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**UNDERGRADUATE STUDENTS' MOTIVATIONS TO ENGAGE IN SEXUAL
BEHAVIORS AFTER CONSUMING ALCOHOL: A MIXED
METHODOLOGICAL ACTION RESEARCH APPROACH**

A Thesis in

Biobehavioral Health

by

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ABSTRACT

The study was developed to gain a better understanding of undergraduate students' motivations for engaging in sexual behaviors after drinking alcohol. There seems to be a gap between how researchers and administrators view and define college drinking, sexual behaviors, and motivations and the undergraduates' view of these behaviors. An action research approach was used in this study, to help bridge the gap between the researchers and the undergraduate students. The purpose of this study was to gain a better understanding of students' motivations for engaging in sexual behaviors after consuming alcohol. In order to understand this, the following overall research question was posed: How do undergraduate students view drinking and then engaging in sex? To explore the answer in more detail, the following sub-questions were examined and compared by gender: What are the meanings of the terms students use to discuss these behaviors?, What motivations do students describe for drinking alcohol and engaging in sex?. To help answer these questions a quantitative survey instrument was developed to reliably and validly measure college student's motivations for engaging in sexual behaviors after drinking alcohol. An action research approach to scale development was used.

The answering of the research questions consisted of a three primary stages: q-methodology, content analysis of open-ended questions, and scale development. In the first stage of the study, q-methodology was used to categorize various motivations for alcohol consumption and engaging in sex as reported by undergraduate students on the Sex and Alcohol Log. In the next stage, information was collected, through answers to

open-ended questions, to allow for a more complete understanding and clarification of undergraduates' motivations for engaging in sexual behavior after consuming alcohol and terms they use for describing those behaviors. A content analysis was performed on these data. The findings from the first two qualitative stages of this research process were then used to develop a scale that accurately represented the undergraduate students' motivations for mixing alcohol and sex.

TABLE OF CONTENTS

LIST OF FIGURES.....	ix
LIST OF TABLES	x
ACKNOWLEDGEMENTS	xii
Chapter 1 Introduction.....	1
Alcohol Use Among Undergraduate University Students.....	2
Alcohol Use Among Penn State University Undergraduate Students	5
Sexual Behavior Among Undergraduate University Students.....	9
Sexual Behaviors Among Penn State University Undergraduate Students....	11
Mixing Alcohol and Sexual Behavior	13
Statement of the Problem.....	15
Statement of the Purpose	17
Research Questions.....	17
Definition of Terms.....	18
Chapter 2 Review of the Literature	21
Introduction.....	21
Theoretical Framework: Action Research.....	22
Motivations.....	24
Motivations for Alcohol Consumption	27
Enhancement Motives (Internally Generated and Positively Reinforced).28	
Conformity Motives (Externally Generated and Negatively Reinforced).30	
Coping Motives (Internally Generated and Negatively Reinforced	31
Social Motives (Externally Generated and Positively Reinforced).....	32
Gender Differences.....	33
Limitations of the Research	33
Sexual Motivations	35
Limitations	41
Alcohol and Sexual Behavior	43
Summary	45
Chapter 3 Methods	46
Mixed Methodology	48
Stage 1: Q-sort	53
Q-Sample.....	54
Q-sorting and Conditions of Instruction	55
Analysis of Q-sort.....	57
Stage 2: Content Analysis	58

Stage 3: “Motivations for Mixing Alcohol and Sex” Scale (MMSS)	
Development	61
Step 1: Defining Constructs to Be Measured.....	62
Step 2: Generating the Initial Item Pool	65
Step 3: Expert Panel’s Judgements.....	66
Step 4: Conducting Item Revision.....	68
Step 5: Administrating the Draft of the Instrument	69
Participants and Contexts.....	69
Step 6: Factor Analysis to Provide Construct Validity	71
Comparison of Principle Component Analysis (PCA) to Factor Analysis (FA).....	73
Factor Extraction.....	74
Factor Rotation.....	76
Step 7: Item Analysis	77
Step 8: Assessing Internal Consistency Reliability.....	78
Step 9: Revisions of the Scale	80
Summary	80
Chapter 4 Results & Discussion.....	82
Stage 1: Q-sort	83
Results.....	83
Decision Making Process	84
Males: Reasons for Engaging in Sexual Behavior	85
Females: Reasons for Engaging in Sexual Behavior	87
Males: Reasons to Drink.....	89
Females: Reasons to Drink.....	91
Discussion	93
Reasons to Engage in Sexual Behavior.....	94
Reasons for Drinking	97
Stage 2: Content Analysis	100
Decision Making Process	101
Findings.....	102
Sexual Motivation Survey	102
Terminology	102
Summary	110
Motivation.....	111
Alcohol Survey	113
Terminology and Related Motives.....	114
“Buzzed”	116
“Drunk”	118
“Wasted”	121
Alcohol and Sexual Behavior	123
Summary	126
Discussion.....	127

