinking. This study highlights the influence of external factors that may
impact beliefs about the behavior. This inverse relationship between perceived control and intention of the behavior may be indicative of the influences of facilitating external factors over which perceived control may be low.

The results of studies implementing the TPB to predict alcohol use may vary, specifically pertaining to perceived control and subjective norms, according to the populations used in these studies. College students tend to have higher rates of alcohol use and may be subject to more external factors that influence their alcohol use. Overall, results are supportive of utilizing the TPB to predict alcohol consumption among college students.

TPB is applicable to the current study with regards to alcohol use while abroad. Students’ drinking intentions are guided by their attitude toward alcohol use, how they perceive others would feel about their alcohol use, and their ability or control whether to use, or not use, alcohol. The student’s intentions of drinking, or not drinking, should predict their behavior. Based on this theory, students who intend to drink more while abroad are likely to do so.
Figure 1. The theory of planned behavior (Beadnell, Wilsdon, Morison, Hoppe, & Gillmore, 2007, p. 4)
Culture

Cronin’s 1993 study that investigated how exposure to a foreign culture might influence alcohol use by Americans raises several questions. The term culture can be used to describe something broad or very specific depending on the use of the word and what it may be in reference to. Culture can refer to something as specific as the dynamics within a single softball team or as broad as an entire human society. Richard Brislin (1993) describes culture as consisting of “ideals, causes, and assumptions about life that are widely shared among people and that guide specific behaviors” (p. 4). Individuals learn culture through a process of socialization over time that helps them learn appropriate behaviors. Culture helps us to define ourselves and teaches us how to behave.

Being removed from one’s own culture can be stressful, leaving an individual without knowledge or guidelines as to how to act. Immersion in a different culture, however, provides valuable opportunities to reflect on and learn more about one’s own assumptions and cultural values. Study abroad programs provide a framework in which to study the impact of removing an individual from one’s cultural context and immersing him or her in another. There are various influences on behavior, some based on internal or personally related factors, and others that are external or socially mediated influences in the environment. To what extent will a change in the surrounding environment or culture affect an individual’s behavior? Alcohol consumption is an important behavior to study in this context because of the safety issues previously noted. The present study aims to compare the use of alcohol among U.S. and international students while abroad and in their home countries.
Some of the internal variables that may be likely to influence behavior are related to personality. Sensation seeking has great potential to influence behavior. This psychobiological factor has been linked to risky behaviors and may influence both study abroad and alcohol use. Sensation seeking will be discussed below in greater detail.

Previous research

The current study is based on previous research by Sharon Radomski and Dr. Janice Murdoch at Clemson University in 2007. The study examined a group of 32 Clemson students who studied abroad in Brussels, Belgium in the summer of 2006 for one month. Participants completed a baseline survey upon arrival in Brussels asking about their experiences in the United States and completed a follow up survey one month later in Brussels upon leaving. Their drinking patterns were assessed using the Time Line Follow Back (TLFB) one month prior to the trip and during the month abroad. The 30 day retrospective TLFB for each session was broken down into different measures of alcohol consumption to obtain the best understanding of drinking patterns. These measures included a total sum of all alcoholic beverages consumed during the one month period as well as a sum of alcoholic beverages consumed for each day of the week (i.e. the sum of all drinks consumed on all Mondays in that month). To better portray the drinkers’ behavior, each day of the month was categorized as either an abstinent, moderate, or heavy drinking day. These measures are based on the number of alcoholic beverages ingested each day (abstinent= 0 drinks, moderate=1-3 drinks, heavy=4 or more drinks). Results revealed a pattern of drinking mostly on the weekends while in their home country and a significant increase in alcohol consumption while abroad. Although their rate of drinking on the weekends remained relatively the same while abroad, the participants drank significantly more during
weekdays. Results also showed that they had significantly fewer days of reported abstinence but significantly more moderate and heavy drinking days while abroad.

To determine what accounted for this change in drinking behavior, factors were examined that have been shown to contribute to alcohol use. These factors included drinking age laws, financial limitations, religion, school, activities, transportation, perceived norms, peers, motives, and behavioral intentions. Although on a whole participants increased their drinking while abroad, those students younger than 21 drank significantly more than those students of legal age, both in Clemson and in Belgium.

A number of trends arose in this research. Strongly held religious beliefs, placing high value on academics, and high involvement in extracurricular activities were associated with lower rates of drinking. Reported importance of safe transportation was associated with an increase in alcohol use. There was also a positive correlation between total drinks consumed abroad and student reported acceptance of alcohol use in Belgium. Furthermore, the reported influence of peers on alcohol use positively correlated with alcohol consumption. A majority (53%) of participants changed their drinking in Belgium to match how they had predicted their drinking behavior abroad would change. It is doubtful that these changes reflect long term cultural influences on behavior, since the duration of the study abroad program was so brief. However, both internal and external factors likely contribute.

Radomski and Murdoch’s study provided a foundation for a pilot study conducted by Radomski MacKain in 2008. Pre-study abroad information for this pilot study, at UNCW, was collected for 22 international students studying abroad at UNC during orientation, and 13 of those participants completed the follow up information at a farewell gathering. The mean age of
the 13 students (5 Males and 8 Females) was 21.69 years. Given the dramatic increase in drinking by U.S. students while abroad in Belgium, this study was conducted to determine if this pattern might also exist among international students studying in the United States. The TLFB, along with an array of questions created for the study, were given during orientation and again at a farewell gathering to collect information pertaining to alcohol consumption and potentially influencing variables on alcohol consumption in their home country as well as abroad.

This study revealed that international students reported drinking significantly less in the United States than they had in their home country. Thus, international students did not follow the drinking pattern changes displayed by Americans studying abroad in Belgium. In fact, they did just the opposite. Nine out of the thirteen international students predicted they would drink less while abroad, and this expectation was generally fulfilled. International students tended to agree more with the statement about going abroad for educational or cultural reasons and disagree with the description of going abroad as a vacation. Furthermore, friends were reported as the most influential factor on their alcohol consumption in their home country and amount of free time was reported as the most influential factor on their alcohol consumption while abroad. Ten out of the thirteen participants reported no problem getting alcohol in their home country whereas this same ease of obtaining alcohol was not maintained in the United States.

This preliminary study was helpful in formulating procedures and guiding hypotheses based on the results. Specifically, the low response rate led us to develop more assertive outreach procedures to maximize participation and return of the follow up surveys. Research is needed to determine the prevalence of risky alcohol use among students in study abroad
programs and to examine the reasons for the behavior in order to inform the development of methods of reducing risk.

The current study

The current study is an attempt to examine factors that affect alcohol use while studying abroad in both international students studying at UNCW, and UNCW students engaged in international study abroad. A comparison group of UNCW students not studying abroad was also assessed. Examinations of factors in the TPB that can influence alcohol consumption include both internal (perceived norms and behavioral intent) and external factors (access to alcohol and peers). Additionally to the TPB, academic importance and amount of free time are assessed as potentially influencing variables on alcohol use. Lastly, sensation seeking is evaluated as an important personality variable influencing both study abroad and alcohol consumption.

Sensation seeking

The sensation-seeking trait is defined by Schroth and McCormack (2000) as “risk taking and a need for a variety of different sensations and experiences” (p. 533). The Zuckerman sensation seeking scale, SSS Form V, is one of the most widely used, studied, and revised instruments in psychology. Zuckerman (1994) proposes that sensation seeking is composed of four subscales: Experience Seeking, Boredom Susceptibility, Thrill and Adventure Seeking, and Disinhibition. He characterizes Experience Seeking as the “seeking of novel sensations and experiences through the mind and senses, as in arousing music, art, and travel, and through social nonconformity” (p. 31). He defines Boredom Susceptibility as representing “an intolerance for
repetitive experience of any kind, including routine work, and boring people” (p. 32). Thrill and Adventure Seeking is defined as “a desire to engage in sports or other physically risky activities that provide unusual sensations of speed or defiance of gravity, such as parachuting, scuba diving, or skiing” (p. 31). Lastly, Zuckerman defines Disinhibition as “seeking sensation through social activities like parties, social drinking, and sex” (p. 32).

Of Zuckerman’s six sensation seeking scales, the Form V has been found to be the most reliable and valid measure and continues to be the most widely used (Zuckerman, 1994). The four subscales, based on factor analyses of the items, have been included in the forms of the sensation seeking scale since 1971. The wide use of this measure supplies ample support for its psychometrics. The Form V and its subscales have found to be reliable across culture and gender (Haynes, Miles, & Clements, 2000; Wang, Wu, Peng, Lu, Yu, Wang, Fu, & Wang, 2000). Roberti (2003) found more support for the subscale structure through a confirmatory factor analysis in addition to high internal consistency and convergent validity for the measure in a college sample. Gilchrist, Povey, Dickinson, & Povey (1995) found the measure to show good internal reliability and high criterion-related validity when measuring sensation seeking in adventure travelers compared to a control group.

This measure does not come without its limitations (Ferrando & Chico, 2001; Wang et al., 2000; Haynes et al. 2000). There have been some issues with the language used in the measure as being outdated or culturally inaccurate for certain populations. Additionally, specific substances are mentioned in the measure and thus may serve as confounds in predicting the use of those substances. Furthermore, there is disagreement with the dichotomous forced choice response option.
According to the definition of sensation seeking, studying abroad qualifies as a means of sensation seeking. The Experience Seeking subscale even mentions travel as a form of novelty seeking. In addition, people may spend time abroad in order to escape the routine experience as mentioned in the Boredom Susceptibility subscale. Furthermore, traveling to an unfamiliar location may be seen as a physically risky activity as mentioned in the Thrill and Adventure Seeking subscale. It is not uncommon for students abroad to participate in activities abroad that they may not have done at home such as ski diving. Additionally, people may choose to study abroad because they may believe they will be in an environment that will promote activities mentioned on the Disinhibition subscale such as partying, drinking, and having sex. Thus, studying abroad may be viewed as sensation seeking.

Schroth and McCormack (2000) found that study abroad alumni students from California State University’s International Program strongly endorsed the Experience Seeking subscale of Zuckerman’s Form V Sensation Seeking Scale but did not score as high on the Thrill and Adventure Seeking, Disinhibition, or Boredom Susceptibility subscales. This may mean that students went abroad searching for new and unique experiences as opposed to extreme experiences, or new social and sexual experiences, or to break routine in their life. Since the Schroth and McCormick study did not include a control group of subjects not going abroad, it is not possible to conclude that students who study abroad differ from those who do not, with respect to sensation seeking. Because people who study abroad are self-selecting, it is possible that students who study abroad score higher on sensation seeking than those who do not.

Demographic studies on sensation seeking show an effect for age, gender, and nationality. Although sensation seeking increases with age throughout childhood, is thought to
peak in early adulthood and slowly decline thereafter (Zuckerman, 2007). Despite changes in sensation seeking over the lifespan, it is traditionally thought of as an enduring, trait-based characteristic. Is it possible that exposure to a radically different environment may lead students to shift in their preferences toward more openness to experience and to lead people to take more risks? For this study, it was predicted that sensation seeking would remain stable over time, despite the study abroad experience. With regards to gender, men are generally more sensation seeking than women, even across cultures (Zuckerman, 2007). There have also been national differences in analyzing sensation seeking (Zuckerman, 1994). After controlling for other variables, Asians were found to score lower on sensation seeking than Americans. Also, Australian, American, and Canadian students scored higher on sensation seeking than did Spanish students.

