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**UNDERSTANDING FACTORS CONTRIBUTING TO RISKY SEXUAL  
ACTIVITY IN THE STUDY ABROAD ENVIRONMENT**

by  
Tiffany L. Marcantonio

A Thesis

Submitted to the  
Department of Psychology  
College of Science & Mathematics  
In partial fulfillment of the requirement  
For the degree of  
Master of Arts in Clinical and Mental Health Counseling  
at  
Rowan University  
May 29, 2015

Thesis Chair: Dr. DJ Angelone, Ph.D

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## **Dedications**

*This manuscript is dedicated to my partner, Ryan Ruiz. For always being patient, warm, and having faith in my abilities, even when I did not. I would also like to dedicate this to Dr. DJ Angelone for shaping me into the professional I am today. The journey has been long, but well worth it.*

## **Acknowledgments**

Words could not fully express the appreciation, love and respect I have for my mentor Dr. DJ Angelone, my second reader Dr. Eve Sledjeski, the entire ASSeRT Lab and the 2015 Cohort. Thank you for making this experience all I dreamed it to be and more.

## **Abstract**

Tiffany L. Marcantonio  
UNDERSTANDING FACTORS CONTRIBUTING TO RISKY SEXUAL  
ACTIVITY IN THE STUDY ABROAD ENVIRONMENT  
2014-2015  
DJ Angelone, Ph.D  
Master of Arts in Clinical and Mental Health Counseling

Researchers suggest that study abroad students may be an un-identified high-risk group for risky sexual activity. The goal of this study was to determine whether factors predictive of risky sexual activity at home (sexual sensation seeking, alcohol and sex expectancies, alcohol consumption and previous risky behaviors) may also influence such behavior while abroad. Data was collected longitudinally with a pre and post survey that assessed the above constructs. Twenty-four study abroad students completed the pre survey and six completed the post survey. Two Independent samples t-tests were conducted to clarify differences between gender and students who completed the pre-survey compared to the pre-and post-survey. Three additional Independent samples t-test were conducted to clarify differences between risky and non-risky students. Results suggest that there is no difference on the variables of interest between gender, overall risk and casual partner risk compared by non-risky students. Significant differences emerged between students who completed the pre-survey compared to the pre-and post-survey and students who engaged in risky condom use compared to non-risky students. Limitations and directions for future research are discussed.

## Table of Contents

Abstract.....	v
List of Tables .....	viii
Chapter 1: Introduction.....	1
Previous Risky Sexual Behaviors.....	4
Alcohol and Sex Expectancies.....	5
Sexual Sensation Seeking.....	6
Alcohol Use .....	7
Study Abroad .....	8
Current Study.....	8
Chapter 2: Method .....	10
Participants.....	10
Measures .....	10
Procedure .....	12
Chapter 3: Results.....	15
Preliminary Analyses.....	15
Post Hoc Analyses .....	16
Chapter 4: Discussion .....	21
References.....	28
Appendix A: Longitudinal Code.....	35
Appendix B: Demographics.....	36
Appendix C: Risky Sexual Activity Measure.....	39
Appendix D: Alcohol and Sex Expectancies .....	41

**Table of Contents (Continued)**

Appendix E: Sexual Sensation Seeking..... 43  
Appendix F: Daily Drinking Questionnaire..... 44



## List of Tables

Table	Page
Table 1. Intercorrelations Among Independent Variables .....	15
Table 2 Means for the Six Students who Completed Pre and Post Survey for the Factors of Interest .....	16
Table 3. T-Test Results for Male vs. Female Students .....	17
Table 4. T-Test Results for Students who Completed the Pre Survey vs. Pre and Post Survey .....	19
Table 5. Means and Standard Deviations for Risky Sexual Activity Combined, Risky Condom Use, and Risky Casual Partners Compared by Non-Risky Students .....	20

## Chapter 1

### Introduction

Approximately twenty million people are diagnosed with a sexually transmitted infection (STI) each year (Center for Disease Control, 2012), with the majority between the ages of 20-24. In fact, 39% of young adults are infected with chlamydia and 26% are infected with Human Immunodeficiency Virus (HIV) (U.S Department of Health and Human Services, 2014). One in four new cases of HIV occur among young adults, and there has been a 32% increase in HIV contraction since 1985 (U.S Department of Health and Human Services, 2014). In addition, contractions of gonorrhea and syphilis have increased in the age range of 20-24 (CDC, 2012). Many young adults are unknowingly infected and not getting tested (U.S Department of Health and Human Services, 2014), placing individuals in threatening health situations and often causing reproductive complications or infertility (CDC, 2012). Taken together, these statistics indicate that a large number of young adults are at risk of contracting and spreading an STI, which is cause for alarm.

The high rates of STIs among young adults may be a direct result of increased sexual activity during mid-adolescence and young adulthood (Bailey, Fleming, Henson, Catalano, & Haggerty, 2008; Fromme, Corbin, & Kruse, 2008). While an increase in sexual activity places young adults at high risk, it is their engagement in *risky* sexual activity that makes them vulnerable to STIs. Risky sexual activity is a multi-faceted concept with several definitions. For example, risky sex can be described as having sex with a partner someone has known for less than a month or an unknown sexual history (LaBrie, Earlywine, Schiffamn, Pedersen, & Marriot, 2005; Milhausen, Reece & Peera,

2006), a partner who is not monogamous (Parks, Lorraine, & Derrick, 2012), or not using a condom regularly (Parks, Collins, & Derrick, 2012). Despite the myriad definitions throughout the research literature, there is general agreement on at least one of these three main components occurring: not using a condom during a sexual encounter (Parks et al., 2012), having sex with a partner that someone has known for a month or less (LaBrie et al., 2005), or having sex with multiple partners (Parks, Hsieh, & Collins, 2008).

There are several groups of individuals who engage in a higher frequency of risky sexual activity, placing them at higher risk of contraction of an STI. Not surprisingly, one group is young adults between the ages of 18-24, especially college students (Bailey et al., 2008; Lewis et al., 2014; Walsh et al., 2012). When entering college, students have new opportunities to meet potential sexual partners (Borsari, Murphy, & Barnett, 2007; Jamison & Myers, 2008; Lewis, Litt, Crounce, Blayney, & Gilmore, 2014; Parks, Romosz, Bradizza, & Hsieh, 2008; Thompson, Swarout, & Koss, 2012) and explore their sexuality as part of this emerging adulthood period (Fromme, et al., 2008). While an increase in sexual activity is not inherently problematic, college students engage in a higher frequency of risky sexual activity compared to non-college students. For instance, over 82% of college students report having sex with multiple partners while not using condoms consistently (LaBrie et al., 2005). Furthermore, sexual risk taking has been shown to increase across time spent in college, specifically sex with multiple partners (Fromme, et al., 2008). As such, college students represent a high-risk population in regard to STIs; however they remain an understudied group.