Sexuality.....	127
Terminology	127
Motivations.....	130
Alcohol.....	133
Terminology	133
Motivations.....	135
Summary	137
Action Research Summary	138
Stage 3: MMASS Development	139
MMASS Analysis	142
Analysis of Gender and Sexual Relationship Status.....	148
Player/Excuse Subscale Differences.....	149
Self-Esteem/Comfort Subscale Differences.....	150
Romance/Relationship Subscale Differences.....	151
Pleasure/Sexual Response Subscale Differences	152
Relieve Stress/Relax Differences	153
Celebrate/Relieve Boredom Subscale Differences.....	154
Partner/Peer Influence Subscale Differences	155
Discussion	156
Motivations.....	156
Summary	160
Chapter 5 Summary, Recommendations, and Implications of the Study.....	161
Summary and Limitations of the Study.....	161
Stage 1: Q-sort	163
State 2: Content Analysis.....	166
Stage 3: Motivations for Mixing Alcohol and Sex Scale Development.....	169
Action Research.....	172
Critique	173
Application of Findings	175
Researcher’s Reflections/Future Recommendations.....	179
Bibliography	182
Appendix A Q-Sort Worksheets	189
Appendix B Sexual Behavior and Alcohol Use Open-ended Surveys	195
Appendix C Original Draft of the MASS.....	200
Appendix D Revised MMASS	203
Appendix E College Social Life and Health Survey	206
Appendix F Revised Mass Post Analysis	238

LIST OF FIGURES

Figure 2-1: Cooper's (1994) Four Factor Model.....	27
Figure 3-1: Steps of MASS development and Validation.....	52
Figure 4-1: Cooper's Motivational Model with MMASS Factors	158

LIST OF TABLES

Table 3-1: Type Caption Here.....	70
Table 4-1: Q-sort Results for Males Reasons to Engage in Sexual Behaviors.....	86
Table 4-2: Q-Sort Results for Females Reasons for Engaging in Sexual Behavior.....	88
Table 4-3: Q-Sort Results for Males Reasons to Drink.....	89
Table 4-4: Q-Sort Results for Females Reasons to Drink.....	91
Table 4-5: Categorization of SAL Reasons to Engage in Sexual Behavior Based on Cooper's Model.....	97
Table 4-6: Categorization of SAL Reasons to Drink Based on Cooper's Model.....	99
Table 4-7: Males Sexual Terminology.....	103
Table 4-8: Females Sexual Terminology.....	104
Table 4-9: Sexual Motivations	111
Table 4-10: Males: Alcohol Terminology	114
Table 4-11: Males: Motivations to Drink	115
Table 4-12: Females: Alcohol Terminology.....	115
Table 4-13: Females: Motivations to Drink	116
Table 4-14: Is alcohol used as an excuse for sex?.....	124
Table 4-15: Are people more likely to take sexual risks when drinking?.....	124
Table 4-16: Students' Sexual Motivations Categorization Based on Cooper's Model.....	132
Table 4-17: Students' Drinking Motivations Categorization Based on Cooper's Model.....	137
Table 4-18: Demographic Characteristics of Survey Respondents	141
Table 4-19: Rotated Factor Loadings for Factor 1: Player/Excuse.....	143
Table 4-20: Rotated Factor Loadings for Factor 2: Self esteem/ Comfort	144

Table 4-21: Rotated Factor Loadings for Factor 3: Romance/Relationship	145
Table 4-22: Rotated Factor Loadings for Factor 4: Relieve Stress/Coping.....	145
Table 4-23: Rotated Factor Loadings for Factor 5: Peer/Partner Influence	146
Table 4-24: Rotated Factor Loadings for Factor 6: Pleasure/Sexual Response.....	147
Table 4-25: Rotated Factor Loadings for Factor 7: Celebrate/Relieve Boredom	147
Table 4-26: Factor Scale Means, Standard Deviations, and Cronbach Alphas	148
Table 4-27: 2-Way ANOVA of MMASS Factors by Sex and Relationship Status.....	149
Table 4-28: Player/Excuse Subscale 2-Way ANOVA by Sex and Relationship Status	150
Table 4-29: Self-Esteem/Comfort Subscale 2-Way ANOVA by Sex and Relationship Status	151
Table 4-30: Romance/Relationship Subscale 2-Way ANOVA by Sex and Relationship Status	152
Table 4-31: Pleasure/Sexual Response Subscale 2-Way ANOVA by Sex and Relationship Status	153
Table 4-32: Relax/Relieve Stress Subscale 2-Way ANOVA by Sex and Relationship Status	154
Table 4-33: Celebrate/Relieve Boredom Subscale 2-Way ANOVA by Sex and Relationship Status	155
Table 4-34: Partner/Peer Influence Subscale 2-Way ANOVA by Sex and Relationship Status	156

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Chapter 1

Introduction

“If research is to jointly contribute to theory and practice, it must be designed to accomplish this objective. It cannot simply be taken as a matter of faith that adhering to certain scientific research principles will lead to jointly useful research. Indeed it may be that adhering to principles that were designed to produce research that contributes to scientific knowledge will make it certain that this research will not contribute to practice.” (Minkler, 1997, pg 127)

The college years are a time of transitional activities marked by emotional, cognitive and environmental changes (O’Hare, 1997). At this time in their lives, adolescents move away from home, which may involve feelings of loneliness and sadness as well as the need to be accepted by their new peers. These new challenges are also an exciting time for the adolescent because he/she will experience greater personal freedom and independence. However, the increased involvement in social and dating relationships, and freedom from the responsibilities of marriage and family life can lead to the development of unhealthy habits. (NIH, 2002). As a result, individuals could engage in unhealthy behavior, such as engaging in sex after consuming alcohol, that may possibly affect their health in future years.

In this chapter, I will address what some researchers view as one major concern among college students, the intersection of alcohol and sex. The following topics will be discussed in this chapter: alcohol use among undergraduate university students, alcohol use among Penn State University undergraduate students, sexual behavior among undergraduate university students, sexual behavior among Penn State University undergraduate students, and mixing alcohol and sexual behavior. In addition, the statement of the problem, statement of purpose, research questions, and definition of terms for this research project will be presented. When available, approaches specific to Penn State University that have been used to combat the alcohol and risky sexual behavior concerns/problems will be discussed.