Researchers have found links between sensation seeking and alcohol use and other risky behaviors (Cloninger, 1987; Hoyle, Stephenson, Palmgreen, Lorch, & Donohew, 2002). Baer (2002) reviewed individual factors that may contribute to alcohol use in college student drinking and found sensation seeking to be an important variable. Hittner and Swickert (2006) performed a review of 61 studies pertaining to sensation seeking total scale scores and alcohol consumption and found a small to moderate size, heterogeneous effect. Among the subscales, it was discovered that disinhibition was the strongest correlated to alcohol use. Grau and Ortet (1999) found that the combination of sensation seeking and impulsivity were the strongest predictors of alcohol consumption compared to other personality traits in a sample of non-alcoholic women ranging in age from 16-68 years old. It is important to note that 77.9% of participants were undergraduate psychology students. Yanovitzky (2006) found in a sample of 427 undergraduate students that sensation seeking influences personal alcohol use directly in addition to indirectly.
In addition to its direct influence, sensation seeking also influences personal alcohol use by encouraging students to hold higher perceived norms of peer alcohol use and to associate with other alcohol using peers. Thus, there is an established positive correlation between college alcohol use and sensation seeking in the literature.

Although white males are found to be highly associated with sensation seeking and alcohol use, links between sensation seeking and alcohol use have been documented in people of all races and gender. D’Alessio, Baiocca, & Laghi (2006) found that according to their Italian student sample heavy drinkers (defined as having three or four binge drinking episodes per week) reported higher levels of sensation-seeking behaviors than social drinkers (defined as drinking between 3 or 4 times a year to 3 or 4 times a week) and binge drinkers (defined as binge drinking 1 or 2 times per week). Heavy drinkers also endorsed the Boredom Susceptibility subscale more than the social and binge drinkers. Additionally, an open bar study found a significant positive correlation between total sensation seeking scores and BAC in French college students for both men and women (Legrand, Goma-i-freixanet, Kaltenbach, & Joly, 2007). This finding was significantly higher for men. Additionally, while all subscale scores were significantly correlated with BAC in males, only the Disinhibition subscale was significantly correlated with BAC in females. Lastly, the Experience Seeking subscale was only positively linked to BAC in men and not women. Therefore, it is hypothesized that higher sensation seeking scores, despite nationality, will predict higher alcohol consumption in all students abroad.

Zuckerman (2007) proposed that both sensation seeking and alcohol consumption are influenced by neurobiology. Monoamine oxidase is an enzyme that helps to regulate
neurotransmitters. MAO-B is the type of monoamine oxidase that regulates dopamine, which is related to sensation seeking and alcohol use in that both cause the release of dopamine into the reward center of the brain known as nucleus accumbens (Cloninger, 1987). Low levels of MAO-B are associated with alcoholism and sensation seeking (Zuckerman, 2007). There have also been many studies both in humans and animals related to specific dopamine receptors like DRD4 and DRD2 that have been related to sensation seeking and alcohol use (Laucht, Becker, Blomeyer, & Schmidt, 2007; Bevins 2001).

Kahler, Read, Wood, & Palfai (2003) suggest that this strong physiological basis for sensation seeking and alcohol use drives social environmental selection to further enhance the association. According to this environmental selection perspective, sensation seeking leads someone to select certain situations which may promote sensation seeking activities such as drug or alcohol use. This is a reciprocal relationship in that the selected environment may impact behavior to increase more sensation seeking behaviors as seen in Figure 2. Study abroad is a voluntary activity which may be chosen with the intention to increase alcohol use, or increased alcohol use may be the result of the chosen activity of studying abroad. It is important to emphasize that study abroad is an environmental selection which suggests that there may be certain characteristics of the people who choose to go abroad, such as level of sensation seeking.
Figure 2. Reciprocal relationship between sensation seeking and environmental selection.
Theory of Planned Behavior Variables

Perceived norms

What people believe to be normative behavior is thought to play a role in behavioral intent and the TPB. Perception of drinking norms is positively correlated to drinking behavior (Neighbors, Lee, Lewis, Fossos, & Larimer, 2007; Perkins, Haines, & Rice, 2005; Yanovitzky, Stewart, & Lederman, 2006). Thus, the more an individual thinks that others typically drink, the more the individual will drink. Perceived norms about drinking behaviors of other college students has been found to influence actual drinking behaviors. Perkins et al. (2005) found that students have a consistent pattern of “grossly overestimating the norm” (p. 473). Therefore, if college students believe that most other college students are getting intoxicated on a Friday night, then students are likely to conform to that norm. Yanovitzky and colleagues (2006) suggested that the perceived drinking norms of close peers were more influential than general statistics on distant peers. Will the perceived drinking norms of the host country be reflected in the student’s drinking behavior while abroad? Based on the perceived norms literature it is suspected that students’ alcohol consumption while abroad will be consistent with what they believe to be typical in the host country.

Access to alcohol

In addition to these internal factors that may influence alcohol use (sensation seeking and perceived norms), there are a host of external or environmental factors that have the potential to influence alcohol use. Joel Epstein (2000) addressed the liability aspect of alcohol use and studying abroad in the SAFETI Online Newsletter. A main component to consider when
discussing legal issues in alcohol use while studying abroad is that some countries have minimum drinking age laws. The minimum drinking age law in the United States was established in 1984 and prohibits anyone under the age of 21 from consuming or buying alcohol. Most other countries do not have age limits on alcohol use, and those that do commonly have a minimum drinking age of 16 or 18 years of age. Regardless of their home country, students who study abroad must follow the laws of the host country (Epstein & Rhodes, 2000). Thus, U.S. students studying abroad may gain drinking privileges in a country with a lower drinking age. On the other hand, international students studying in the United States may not be allowed to drink and may never have experienced a restriction on their drinking before. Access to alcohol and drinking age laws can be considered part of the self-efficacy predictor variable in the TPB. Thus, an individual’s perceived control over drinking may predict their intentions and behavior with regards to alcohol use. Given varied drinking age laws, it is predicted that U.S. students that are underage in the United States will drink more alcohol while abroad, and international students who are permitted by law to drink in their home countries will not drink more alcohol while in the United States.

Other Influences

Peer influence

Peers can have an enormous impact on the choices people make and their behavior. A literature review by Ham and Hope (2003) found that student’s drinking patterns tended to resemble those drinking patterns of the people with whom they associated. Part of human nature is the desire to fit in and to be accepted. “Those who feel a greater need to be a part of their environment are more apt to engage in the behaviors exhibited by those around them, such as
alcohol consumption” (Johnson, Rodger, Harris, Edmunds, & Wakabayashi, 2005, p. 9). Peer influence may be especially important for groups of students studying abroad, since they will most likely be surrounded by unfamiliar peers. Collins, Parks, and Marlatt (1985) demonstrated the influence of peers by using confederates in a drinking situation. Results showed that when a participant was paired with a confederate who was sociable and drinking heavily, unsociably and drinking lightly, or unsociably and drinking heavily, the participants drank significantly more. Thus, regardless of drinking behaviors, having an unsociable confederate was related with an increase in alcohol consumption by the participant. In summary, when paired with the sociable confederate, the participant modeled confederate’s drinking behavior. This study shows how easily one’s drinking behaviors can be influenced by peers. When placed in an unfamiliar environment, as is experienced by students studying abroad, students may turn to peers for guidance as to how to behave; or in this case, how to drink. Peer influence can also impact drinking patterns indirectly though perceived norms. According to the TPB, behavior is influenced by an individuals’ perception of other’s behavior and how they might feel if the individual takes part in a specified behavior. Based on such findings in the literature, it is predicted that peers will be reported as a highly influential factor in participant alcohol consumption.

Academic importance and free time

In addition to legal age restrictions and peer influence, other factors may limit student’s drinking behaviors, including the amount of free time a student may have outside of school and extracurricular activities. The Core Alcohol and Drug Survey results indicate that the number of alcoholic drinks consumed each week is inversely related to grade point average (Presley,
Meilman, & Lyerla, 1994). It may simply be that more time spent on academics means less time is available for drinking alcohol. A change in course load difficulty, time spent on school work, and importance of academics while being in a foreign country may affect drinking patterns during study abroad. There may be lower expectations of academic rigor while abroad, especially if pass/fail grades are transferred rather than actual grades. Given the relationship between school performance and alcohol use, it is important to investigate how academic requirements during study abroad may influence alcohol consumption. It is predicted that students will report academic responsibilities as less of an influence on their drinking while abroad than it was in their home country.

Academic importance can be viewed as a variable that may inhibit alcohol use similarly to the way lack of free time may also inhibit alcohol use. The basic concept behind both of these variables is that if an individual is occupied with school or other activities, they will have less time to engage in alcohol consumption. Activities in which people are involved vary by level of importance and time consumption. Weitzman & Chen (2005) utilized a measurement of social capital, or involvement and obligation within social structures, by determining an individual’s time spent doing volunteer work in the past thirty days at the campus level. This data was used to create a social capital measure for each university. One hundred and nineteen universities across the United States were compared on levels of social capital and it was found that students of universities with high levels of social capital reported less risky drinking and negative consequences.

It is evident that increased extracurricular activity involvement is associated with decreased alcohol use (Johnson et al., 2005; Correia, Benson, & Carey 2005). Correia et al.
(2005) found that alcohol use could be decreased by either telling participants to decrease their alcohol consumption or to increase activity involvement. If students studying abroad have a high level of social capital or activity involvement in their home environment, they may be more inclined to consume alcohol in the study abroad setting if there is a decreased in social capital or activity involvement. Therefore, based on this literature it is predicted that UNCW students will report more free time while abroad and thus engage in more alcohol consumption.

RESEARCH QUESTION:

Will group differences in alcohol use emerge at Time 1 and Time 2?

HYPOTHESES:

1. Students who study abroad are more sensation seeking than those who do not.

2. Sensation seeking is a stable trait that should remain unchanged by study abroad.

3. Sensation seeking scores before study abroad will predict student’s total drinks while abroad.

4. Student drinking while abroad will increase or decrease to fit perceived drinking norms of the host country.

5. Peers will be reported as highly influential to alcohol consumption abroad.

6. Access to alcohol will influence alcohol consumption.

7. Students will drink according to their drinking predictions at time two.
Value placed on academics and time spent on extracurricular activities may help to explain differences in drinking among groups.

METHOD

Participants

Three groups of participants were identified based on their study abroad status. Two groups were recruited through International Programs on the UNCW campus. One group consisted of 62 UNCW students (mean age=20 years, 21 males and 41 females) studying abroad through the university at a variety of locations including Australia, Europe, and Latin America. A second group was 53 international students (mean age=21.32 years, 17 males and 36 females) studying abroad at UNCW. A third group served as a control group and consisted of 107 UNCW students (mean age=18.29 years, 6 males and 101 females) who were not studying abroad during the length of the study. This group was recruited through the Psychology 105 subject pool to serve as a comparison group that may be influenced by some of the same factors as the students studying abroad.

Procedure

This is a repeated measures study in that each of the three groups completed a baseline survey related to alcohol use before or at the very beginning of their study abroad experience, and completed a second survey at the termination of their study abroad experience. Control subjects did not study abroad but responded to the surveys at least 1 month apart. The term “Time 1” refers to pre study abroad measurements even if data were collected at orientation for study abroad, and “Time 2” is refers to post study abroad measurements, even if they were
collected at the farewell gathering or shortly after leaving the study abroad location. Sixty-two UNCW students studying abroad completed the baseline data at their orientation in April 2008 where they signed an informed consent and completed a paper and pencil version of the survey. Follow up surveys were completed at Time 2 by 17 students electronically through email. The Time 2 data for the 53 international students studying at UNCW was collected at their orientation in August 2008 during which they signed an informed consent and completed a paper and pencil version of the survey. Twenty international students completed the follow up survey at Time 2. Some completed it at an international event at the end of their study abroad experience, while others completed the follow up survey electronically through email.

The control group consisted of 107 UNCW students not studying abroad during the semester. Participants signed up for the study on the research subject pool website. These participants received credit for participating in the study. The participant selected a day and time to arrive at the BEACH Lab in August 2008 to complete the informed consent and the baseline survey. Next, participants selected another day and time at least 30 days after completing the first part of the study to complete the follow up survey. Ninety eight control participants completed the follow up survey. Time 1 refers to the initial survey that was completed at the beginning of the semester and Time 2 refers to the follow up survey that was completed toward the end of the semester, at least 30 days after completing the baseline survey. Participation in this study was completely voluntary and these participants’ data was matched through the use of middle name and birthday not allowing any of the participants to be identified on an individual basis. All procedures were approved by the UNCW IRB. See Table 1 for a list of host countries for UNCW students studying abroad and a list of home countries for international students studying abroad in the United States.