Another group of high-risk individuals identified in the literature is travelers. Traveling may represent an ideal environment for risky sex behaviors, in that it may

encourage a tendency toward such behavior. For example, there are a variety of reasons for risky sexual behavior including the anonymity associated with traveling, association with a like-minded crowd, and a lack of concern about judgments (Bellis et al., 2004; Benotsch, Miskytruck, Ragsdale, & Pinkerton, 2006; Egan, 2001; Lee, Lewis, & Neighbors, 2009; Maticka-Tyndale, et al., 2003; Milhausen, et al., 2006; Pedersen, Larimer, & Lee, 2010; Pedersen et al., 2010; Sonmex et al., 2006). Risky sexual behavior appears to increase regardless of the location, indicating that the escalation in behaviors is likely due to an overall change in environment rather than the specific destination (Bellis et al., 2004; Benotsch et al., 2006; Lee, et al., 2009; Maticka-Tyndale, et al., 2003; Milhausen, et al., 2006; Pedersen, Larimer, & Lee, 2010; Pedersen et al., 2010; Sonmex et al., 2006).

This increased risk could be attributed to the concept of a *backspace*, defined as an environment that differs from an individual's norm and is associated with a high degree of freedom, such as removal of typical responsibilities. A backspace is an environment where an individual believes they can engage in behaviors they may not normally endorse because there is no fear of judgment (Maticka-Tyndale et al., 2003; Milhausen, et al., 2006). This concept has been evaluated in a variety of travel environments such as Mardi Gras, spring break, and other vacation locales. While in the backspace, individuals reported engaging in numerous instances of casual and unprotected sex (Maticka-Tyndale et al., 2003; Milhausen et al., 2006). While the environment can be an important variable to understanding risky sexual behaviors, there are also a variety of individual and personality factors that can influence risky sex.

It is important to note, that in terms of risky sexual behavior there are a variety of theories and factors that help explain and influence the behavior. In the literature though, there are four stable constructs that are continuously utilized to predict risky sexual activity (Fromme et al., 2008; Labrie et al., 2005; Lac & Berger, 2013; Norris et al., 2009). These four constructs are previous risky sexual behaviors, alcohol and sex expectancies, sexual sensation seeking and alcohol use. All four constructs are highly correlated with one another and individuals who engage in one of them, have a higher chance of engaging the rest.

### **Previous Risky Sexual Behaviors**

The first factor that can be influential on high-risk groups is previous engagement in risky behavior (Fromme et al., 2008). In a national sample of college students, 13% reported sexual engagements with three or more partners in the past 12 months. Nearly 30% reported engaging in sexual activity with a stranger or brief acquaintance (Bersamin, Zamboanga, Schwartz, Donnellan, Hudson, Weisskirch...Carway, 2014). This is especially problematic considering that only 36% of college students reported using a condom in their most recent sexual encounter (Lewis, Lee, Patrick, & Fossess, 2007). Research has also established that 90% of individuals, who reported not using a condom in one sexual activity, did not use it in future sexual events (Leigh et al., 2008). This suggests that previous engagement in risky behaviors can predict engagement in future risky behaviors (Borasi, Murphey & Barnett, 2007; Sher & Rutledge, 2007). Since over 60% of students are reporting not wearing a condom, it could be assumed that the bulk of students continuously practice unsafe sex, which can increase the spread of STIs.

Furthermore, travelers report similar behaviors to college students in terms of prior risky sexual activity influencing future engagements. Travelers reported their engagement in previous risky sexual activity resulted in continued risky activity while away (Egan, 2001). For instance, over half of travelers reported engaging in sexual activity with a partner they had known for less than 24 hours prior to traveling (Maticka-Tyndale et al., 2003). Once away, these individuals reported continuing to have casual relations, with estimates as high as 40% in specific backspaces (Lewis et al., 2014; Maticka-Tyndale et al., 2003). Travelers also report using condoms inconsistently on their trips (Lee et al., 2009; Milhausen et al., 2006). Since certain high-risk groups are prone to repeated risky sexual behavior, it would hold that study abroad students would also demonstrate a connection between home behaviors and travel behaviors. In fact, with the less restrictive environment that accompanies traveling, study abroad students may have greater access to partners and to engage more frequently in risky behaviors, especially if they have a history of engagement in the behavior. However, to date, this relationship has not been examined in the study abroad population.

### **Alcohol and Sex Expectancies**

A second factor identified with high-risk groups is personal beliefs such as expectancies about alcohol intoxication and sexual experiences (Hendershot, Stoner, George, & Norris, 2007; White, Fleming, Catalano, & Bailey, 2009). These expectancies represent schemas about the consumption of alcohol and its effects on sexual behavior (Dermen & Cooper, 1994), including beliefs that alcohol enhances sexual encounters, increases arousal, disinhibits sexual behavior, and contributes to disregarding protection during sex (Labrie et al., 2005, Walsh, et al., 2013). Further, these beliefs may influence

behaviors, such that individuals who endorse high positive beliefs about alcohol improving sexual experiences engage in an increased number of sexual behaviors compared to those who do not (Hendershot et al., 2007; LaBrie et al., 2005; White, Fleming Catalano, & Bailey, 2009). Individuals who reported having these specific expectancies, used condoms less often during sexual activity than those not holding these expectancies (Walsh et al., 2013). Considering that these expectancies can drive behaviors, especially in risky groups, they likely affect study abroad students. In fact, foreign countries tend to have a lower legal drinking age and create new chances to finding sexual partners; thus, these students may have a greater chance to endorse these expectancies and subsequently act on them. While it has not been examined with a study abroad sample, it could be assumed that students who endorse these expectancies, engage in a high frequency of risky sexual behaviors abroad.