Alcohol Use Among Undergraduate University Students

Researchers, administrators and staff, and even the students themselves consider alcohol to be the most pervasively misused substance on college campuses (NIH, 2002; Perkins, 2002; Preseley, 2002). Many college presidents feel that alcohol misuse is the single greatest threat to the quality of campus life. This feeling is warranted because 44% of the full-time students at 4-year institutions have been found to engage in “binge” or heavy drinking patterns (Preseley et al 2002). According to the NIH, (2002), the age period of 19-24 is associated with the highest prevalence of periodic heavy alcohol consumption during the life span. Alcohol misuse is thought of by some as a developmental rite of passage for students. However, if students are left alone to

experience this developmental rite of passage, great injury or harm to themselves and others could result. Binge drinking, defined as when a male consumes five or more and a female consumes four or more alcoholic beverages at one time (Stoner, 2000) is not only a major public health hazard but also the primary source of preventable morbidity and mortality, more so than smoking (NIH, 2002; Perkins, 2002) for more than 6 million full-time college students in America (Wechsler et al, 1995).

It could be speculated that a lot of the alcohol-related research is conducted on the college community, and not with the college community, thus causing the students' concerns to not always be addressed. This can occur for a myriad of reasons. Most often researchers are locked into conducting the type of research that their agency requests instead of what the community needs. Another reason that the students' voices are not always heard is that a potential conflict can exist between the undergraduates and the researchers. This conflict is essentially about the differences between the academic/intellectual understanding of alcohol use and the life experience of the students (Minkler, 1998). Even the researchers who pride themselves on being the students' allies frequently fail to realize the power exerted by their funding and agendas. This in turn, can adversely affect their community interactions and outcomes (Minkler, 1998). Therefore, the consequences that are often focused upon in the research and by administrators may not accurately represent what the college students feel are the most negative consequences of alcohol consumption.

One consequence of alcohol misuse, often mentioned by administrators, is academic impairment, defined as performing poorly on a test, missing a class, or even getting behind in schoolwork (NIH, 2002; Perkins, 2002). Research has found that there

is a connection between alcohol consumption and academic impairment. Perkins (2002) wrote a review article that was based on survey research of undergraduates conducted during the last two decades. This article reported that males who consumed five or more drinks, one to two times in a two-week period were also more than three times as likely to report getting behind in schoolwork than those who did not consume alcohol. Females who consumed four or more drinks in a row, one or two times in a two-week period were also more than three times likely to report getting behind in schoolwork due to their drinking than females who did not drink as much. The findings for both males and females in this study were similar with the only difference being the amount of alcohol consumed. This review paper also found a consistent inverse relationship between weekly drink averages and grade point average.

A second type of consequence of alcohol misuse is called short-term health-related (NIH, 2002; Perkins, 2002), and includes hangovers, nausea and vomiting, blackouts, personal injuries, and alcohol poisoning (NIH, 2002). Some students tend to view these short-term health-related manifestations more as a “badge of honor” than a consequence (Penn State Pulse, 2002). This attitude’s stated best by a Penn State University undergraduate in the Penn State Pulse (2002), *“I went out for little bro’s 21st [birthday] last night. He got so wasted that we ended up at the hospital so he could get his stomach pumped...I’m so proud of him.”*

The negative consequences of excessive alcohol consumption can be severe for both those college students who drink and those around them. Many consequences of students’ heavy drinking are simultaneously or specifically inflicted on other people who are sober. These consequences include property damage, vandalism, noise disruptions,

and fights and interpersonal violence (NIH, 2002, Penn State Pulse; 2000). There seems to be a gap in the research concerning this type of consequence (Penn State Pulse, 1996, 2000, 2001). It could be speculated that because researchers and administrators are more concerned with the health-related consequences than disturbance-related consequences since something like alcohol poisoning can ultimately lead to death if not treated.

Alcohol-related deaths do not reflect well on the university.

Alcohol Use Among Penn State University Undergraduate Students

In 1995, a survey was conducted by the Penn State Pulse to investigate students' attitudes and experiences related to alcohol consumption. The Penn State Pulse was initiated in the spring of 1995 by the Office of Student Affairs to gather feedback on student issues, expectations, usage of service, and satisfaction. Random samples of students are either called by trained interviewers or receive an e-mail invitation to participate in the survey on-line. The high participation rates, and verification that the demographics of respondents are consistent with the student population from 1995 to the present, strongly suggest that the results of these survey are representative of the student body. Of the 350 students who participated in the survey in 1995, more than half (55.5%) felt that drinking was not a problem at Penn State University. However, many students reported experiencing unpleasant behaviors as the result of their own or other students' drinking. The top four behaviors were: having a hangover, missing a class, having to "baby-sit" or take care of another student who drank too much (a behavior that is not mentioned in the research), and having studying or sleep interrupted by a drunk

student. When asked how the university should handle problem drinking behaviors, the survey participants suggested increased educational programming, restrictions such as curfews and arrests, and policing of fraternity areas, as well as prohibiting alcohol in the residence halls, publicizing sanctions, and just ignoring the behaviors (Penn State Pulse, 1995).