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Measures

The baseline information consisted of two alcohol consumption measures, The Time Line Follow Back (TLFB) and the Personal Drinking History Questionnaire (PDHQ; Vogul Sprott, 1992), in addition to the Brief Sensation Seeking Scale (BSSS; Hoyle, Stephenson, Palmgreen, Lorch, & Donohew, 2002), and various questions tailored to the factors influencing alcohol use in their home country. The follow up survey consisted of the same measures but additional questions assessed their perceptions of the study abroad experience. These items were modified for the measures given to the control group so that the students reflected on their semester at UNCW those participants did not go abroad.

The TLFB was chosen because of its ability to obtain specific drinking information as a baseline in order to note any changes (Sobell & Sobell, 2004). Acceptable reliability of recall has been documented up to 12 months with alcohol abusers, normal drinkers, college students, males and females. It is an adaptable measure in that it has been translated into many European and Asian languages, and the instrument may be given in paper and pencil, on the computer, or as an interview. In a review of alcohol consumption measures (Sobell & Sobell, 2004), the TLFB is reported as having good psychometric properties including stability reliability and content, criterion, and construct validity.

Sobell, Sobell, Krajner, and Pavan (1986) found high reliability for both male and female normal drinker college students using the TLFB. Further reliability and validity support was provided for the TLFB by its use in a cross cultural study for outpatient alcohol abusers in a World Health Organization clinical trial (Sobell, Agrawal, Annis, Ayala-Velazquez, Echeverria, Leo, Rybakowski Sandahl, Saunders, Thomas, & Ziolkowski, 2001). When comparing the
TLFB to real-time daily data, Searles, Helzer, and Walter (2000) found modest correlations for amount of alcohol consumed, drinking days, and heavy drinking days. Donohue, Azrin, Strada, Silver, Teichner, and Murphy (2004) used collateral reports of parents to examine the psychometric properties of the TLFB retrospectively completed by alcohol and drug abusing, conduct disordered adolescents over a six month time period. The data reports on alcohol and marijuana use were found for every month by parents and by adolescents were consistent, providing more psychometric support for the TLFB.

For the current study, the TLFB was presented as a calendar, and participants were given instructions to consider the past month and any special events that occurred in that month. Next, they were asked to use the given calendar to record each day that they had consumed alcohol, how much they had consumed, and what types of alcoholic beverages they had consumed.

In addition to collecting specific drinking data, typical drinking patterns were also assessed through the Personal Drinking History questionnaire (PDHQ; Vogul-Sprott, 1992). The PDHQ assessed frequency, dose, duration of drinking occasion, and rate of consumption. These measures may better describe typical drinking patterns than the TLFB for a broader perspective on participants’ drinking.

The BSSS (Hoyle et al., 2002) was used as an alternative to the Form V. This scale was derived from the Form V to provide a briefer but still valid and reliable measure of sensation seeking. This scale was adapted for adolescents and young adults. As a modification of the Form V, the BSSS was designed to be short, use current and appropriate terminology, and use a Likert-type scale for responses. The Form V contains questions regarding substance use in order to predict the behavior, and the BSSS has omitted this language to prevent a potential confound.
This BSSS is an 8 item instrument that is measured on a 5 point Likert scale ranging from “Strong Disagree” to “Strongly Agree” and retains the four subscales as that comprise the Form V. Internal consistency of the eight items was found to be .76. For each of the eight items on the BSS means ranged between 3 and 4 with one exception of 4.18. Confirmatory factor analysis of the eight item scale revealed structural validity. According to Hoyle and colleagues, the Brief Sensation Seeking Scale has solid psychometric properties across sex, age, and ethnicity and appears to be a robust correlate of risky behaviors related to substance use.

Stephenson, Hoyle, Palmgreen, and Slater (2003) provided additional psychometric validation of the BSSS while testing even shorter versions of sensation seeking measurements with adolescents. Again, no significant differences were found across age or gender using the BSSS. Additionally, the BSSS was significantly positively correlated with tobacco, alcohol, and marijuana past use and favorable attitude of the substance. Sensation seeking, as measured by the BSSS, was significantly positively correlated with risk factors (perceived peer use of marijuana, perceived peer approval or marijuana, and deviance) and was significantly negatively correlated with protective factors (school belongingness, religiosity quality of home life, and GPA).

Eachus (2004) used the BSSS to predict vacation preferences in those aged 17-75 years old. This provides information of the scale being used on a different age group than the previous two studies mentioned. The BSSS was found to be predictive of people who prefer adventurous and active vacations as independent travelers and who prefer remote or unusual locations to vacation. It was also predictive of people who prefer beach vacations where they can soak in the sun and not engage in much activity during the day but enjoy nightlife action. Findings supported the
established negative correlation between age and sensation seeking, with younger people tending to score higher on sensation seeking. Correcting for age, results indicated that people who prefer indulgent and pampered vacations do not score high on sensation seeking. Findings support sound psychometric properties, consistent with those reported by Hoyle and colleagues (2002).

Stephenson, Velez, Chalela, Ramirez, and Hoyle (2007) tested the psychometric properties of the BSSS in English and non-English speaking Latinos. A possible limitation of the BSSS is evident in the lack of understanding of the term “bungee-jumping” in one of the items. Researchers changed the term to “parachute-jumping” for the purposes of the study conducted by Stephenson and colleagues (2007). The authors of the study concluded that the BSSS is reliable and valid in measuring sensation seeking among English speaking Latinos. Results differed when the BSSS was translated into Spanish for non-English speaking Latinos. Sensation seeking was positively related to alcohol consumption in English speaking Latinos aged 18-30 years old. The current study presented only the English version of the BSSS, and thus may be a limitation of the findings.

The BSSS was chosen for the current study based on the findings presented here. It is thought to have psychometric properties resembling those of the widely used Form V. It appears to be a reliable measure across age, genders, and ethnicity. In addition, it was chosen because its brevity and simple language: important considerations when working with international students for whom English may be a second language.

RESULTS
<table>
<thead>
<tr>
<th>Host countries of UNCW students</th>
<th>Home countries of international students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Brazil</td>
</tr>
<tr>
<td>Australia</td>
<td>England</td>
</tr>
<tr>
<td>Australia</td>
<td>England</td>
</tr>
<tr>
<td>Australia</td>
<td>Finland</td>
</tr>
<tr>
<td>Australia</td>
<td>France</td>
</tr>
<tr>
<td>Australia</td>
<td>Germany</td>
</tr>
<tr>
<td>Costa Rica</td>
<td>Germany</td>
</tr>
<tr>
<td>Chile</td>
<td>Germany</td>
</tr>
<tr>
<td>Chile</td>
<td>Germany</td>
</tr>
<tr>
<td>Denmark</td>
<td>Japan</td>
</tr>
<tr>
<td>Ecuador</td>
<td>Japan</td>
</tr>
<tr>
<td>England</td>
<td>Scotland</td>
</tr>
<tr>
<td>France</td>
<td>South Korea</td>
</tr>
<tr>
<td>South Africa</td>
<td>Sweden</td>
</tr>
<tr>
<td>Spain</td>
<td>Sweden</td>
</tr>
<tr>
<td>Spain</td>
<td>Sweden</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>Turkey</td>
</tr>
<tr>
<td></td>
<td>Turkey</td>
</tr>
<tr>
<td></td>
<td>United Kingdom</td>
</tr>
<tr>
<td></td>
<td>United Kingdom</td>
</tr>
</tbody>
</table>
Alcohol quantity

To assess the quantity of alcohol consumed by the three groups over time, a 2x3 mixed measures analysis of variance was conducted. Specifically, factors included study abroad status (United States, international, or control) and total drinks consumed in the last 30 days at Time 1 and Time 2 as measured by the TLFB. Results indicated no main effect for time, $F(1,108)=.008$, $p>.05$. However, there was a significant main effect for study abroad status, $F(2, 108)=3.257$, $p<.05$ as seen in Figure 3 and Table 2. A Tukey post hoc test (Tukey, 1977) showed that U.S. students studying abroad consumed significantly more alcohol beverages than the control group with a mean difference of 23.99, $p<.03$. No other differences were found. There was also no significant interaction between time and condition, $F(2,108)=.302, p>.05$. U.S. students studying abroad consumed more alcohol beverages at both Time 1 and Time 2 than did international and control participants.
Table 2

Quantity of alcohol consumption by the three groups

<table>
<thead>
<tr>
<th></th>
<th>Time 1</th>
<th>Time 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>UNCW (n=12)</td>
<td>48.08</td>
<td>40.41</td>
</tr>
<tr>
<td>International (n=12)</td>
<td>26.92</td>
<td>22.56</td>
</tr>
<tr>
<td>Control (n=87)</td>
<td>26.34</td>
<td>30.98</td>
</tr>
</tbody>
</table>
Figure 3. Group differences in total drinks at Time 1 and Time 2.
Alcohol frequency

During the pilot study, some international students had struggled with the TLFB and it was suspected that a simpler measure might yield more valid data, at least for that group. To investigate whether an alternative format and longer, 90-day, reporting period for drinking would yield more valid results, data from the PDHQ was also analyzed for Time 1 and Time 2. A 2x3 mixed measures analysis of variance was conducted across the three groups for frequency of alcohol use measured by the PDHQ at Time 1 and Time 2. Results yielded a significant interaction, $F(2,114)=5.292, p<.05$ as seen in Figure 4 and Table 3. UNCW students drank more while abroad than before going abroad, and international students drank less while abroad in the U.S. than they had in their home countries. There was no main effect for drinking days over time, $F(1,114)=.519, p>.05$. There was also no main effect for study abroad status, $F(2,114)=1.861, p>.05$. Alcohol consumption among control participants did not change significantly. Additionally, a Pearson’s correlation revealed that the PDHQ and the TLFB are significantly correlated to each other both at Time 1, $r=.75$, $p<.00$, and at Time 2, $r=.73$, $p<.00$. 
Table 3

Frequency of alcohol consumption by the three groups

<table>
<thead>
<tr>
<th></th>
<th>Time 1</th>
<th></th>
<th>Time 2</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td><strong>UNCW (n=14)</strong></td>
<td>19.86</td>
<td>12.20</td>
<td>27.64</td>
<td>13.28</td>
</tr>
<tr>
<td><strong>International (n=14)</strong></td>
<td>24.46</td>
<td>16.87</td>
<td>19.07</td>
<td>16.49</td>
</tr>
<tr>
<td><strong>Control (n=89)</strong></td>
<td>16.37</td>
<td>16.11</td>
<td>17.01</td>
<td>15.82</td>
</tr>
</tbody>
</table>
Figure 4. Frequency of alcohol use interaction of study abroad status and time
Sensation seeking

To see if sensation seeking, thought to be a stable trait, remained unchanged during the study period, a 2x3 mixed analysis of variance was conducted across the three groups for sensation seeking as measured by the BSSS at Time 1 and Time 2. Results revealed that there was no main effect for time meaning that sensation-seeking scores remained consistent across time for the three groups, $F(1,130)=3.58, p>.05$. However, there was a main effect for study abroad status, $F(2,130)=8.973, p<.05$. A Tukey post hoc test (Tukey, 1977) showed that U.S. students studying abroad scored significantly higher on the BSSS than did the international students with a mean difference of .77, $p<.00$. U.S. students also scored higher on the BSSS than the control students with a mean difference of .58, $p<.00$. There was no significant interaction between time and condition for sensation-seeking scores, $F(2,130)=.562, p>.05$. These results are presented in Figure 5 and Table 4.
Table 4

Sensation seeking

<table>
<thead>
<tr>
<th></th>
<th>Time 1</th>
<th>Time 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>UNCW (n=16)</td>
<td>3.82</td>
<td>.47</td>
</tr>
<tr>
<td>International (n=20)</td>
<td>3.03</td>
<td>.57</td>
</tr>
<tr>
<td>Control (n=97)</td>
<td>3.27</td>
<td>.65</td>
</tr>
</tbody>
</table>
Figure 5. Sensation seeking across study abroad status and time.
One-way analyses of variance revealed that there were some differences within the subscales on the BSSS at Time 1 across study abroad status as seen in Figure 6 and Table 5. Time 1 was selected for this analysis, as there was no discernable change in BSSS scores at Time 2. Results revealed a significant difference in the Experience Seeking Subscale, $F(2,217)=12.413, p<.05$ among the 3 groups. A Tukey post hoc test (Tukey, 1977) showed that UNCW students studying abroad shower significantly higher than the control group on the Experience Seeking subscale with a .59 mean difference, $p<.00$. UNCW students abroad also scored significantly higher than the international students studying abroad on the Experience Seeking subscale with a mean difference of .59, $p<.00$. No other significant differences were found on this subscale.