### **Sexual Sensation Seeking**

A third factor related to risky sex is sexual sensation seeking, a personality construct (SSS) associated with high-risk behaviors. This is the propensity to search for arousing and sensory-stimulating experiences (Kalichman & Rompa 1995; Norris et al., 2009). Endorsing this personality trait has been established as a predictor of high-risk sexual behavior, such as decreased condom use and increased number of sexual partners (Norris et al., 2009). Specifically, individuals high in SSS report more vaginal and anal sexual partners, and are less likely to practice safe sex than those low in SSS (McCoul & Haslam, 2001; Nguyen, Koo, Davis, Otto, Hendershot, Schacht, . . . & Norris, 2012; Voisin, Tan, DiClenmente, 2013). Taken together, these findings suggest that individuals who are high in SSS are more likely to be at higher risk of engaging in risky sexual

behavior. While associated with engagement in risky sex, there is currently a lack of research examining this personality factor on study abroad students

### **Alcohol Use**

The fourth factor identified with high-risk groups is alcohol use, (Borsari et al., 2007; Jamison & Myers, 2008; Lewis, et al., 2014; Parks, Romosz, Bradizza, & Hsieh, 2008; Thompson, Swarout, & Koss, 2012). Forty-four percent of sexual events with a casual partner not involving a condom included alcohol use prior to sexual activity (LaBrie, et al., 2005). Reports of sexual activity are substantially higher on days when alcohol is consumed compared to non-drinking days (Parks, Hsieh, Collings, & Lecyonyan, 2011). Alcohol intoxication can have a multitude of effects on a person, which can influence and interfere with their decision-making (Lac & Berger, 2013). For example, alcohol can dampen an individual's stress response rate, leading them to feel more relaxed, carefree, and less concerned with future thinking (Lac & Berger, 2013). This could be problematic because an individual may not be considering future risk as they are drinking and speaking with a potential sex partner, such as the consequences of having sex without a condom.

Alcohol can cloud judgment and create a focused view on individual inhibitions. These inhibitions could include wanting to have sex with another individual despite lack of protection available or lack of familiarity with them (Milhausen et al., 2006). Travelers also reported that alcohol influenced their engagement in risky sexual activity; specifically, as alcohol consumption increased, so did the chances of engaging in a sexual activity (Milhausen, et al., 2006; Sonmex et al., 2006). More specifically, students who study abroad increased their alcohol consumption to problematic levels. Students



reported drinking more than they normally do at home, with a 170% increase and reported drinking at greater levels than pre-departure upon returning home (Pedersen et al., 2010). Furthermore, 10% of study abroad students reported failing to use birth control methods due to their alcohol consumption (Hummer, Pedersen, Mirza, & LaBrie, 2010). Taken together, alcohol use has a strong influence on risky sexual behavior. Given that there is easier access to alcohol in foreign countries, students may drink more, therefore increasing their chances of engaging in a risky sexual activity.

### **Study Abroad Students**

Currently, there are over 250,000 American college students studying abroad each year and participation has nearly tripled over the past two decades (Institute of International Education, 2013). These students travel to more than 15 countries each year (Institute of International Education, 2013). Study abroad programs also attract students of different majors and backgrounds, allowing a variety of individuals to engage in the experience. Decreased supervision abroad, combined with an environment different than the norm, may lead to increased chances of engaging in a risky behavior (Kimble, Flack & Burbridge, 2013). Despite the increase in study abroad popularity, there is a paucity of research on risky behaviors among these students. This group shares common characteristics with other high-risk groups, such as traveling, being college aged, and frequently consuming alcohol. This suggests that study abroad students may fall into a cross section of these categories and be another high-risk group.

### **Current Study**

Due to the lack of research with study abroad students it is unclear which, if any, of the above variables might influence and contribute to risky sexual activity while

abroad. The goal of this study was to examine how risky sexual activity, sex and alcohol related expectancies, sexual sensation seeking, and alcohol use can influence risky sexual behaviors while studying abroad. In addition, a majority of the literature on risky sexual behavior is cross-sectional or retrospective (Bellis et al., 2004; Benotsch et al., 2006; Lee et al., 2009; Maticka-Tyndale et al., 2003; Milhausen et al., 2006; Sonmex et al., 2006), preventing true causal inferences. Thus, this study orchestrated a longitudinal design, to facilitate our understanding of how these previous factors might influence sexual behavior abroad. Given the exploratory nature of this study, no specific directional hypotheses were made a priori. It is anticipated though that the factors of interest will be related with risky sexual activity, based on previous literature.

## Chapter 2

### Method

#### Participants

A total of 141 study abroad students were e-mailed a survey with 31 participants taking the pre-survey and 6 taking the post-survey (return rate of 19%). Of those who started the survey, 22% of the respondents ( $n=8$ ) completed less than 20% of the survey and were omitted from analyses. Thus, the final sample consisted of 24 participants with 63% ( $n=17$ ) identifying as female and 29% ( $n=8$ ) identifying as male. The mean age was 20 ( $SD=1.4$ ) and the majority of students reported being in their sophomore year of college (29%). The majority of the participants were Caucasian (85%,  $n=23$ ), followed by African American (3.7%,  $n=1$ ). Seventy four percent ( $n=20$ ) of the sample identified as primarily heterosexual, and 67% ( $n=18$ ) of the sample reported they were single. The majority studied abroad in Europe (40%,  $n=11$ ), were abroad for 3 ( $SD=2$ ) months, and did not speak a foreign language (59%,  $n=16$ ).

A series of independent samples t-tests were conducted to compare the demographic variables between individuals who completed only the pre-survey to those who completed pre-survey and post-survey. There were no significant differences on any demographic variables except time abroad ( $t=3.25$ ,  $df=23$ ,  $p < .001$ ). Individuals who completed the pre-and post-survey had studied abroad for a shorter period of time ( $M=1.1$  months) compared to those who completed only the pre-survey ( $M= 4$  months).

#### Measures

**Risky sexual activity.** The Risky Sex Questionnaire (RSQ) is a 21-item measure that assessed participant's behaviors and theorized predictors of engagement in risky sexual behaviors. Risky sexual activity was defined as sex without a condom and/or with

multiple, casual partners. The RSQ assessed multiple facets of risky sexual activity such as sexual health history, engagement in risky sexual activity, perceptions of peer's engagement in risky sexual activity and beliefs about the acceptance of risky sexual activity. Items are assessed on different scales (Appendix C). An example question is "How many of your (vaginal, anal, oral) intercourse partners would you consider a short-term partner? (Someone you knew for a week or less)." Casual partner scores were obtained by averaging the number of sex partners (casual, short term and one-night stands) participants reported they had while abroad and at home. This scale demonstrated good internal consistency ( $\alpha=.89$ ). Condom use scores were obtained by participants reporting how often they used a condom during sexual activity. The question has a 5 point likert scale, ranging from 1(never) to 5 (always). The scale demonstrated good internal consistency ( $\alpha=.75$ ). For each participant, an overall risky sexual activity score was dichotomously categorized into either risky or not risky. That is, a participant received a risky score at home or abroad if they had sex with casual partners and/or reported inconsistent condom use.