In 1996, a similar survey was conducted by the Penn State Pulse to further investigate students' perceptions of the drinking climate on campus. This survey found that the 292 students who had consumed alcohol in the past thirty days drank an average of 5.9 times during that period and consumed an average of 7.3 drinks on each occasion. Even though a significant number of those who drank met the criteria of binge drinking, (five or more drinks for males and four or more drinks at one time for females), only 3.9% of the drinkers felt that they themselves had a drinking problem. In addition, on those occasions in the past thirty days when alcohol was consumed, students under 21 consumed a greater number of drinks than did students 21 and older (Penn State Pulse, 1996).

According to the 2000 Penn State Pulse student drinking survey, 80% (597 out of 746 study participants) reported that they consumed alcohol and the majority (70%) of participants did not consider "getting drunk" regularly to be an unacceptable behavior. These students also felt that a person did not have to consume alcohol in order to fit in at Penn State. Of the students who reported that they consumed alcohol, 64% of males and 51% of females met the definition of binge drinking. Much like the students who participated in the 1996 survey, the 2000 study participants also indicated that "baby-sitting" a drunken student, having your studying/sleep interrupted, and having a hangover

were the most common unpleasant drinking behaviors that they experienced (Penn State Pulse, 2000).

The “Party Smart” alcohol awareness campaign was implemented in 2001 in response to the binge drinking among undergraduate students. The University Park Campus-Community Partnership (The Partnership), a team of 44 representatives from the University and the Centre Region working to reduce high-risk behavior associated with drinking, developed a community-wide campaign to provide a more accurate picture of student drinking behavior in order to let students know that their peers drink a lot less than they may think (University Health Services, 2002). This campaign uses social norms theory which purports that students overestimate the extent to which other students engage in high-risk drinking. This overestimation may cause some students to drink at higher levels in response to student perceptions about the norms and drinking behaviors. The main message of the campaign was “70% of Penn State Students Drink Smart. That is, they have zero to four drinks in one sitting and do not drink to get drunk.” The second message of this campaign is “Friends Don’t Let Friends Get Alcohol Poisoning.” The goals of this campaign were to reduce high-risk drinking, and to educate students about alcohol poisoning (University Health Services, 2002). “Party Smart” posters were displayed in residence halls, the HUB-Robeson Center, downtown apartment buildings, and on the CATA busses. The funding for the campaign came from the Bureau of Liquor Control Enforcement, the Penn State University, Pennsylvania Liquor Control Board Partnership, and University Health Services (University Health Services, 2002).

The Penn State Pulse continued to monitor student drinking while also asking students about the effectiveness of the alcohol awareness campaign. The majority (80%)

of 394 students surveyed in 2001 reported that they had seen the “Party Smart” posters and thought that the current campaign had increased their understanding of how many Penn State students drank responsibly and how to respond in an alcohol poisoning emergency. However, 51% of these students still reported that they were binge drinkers. Students were then asked what measures would be most effective for the university and community to take to promote the concept of responsible drinking and particularly the avoidance of binge drinking and alcohol poisoning. Their top three recommendations included: providing information about the health dangers of drinking, increasing the cost of fines for drinking offenses, and increasing the enforcement of regulations (Penn State Pulse, 2001).

The percentage of students who reported that they drank alcohol has remained relatively consistent over time even though 84.8% of 1446 respondents reported seeing the “Party Smart” message in the 2004 Penn State Pulse drinking survey. Still the majority (80.8%) of students reported that they drank alcohol. On average, these students consumed 7.8 drinks per week. However, when asked how many drinks they consumed during a weekend, the average increased to 8.18. The average number of drinks consumed when “partying” for all respondents was 5.02 as compared to the 4.87 in 2003. The percentage of students who reported having binged three or more times during a two-week period decreased slightly to 56% since 2003 but was still higher than what was reported in 2001 (51%) and 2002 (53%). The top three consequences of drinking as experienced by the students were: having your studying or sleep interrupted, having to “baby-sit” a student who drank too much, and having a hangover (Penn State Pulse, 2001, 2002, 2003).

To conclude, as can be seen by the Penn State Pulse data and the campus's "Party Smart" campaign to lessen student binge drinking, the students' voices are not being heard. When asked how the university should handle problem drinking behaviors, the students suggested increased educational programming, restrictions such as curfews and arrests, and policing of fraternity areas, as well as prohibiting alcohol in the residence halls, and publicizing sanctions. However, the university did not listen to the students' voices and instead implemented the "Party Smart" social norms campaign. Is it possible that a program that focussed more on students' perceived consequences of drinking would have had a greater impact on the undergraduate population than the "Party Smart" campaign that was implemented?

Sexual Behavior Among Undergraduate University Students

Research has shown that the incidence of high-risk sexual practices among college students is on the rise (Cooper, 2002; Caron et al, 1993; Douglas et al, 1997; Paul et al, 2000,). High-risk sexual behaviors can be defined as any behavior that increases the probability of negative consequences associated with sexual contact, including HIV or other sexually transmitted infections and unplanned pregnancy (Cooper, 2002). According to the results from the 1995 National College Health Risk Behavior Survey (Douglas et al, 1997), which sampled undergraduate students from 148 universities (n=4,838), 86.1% of respondents had engaged in sexual intercourse. With the majority of undergraduate students engaging in sexual behaviors, the likelihood that some may be

putting themselves at various health risks, such as contracting a sexually transmitted infection (STI), because their engagement in risky sexual behaviors is high.