Significant differences between UNCW students abroad and international students at UNCW were also found on the Boredom Susceptibility Subscale, $F(2,217)=5.111, p<.05$. A Tukey post hoc test (Tukey, 1977) revealed that UNCW students studying abroad significantly differed from international students studying abroad on Boredom Susceptibility with a mean difference of .43, $p<.00$. No other differences were found on this subscale.

Significant differences were found across study abroad status on the Thrill and Adventure Seeking Subscale, $F(2,217)=13.334, p<.05$. A Tukey post hoc test (Tukey, 1977) revealed that UNCW students studying abroad significantly differed from international students with a mean difference of .91, $p<.00$. UNCW students also significantly differed from the control group with a mean difference of .50, $p<.05$. The international group also significantly differed from the control group with a mean difference of .42, $p<.03$.

No significant differences among the three groups were found on the Disinhibition Subscale. In summary, at baseline, UNCW students studying abroad scored significantly higher
than international students studying at UNCW on three of the four subscales of the BSSS subscales and higher than the control group on two of the four subscales.
Table 5
Sensation seeking subscales at Time 1

<table>
<thead>
<tr>
<th></th>
<th>UNCW (n=62)</th>
<th></th>
<th>International (n=52)</th>
<th></th>
<th>Control (n=106)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Experience Seeking</td>
<td>3.96</td>
<td>.69</td>
<td>3.37</td>
<td>.77</td>
<td>3.37</td>
<td>.85</td>
</tr>
<tr>
<td>Boredom Susceptibility</td>
<td>3.76</td>
<td>.64</td>
<td>3.33</td>
<td>.79</td>
<td>3.59</td>
<td>.73</td>
</tr>
<tr>
<td>Thrill and Adventure Seeking</td>
<td>3.66</td>
<td>.88</td>
<td>2.75</td>
<td>.95</td>
<td>3.17</td>
<td>.98</td>
</tr>
<tr>
<td>Disinhibition</td>
<td>3.15</td>
<td>1.00</td>
<td>2.96</td>
<td>.80</td>
<td>2.98</td>
<td>.91</td>
</tr>
</tbody>
</table>
Figure 6. Baseline sensation seeking subscales across groups.
In order to determine how much of total drinks at Time 2 were predicted by average baseline sensation seeking scores, a regression revealed significant results, \( F(1,108)=12.59, p<.05 \). Sensation seeking scores accounted for 10.4% of the variance in alcohol consumption at time 2. Additionally, an independent t-test was conducted to see how males and females compared on sensation seeking at Time 1. Results revealed, after correcting for heterogeneity of variance, that the 43 males (M=3.69, SD=.76) scored significantly higher on sensation seeking than the 177 females (M=3.25, SD=.62), \( t(57)=3.52, p<.05 \).

Theory of Planned Behavior Variables

Perceived norms

Perceived norms are one of the components thought to influence behavioral intention according to the TPB. It was predicted that students drinking while abroad might change to be consistent with their beliefs about drinking norms in the host country. There were no significant findings across study abroad status in regards to perceived drinking norms of Americans. A paired samples t-test revealed no significant differences for UNCW students in their reported days drinking in the last 90 days while abroad and their estimation of a similar member of their host country’s days drinking in the last 90 days, \( t(13)=-2.107, p>.05 \). Non significant findings were found for the same analyses for the international students, \( t(15)=-1.633, p>.05 \). Lastly, a one way analysis of variance revealed no significant difference across study abroad status in their perceived drinking norms in terms of drinking days in the last 90 days of a member of their host country with whom they can identify, \( F(1,33)=2.535, p>.05 \). For means and standard deviations see Table 6.
Table 6

Perceived drinking norms of others and self reported drinking days in the last 90 days

<table>
<thead>
<tr>
<th></th>
<th>UNCW (n=14)</th>
<th></th>
<th>International (n=16)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
</tr>
<tr>
<td>Self reported</td>
<td>26.93</td>
<td>13.70</td>
<td>19.19</td>
</tr>
<tr>
<td>Estimate of other</td>
<td>38.18</td>
<td>22.26</td>
<td>24.13</td>
</tr>
</tbody>
</table>
Access to alcohol

Ability to obtain alcohol is thought to be related to perceived control or self-efficacy related to drinking, according to the TPB. To gain a further description of the similarities and differences among the three groups related to intentions, perceptions of control, and perceptions of the study abroad experience, several analyses were conducted. A 2x3 mixed analyses of variance evaluated the reported ease of access while in the home country and in the host country across study abroad status. Ease of obtaining alcohol was reported on a Likert scale where one represented “I could not obtain alcohol” and four represented “getting alcohol was not a problem”. A significant interaction was found, $F(2,119)=9.735, p<.05$ as seen in Figure 7. UNCW students abroad report an increase in ease of accessing alcohol while abroad. International students report a decrease in ease of accessing alcohol while abroad. Results revealed no main effect for country, $F(1,119)=1.305, p>.05$. There was a main effect for study abroad status, $F(2,119)=3.381, p<.05$. A Tukey post hoc test (Tukey, 1977) showed that UNCW students significantly different from the control group with a mean difference of .35, $p<.03$. For frequency tables of Time 1 and Time 2 reported access to alcohol see Table 7 and Table 8.
Table 7

Access to alcohol frequencies at Time 1

<table>
<thead>
<tr>
<th></th>
<th>UNCW (n=17)</th>
<th>International (n=17)</th>
<th>Control (n=88)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Could not obtain</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Difficult to obtain</td>
<td>0</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Fairly easy to obtain</td>
<td>8</td>
<td>4</td>
<td>53</td>
</tr>
<tr>
<td>Extremely easy to obtain</td>
<td>9</td>
<td>13</td>
<td>30</td>
</tr>
</tbody>
</table>
Table 8
Access to alcohol frequencies at Time 2

<table>
<thead>
<tr>
<th></th>
<th>UNCW (n=17)</th>
<th>International (n=17)</th>
<th>Control (n=88)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Could not obtain</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Difficult to obtain</td>
<td>0</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Fairly easy to obtain</td>
<td>0</td>
<td>4</td>
<td>44</td>
</tr>
<tr>
<td>Extremely</td>
<td>16</td>
<td>7</td>
<td>40</td>
</tr>
</tbody>
</table>
Figure 7. Access to alcohol across time and study abroad status.
A one way analyses of variance revealed a significant difference across study abroad status in the reported influence of the law on drinking at baseline, $F(2,206)=9.224$, $p<.05$ as seen in Figure 8. A Tukey post hoc test (Tukey, 1977) revealed that international students significantly differed from UNCW students with a mean difference of .40, $p<.00$. International students also differ significantly from control students in regards to their reported influence of the law on their drinking in their home country with a mean difference of .44, $p<.00$. For means and standard deviations of legal influence on alcohol consumption at Time 1 see Table 9.
Table 9

Reported influence of the law on alcohol use at Time 1

<table>
<thead>
<tr>
<th>Group</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNCW</td>
<td>1.97</td>
<td>.63</td>
</tr>
<tr>
<td>(n=62)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>International</td>
<td>2.37</td>
<td>.72</td>
</tr>
<tr>
<td>(n=51)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>1.94</td>
<td>.54</td>
</tr>
<tr>
<td>(n=96)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Figure 8. Reported importance of law on drinking at baseline across study abroad status.
Predicted drinking

According to the TPB, students who predict they will drink more while abroad will do so. This is in reference to the construct of behavioral intent. Paired samples t-tests were conducted to determine if drinking intentions was indicative of participant’s change in alcohol use from Time 1 to Time 2. Drinking prediction options were “I don’t drink and I don’t and I don’t plan to start”, “less”, “same”, and “more”. Paired samples t-tests was conducted using baseline total drinks and follow up total drinks based on the TLFB and prediction response. There was no significant drinking changes in participants who reported that they do not drink and do not plan to, \( t(8) = -0.43, p > .05 \), participants who reported that they would drink less, \( t(16) = 1.11, p > .05 \), participants who reported that they would drink the same, \( t(67) = -0.54, p > .05 \), and participants who reported that they would drink more, \( t(16) = 1.24, p > .05 \). Results revealed no significant differences between Time 1 and Time 2 drinking based on drinking prediction as seen in Figure 9 and Table 10.
Table 10

Drinking predictions and alcohol quantity

<table>
<thead>
<tr>
<th>Group</th>
<th>Time 1</th>
<th></th>
<th>Time 2</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Do not drink (n=9)</td>
<td>.67</td>
<td>1.32</td>
<td>.78</td>
<td>1.09</td>
</tr>
<tr>
<td>Less (n=17)</td>
<td>31.03</td>
<td>19.42</td>
<td>25.69</td>
<td>20.45</td>
</tr>
<tr>
<td>The same (n=68)</td>
<td>31.62</td>
<td>36.04</td>
<td>33.03</td>
<td>4.88</td>
</tr>
<tr>
<td>More (n=17)</td>
<td>29.88</td>
<td>25.34</td>
<td>23.44</td>
<td>18.15</td>
</tr>
</tbody>
</table>
Figure 9. Drinking predictions and actual drinks.
The same paired t-tests were conducted with alcohol frequency (as measured by the PDHQ) as the dependent variable rather than quantity. There was no significant drinking changes in participants who reported that they do not drink and do not plan to, $t(5) = -1.58, p > .05$, participants who reported that they would drink less, $t(19) = 1.00, p > .05$, participants who reported that they would drink the same, $t(73) = -1.26, p > .05$, and participants who reported that they would drink more, $t(16) = -0.84, p > .05$. There were no significant changes in frequency of drinking based on drinking predictions as seen in Figure 10 and Table 11.
Table 11

Drinking predictions and frequency of alcohol consumption

<table>
<thead>
<tr>
<th></th>
<th>Time 1</th>
<th></th>
<th>Time 2</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Do not drink (n=6)</td>
<td>.33</td>
<td>.52</td>
<td>.67</td>
<td>.82</td>
</tr>
<tr>
<td>Less (n=20)</td>
<td>21.85</td>
<td>16.67</td>
<td>18.65</td>
<td>16.88</td>
</tr>
<tr>
<td>The same (n=74)</td>
<td>17.35</td>
<td>16.16</td>
<td>18.89</td>
<td>15.58</td>
</tr>
<tr>
<td>More (n=17)</td>
<td>20.82</td>
<td>12.94</td>
<td>23.12</td>
<td>16.35</td>
</tr>
</tbody>
</table>
Figure 10. Drinking predictions and drinking frequency.
Other Influences

Peer influence

Participants were asked to rate on a Likert scale the influence of each of the following factors on their drinking at baseline and follow up: law, money, friends, amount of school work, and free time. According to the reported means on those variables, international students reported peers as most influential on their drinking at baseline (M=2.94, SD=.68) while UNCW students and the control group reported amount of school work as the most influential factor on their drinking at baseline (M=3.21, SD=.55) and (M=2.95, SD=.62) respectively as seen in Figure 11. At follow up, UNCW students reported the highest mean for peers (M=3.06, SD=.43), while international students and the control students reported their most influential factor at follow up to be amount of school work (M=3.00, SD=.49) and (M=3.15, SD=.64) respectively. No other peer influences were found.
Figure 11. Reported most influential factors on alcohol consumption.
Academic importance and free time