**Alcohol expectancies for sexual enhancement.** The Alcohol and Sex Expectancy Questionnaire (ASEQ; Dermen & Cooper, 1994) is a 13-item measure on a 7-point Likert scale ranging from (0) *strongly disagree* to (6) *strongly agree*. It has 3 subscales (subscale 1) sexual enhancement, (subscale 2) increased sexual risk-taking, and (subscale 3) disinhibiting of sexual behavior. All items are prefaced with "After a few drinks of alcohol..." An example item is "I am less likely to use a condom" or "I have sex with people I wouldn't have sex with if I were sober." To score this measure, items representing each sub-scale are averaged so that each individual has three total scores,

with higher numbers suggesting higher endorsement of the factors. The scale demonstrated good internal consistency ( $\alpha = .94$ ).

**Sexual sensation seeking.** Sexual Sensation Seeking (SSS; Kalichman & Rompa, 1995) an 11 item questionnaire on a 4 point Likert scale ranging from (1) *not at all like me* to (4) *very much like me*. This measure assessed the tendency to seek out arousing and exciting sexual experiences. An example item is “I like wild “uninhibited” sexual encounters” and “I enjoy the company of “sensual” people.” This measure was split in half and administered at two different points due to the face validity (Norris et al., 2009). Questions on this measure are added together, with higher scores representing a higher endorsement of SSS. The scale demonstrated good internal consistency ( $\alpha=.73$ ).

**Alcohol consumption.** Alcohol use was measured with the Daily Drinking Questionnaire (DDQ; Collins, Parks, & Marlatt, 1985). It is a self-report measure that assesses participants’ daily drinking for a typical week in a typical month. Participants are given a calendar Sunday-Saturday and asked to report how many drinks they consumed on average each day. A drink is defined as a 5-ounce glass of wine, 1.5 ounces of hard liquor or a shot and/or a 12 ounce beer. Scores were obtained by taking the number of peak drinks participants reported consuming while at home. The DDQ was strongly correlated with alcohol and sex expectancy ( $r=.50, p < .05$ ).

## **Procedure**

Approval to conduct the study was obtained from the Institutional Review Boards at Rowan University and Central Connecticut State University. Participants were male and female students enrolled in each university’s study abroad programs from Summer 2014-Spring 2015. A written description of the survey was e-mailed to students preparing

to leave for their study abroad destination with an attached link to the survey via Qualtrics (Qualtrics, 2005). They were e-mailed the appropriate survey (pre vs. post) by the International Department and were sent two reminder e-mails. The portal was open for a month for each survey. The pre survey took approximately 15 minutes to complete and the post survey took approximately seven minutes to complete.

Those interested in participating were provided informed consent that explained the nature of the study, as well as how data would be collected and utilized. Psychological resources were available for any student who experienced any distress while taking part in the study due to the personal nature of the questions. Consent was obtained when the participant read the electronic informed consent and verified they were above the age of 18 and wanted to participate in the study. Participants were then taken to an anonymous online survey.

After consenting, students entered an unidentifiable, unique code that tracked their data over the time points. (See Appendix A) The measures for the pre-survey (before departure) was in the following order Demographics, SSS, RSQ, SSS, DDQ, and Alcohol and Sex Expectancies. The order of the measures was designed to ease participants into the risky sex questions. The measures for the post-survey were in the following order Post Demographics and RSQ. Upon completion of the survey, participants were provided an electronic debriefing that included contact information for relevant and appropriate resources, if necessary. The first debriefing also informed students that they would be sent a follow up survey upon their return home. Attrition rate from pre-post survey was about 75%. As incentive to take part in the study, students who

completed the survey (at pre and at post) were provided access to a free Redbox movie rental at the end of each survey.

## Chapter 3

### Results

#### Preliminary Analyses

Data were collected from 24 study abroad students during the Summer of 2014 to Spring of 2015. However, only 20 students reported on their risky sexual activity at home and therefore the descriptive statistics are based on these students. Out of the 20 students, 59% (n=16) reported engagement in risky sexual activity. Forty one percent of the sample (n=11) reported using condoms inconsistently with 14% (n=4) reporting they “never use” condoms during sexual activity. Thirty four percent (n=9) reported engagement in sexual activity with a casual partner, with a range of 1-5 partners. The means and standard deviations for the factors of interest are displayed in Table 1.

Table 1

#### *Intercorrelations Among Independent Variables*

	1	2	3	4	5	6
1. SR	-	.91**	.79**	.65**	.32	-.29
2. DIS		-	.84**	.67**	.52*	-.31
3. SE			-	.67**	.50*	-.29
4. SSS				-	.25	-.05
5. PD					-	-.56*
6. RSAH						-
<i>M</i> ( <i>SD</i> )	1.7(1.1)	2.3(1.5)	2.4(1.3)	1.7(1.8)	6.2(4.5)	1.8(.41)
<i>N</i>	21	21	21	24	19	20

*Note.* SR = Sexual Risk (AESQ); DIS=Sexually Disinhibited (AESQ); SE =Sexual Enhancement (AESQ); SSS =Sexual Sensation Seeking; PD =Peak Drinking at home; RSAH =Risky Sexual Activity at Home; \*  $p < .05$ , \*\*  $p < .01$



While abroad, study abroad students reported low levels of engagement in risky sexual activity, with only one student reporting engagement in the behavior. In addition to their risky sex reports, the six students who completed both sections of the survey means for the factors of interest are displayed in Table 2

Table 2

*Means for the Six Students who Completed Pre and Post Survey for the Factors of Interest*

	SR	DIS	SE	SSS	PD	RSAH
Participant 1	1	1.3	2.6	1.5	6	2
Participant 2	1	1	1	2.4	0	2
Participant 3	1	1	1	1	0	2
Participant 4	0	0	0	0	0	2
Participant 5	0	0	0	0	0	2
Participant 6	2.2	3.7	3.4	1.8	4	2

*Note.* SR = Sexual Risk (AESQ); DIS=Sexually Disinhibited (AESQ); SE =Sexual Enhancement (AESQ); SSS =Sexual Sensation Seeking; PD =Peak Drinking at home; RSH =Risky Sexual Activity at Home

### **Post Hoc Analyses**

The primary goal of this study was to examine how previous behaviors and personality factors would predict risky sexual activity while studying abroad using a longitudinal design. Due to the unexpected low sample size and response rate, the intended analysis could not be conducted on the data. Instead, a series of post hoc analyses were conducted on the data to identify potential issues and provide information to enhance future work in this area. In this regard, a series of independent samples t-tests were conducted to clarify differences between gender and students who completed the pre survey compared to those who completed pre and post survey for the factors of

interest. In addition, three independent samples t-tests were conducted to clarify differences between risky and non-risky individuals for the factors of interest.