In a study that examined sexual behaviors among first-year students, it was found that 34% of the 330 respondents had engaged in sexual intercourse with two or more partners since they entered college (Caron et al, 1993). The study also indicated a shift toward more permissive sexual standards in which college students are often "experimental" in sexual relations and not selective in choosing sexual partners.

This shift toward more permissive sexual standards is possible because the norms of sexual permissiveness, including having multiple partners, are highly influential on the college campus (Caron et al, 1993; Paul et al 2000). The independence combined with a sense of "invincibility" experienced by college students allows for a new found freedom in which adolescents are faced with a variety of opportunities. In this context, these young adults need to learn to manage their sexual relationships (Cooper, 2002).

According to Cooper (2002), most (80%) college students are sexually experienced and engage in multiple forms of risky sexual behavior that have put them at risk for contracting a sexually transmitted infection (STI) or unintended pregnancy. More specifically, 25% of the 178 college students surveyed had six or more lifetime sex partners. In addition, 15% of these college students had been or had gotten their partner pregnant, while rates ranged from 12-25% of sexually experienced college students who have contracted a STI (Cooper, 2002).

Even though condom use is a well-recognized practice that provides protection against STIs and unintended pregnancies (Douglas et al, 1997; NIH, 2002; Paul et al, 2002), the results from the 1995 National College Health Risk Behavior Survey indicated

that only 25.8% of females and 35.2% of males reported using condoms during their last sexual encounter (Douglas et al, 1997). Only 27.9% of the participants reported consistent condom use for the 30 days prior to completion of the survey (Douglas et al, 1997). In the study conducted by Caron et al (1993), it was found that 80% of the 330 students surveyed had used a condom since entering college, yet only 20.7% had used a condom consistently during every sexual encounter.

Sexual Behaviors Among Penn State University Undergraduate Students

A study of 320 heterosexually-oriented undergraduate students was conducted by Koch et al (1998) at Penn State University. Of these students (184, 57% females and 136, 43% males) had engaged in sexual behaviors in the prior month. Respondents were asked a series of questions concerning the most recent time they had engaged in sexual intercourse in the prior month. The majority (55% of females and 56% of males) reported that they discussed birth control options with their last sexual partner. However, only 26% of males and 31% of females had talked to their last sexual partner about STIs. A little over half of males and females (52% and 54% respectively) reported not using a condom during their last sexual encounter.

A survey entitled “HIV/AIDS: Don’t Ignore it Prevent It” was conducted at Penn State University in the spring of 2004 by University Health Services. A random sample of 2,000 undergraduate students were selected to participate in this survey. However, there were only a total of 319 respondents of which 37% were male and 62% were females. According to this survey, 57% of respondents had engaged in sexual intercourse

in the last 30 days. Almost half (42%) of the respondents reported that the last time he/she engaged sexual intercourse a condom was not used (University Health Services, 2004).

In the spring of 2003, Penn State was selected by the National Association for Student Affairs Administrators' (NAPSA) Health Education Leadership Program (HELP) to develop a strategic plan for the reduction of student risk of Human Immunodeficiency Virus (HIV) infection. Penn State Student Affairs staff, faculty, students and community members collaborated on a plan to enhance HIV/AIDS risk reduction on the University Park campus. Based on the development of the strategic plan using an ecological approach, Penn State was selected as one of the six universities chosen by HELP to receive a grant to create an innovative approach to HIV/AIDS risk reduction (University Health Services, 2003). The grant money went toward starting a poster campaign with the primary goal to raise awareness and empower people to take control over their sexual health. The posters featured a picture of a large banana along with some facts and statistics such as "6% of Penn State Students Know a Great Deal About HIV," and "Half of All New HIV Infections Occur in People Between the Ages of 20 and 25." These ads have recently been placed in various classroom buildings, the HUB-Robeson Center, and in some of the local downtown establishments (University Health Services, 2003). Since this ad campaign was very recently implemented more information concerning this program is unavailable. Its effectiveness has not yet been evaluated.

It could be speculated that, much like the "Party Smart" campaign that was implemented to combat alcohol misuse, the "HIV/AIDS: Don't Ignore It, Prevent It" campaign was not based on the students' needs but more on the funding agency's needs.

Instead of starting where the people are, University Health Services started where the funding was. Even though HIV is a deadly STI and should be addressed, would a campaign that addressed more than just HIV but also the sexually charged college campus atmosphere and how a person can remain sexually healthy have a greater impact?

Mixing Alcohol and Sexual Behavior

Alcohol consumption during the college years is one of the most probable factors associated with risky sexual behavior in college students (Derman & Cooper, 2000; Henry J. Kaiser Foundation, 2002; Weschler et al, 1995). In 1998, an estimated 400,000 college students between the ages of 18 and 24 had unprotected sex after drinking (Henry J. Kaiser Family Foundation, 2002). A national survey of more than 17,000 college students found that heavy drinkers were nearly three times as likely to have had multiple sex partners in the past month than non-heavy drinkers (Wechsler et al, 1995).

While no conclusive evidence has been revealed to date, many researchers believe that alcohol interferes with the ability of individuals to make sound decisions and increases the risk that an individual will contract HIV and other sexually transmitted diseases (Derman & Cooper, 2000; Henry J. Kaiser Foundation, 2002; Leigh & Morrison, 1991). For example, in a study of 308 college students, Derman and Cooper (2000), found that intoxicated individuals were more likely to agree with potential justifications for not using a condom prior to sexual intercourse and in turn were more likely to engage in sexual intercourse without a condom.