There were significant findings across study abroad status in reference to self reported influence of academic importance on alcohol use at baseline in home country, $F(2,205)=16.96$, $p<.05$ as seen in Figure 12. A Tukey post hoc test (Tukey, 1977) revealed that international students reported academic importance as less of an influence on drinking than the control group with a mean difference of .50, $p<.00$. International students also reported school as less of an influence on alcohol use than the UNCW students with a mean difference of .76, $p<.00$. There were significant findings across study abroad status in reference to influence of free time on alcohol use at time 1, $F(2,206)=12.99$, $p<.05$ as seen in Figure 12. A Tukey post hoc test (Tukey, 1977) revealed that international students reported free time as less of an influence on alcohol use at baseline than the control group with a mean difference of .43, $p<.00$. International students also reported free time as less of an influence of alcohol use than UNCW students with a mean difference of .60, $p<.00$. 
Figure 12. Differences across study abroad status in academic importance and free time at baseline.
There were also significant findings for importance of academics among the three groups at follow up. There were significant differences across study abroad status in reference to priority of academics while abroad, $F(2,129)=18.251, p<.05$ as seen in Figure 13. A Tukey post hoc test (Tukey, 1977) revealed that control students reported academics as more of a priority than UNCW students with a mean difference of .84, $p<.00$. The control group also reported academics as more important than international students at follow up with a mean difference of .57, $p<.00$. A significant difference was found in the reported level of how challenging the course was during the semester across study abroad status, $F(2,129)=3.438, p<.05$ as seen in Figure 13. Although the one way analysis of variance showed significance, a follow up Tukey post hoc test (Tukey, 1977) did not reveal where the significant differences lay. A significant difference was found across study abroad status on reports of how useful students perceived the material learned during the semester, $F(2,129)=3.668, p<.05$ as seen in Figure 13. A Tukey post hoc test (Tukey, 1977) revealed that international students reported a higher level of this that UNCW students with a mean difference of .56, $p<.02$. For means and standard deviations of academic importance and free time variables see Table 12.
Table 12

Academic importance and free time

<table>
<thead>
<tr>
<th></th>
<th>UNCW M</th>
<th>UNCW SD</th>
<th>International M</th>
<th>International SD</th>
<th>Control M</th>
<th>Control SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic priority</td>
<td>3.37</td>
<td>.53</td>
<td>2.53</td>
<td>.87</td>
<td>2.80</td>
<td>.70</td>
</tr>
<tr>
<td>Challenge level of courses</td>
<td>3.04</td>
<td>.65</td>
<td>2.71</td>
<td>.92</td>
<td>2.70</td>
<td>.47</td>
</tr>
<tr>
<td>Future use of material leaned</td>
<td>2.87</td>
<td>.66</td>
<td>2.59</td>
<td>.71</td>
<td>3.15</td>
<td>.37</td>
</tr>
<tr>
<td>Hours spent on Academia</td>
<td>28.67</td>
<td>13.91</td>
<td>16.94</td>
<td>8.25</td>
<td>27.21</td>
<td>10.33</td>
</tr>
<tr>
<td>Hours of free time</td>
<td>26.57</td>
<td>21.01</td>
<td>54.31</td>
<td>41.64</td>
<td>32.38</td>
<td>20.43</td>
</tr>
</tbody>
</table>
Figure 13. Perceptions and value of academic experience across study abroad status at follow up.
There was a significance difference found in reported hours spent on academics across study abroad status, $F(2,125)=5.958, p<.05$ as seen in Figure 14. A Tukey post hoc test (Tukey, 1977) revealed that the control group reported more hours spent on academic activities at follow up than did UNCW students abroad, with a mean difference of 11.73, $p<.00$. Finally, hours of reported free time significantly varied across study abroad status, $F(2,118)=7.761, p<.05$ as seen in Figure 14. A Tukey post hoc test (Tukey, 1977) revealed that UNCW students reported significantly more free time than control students with a mean difference of 27.74, $p<.00$. UNCW students also reported significantly more free time while abroad than the international students with a mean difference of 21.93, $p<.04$. 
Figure 14. Hours spend on academics and free time at follow up
DISCUSSION

Alcohol use abroad

When examining the findings related to quantity of alcohol use, it is interesting to note that although there were no significant changes in drinking quantity over time, UNCW students drank more abroad while international students drank less abroad as a trend. These trends do support previous research findings of Radomski and Murdoch (2007) on studying abroad and Radomski and MacKain (2008). It is evident that UNCW students are drinking more than the control group and the international students abroad at both points in time. In regards to alcohol frequency, an interaction shows that as UNCW students go abroad they drink more frequently but when international students go abroad they drink less frequently. This shows that drinking frequency may be dependent on study abroad location (United States vs. abroad) and perhaps variables such as access to alcohol. The possible influence of these other variables will be discussed below.

Sensation Seeking

Sensation seeking appears to be a stable trait in these participants, consistent with the existing literature on sensation seeking. Results imply that Americans studying abroad are more sensation seeking than international students abroad. Schroth and McCormack (2000) found endorsement for the Experience Seeking subscale for study abroad students. The results of this study showed endorsements of the Experience Seeking subscale, the Boredom Susceptibility subscale, and the Thrill and Adventure Seeking subscale based on study abroad status. Neither study found an effect for disinhibition. Based on the results, it appears that U.S. students may
self-select study abroad because they want to travel and be exposed to different cultures. They feel the need for something new as opposed to their usual routine of life, and they seek dangerous and thrilling experiences.

Interestingly, international students scored equal to or below the control group on the sensation seeking subscales. This suggests that sensation seeking is not necessarily a characteristic of students studying abroad, especially for non American students. Perhaps the international students are studying abroad for purposes other than sensation seeking, such as academic enrichment, which is discussed below. Another possible explanation for international students scoring lower on sensation seeking may be due to demographic differences in sensation seeking found by Zuckerman (1994). In order to compare students who study abroad on sensation seeking in future research, students must be compared to the base rate of sensation seeking in their home countries. Additionally, this difference may be due to language differences and problems with the cross-cultural relevance of the BSSS. Lastly, an alternative explanation for the differences across the three groups in sensation seeking may be that males are more sensation seeking than females. Gender was not equal across the three groups and thus may contribute to some of the differences in sensation seeking.

Alcohol use in relation to sensation seeking shows that those who score higher on sensation seeking are drinking more alcohol. UNCW students are drinking more alcohol at baseline and follow up than the other two group and UNCW students are also the most sensation seeking. This information combined with the known association between sensation seeking and alcohol use suggests that problems associated with the quantity of alcohol use abroad may be due to the fact that study abroad is a self-selecting sensation seeking activity. Therefore, those
American students who chose to go abroad are already drinking more than their peers possibly due to their higher levels of sensation seeking. These results are not meant to restrict certain students from studying abroad. This research is to understand and expand our current knowledge and use this information to address the problem from a more empirical standpoint.

Theory of Planned Behavior Variables

Perceived norms

Student drinking abroad did not differ significantly than their perceived drinking norms in their host country. Thus, perceived norms may have influenced their drinking patterns while abroad. Future research may explore perceived drinking norms of various countries. Also, in what situation might a student diverge their drinking behavior from their perceived drinking norms of others?

Access to alcohol

As predicted by drinking age laws, the results showed that UNCW students reported greater ease of alcohol access while abroad and international students reported less ease of alcohol access while abroad. Upon examination of mean ages of the groups, the typical UNCW student studying abroad was under the legal drinking age in the United Sates but was of legal age while abroad. The mean age of international students was 21.32, but many may have been restricted to the United States minimum legal drinking age law and prohibition of alcohol on campus. All international students in the study lived on campus. Overall, it is interesting to report that despite these laws and rules, very few participants in any group reported that they were not able to obtain alcohol.
Predicted drinking

There were no significant findings for behavioral intent implying that student’s intentions for drinking at time two did not correspond with their actual drinking behaviors at time two. For those who went abroad, this may be due to lack of knowledge of the other culture and the environmental factors they would be exposed to once they arrived. Perhaps their intentions or predictions changed after getting more acquainted with their new environment. Another potential reason for these null findings may have to do with how we measured the behavior. Most studies on the theory of planned behavior view the behavior in a dichotomous manner as in the participant exhibited the behavior or did not. In this study, the behavior was measured as interval ratio data rather than nominal data. This is important information for future on behavioral intent and alcohol use in new environments.

Other Influences

Peer influence

It is interesting that the reported more influential variable on drinking changed from Time 1 to Time 2 for those studying abroad. UNCW students reported amount of school work as the most influential factor on alcohol use at Time 1 and their peers at Time 2. International students reported peers as the most influential factor at Time 1 and amount of school work as most influential at Time 2. This finding may help explain alcohol use in these groups while abroad. If amount of school work is viewed as the most influential factor, drinking behavior may be inhibited. However, viewing peers as the most influential factor on drinking may promote use.

Academic importance and free time
There were some interesting trends at follow up across groups on the data regarding academic demands and free time. The control group rated academics as more of a priority, reported their classes to be more challenging, and reported the most hours spent on academics than the two groups of students studying abroad. The international group reported a similar amount of time spent on academics as the control group, and indicated that school work was more of a priority than the UNCW students abroad. They also reported the highest ratings on the value of the learned material and its usefulness in the future. In comparing hours of free time while abroad among the UNCW students abroad and international students at UNCW, it is clear that UNCW students had much more free time than the international students. Some of results may be due to different academic structuring in different countries. These results imply that international students abroad are more focused on academics than UNCW students while abroad. Academics may be an important factor in the interaction of time and study abroad status with regard to alcohol use. The influence of school work on alcohol use was consistent with drinking consumption. UNCW students reported academics as the most influential factor at Time 1 when their drinking rates were lower, and international students reported academics as the most influential factor at Time 2 when their drinking rates were lower. The results suggest that academic importance can be a powerful influence in deterring alcohol use. This is a starting point for future research concentrations on how academic structures abroad influence alcohol use.

Implications of the research

With regards to the Theory of Planned Behavior, it is evident that external factors (peers, access to alcohol, amount of school work, and free time) influence internal factors (perceived
control, perceived norms, and intentions). All of these variables contribute to the measured behavior of participants’ alcohol consumption. Furthermore, it is evident that there are clear psycho-biologically based variables such as level of sensation seeking may influence alcohol use.

The implications of this research are on track with those goals of Joel Epstein (2000) to reduce liability, reduce health risks, and maintain good relations with universities abroad. The intention of this knowledge is not to deter any persons from studying abroad but rather to reduce the probability of risky drinking behaviors abroad. Knowing more about the specific factors that are most influential on drinking behaviors will help to target those issues in educating students before they study abroad. Awareness of variables that influence drinking will help International Programs during preparation of studying abroad where programs can relay important information during predeparture interventions to help better inform the students about the cultural differences they will experience. Having the knowledge that some students going abroad may be more sensation seeking, International Programs can supply students with ample alternative activities that would engage sensation seeking other than alcohol use. Lastly, International Program offices can direct harm reduction philosophy at the variables found most influential to drinking such as peer influence and differences in academic structuring to ensure the safety of students going abroad.

Limitations

One of the biggest limitations in this study was the difference in UNCW students going to many different locations and all international students coming to UNCW. Therefore, all international students at UNCW may have a very similar experience while UNCW students
abroad may have very different experiences based on how many other students they are traveling with, their course load, their housing situation, and other determinants based on their specific location. Although this may be a potential limitation of the study, it can also be viewed as providing ideas for future research. Considering the internal and external control tradeoff, UNCW students having various study abroad experiences is more consistent with the study abroad status for most American students. However, since the International students all shared the same campus location while studying abroad, internal control is compromised.