**Comparing men and women on pre survey constructs.** There were no significant difference between male and female students for sexual sensation, risky sexual activity at home and two subscales of the alcohol expectancies (disinhibition and sexual risk taking) (see Table 3). However, there was a significant difference between men and women on the sexual enhancement subscale. Women appeared to endorse higher rates of the expectancy that alcohol improved their sexual experiences ( $M=2.7$ ) compared to men ( $M=1.7$ ).

Table 3.

*T-Test Results for Male vs. Female Students*

Outcome	Male	Female	<i>t</i>	<i>p</i>	95% CI	<i>d</i>
	M (SD)	M(SD)				
SSS	1.4(.94)	1.8(.51)	-1.61	.12	-1.07 - .12	.5
SE	1.5(1.7)	2.7(1.0)	-2.06	.05	-2.44 - .02	.9
DIS	1.8(2.1)	2.5(1.3)	-.91	.37	-2.23 - .88	.4
SR	1.2(1.2)	1.9(1.1)	1.2	.25	-1.84 - .42	.74
PD	4(3.3)	9.5(4.7)	.50	.62	-4.23 - 6.87	1.37
RSAH	1.9(.38)	1.8(.43)	.44	.66	-.32 - .50	.3

*Note.* SSS =Sexual Sensation Seeking; SE =Sexual Enhancement (AESQ); DIS=Sexually Disinhibited (AESQ); SR = Sexual Risk (AESQ); PD =Peak Drinking at home; RSH =Risky Sexual Activity at Home

**Comparing students who completed only the pre survey to students who completed the pre and post Survey on pre survey constructs.** Another series of Independent samples t-tests were conducted to compare participants who completed the pre survey only and those who completed both the pre and post surveys (see Table 4). In

regard to sexual sensation seeking, there was a significant difference between the two conditions. Individuals who completed the pre survey endorsed higher sexual sensation seeking personality traits ( $M=1.9$ ) compared to those who completed both surveys ( $M=1.1$ ). For the first subscale of the AESQ, sexual enhancement, there was a significant difference. Individuals who only completed the pre survey endorsed high expectancies that alcohol would improve their sexual experiences ( $M=2.8$ ) compared to those who completed both surveys ( $M=1.3$ ). For the second subscale of the AESQ, sexual risk taking, there was also significant difference between the groups. Similar to the above subscale, individuals who only completed the pre survey endorsed higher expectancies that alcohol would cause them to take sexual risk ( $M=2.1$ ) compared to individuals who completed the pre and post survey ( $M=.86$ ). For the third subscale of the AESQ, alcohol disinhibition, there was a significant difference between the groups. Individuals who completed only the pre survey endorsed higher expectancies that alcohol would disinhibit their sexual activity ( $M=2.7$ ) compared to those who completed both pre and post survey ( $M=1.2$ ).

For risky sexual activity, students who completed the pre survey had fewer casual partners ( $M=1.7$ ) than those who completed both ( $M=2$ ). Alcohol consumption was also significantly different, with individuals who completed the pre reporting higher alcohol consumption ( $M=7.2$ ) than students who completed the pre and post survey ( $M= 2.5$ ).

Table 4

*T-Test Results for Students who completed the Pre-Survey vs. Pre and Post Survey*

Outcome	PS	PPS	<i>t</i>	<i>p</i>	95% CI	<i>d</i>
	M (SD)	M(SD)				
SSS	1.9(.46)	1.1(.97)	2.79	.01	.20 – 1.41	1.14
SE	2.8(1.0)	1.3(1.4)	2.69	.01	.33 – 2.65	1.25
DIS	2.8(1.4)	1.2(1.3)	2.43	.02	.22 - .2.99	1.11
SR	2.1(1.1)	.86(.81)	2.51	.02	.20- 2.24	1.30
PD	7.2(4.5)	2.5(3.0)	2.48	.04	-.34 – 9.74	1.25
RSAH	1.7(.47)	2(0)	-2.28	.04	-.69 - .12	1.25

*Note.* PS=Pre-survey; PPS=Pre & Post Survey; SSS =Sexual Sensation Seeking; SE =Sexual Enhancement (AESQ); DIS=Sexually Disinhibited (AESQ); SR = Sexual Risk (AESQ); PD =Peak Drinking at home; RSH =Risky Sexual Activity at Home

#### **Comparing risky students to non risky students on pre survey constructs.**

Finally, another series of Independent samples t-tests were conducted to compare students who engaged in risky sexual activity before traveling abroad with students who did not (see Table 5). Overall risk was a combination of risky condom use and risky sexual partners. In regards to the two groups, there were no significant differences for sexual sensation seeking, all subscales of alcohol and sex expectancies, and alcohol consumption ( $p$ 's =.63, .71, .58, .61, .74, .08). When comparing risky condom use to non-risky use there was no significant difference for SSS, and sexual risk taking, the second subscale of AESQ ( $p$ 's = .97, .15). There was a significant difference for the first subscale of AESQ, alcohol enhancement, ( $t= 2.03, p <.05, d=1.04$ ), 95% CI [-.07- 2.67]. Students who reported risky condom, use endorsed this expectancy less ( $M= 1.7$ ) than non-risky students ( $M= 3.1$ ). The third subscale of AESQ, alcohol disinhibition had a significant difference ( $t=2.17, p <.05, d=1.12$ ), 95% CI [.03-2.10]. Students who practiced safe sex endorsed this expectancy more ( $M= 3.1$ ) than those who engaged in

risky condom use ( $M= 1.5$ ). Lastly, students who reported non-risky condom use consumed more alcohol ( $M= 8.7$ ) than students who engaged in risky condom use ( $M=3.2$ ), ( $t= 2.43$   $p < .05$ ,  $d=1.34$ ), 95% CI [.61-10.3]. In regards to sexual activity with a casual partner compared to students who did not, there was no significant differences for any construct ( $p$ 's=.91, .65, .95, .52, .92)

Table 5

*Means and Standard Deviations for Risky Sexual Activity Combined, Risky Condom Use, and Risky Casual Partners compared by Non-Risky student's*