In the Koch et al (1998) study conducted at Penn State University, a significant relationship for males was found between the amount of alcohol consumed and the likelihood of discussing certain sexual topics including HIV/STIs with their last sexual partner. For example, males who consumed alcohol were 1.5 times less likely to discuss sexual issues than those who had not consumed alcohol. Further, when men reported that their partners consumed alcohol, the couple was 1.6 times less likely to discuss sexual issues than when partners had not consumed alcohol. Since understanding the mechanisms through which alcohol adversely affects safer-sex intentions and behavior is important for reducing risk of contracting HIV and STIs, researchers have begun to focus upon the potential mediators of this behavior (Derman & Cooper, 2000; Koch et al 1998; LeBrie et al, 2002).

The majority of research examining the connection between alcohol use and sexual behavior among undergraduate students has taken the form of correlational studies (Cooper, 2002, George & Stoner, 2000, Derman & Cooper, 2000, Weinhardt & Carey 2000). In these types of studies, the statistical relationships are not always strong. In addition, relationships between alcohol use and sexual activity that may result from other factors, including motivations, personality factors, or a lifestyle that involves drinking and sexual activity have been understudied (Leigh, Morrison, 1991).

Statement of the Problem

According to the review of the Penn State Pulse student drinking surveys, being drunk is an acceptable behavior, and students did not feel that they had a drinking problem even if they regularly binge drank (Penn State Pulse, 2001). It was also consistently reported by the students that the problem drinking -related behaviors that they experienced most frequently were: noise disturbances that interfere with studying/sleeping, “baby-sitting” a student who drank too much, and being hungover (Penn State Pulse, 1996, 2000, 2001). However, researchers and university officials did not focus upon this information when planning and implanting the “Party Smart” campaign.

Although students reported that a person did not have to drink to fit in at Penn State (Penn State Pulse, 2000), a social norms poster campaign was implemented. Even though students suggested that increasing police and fines to be an effective method to combat alcohol misuse, the “Party Smart” poster campaign was implemented instead to combat the serious problem of binge and heavy drinking. This is one of many examples of how undergraduate students’ voices are not heard. When the researcher is unable to fully understand the lived experiences of the university students, it makes it difficult to develop an effective intervention/prevention program (Minkler & Wallerstein, 2001).

Thus, there seems to be a gap between how researchers and administrators view and define college drinking, sexual behaviors, and motivations and the undergraduates’ views. The terms “drinking” and “sex” encompass a diverse spectrum of behaviors that may be influenced by differing motivations and result in differing outcomes among

college students. A better understanding of the various motivations behind specific behaviors could allow for public health professionals to create more effective and appropriate prevention/intervention programs and also conduct more valid research.

A principle that is often neglected by many researchers is “starting where the people are” (Minkler, 1999). A barrier that many university researchers face is that they are often forced to start where they are funded. For example, even though students may be more concerned about contracting genital warts than HIV, researchers may be forced to develop an HIV prevention/intervention because the university received an HIV/AIDS prevention grant. This approach has powerful implications for how the researchers interact with the community, the strategies they employ, and what priorities or needs will be elicited, supported, and sustained (Minkler, 1999). Researchers may ask the kinds of questions they are comfortable with that can lead to “terminal hardening of the categories” (Minkler, Wallerstein, 2001). Researchers need to keep in mind that their frame of reference is likely to be different than that of the undergraduates’ frame of reference if effective prevention/intervention programs are to be developed. Effective intervention/prevention programs can be developed through the use of action research methodologies in which the researcher critically reflects and responds to the emerging themes of the students which then allows the researcher to adjust his/her research agenda appropriately.

Statement of the Purpose

The purpose of this study was to gain a better understanding of students' motivations for drinking alcohol and then engaging in sexual behaviors so that more effective prevention/intervention programs can be developed. An effective way to conduct this type of research is through a mixed methodology action research approach because this allows for the students' issues and concerns to be included. The present study examined the way students interpreted sex and alcohol-related behavior through the collection and analysis of qualitative data. This qualitative information was then used to design a quantitative survey that solicited information on college students' motivations for drinking alcohol and then engaging in sexual behaviors. The following section will address the specific research questions that were addressed in this study.

Research Questions

Given the information that was discussed in the previous sections, the overarching research question that was addressed was: How do undergraduate students view drinking and then engaging in sex? To explore the answer in more detail, the following sub-questions were examined and compared by gender: What are the meanings of the terms that students use to discuss these behaviors?, What motivations do students describe for drinking alcohol and then engaging in sex?. To help answer these questions, a quantitative survey was developed to reliably and validly measure college student's motivations for engaging in sexual behavior after drinking alcohol. Through the use of

exploratory factor analysis, it was expected that major factors would emerge that would represent the following constructs: internally-focused positive motivation, internally-focused negative motivation, externally-focused positive motivation, and externally-focused negative motivations. Further, significant differences regarding motivations based on gender and type of relationships were expected. The examination of the factors of gender and relationship, and the interaction of gender and relationship on the “Motivations for Mixing Alcohol and Sex Scale” scores were addressed.

Definition of Terms

Action research: Methodology which has the dual aims of action and research. The purpose is to learn from experiences, and apply that learning to bringing about change (Johnson, 2002).

Alcohol myopia: Intoxication generates more excessive outcomes than sobriety only when a person faces high conflict between instigatory and inhibitory motives (Stoner, 2000).

Binge drinking/alcohol misuse: When a male consumes 5 or more and a female consumes 4 or more alcoholic beverages at one time (Stoner, 2000).