Another limitation may be that the data were based on self report and thus may not be an accurate representation of participants’ behavior. Also, collecting data electronically through email for the UNCW students studying abroad for their follow up data may be a confound since all other data was collected in person through paper and pencil surveys. Poor follow up data return rates may affect power of analyses thus increasing the probability of missing an effect. Selective attrition is also a possibility which may mean that the final group of participants at Time 2 may be different from the original group of participants at Time1. Thus, there is always the question of the individuals that responded at Time 2 being different than the individuals that did not respond at Time 2. Additionally, the time lapse between baseline and follow up surveys was not identical for the three groups. For example, when measuring drinking frequency through the PDHQ, participants were asked to think back to the last 90 days. However, the control group only experienced a 30 day minimum interval between their baseline and follow up data collection. Lastly, because US and international students participated in the study, language barriers may have been a problem. It was noticed that U.S. students filled out the TLFB with much more ease than the international students. Many international students neglected to fill out this portion of the survey and thus maybe had trouble understanding the directions.
The control group presents some limitations in that it is difficult to find a sample that is similar to the students studying abroad, the only difference being lack of the studying abroad experience. Using the research subject pool provided through the Psychology 105 class, the sample was diverse in majors and interests which render them comparable to those going abroad. However, those who usually take the Psychology 105 class are slightly younger than those who typically study abroad. Also, for the students in this class, it may be their first college experience which may have an effect on drinking behaviors.

Future research

Possible directions of research in this area may focus on how other variables influence alcohol use abroad. Some of these variables include the duration of program, specific study abroad locations, other personality traits, and transportation in the abroad locations. Additionally, there may be future implications for predicting study abroad locations based on sensation seeking. The current project though has some limitations, represents an advance in our understanding of the underlying factors that contribute to alcohol use during study abroad.
REFERENCES


APPENDIX

Appendix A. UNCW students studying abroad Time 1 survey.
Your Birthdate ________________________
Day/month/year
Your Middle Name _____________________
(This information will only be used to match your first and 2nd surveys. We will then black-out the info and list a random identification number instead).

Study Abroad Location __________________________
Age ________________________
Male  Female (circle)
Legal drinking age at your Study Abroad Location ________________

Section I.

1. Compared to when I am in the US, when I am abroad, I think I will drink:

Less  The Same  More  I don’t drink and don’t plan to start

2. American students drink to get drunk more often than students in the country where I will be studying.

Strongly Disagree  Disagree  Agree  Strongly Agree

3. American students get into more trouble with their drinking than do students in the country where I will be studying.

Strongly Disagree  Disagree  Agree  Strongly Agree

4. I view my study abroad experience mostly as a chance to have a good time/vacation

Strongly Disagree  Disagree  Agree  Strongly Agree

5. My study abroad experience is mostly for educational and cultural enrichment

Strongly Disagree  Disagree  Agree  Strongly Agree

6. I never drink alcohol in the US.

True  False

If True please give reason: ____________________________________
If True, proceed to page 4 (Section IV).

7. How easy has it been for you to obtain alcohol in the US?
   a) I could not obtain alcohol
   b) It has been difficult for me to obtain alcohol
   c) It has been fairly easy for me to obtain alcohol
   d) It has been extremely easy for me to obtain alcohol
**Section II**
If you have drunk alcohol in the US, please answer the following:

**The following things have affected how much I drink in the US.**

1. My drinking depended on whether it was legal
   - Strongly Disagree
   - Disagree
   - Agree
   - Strongly Agree

2. My drinking depended on whether I had enough money to buy alcohol
   - Strongly Disagree
   - Disagree
   - Agree
   - Strongly Agree

3. My drinking depended on whether or not my friends were drinking
   - Strongly Disagree
   - Disagree
   - Agree
   - Strongly Agree

4. My drinking depended on how much school work I had
   - Strongly Disagree
   - Disagree
   - Agree
   - Strongly Agree

5. My drinking depended on how much free time I had outside of my activities
   - Strongly Disagree
   - Disagree
   - Agree
   - Strongly Agree

6. My drinking depended on whether or not I knew that I had a safe way to get home
   - Strongly Disagree
   - Disagree
   - Agree
   - Strongly Agree

**Circle the best answer--true or false?**

<table>
<thead>
<tr>
<th>Statement</th>
<th>True</th>
<th>False</th>
</tr>
</thead>
<tbody>
<tr>
<td>I need a drink to help me relax.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I drink to relieve tension and stress.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I like to have a drink to help me unwind after a tough day.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drinking helps me forget some of my problems.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I drink when I am sad.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I tend to drink when I am bored.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A drink helps to cheer me up when I am in a bad mood.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drinking helps me to forget my worries.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drinking makes me feel at peace with myself.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I drink because I want to belong to people who usually drink.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I drink because the people I know drink.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I drink to be sociable.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I drink to celebrate social occasions.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I accept a drink because it is the polite thing to do.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Section III.
Below are some questions that are primarily concerned with your personal history of drinking. Most ask you to answer according to what is most typical or usual for you. Please try to answer each question as honestly as possible.

Gender: _______ Age: _______ Weight: _______ lb (or _______ kg)
Height: _______ Ft. _______ in (or _______ cm)

1. How long have you been drinking alcohol on a regular basis?
   a. _______ months
   b. _______ years

2. How often, on average, do you drink alcohol socially, that is, with others? (Choose only one.)
   a. Only on special occasions _______ How many times per year? _______
   b. Monthly, how often? _______
   c. Weekly, how often? _______
   d. Daily, how often? _______

3. In the last 90 days, how many days did you have at least one alcoholic beverage? _______ (Estimate 0 – 90.)

4. What alcoholic beverage do you prefer? ______________________

5. What alcoholic beverage do you usually drink? __________________

6. In terms of the beverage indicated in question 4, what is the average quantity you drink in a single drinking occasion? (Choose only one.)
   a. Wine (estimate ounces)
      1 2 3 4 5 6 7 8 9 10 or _______
   b. Beer (12 oz bottles/cans)
      1 2 3 4 5 6 7 8 9 10 or _______
   c. Beer (16 oz draft glasses)
      1 2 3 4 5 6 7 8 9 10 or _______
   d. Liquor (assume 1.5 oz per drink and estimate number of drinks)
      1 2 3 4 5 6 7 8 9 10 or _______

7. How long does your typical drinking session last? (Choose one only.)
   a. _______ minutes
   b. _______ hours
   c. _______ days
### Section IV

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>I would like to explore strange places</td>
<td>Strongly Disagree</td>
<td>Disagree</td>
<td>Neither Disagree nor Agree</td>
</tr>
<tr>
<td>2.</td>
<td>I get restless when I spend too much time at home</td>
<td>Strongly Disagree</td>
<td>Disagree</td>
<td>Neither Disagree nor Agree</td>
</tr>
<tr>
<td>3.</td>
<td>I like to do frightening things</td>
<td>Strongly Disagree</td>
<td>Disagree</td>
<td>Neither Disagree nor Agree</td>
</tr>
<tr>
<td>4.</td>
<td>I like wild parties</td>
<td>Strongly Disagree</td>
<td>Disagree</td>
<td>Neither Disagree nor Agree</td>
</tr>
<tr>
<td>5.</td>
<td>I would like to take off on a trip with no pre-planned routes or timetables</td>
<td>Strongly Disagree</td>
<td>Disagree</td>
<td>Neither Disagree nor Agree</td>
</tr>
<tr>
<td>6.</td>
<td>I prefer friends who are excitingly unpredictable</td>
<td>Strongly Disagree</td>
<td>Disagree</td>
<td>Neither Disagree nor Agree</td>
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<td>8.</td>
<td>I would love to have new and exciting experiences, even if they are illegal</td>
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**March 2008**
Appendix B. UNCW students studying abroad Time 2 survey.

Your Birthdate _________________________ Day/month/year

Your Middle Name _____________________
(This information will only be used to match your first and 2\textsuperscript{nd} surveys. We will then black-out the info and list a random identification number instead).

Are you 21 or older?       Yes         No

1. Compared to when I am in the United States, this semester abroad, I drank:
   Less                    The Same                   More               I didn't drink

2. American students drink to get drunk more often than students in my host country.
   Strongly Disagree     Disagree     Agree               Strongly Agree

3. American Students get into more trouble with their drinking than do students in my host country.
   Strongly Disagree     Disagree     Agree               Strongly Agree

4. I view my study abroad experience \textit{mostly} as a chance to have a good time/vacation
   Strongly Disagree     Disagree     Agree               Strongly Agree

5. My study abroad experience is \textit{mostly} for educational and cultural enrichment
   Strongly Disagree     Disagree     Agree               Strongly Agree

6. I never drank alcohol while abroad       True       False
   Reason: ___________________________________

If True, proceed to page 4 (\textbf{Section IV}).

If you did drink alcohol while abroad, please answer the following:

\textbf{The following things affected how much I drank while abroad}

1. My drinking depended on whether it was legal
   Strongly Disagree     Disagree     Agree               Strongly Agree

2. My drinking depended on whether I had enough money to buy alcohol
   Strongly Disagree     Disagree     Agree               Strongly Agree
3. My drinking depended on whether or not my friends were drinking

<table>
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<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
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</table>

4. My drinking depended on how much school work I had

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<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Agree</th>
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</table>

5. My drinking depended on how much free time I had outside of my activities

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Agree</th>
<th>Strongly Agree</th>
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</table>

1. How easy was it for you to obtain alcohol while abroad?
   A) I could not obtain alcohol
   B) It was difficult for me to obtain alcohol
   C) It was fairly easy for me to obtain alcohol
   D) Getting alcohol was not a problem

2. Are you mostly hanging out with: (circle one):
   People from your host country
   Other Americans studying abroad
   Americans studying abroad & people from your host country equally

3. Do you have a friend that encourages your drinking?
   Yes      No
   If so, please write the home country of this person:_______________________

Circle the best answer--true or false?

I need a drink to help me relax.  True  False
I drink to relieve tension and stress. True  False
I like to have a drink to help me unwind after a tough day. True  False
Drinking helps me forget some of my problems. True  False
I drink when I am sad. True  False
I tend to drink when I am bored. True  False
A drink helps to cheer me up when I am in a bad mood. True  False
Drinking helps me to forget my worries. True  False
Drinking makes me feel at peace with myself. True  False
I drink because I want to belong to people who usually drink. True  False
I drink because the people I know drink. True  False
I drink to be sociable. True  False
I drink to celebrate social occasions. True  False
I accept a drink because it is the polite thing to do. True  False
Section III.
Below are some questions that are primarily concerned with your personal history of drinking. Most ask you to answer according to what is most typical or usual for you during your semester abroad. Please try to answer each question as honestly as possible.

Gender: ________ Age: ________ Weight: ________ lb (or ________ kg)
Height: _______ Ft. ________ in (or ________ cm)

1. How long have you been drinking alcohol on a regular basis?
   a. ________ months
   b. ________ years

2. How often, on average, do you drink alcohol socially, that is, with others? (Choose only one.)
   a. Only on special occasions ________ How many times per year? ________
   c. Monthly, how often? ________
   d. Weekly, how often? ________
   e. Daily, how often? ________

3. In the last 90 days, how many days did you have at least one alcoholic beverage? ________ (Estimate 0 – 90.)

4. What alcoholic beverage do you prefer? ________________________

5. What alcoholic beverage do you usually drink? __________________

6. In terms of the beverage indicated in question 4, what is the average quantity you drink in a single drinking occasion? (Choose only one.)
   a. Wine (estimate ounces)
      1 2 3 4 5 6 7 8 9 10 or ________
   b. Beer (12 oz bottles/cans)
      1 2 3 4 5 6 7 8 9 10 or ________
   c. Beer (16 oz draft glasses)
      1 2 3 4 5 6 7 8 9 10 or ________
   d. Liquor (assume 1.5 oz per drink and estimate number of drinks)
      1 2 3 4 5 6 7 8 9 10 or ________

7. How long does your typical drinking session last? (Choose one only.)
   a. ________ minutes
   b. ________ hours
   c. ________ day
Section IV

1. I would like to explore strange places

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neither Disagree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
</table>

2. I get restless when I spend too much time at home

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neither Disagree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
</table>

3. I like to do frightening things

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neither Disagree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
</table>

4. I like wild parties

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neither Disagree</th>
<th>Agree</th>
<th>Strongly Agree</th>
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5. I would like to take off on a trip with no pre-planned routes or timetables

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neither Disagree</th>
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6. I prefer friends who are excitingly unpredictable

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neither Disagree</th>
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7. I would like to try bungee jumping

<table>
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<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neither Disagree</th>
<th>Agree</th>
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8. I would love to have new and exciting experiences, even if they are illegal

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neither Disagree</th>
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Section V:

1. My classes abroad were a top priority to me in comparison to other activities
   Strongly Disagree  Disagree  Agree  Strongly Agree

2. How many hours a week were you involved in academic related activities? (Including time spent in class and time spent doing homework) __________ hours.