	Risk Overall	NR Overall	Risk Condom	NR Condom	Risk Partners	NR Partners
	M(SD)	M(SD)	M(SD)	M(SD)	M (SD)	M(SD)
SSS	1.7(.72)	1.5(.63)	1.7(.93)	1.7(.53)	1.7(.82)	1.6(.53)
SE	2.4(1.4)	2.6(.46)	1.7(1.5) <sup>A</sup>	3.1(1.1) <sup>B</sup>	2.5(1.6)	2.2(.84)
DIS	2.2(1.5)	2.8(2.0)	1.5(1.5) <sup>A</sup>	3.1 (1.4) <sup>B</sup>	2.3(1.7)	2.3(1.4)
SR	1.7(1.2)	2.1(1.1)	1.4(1.4)	2.3(.89)	1.8(1.4)	1.5(.78)
PD	5.4(4.3)	10.3(4.5)	3.2(3.4) <sup>A</sup>	8.7(5) <sup>B</sup>	6.2(4.6)	6.2(4.9)

Note: SSS =Sexual Sensation Seeking; SE =Sexual Enhancement (AESQ); DIS=Sexually Disinhibited (AESQ); SR = Sexual Risk (AESQ); PD =Peak Drinking at home; RSH =Risky Sexual Activity at Home, \* =  $p < .05$

## **Chapter 4**

### **Discussion**

The goal of the current study was to understand how previous individual and person factors may predict risky sexual activity while studying abroad. Due to a low sample size it was not possible to conduct the planned analysis. Instead, a series of post hoc analyses were conducted on the data to identify potential issues and future directions. Two independent samples t-tests were conducted to identify potential differences in gender and students who completed the pre-and post-survey compared to those who completed only the pre-survey. Three additional independent samples t-tests were conducted to identify differences in overall risky sexual activity (a combination of risky condom use and risky casual partners), risky condom use, and risky casual partners compared to students who were not risky.

For gender, the non-significant results appear congruent with the literature. The literature suggests men and women similarly endorse sexual sensation seeking, alcohol and sex expectancies, alcohol use, and risky sex (Boraori et al., 2007; Labrie et al., 2005; Thompson et al., 2012). However, one difference did emerge for women. Women endorsed alcohol enhancing their sexual activity more than men. This could be attributed to the factors that create this construct. Sexual enhancement involves feelings that alcohol increases your level of intimacy with your partner, allows “you to feel more sexually responsive” and easily engage in sexual activity. One explanation could be that women believe that sexual activity with a casual partner requires a level of intimacy and connection; an emotion that alcohol can falsely create. This could be problematic when examining this construct with the study abroad environment. Several foreign countries

have a lower drinking age and easier access to alcohol than the USA. Female students may be able to consume alcohol frequently and activate these beliefs easier, creating a false sense of intimacy with a stranger abroad. This could be dangerous for a woman abroad due to their lack of knowledge about the foreign country and lack of familiarity with casual partners. She could be at greater risk to engage in risky sex and experience a negative consequence, such as contraction of an STI or a sexual assault experience.

When comparing students who completed the pre-survey and those who completed both the pre-and post-survey, several differences emerged in regard to their endorsement of sexual sensation seeking, alcohol and sex expectancies, alcohol use and risky sexual activity. Students who completed only the pre-survey had higher levels on all the factors of interest relative to students who completed both. Students who completed the pre-survey and reported high levels of risk, may have reflected on their responses and decided not to continue to report on these behaviors. While reporting on their engagement in risky behaviors students may have felt embarrassed by the questions about these behaviors and decided they did not want to continue with the survey. In addition, since students who completed both sections of the survey had endorsed the constructs of interest less, it adds to the argument that pre-survey students did not complete due to their high scores. ,

Another reason for pre-survey students having only higher scores is that participants who only completed the pre-survey may have been primed by the first study and realized what the post survey would be addressing. While abroad, students could have engaged in the behaviors of interest and did not want to report on them when they returned home. Further justification for this argument can be seen in the means of

students who completed both sections of the survey. Since they endorsed the constructs of interest less and did not engage in risky sex while abroad, they had no difficulty reporting on what happened abroad.

Another explanation may be the difference in time abroad between the two groups. Students who completed both surveys had studied abroad for a shorter period of time (1 month vs. 4 months). When students returned home from their fall semester abroad, they return around winter break and the holiday season. These students have not been home in four months, nor seen their friends or family and may want to quickly return home to them, instead of taking a survey.

While this study was exploratory, it was anticipated that the constructs of interest would be related with risky sexual activity; however, the results were inconsistent with the current literature. When risk was defined by a combination of risky condom use and sexual partners there appeared to be no differences in the endorsement of variables; however, non-risky students did report higher alcohol consumption in one sitting (10 drinks) than risky students (5 drinks). One reason for the non-risky groups higher alcohol consumption with no sexual activity may be that students are consuming too much alcohol in one sitting, making engagement in sexual activity challenging. Research suggests that when consuming alcohol there appears to be an inverted curve that states there is an ideal point when sexual activity and alcohol consumption can coincide. Once passing this certain threshold though, sexual activity becomes much more difficult (Brecklin & Ullman, 2010). Furthermore, it is unclear where students are consuming alcohol and if the setting allows for sexual activity to occur. Students on college campuses usually have access to several drinking environments (bars, friends houses,



dorm rooms, parties) and perhaps the environment where these students are consuming alcohol does not grant them the privacy to be alone with a sexual partner. It is also unclear if someone of interest is present when the students are consuming alcohol.

Despite the factors not be relating to risky sexual activity, a high percentage of this sample reported engagement in risky sexual activity, 59%, and reported consuming high frequency of alcohol beverages in one sitting. This is congruent with the current literature on college students as a high-risk group and further supports that idea that study abroad students are a specific high-risk group in the college population. These numbers could be a cause for alarm when considering that previous behaviors are a strong predictor of future behaviors. Therefore, it would be expected that with a large sample size, study abroad students would continue to engage in these behaviors while abroad and perhaps report negative consequences from them, such as STI contraction or sexual assault.

Interestingly, for sexual sensation seeking, these students appear to endorse the construct less than other high-risk populations ( $M=1.7$  vs.  $M=2.6$ ) (Norris et al., 2009). One explanation for this could be the difference in age range. Students in this study had a mean age of 20, while other high-risk group studies have a mean age of 25 (Norris et al., 2009). Younger students may not view their behaviors as “wild” or “uninhibited” but rather behaviors that typical college students engage in. In addition, study abroad students may view their sensation seeking traits to be ego-syntonic. Therefore, they do not report on them because these are normative behaviors and not “high-risk” behaviors. Despite low endorsement in SSS, a majority of students ( $n=16$ ) engaged in risky sexual activity,

which may also suggest that the personality trait is not as related with risky sex as once believed.