Content-related evidence of validity: The degree to which the sampled items on an instrument adequately represent the intended domain of content that they are supposed to measure (Gall, Borg, Gall, 1996).

Construct-related evidence of validity: The degree to which the scores from a particular instrument accurately represent the hypothetical construct that it purports to measure (Gall, Borg, Gall, 1996).

Expectancy: An individual's behavior after drinking is driven by preexisting beliefs about alcohol's effect on behaviors (Cooper, 2002).

Externally-generated positive reinforcement motives: Consuming alcohol and then engaging in sexual behaviors to obtain positive social rewards (Cooper, 1998).

Externally-generated negative reinforcement motives: Consuming alcohol and then engaging in sexual behaviors to avoid social censure or rejection (Cooper, 1998).

Heavy Drinkers: Those who consumed five or more drinks per occasion on five or more days during the last month (NIH, 2002)

Internal consistency reliability: The degree to which individual items of a scale reflect a common underlying construct intended to be measured (Spector, 1992).

Internally generated, negative reinforcement motives: Consuming alcohol and then engaging in sexual behaviors to reduce or regulate negative emotions.

Internally generated and positive reinforcement motives: Consuming alcohol and then engaging in sexual behaviors to enhance a positive mood or well-being (Cooper, 1998)

Light Drinkers: Those who consumed at least one, but fewer than five drinks on any occasion (NIH, 2002).

Mixed Methodology: A study in which the researcher uses multiple methods, both qualitative and quantitative, for data collection and analysis (Creswell, 1994).

Motivation: A state of increased interest in a particular goal (Hill & Preston, 1996).

Reliability: The degree to which instrument scores are free from errors of measurement (Devillis, 1991).

Risky Sexual Behavior: Any behavior that increases the probability of negative consequences associated with sexual contact including HIV or other sexually transmitted infections and unplanned pregnancy (Cooper, 2002).

Validity: The appropriateness, meaningfulness, and usefulness of the specific inferences made from instrument scores. It refers to the degree to which the evidence supports the inferences that are made from the scores (Spector, 1992).

Chapter 2

Review of the Literature

Introduction

The purpose of the present study was to gain a better understanding of students' motivations for engaging in sexual behaviors after drinking alcohol. A mixed methodology action research approach allowed for the students' voices to be "heard". In the present study, I examined the way students interpreted sex and alcohol-related behavior through the collection and analysis of both qualitative and quantitative data. In addition to providing important insight on its own, the qualitative information was then used to design a quantitative survey that solicited information on college students' reported motivations for drinking alcohol and then engaging in sexual behaviors.

This chapter will present a review of the literature pertinent to such a study. The first section presents literature on action research, which serves as the theoretical framework for this study. The second section reviews the current literature concerning motivations for alcohol consumption. The third major section then discusses the literature pertaining to motivations for engaging in sexual behavior. Finally, literature regarding motivations for engaging in sexual behaviors after drinking will be explored.

Theoretical Framework: Action Research

There has been an increased desire among social scientists to conduct research that has greater social relevance. This trend has occurred in response to the growing frustration among public health practitioners and policy makers with the lack of traditional basic research findings concerning public health (Minkler & Wallerstein, 2003). In the public health arena, research methods that can better inform policy and practice and lead to social action are needed. In response to these common frustrations with the inability of traditional positivistic social science methods to inform questions of practice or social action, a variety of research approaches from the myriad of social science disciplines have independently evolved that are referred to collectively as action research (Minkler, 1997).

Action research arose from a rather different form of inquiry than that of traditional academic research. Action research does not produce academic theories based on experimental research designs. Instead, practical and theoretical outcomes of the research process are grounded in the perspective and interests of those immediately concerned. They are not filtered through an outsiders' "lens" which is often tinted with the outsiders preconceptions and research interests (Brown, Tandon, 1993). The action research approach is valuable in public health because it allows for the development of strategies and programs based on real-life experience as opposed to theories or assumptions.

As used in public health, action research is a practice of systematically developing knowledge, about working toward practical outcomes, and also creating new forms of

understanding (Johnson, 2002). According to Rappaport (1970), "Action research aims to contribute both to the practical concerns of people in an immediate problematic situation and to the goals of social science by joint collaboration within a mutually acceptable ethical framework."

Thus, action research is extremely useful in community situations. Action research provides a paradigm that offers practical benefits to practitioners by bridging the gaps between theory, research, and practice. Similar to grounded theory research, in action research the researcher's growing understanding develops in such a way that it is driven by the data that have been previously collected. This allows for more penetrating questions and processes that better suit the local culture. This leads to better plans for action and change (Zimmerman, Rappaport, 1988).

During the first step of the process, data is collected. Next, the researcher studies the data to find emerging themes. Critical reflection can best be described as critiquing the data so that it will then be better used to guide the next step of the research process. After this period of critical reflection has occurred, the researcher then adjusts his/her research agenda and design based on the previously discovered emerging themes to better fit the community. This allows the researcher to respond to the emerging needs of the situation. This type of research is often more applicable than mainstream research methods in situations that require responsiveness and flexibility. The cyclic nature of the action research approach, with each cycle involving data collection, interpretation, and literature review allows for this to be a rigorous research approach (Susman, Evered, 1978). An example of how these steps are applied to the current research project are depicted in figure 3.1 and discussed in chapter three.

In contrast to mainstream social science, action research rejects the separation of researcher from the research subject, thus recognizing that the research process is not value neutral (Minkler, Wallerstein, 2003). The researcher understands that both the focus and methodology may change as the research process unfolds. A new research problem may evolve requiring a new definition of the situation as well as new methods for understanding.