3. My classes abroad were challenging and rigorous
   Strongly Disagree  Disagree  Agree  Strongly Agree

4. What I learned in my classes abroad will be of great use in the future
   Strongly Disagree  Disagree  Agree  Strongly Agree

5. I had about _______ hours of free time per week while abroad.

6. In the last 90 days, how many days would the typical male or female your age in your host country have at least one alcoholic beverage? ________ (Estimate 0 – 90.)

7. In the last 90 days, how many days would the typical male or female your age in your home country have at least one alcoholic beverage? ________ (Estimate 0 – 90.)
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<th>Sunday</th>
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12
Appendix C. International students studying at UNCW Time 1 survey.
Your Birthdate _______________________
Day/month/year
Your Middle Name _____________________
(This information will only be used to match your first and 2\textsuperscript{nd} surveys. We will then black-out the info and list a random identification number instead).

Home Country __________________________
Age ________________________________
Male    Female (circle)
Legal drinking age at your home country ________________

Section I.

1. Compared to when I am in my home country, when I am at UNCW, I think I will drink:

   Less                    The Same                   More          I don’t drink and don’t plan to start

2. American students drink to get drunk more often than students in my home country.
   Strongly Disagree  Disagree  Agree  Strongly Agree

3. American Students get into more trouble with their drinking than do students in my home country.
   Strongly Disagree  Disagree  Agree  Strongly Agree

4. I view my study abroad experience \textit{mostly} as a chance to have a good time/vacation
   Strongly Disagree  Disagree  Agree  Strongly Agree

5. My study abroad experience is \textit{mostly} for educational and cultural enrichment
   Strongly Disagree  Disagree  Agree  Strongly Agree

6. I never drink alcohol in my home country.

   True    False

   If True please give reason: ___________________________________

   If True, proceed to page 4 (Section IV).

7. How easy has it been for you to obtain alcohol in your home country?
   a) I could not obtain alcohol
   b) It has been difficult for me to obtain alcohol
   c) It has been fairly easy for me to obtain alcohol
   d) It has been extremely easy for me to obtain alcohol
Section II
If you have drunk alcohol in your home country, please answer the following:

The following things have affected how much I drink in my home country.

1. My drinking depended on whether it was legal
   Strongly Disagree  Disagree  Agree  Strongly Agree

2. My drinking depended on whether I had enough money to buy alcohol
   Strongly Disagree  Disagree  Agree  Strongly Agree

3. My drinking depended on whether or not my friends were drinking
   Strongly Disagree  Disagree  Agree  Strongly Agree

4. My drinking depended on how much school work I had
   Strongly Disagree  Disagree  Agree  Strongly Agree

5. My drinking depended on how much free time I had outside of my activities
   Strongly Disagree  Disagree  Agree  Strongly Agree

6. My drinking depended on whether or not I knew that I had a safe way to get home
   Strongly Disagree  Disagree  Agree  Strongly Agree

Circle the best answer--true or false?

I need a drink to help me relax.  True  False
I drink to relieve tension and stress.  True  False
I like to have a drink to help me unwind after a tough day.  True  False
Drinking helps me forget some of my problems.  True  False
I drink when I am sad.  True  False
I tend to drink when I am bored.  True  False
A drink helps to cheer me up when I am in a bad mood.  True  False
Drinking helps me to forget my worries.  True  False
Drinking makes me feel at peace with myself.  True  False
I drink because I want to belong to people who usually drink.  True  False
I drink because the people I know drink.  True  False
I drink to be sociable.  True  False
I drink to celebrate social occasions.  True  False
I accept a drink because it is the polite thing to do.  True  False
Section III.
Below are some questions that are primarily concerned with your personal history of drinking. Most ask you to answer according to what is most typical or usual for you. Please try to answer each question as honestly as possible.

Gender: ________ Age: ________ Weight: ________ lb (or ________ kg)
Height: _______ Ft. ________ in (or ________ cm)

1. How long have you been drinking alcohol on a regular basis?
   a. ________ months
   b. ________ years

2. How often, on average, do you drink alcohol socially, that is, with others?
   (Choose only one.)
   a. Only on special occasions ________ How many times per year? ________
   b. Monthly, how often? ________
   c. Weekly, how often? ________
   d. Daily, how often? ________

3. In the last 90 days, how many days did you have at least one alcoholic beverage? ________ (Estimate 0 – 90.)

4. What alcoholic beverage do you prefer? ________________________

5. What alcoholic beverage do you usually drink? __________________

6. In terms of the beverage indicated in question 4, what is the average quantity you drink in a single drinking occasion? (Choose only one.)
   a. Wine (estimate ounces)
      1 2 3 4 5 6 7 8 9 10 or ________
   b. Beer (12 oz bottles/cans)
      1 2 3 4 5 6 7 8 9 10 or ________
   c. Beer (16 oz draft glasses)
      1 2 3 4 5 6 7 8 9 10 or ________
   d. Liquor (assume 1.5 oz per drink and estimate number of drinks)
      1 2 3 4 5 6 7 8 9 10 or ________

7. How long does your typical drinking session last? (Choose one only.)
   a. ________ minutes
   b. ________ hours
   c. ________ days
Section IV

1. I would like to explore strange places
   Strongly Disagree Disagree Neither Disagree Agree Strongly Agree Nor Agree

2. I get restless when I spend too much time at home
   Strongly Disagree Disagree Neither Disagree Agree Strongly Agree Nor Agree

3. I like to do frightening things
   Strongly Disagree Disagree Neither Disagree Agree Strongly Agree Nor Agree

4. I like wild parties
   Strongly Disagree Disagree Neither Disagree Agree Strongly Agree Nor Agree

5. I would like to take off on a trip with no pre-planned routes or timetables
   Strongly Disagree Disagree Neither Disagree Agree Strongly Agree Nor Agree

6. I prefer friends who are excitingly unpredictable
   Strongly Disagree Disagree Neither Disagree Agree Strongly Agree Nor Agree

7. I would like to try bungee jumping
   Strongly Disagree Disagree Neither Disagree Agree Strongly Agree Nor Agree

8. I would love to have new and exciting experiences, even if they are illegal
   Strongly Disagree Disagree Neither Disagree Agree Strongly Agree Nor Agree

Thank You so much for participating in this study!
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Middle Name:__________ Birthday:__________ July 2008
Appendix D. International students studying at UNCW Time 2 survey.

Your Birthdate _________________________
        Day/month/year
Your Middle Name _____________________
(This information will only be used to match your first and 2nd surveys. We will then black-out the info and list a random identification number instead).

Are you 21 or older?       Yes         No

1. Compared to when I am in my home country, this semester in the U.S., I drank:
   Less         The Same        More       I didn’t drink

2. American students drink to get drunk more often than students in my home country.
   Strongly Disagree       Disagree       Agree       Strongly Agree

3. American Students get into more trouble with their drinking than do students in my home country.
   Strongly Disagree       Disagree       Agree       Strongly Agree

4. I view my study abroad experience mostly as a chance to have a good time/vacation
   Strongly Disagree       Disagree       Agree       Strongly Agree

5. My study abroad experience is mostly for educational and cultural enrichment
   Strongly Disagree       Disagree       Agree       Strongly Agree

6. I never drank alcohol in America:       True         False
   Reason: ___________________________________
   If True, proceed to page 4 (Section IV).

If you did drink alcohol in the U.S., please answer the following:

The following things affected how much I drank in the U.S.

1. My drinking depended on whether it was legal
   Strongly Disagree       Disagree       Agree       Strongly Agree

2. My drinking depended on whether I had enough money to buy alcohol
   Strongly Disagree       Disagree       Agree       Strongly Agree
3. My drinking depended on whether or not my friends were drinking

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
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<th>Strongly Agree</th>
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</thead>
</table>

4. My drinking depended on how much school work I had

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<thead>
<tr>
<th>Strongly Disagree</th>
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</thead>
</table>

5. My drinking depended on how much free time I had outside of my activities

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</table>

1. How easy was it for you to obtain alcohol in the U.S.?
A) I could not obtain alcohol
B) It was difficult for me to obtain alcohol
C) It was fairly easy for me to obtain alcohol
D) Getting alcohol was not a problem

2. Are you mostly hanging out with: (circle one):
   - Americans
   - Other people studying abroad
   - Americans & International students equally

3. Do you have a friend that encourages your drinking?
   Yes  No
   If so, please write the home country of this person: _______________________

**Circle the best answer--true or false?**

<table>
<thead>
<tr>
<th>I need a drink to help me relax.</th>
<th>True</th>
<th>False</th>
</tr>
</thead>
<tbody>
<tr>
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Section III.
Below are some questions that are primarily concerned with your personal history of drinking. Most ask you to answer according to what is most typical or usual for you during your semester abroad. Please try to answer each question as honestly as possible.

Gender: ________ Age: ________ Weight: ________ lb (or ________ kg)
Height: _______ Ft. ________ in (or ________ cm)

1. How long have you been drinking alcohol on a regular basis?
   a. ________ months
   b. ________ years

2. How often, on average, do you drink alcohol socially, that is, with others?
   (Choose only one.)
   a. Only on special occasions ________ How many times per year? ________
   b. Monthly, how often? ________
   c. Weekly, how often? ________
   d. Daily, how often? ________

3. In the last 90 days, how many days did you have at least one alcoholic beverage? ________ (Estimate 0 – 90.)

4. What alcoholic beverage do you prefer? __________________

5. What alcoholic beverage do you usually drink? __________________

6. In terms of the beverage indicated in question 4, what is the average quantity you drink in a single drinking occasion? (Choose only one.)
   a. Wine (estimate ounces)
      1 2 3 4 5 6 7 8 9 10 or ________
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   c. Beer (16 oz draft glasses)
      1 2 3 4 5 6 7 8 9 10 or ________
   d. Liquor (assume 1.5 oz per drink and estimate number of drinks)
      1 2 3 4 5 6 7 8 9 10 or ________

7. How long does your typical drinking session last? (Choose one only.)
   a. ________ minutes
   b. ________ hours
   c. ________ days

20
Section IV

1. I would like to explore strange places
   - Strongly Disagree
   - Disagree
   - Neither Disagree
   - Agree
   - Strongly Agree

2. I get restless when I spend too much time at home
   - Strongly Disagree
   - Disagree
   - Neither Disagree
   - Agree
   - Strongly Agree

3. I like to do frightening things
   - Strongly Disagree
   - Disagree
   - Neither Disagree
   - Agree
   - Strongly Agree

4. I like wild parties
   - Strongly Disagree
   - Disagree
   - Neither Disagree
   - Agree
   - Strongly Agree

5. I would like to take off on a trip with no pre-planned routes or timetables
   - Strongly Disagree
   - Disagree
   - Neither Disagree
   - Agree
   - Strongly Agree

6. I prefer friends who are excitingly unpredictable
   - Strongly Disagree
   - Disagree
   - Neither Disagree
   - Agree
   - Strongly Agree

7. I would like to try bungee jumping
   - Strongly Disagree
   - Disagree
   - Neither Disagree
   - Agree
   - Strongly Agree

8. I would love to have new and exciting experiences, even if they are illegal
   - Strongly Disagree
   - Disagree
   - Neither Disagree
   - Agree
   - Strongly Agree
Section V:

1. My classes abroad were a top priority to me in comparison to other activities
   Strongly Disagree    Disagree    Agree    Strongly Agree

2. How many hours a week were you involved in academic related activities? (Including time spent in class and time spent doing homework) ________ hours.