For AESQ, students in the overall risky grouping and the risky sexual partner grouping had no significant differences with the non-risky students. Differences did emerge with the grouping of risky condom users compared to non-risky users. Non-risky condom users endorsed sexual enhancement and alcohol disinhibition significantly more than their risky counterparts. One reason for this may be how much alcohol these non-risky users are reporting drinking. Alcohol and sex expectancies are highly associated with alcohol consumption (Labrie et al., 2005), therefore, it would be expected that if a student drinks more often they would endorse these beliefs. When compared to other high-risk samples, this sample endorsed the AESQ slightly less (2.4 vs.3.2). However, despite a lower endorsement than other high-risk groups, study abroad students alcohol consumption was still high and their AESQ reports were positively related with their alcohol use. Thus suggesting that this construct contributes to student's alcohol consumption and with a larger sample size, the result may be congruent with the current literature.

While this study is exploratory in nature it does have limitations. The sample size is small and homogeneous, making it hard to generalize any findings. In order to rectify this, future studies should involve more universities, preferably with larger study abroad programs to recruit a greater number of students. There was also a high attrition rate, making it difficult to detect whether these factors influence risky sex while studying abroad. Besides the previous reasons for the attrition rate, another explanation may be the incentive was not motivating enough. However, research conducted with this incentive

has had a very high response rate. Future researchers should look into examining whether a random drawing would be more motivating as an incentive. Despite the limitations, the research project is novel and the first to examine study abroad students risky sexual activity longitudinally. With an increase in sample size, these factors may show to be predictive and influential in understanding why study abroad students engage in risky sex.

In terms of the measures utilized in this survey, risky sexual activity and sexual sensation seeking could be adjusted. For risky sexual activity, future research should look to measure the activity in a smaller format. In an attempt to discover different forms of risky sexual activity, the questions in this survey may have appeared redundant and taxing for the participant. The nuances in each question may have been missed, making it appear as if they were answering the same questions repeatedly, perhaps causing a high attrition and dropout rate. Moving forward, research should examine this behavior in a shorter format with explicit details for each question, therefore gaining a better response from students.

Sexual sensation seeking may be a confounding variable with this population. As previously stated, students may not view their behaviors as “wild” or “uninhibited”. They also may not identify them as thrill seeking or novel, if they are typical behaviors they engage in. In fact, based on this sample, a large majority of the students reported engagement in at least one type of risky sexual activity. Thus, using this construct as a factor that influences risky sexual activity is null and void because these students may not endorse it.

While the findings in this study were idiosyncratic to the literature on risky sexual activity, this is an understudied group of students. Study abroad students are reporting a high engagement in risky sexual activity and alcohol consumption before traveling abroad. In addition, regardless of being risky or not, students are endorsing alcohol and sex expectancies and sexual sensation seeking traits. Therefore, these students appear to still be at high risk to engage in risky sex while abroad, and to experience negative consequences from the behaviors. In order to prevent these risky behaviors and consequences, future research should examine study abroad pre-departures meetings and understand if they discuss these topics before traveling abroad. These meetings could provide one of the first steps in preventing these risky behaviors.

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## **Appendix A**

### **Longitudinal Code**

Directions: Please use the directions below to make an unidentifiable code. This code is in no way traceable to yourself, it is purely used to help track your data over the entire survey.

The code entails:

1. The first 3 letters of their street address,
2. The 2 digits of the day they were born,
3. The last 2 letters of their first name

For example if your street address is Winterwood Lane, your birthday is April 7<sup>th</sup> and your name is Tiffany, then your code would be: “Win07ny”.

## Appendix B

### Demographics

What is your age?

What is your gender?

Male

Female

Please select the response that corresponds to your race or ethnicity:

African-American/Black

Hispanic/Latino/Latina

White/Non-Hispanic

Asian/Pacific Islander

Native American

Other

Please select the response that corresponds to your academic rank while studying abroad:

Freshman

Sophomore

Junior

Senior

Graduate Student

Other

Please select the response that best corresponds to your marital status while studying abroad:

Single (never married)

Dating (seeing one or more person(s) without commitment to monogamy)

Involved in a serious relationship, but not living with a significant other

Living with a significant other

Married

Separated

Divorced

Other

Please select the response that corresponds with your sexual orientation:

Exclusively heterosexual

Predominantly heterosexual, only incidentally homosexual

Predominately heterosexual, but more than incidentally homosexual

Equally heterosexual and homosexual

Predominately homosexual, but more than incidentally heterosexual

Predominately homosexual, but incidentally heterosexual

Exclusively homosexual

What continent do you plan to study abroad?

Europe

Asia

Australia

North America

Africa

Asia

South America

Antarctica

Multiply

What country are you studying abroad in? (i.e Italy, Germany, Brazil)

What made you pick this country?

Do you feel you understand the foundations, norms, and customs of the culture you are studying abroad in?

Yes

No

Do you feel you are familiar with the country's politics and government that you plan to study abroad in?

Yes

No

What is/was your major in school while studying abroad?

Do you study a foreign language?

Yes

No

What semester are you planning to study abroad in?

Fall

Spring

Summer

How many months do you plan to be abroad?

1

2

3

4

5

6

7

8

9

10

11

12

13 or more

Who do you plan to study abroad with?

Alone

A friend

Multiple friends

Family member(s)

Significant other

Spouse

Other

What made you want to study abroad?

What do you hope to learn while studying abroad?

## Appendix C

### Risky Sexual Activity Measure

Directions: When answering these questions, think of the past year and your engagement in the following activities:

How many partners have you engaged in vaginal intercourse with?

a. 1 2 3 4 5 6 7 8 9 10 or more

How many of those partners would you classify as a casual partner? (Someone you had 5 or less sexual encounters with and/or known for less than a month)

b. 1 2 3 4 5 6 7 8 9 10 or more

How many of your vaginal intercourse partners would you consider a short-term partner? (Someone you knew for a week or less)

c. 1 2 3 4 5 6 7 8 9 10 or more

How many of your vaginal intercourse partners would you consider a partner you met that evening?

d. 1 2 3 4 5 6 7 8 9 10 or more

How many partners have you engaged in vaginal intercourse with, *without* a condom?

e. 1 2 3 4 5 6 7 8 9 10 or more

When considering your sexual activity, how often do you feel you used a condom?

I would be more likely to have sex with someone I met that night if I knew my friends wouldn't judge me.