3. My classes abroad were challenging and rigorous
   Strongly Disagree    Disagree    Agree    Strongly Agree

4. What I learned in my classes abroad will be of great use in the future
   Strongly Disagree    Disagree    Agree    Strongly Agree

5. I had about ________ hours of free time per week while abroad.

6. In the last 90 days, how many days would the typical male or female your age in your host country have at least one alcoholic beverage? ________ (Estimate 0 – 90.)

7. In the last 90 days, how many days would the typical male or female your age in your home country have at least one alcoholic beverage? ________ (Estimate 0 – 90.)
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Appendix E. Control UNCW students not studying abroad Time 1 survey.

Your Birthdate _________________________ Day/month/year

Your Middle Name ______________________
(This information will only be used to match your first and 2nd surveys. We will then black-out the info and list a random identification number instead).

Have you ever studied abroad:  Yes  No
Do you plan to study abroad during your college experience: Yes  No
Age ______________________
Male  Female (circle)

Section I.

1. Compared to the beginning of the semester, at the end of the semester, I think I will drink:
   Less  The Same  More  I don’t drink and don’t plan to start

3. American students drink to get drunk more often than students in other countries.
   Strongly Disagree  Disagree  Agree  Strongly Agree

4. American Students get into more trouble with their drinking than do students in other countries.
   Strongly Disagree  Disagree  Agree  Strongly Agree

5. I view my college experience mostly as a chance to have a good time/vacation
   Strongly Disagree  Disagree  Agree  Strongly Agree

6. My college experience is mostly for educational and cultural enrichment
   Strongly Disagree  Disagree  Agree  Strongly Agree

7. I never drink alcohol in the US.
   True  False

   If True please give reason: ___________________________________
   If True, proceed to page 4 (Section IV).

1. How easy has it been for you to obtain alcohol in the US?
   a) I could not obtain alcohol
   b) It has been difficult for me to obtain alcohol
   c) It has been fairly easy for me to obtain alcohol
   d) It has been extremely easy for me to obtain alcohol
Section II
If you have drunk alcohol in the US, please answer the following:

The following things have affected how much I drink in the US.

1. My drinking depended on whether it was legal
   - Strongly Disagree
   - Disagree
   - Agree
   - Strongly Agree

2. My drinking depended on whether I had enough money to buy alcohol
   - Strongly Disagree
   - Disagree
   - Agree
   - Strongly Agree

3. My drinking depended on whether or not my friends were drinking
   - Strongly Disagree
   - Disagree
   - Agree
   - Strongly Agree

4. My drinking depended on how much school work I had
   - Strongly Disagree
   - Disagree
   - Agree
   - Strongly Agree

5. My drinking depended on how much free time I had outside of my activities
   - Strongly Disagree
   - Disagree
   - Agree
   - Strongly Agree

6. My drinking depended on whether or not I knew that I had a safe way to get home
   - Strongly Disagree
   - Disagree
   - Agree
   - Strongly Agree

Circle the best answer--true or false?

I need a drink to help me relax. True False
I drink to relieve tension and stress. True False
I like to have a drink to help me unwind after a tough day. True False
Drinking helps me forget some of my problems. True False
I drink when I am sad. True False
I tend to drink when I am bored. True False
A drink helps to cheer me up when I am in a bad mood. True False
Drinking helps me to forget my worries. True False
Drinking makes me feel at peace with myself. True False
I drink because I want to belong to people who usually drink. True False
I drink because the people I know drink. True False
I drink to be sociable. True False
I drink to celebrate social occasions. True False
I accept a drink because it is the polite thing to do. True False
Section III.
Below are some questions that are primarily concerned with your personal history of drinking. Most ask you to answer according to what is most typical or usual for you. Please try to answer each question as honestly as possible.

Gender: ________ Age: ________ Weight: ________ lb (or ________ kg)
Height: _______ Ft. __________ in (or ________ cm)

1. How long have you been drinking alcohol on a regular basis?
   a. ________ months
   b. ________ years

2. How often, on average, do you drink alcohol socially, that is, with others?
   (Choose only one.)
   a. Only on special occasions ________ How many times per year? ________
   b. Monthly, how often? ________
   c. Weekly, how often? ________
   d. Daily, how often? ________

3. In the last 90 days, how many days did you have at least one alcoholic beverage? ________ (Estimate 0 – 90.)

4. What alcoholic beverage do you prefer? _____________________

5. What alcoholic beverage do you usually drink? __________________

6. In terms of the beverage indicated in question 4, what is the average quantity you drink in a single drinking occasion? (Choose only one.)
   a. Wine (estimate ounces)
      1 2 3 4 5 6 7 8 9 10 or ________
   b. Beer (12 oz bottles/cans)
      1 2 3 4 5 6 7 8 9 10 or ________
   c. Beer (16 oz draft glasses)
      1 2 3 4 5 6 7 8 9 10 or ________
   d. Liquor (assume 1.5 oz per drink and estimate number of drinks)
      1 2 3 4 5 6 7 8 9 10 or ________

7. How long does your typical drinking session last? (Choose one only.)
   a. ________ minutes
   b. ________ hours
   c. ________ days
## Section IV

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| 2. I get restless when I spend too much time at home |   |   |   |   |
|   | Strongly Disagree | Disagree | Neither Disagree | Agree | Strongly Agree |
|   |   |   | Nor Agree |   |   |

| 3. I like to do frightening things |   |   |   |   |
|   | Strongly Disagree | Disagree | Neither Disagree | Agree | Strongly Agree |
|   |   |   | Nor Agree |   |   |

| 4. I like wild parties |   |   |   |   |
|   | Strongly Disagree | Disagree | Neither Disagree | Agree | Strongly Agree |
|   |   |   | Nor Agree |   |   |

| 5. I would like to take off on a trip with no pre-planned routes or timetables |   |   |   |   |
|   | Strongly Disagree | Disagree | Neither Disagree | Agree | Strongly Agree |
|   |   |   | Nor Agree |   |   |

| 6. I prefer friends who are excitingly unpredictable |   |   |   |   |
|   | Strongly Disagree | Disagree | Neither Disagree | Agree | Strongly Agree |
|   |   |   | Nor Agree |   |   |

| 7. I would like to try bungee jumping |   |   |   |   |
|   | Strongly Disagree | Disagree | Neither Disagree | Agree | Strongly Agree |
|   |   |   | Nor Agree |   |   |

| 8. I would love to have new and exciting experiences, even if they are illegal |   |   |   |   |
|   | Strongly Disagree | Disagree | Neither Disagree | Agree | Strongly Agree |
|   |   |   | Nor Agree |   |   |

Thank you so much for participating in this study!
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Appendix F. Control UNCW students not studying abroad Time 2 survey.

Your Birthdate _______________________
Day/month/year

Your Middle Name _____________________
(This information will only be used to match your first and 2nd surveys. We will then black-out the info and list a random identification number instead).

Are you 21 or older?    Yes   No

Section I
1. Compared to the beginning of the semester, at the end of the semester, I drank:

   Less                     The Same                     More                     I didn’t drink

6. American students drink to get drunk more often than students in other countries.
   Strongly Disagree    Disagree    Agree    Strongly Agree

7. American students get into more trouble with their drinking than do students in other countries.
   Strongly Disagree    Disagree    Agree    Strongly Agree

8. I view my college experience mostly as a chance to have a good time/vacation
   Strongly Disagree    Disagree    Agree    Strongly Agree

9. My college experience is mostly for educational and cultural enrichment
   Strongly Disagree    Disagree    Agree    Strongly Agree

6. I never drank alcohol during this semester: True    False
   Reason: ____________________________

Section II
If you did drink alcohol during this semester, please answer the following:

The following things affected how much I drank during the semester:

1. My drinking depended on whether it was legal
   Strongly Disagree    Disagree    Agree    Strongly Agree

2. My drinking depended on whether I had enough money to buy alcohol
   Strongly Disagree    Disagree    Agree    Strongly Agree
3. My drinking depended on whether or not my friends were drinking
   
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4. My drinking depended on how much school work I had
   
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5. My drinking depended on how much free time I had outside of my activities
   
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1. How easy is it for you to obtain alcohol?
   A) I cannot obtain alcohol
   B) It is difficult for me to obtain alcohol
   C) It is fairly easy for me to obtain alcohol
   D) Getting alcohol is not a problem

2. Are you mostly hanging out with: (circle one):
   Americans
   International Students
   Americans and International students equally

3. Do you have a friend that encourages your drinking?
   Yes  No
   If so, please write the home country of this person: __________________________

Circle the best answer--true or false?

I need a drink to help me relax.  True  False
I drink to relieve tension and stress.  True  False
I like to have a drink to help me unwind after a tough day.  True  False
Drinking helps me forget some of my problems.  True  False
I drink when I am sad.  True  False
I tend to drink when I am bored.  True  False
A drink helps to cheer me up when I am in a bad mood.  True  False
Drinking helps me to forget my worries.  True  False
Drinking makes me feel at peace with myself.  True  False
I drink because I want to belong to people who usually drink.  True  False
I drink because the people I know drink.  True  False
I drink to be sociable.  True  False
I drink to celebrate social occasions.  True  False
I accept a drink because it is the polite thing to do.  True  False
Section III.
Below are some questions that are primarily concerned with your personal history of drinking. Most ask you to answer according to what is most typical or usual for you during this semester. Please try to answer each question as honestly as possible.

Gender: ________ Age: ________ Weight: ________ lb (or ________ kg)
Height: _______ Ft. ________ in (or ________ cm)

1. How long have you been drinking alcohol on a regular basis?
   a. ________ months
   b. ________ years

2. How often, on average, do you drink alcohol socially, that is, with others? (Choose only one.)
   a. Only on special occasions ________ How many times per year? ________
   b. Monthly, how often? ________
   c. Weekly, how often? ________
   d. Daily, how often? ________

3. In the last 90 days, how many days did you have at least one alcoholic beverage? ________ (Estimate 0 – 90.)

4. What alcoholic beverage do you prefer? ________________________

5. What alcoholic beverage do you usually drink? ________________

6. In terms of the beverage indicated in question 4, what is the average quantity you drink in a single drinking occasion? (Choose only one.)
   a. Wine (estimate ounces)
      1 2 3 4 5 6 7 8 9 10 or ________
   b. Beer (12 oz bottles/cans)
      1 2 3 4 5 6 7 8 9 10 or ________
   c. Beer (16 oz draft glasses)
      1 2 3 4 5 6 7 8 9 10 or ________
   d. Liquor (assume 1.5 oz per drink and estimate number of drinks)
      1 2 3 4 5 6 7 8 9 10 or ________

7. How long does your typical drinking session last? (Choose one only.)
   a. ________ minutes
   b. ________ hours
   c. ________ days
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Section V:

1. My classes this semester are a top priority to me in comparison to other activities
   Strongly Disagree  Disagree  Agree  Strongly Agree

2. How many hours a week are you involved in academic related activities? (Including time spent in class and time spent doing homework) ________ hours.

3. My classes this semester are challenging and rigorous
   Strongly Disagree  Disagree  Agree  Strongly Agree

4. What I learned in my classes this semester will be of great use in the future
   Strongly Disagree  Disagree  Agree  Strongly Agree

5. I have about _______ hours of free time per week this semester.

6. In the last 90 days, how many days would the typical male or female your age in another country have at least one alcoholic beverage? ________ (Estimate 0 – 90.)

7. In the last 90 days, how many days would the typical male or female your age in America have at least one alcoholic beverage? ________ (Estimate 0 – 90.)
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