A. True

B. False

I feel that my friends engage in the same sexual behaviors as I do.

A. True

B. False

I would be more likely to have casual sex if I knew my friends were also doing it.

A. True

B. False

How often do you smoke marijuana before having sex?

•	•	•	•	•
Never	Less than Half the Time	Half the Time	Over Half the Time	Every Time

How often do you use alcohol before having sex?

•	•	•	•	•
Never	Less than Half the Time	Half the Time	Over Half the Time	Every Time



How often do you use recreational drugs before having sex?

•	•	•	•	•
Never	Less than Half the Time	Half the Time	Over Half the Time	Every Time

How often does your partner smoke marijuana before having sex?

Never	Less than Half the Time	Half the Time	Over Half the Time	Every Time
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How often does your partner use alcohol before having sex?

•	•	•	•	•
Never	Less than Half the Time	Half the Time	Over Half the Time	Every Time

How often does your partner use recreational drugs before having sex?

•	•	•	•	•
Never	Less than Half the Time	Half the Time	Over Half the Time	Every Time

I would be more likely to drink alcohol at a party if my friends were.

- A. True
- B. False

I would be more likely to use drugs at a party if my friends were.

- A. True
- B. False

Do you regularly use a hormonal birth control (such as a pill, Nuva Ring, or Depo Vera)?

- a. yes
- b. no

Have you ever had an STD?

- a. yes
- b. no

Have you ever had an unwanted pregnancy?

- A. Yes
- B. No

Having sex without a condom but being on a form of female birth control can be considered safe sex.

- A. Disagree Strongly
- B. Disagree Slightly
- C. Neutral
- D. Agree Slightly

## Appendix D

### Alcohol and Sex Expectancies

Many people believe that alcohol can influence how they feel and act sexually. We would like to know how you think having a few drinks of alcohol affects your sexual feelings and behaviors. After a few drinks of alcohol..."

1. I feel closer to a sexual partner.
  - a. *1 Strongly disagree, 2, 3, 4, 5, 6 Strongly agree*
2. I am more sexually responsive.
  - a. *1 Strongly disagree, 2, 3, 4, 5, 6 Strongly agree*
3. I am less nervous about sex.
  - a. *1 Strongly disagree, 2, 3, 4, 5, 6 Strongly agree*
4. I am less likely to use birth-control.
  - a. *1 Strongly disagree, 2, 3, 4, 5, 6 Strongly agree*
5. I have sex with people whom I wouldn't have sex with if I were sober.
  - a. *1 Strongly disagree, 2, 3, 4, 5, 6 Strongly agree*
6. I enjoy sex more than usual.
  - a. *1 Strongly disagree, 2, 3, 4, 5, 6 Strongly agree*
7. I am a better lover.
  - a. *1 Strongly disagree, 2, 3, 4, 5, 6 Strongly agree*
8. I am less likely to take precautions before having sex.
  - a. *1 Strongly disagree, 2, 3, 4, 5, 6 Strongly agree*
9. I am less likely to talk with a new sexual partner about whether he [she] has a sexually transmitted disease, like AIDS or gonorrhea.
  - a. *1 Strongly disagree, 2, 3, 4, 5, 6 Strongly agree*
10. I am more likely to do sexual things that I wouldn't do when sober.
  - a. *1 Strongly disagree, 2, 3, 4, 5, 6 Strongly agree*
11. I find it harder to say no to sexual advances.
  - a. *1 Strongly disagree, 2, 3, 4, 5, 6 Strongly agree*
12. I am less likely (to ask a partner) to use a condom.
  - a. *1 Strongly disagree, 2, 3, 4, 5, 6 Strongly agree*

13. I am more likely to have sex on a first date.

a. *1 Strongly disagree, 2, 3, 4, 5, 6 Strongly agree*

## Appendix E

### Sexual Sensation Seeking

Directions: Please answer the following questions on how much you feel they represent you

1. I like wild “uninhibited” sexual encounters.
  - *1 Not at all like me, 2, 3, 4 Very much like me*
2. The physical sensations are the most important things about having sex.
  - *1 Not at all like me, 2, 3, 4 Very much like me*
3. I enjoy the sensation of intercourse without a condom.
  - *1 Not at all like me, 2, 3, 4 Very much like me*
4. My sexual partners probably think I am a “risk taker.”
  - *1 Not at all like me, 2, 3, 4 Very much like me*
5. When it comes to sex, physical attraction is more important to me than how well I know the person.
  - *1 Not at all like me, 2, 3, 4 Very much like me*
6. I enjoy the company of “sensual” people.
  - *1 Not at all like me, 2, 3, 4 Very much like me*
7. I enjoy watching “X rated” videos.
  - *1 Not at all like me, 2, 3, 4 Very much like me*
8. I have said things that were not exactly true to get a person to have sex with me.
  - *1 Not at all like me, 2, 3, 4 Very much like me*
9. I am interested in trying out new sexual experiences.
  - *1 Not at all like me, 2, 3, 4 Very much like me*
10. I feel like exploring my sexuality.
  - *1 Not at all like me, 2, 3, 4 Very much like me*
11. I like to have new and exciting sexual experiences and sensations.
  - *1 Not at all like me, 2, 3, 4 Very much like me*

## Appendix F

### Daily Drinking Questionnaire

For all questions on # of drinks, one drink equals:

- 12 oz. of beer (8 oz. of Canadian, malt liquor, or ice beers or 10 oz. of microbrew)
- 10 oz. of wine cooler
- 4 oz. of wine
- 1 cocktail with 1 oz. of 100-proof liquor or 1 1/4 oz. of 80 proof liquor

FOR EXAMPLE:

- If on a typical Thursday you drink 3, 12oz. regular beers, you would type in 3 drinks.

- If on a typical Friday you drink 1 mixed drink that contains 3, 1oz. shots of 100-proof liquor, you would type in 3 drinks.

	Consider a typical week during the <b>last month</b> .  How much alcohol, on average, (measured in number of drinks), do <b>you</b> drink on each day of a typical week?	Drinks
<b>DDQ01</b>	On a typical <b>Monday</b> , I have...	
<b>DDQ02</b>	On a typical <b>Tuesday</b> , I have...	
<b>DDQ03</b>	On a typical <b>Wednesday</b> , I have...	
<b>DDQ04</b>	On a typical <b>Thursday</b> , I have...	
<b>DDQ05</b>	On a typical <b>Friday</b> , I have...	
<b>DDQ06</b>	On a typical <b>Saturday</b> , I have...	
<b>DDQ07</b>	On a typical <b>Sunday</b> , I have...	