Collaboration of researchers with their non-researcher participants is greatly valued in action research. A primary goal of action research is that the results are intended to directly benefit the situation in which they are collected (Johnson, 2002), so researchers strive for their findings to be made available to both the non-research collaborators and their community in a manner that is both timely and easily understood. Describing a real-world intervention in a real-life scenario, action research only fails when it does not succeed in listening to and understanding the people and the purpose for which the research was designed (Morton-Cooper, 2000).

As summarized best by Morton-Cooper (2000, 15) “Action research is in some ways a celebration of human subjectivity, which harnesses a variety of different techniques to qualitatively interpret progress made through the process of research, rather than seeking to quantify and measure its effects by traditional laboratory-influenced methods.” One domain that could be better understood when examined through an action research theoretical framework are the motivations for why people consume alcohol and then engage in sexual behaviors.

Motivations

The term motivation can be defined as a state of increased interest in a particular goal (Hill & Preston, 1996) and processes that are heightened or activated by the presence and accessibility of relevant incentives (Hill, 1997). These processes are also diminished by the absence or accessibility of a relative incentive. In the public health arena, a better understanding of the motivations behind people's risky behaviors can aid in developing appropriate and effective prevention and intervention strategies to reduce these unhealthy behaviors (Cooper et al, 1998). For example, many public health prevention/intervention programs that have been implemented to combat sexual risk taking have not been successful because they solely rely on "disease" models of sexual risk taking (Hill & Preston, 1996). This assumes that the major and only determinants of both safer and risky sexual behaviors include beliefs, attitudes, and motivations that are specific to health protection and disease avoidance. Yet, people use sex to strategically meet different psychological needs. The nature and patterning of sexual experiences differ as a function of the needs being served and different factors may maintain or promote sexual behaviors among individuals for whom sex serves different underlying needs. Disease-based models tend to overlook the fact that sexual behaviors serve a variety of psychological functions that have little to do with health protection and disease avoidance (Cooper et al, 1998).

The motives for alcohol consumption will be described in relationship to Cooper's (1994), motivational four-factor model because it is currently the most psychometrically sound model in the alcohol use domain. This model was developed

through the use of a probability sample of 2,544 adolescents between the ages of 13 and 19, from who resided in Buffalo New York. Both males and females were equally represented. A structured interview schedule procedure consisting of both interviewer-administered and self-administered portions were used to collect data. Five items were used to measure the four drinking motives of coping, social, enhancement, and conformity.

In this proposed framework for categorizing motives individuals may engage in a behavior to obtain a positive outcome (positive reinforcement) or to avoid a negative one (negative reinforcement). Also, a behavior may be responsive to internal rewards (the manipulation/management of one's own internal emotional state), or to external rewards (social acceptance or approval). When these two dimensions are combined four classes of motives emerge: 1) enhancement motives which are internally generated and positively reinforced, 2) social motives which are externally generated and positively reinforced, 3) coping motives which are internally generated and negatively reinforced, and 4) conformity motives which are externally generated and negatively reinforced (Cooper, 1994).

Cooper (1998) also developed a similar 4-factor model in the sexual risk-taking domain that incorporated the same 4 factors as the alcohol model. The only difference in the models is the terminology that was used to name each factor. For example, in the Cooper's (1998) risky sexual behavior 4-factor model the term appetitive self-focused was used to describe internally generated and positively reinforced motives, while in the Cooper's (1994) 4-factor alcohol model this same type of motive was termed enhancement. This study used Cooper's (1994) motivational 4-factor alcohol use model

to guide the research because the terminology did not use as much technical jargon therefore making it easier to understand. This model is depicted in figure 2-1. In order to better understand sexual risk taking after consuming alcohol, motivations for engaging in the related behaviors of alcohol consumption and sexual behavior will be reviewed in the following sections.

Positively internally generated (enhancement/pleasure)	Negatively internally generated (coping)
Positively externally generated (social/intimacy)	Negatively externally generated (conformity)

Figure 2-1: Cooper's Four Factor Model

Motivations for Alcohol Consumption

Drinking motives can be defined as the need or psychological function that alcohol consumption fulfills (Baer, 2002). According to research findings (Cooper, 1994; Baer, 2002; Cooper et al; 1994; Cox & Klinger 1988; NIH, 2002), differences exist in the motivations for and patterns of drinking among college students. Thus, understanding

motivational processes is essential to adequately understand drinking behavior and its consequences. Motivational models of alcohol use are based on the fundamental principles that people drink in order to attain certain valued outcomes (Cooper, 1994, Cox & Klinger, 1988). There are implicit and explicit assumptions that drinking behavior is characterized by unique patterns of antecedents and consequences (Cooper, 1994). Understanding the motives that underlie an individual's drinking provides insight into the circumstances in which an individual is likely to drink, including how much he or she is likely to drink, what the probable consequences are, and how to best intervene. The following motivations have been previously identified and will be defined and discussed in this section: social motives (positive externally generated motives), enhancement motives (positive internally generated motives), conformity motives (negative externally generated motives), and coping motives (negative internally generated motives) (Cooper, 1994).

Enhancement Motives (Internally Generated and Positively Reinforced)

Consuming alcohol for enhancement motives has been a recurring theme found in the research. As defined by Cooper (1994), a social enhancement motive is characterized as drinking to increase a positive affective state or emotional experience. In other words, people will drink to the extent that they believe that alcohol will intensify their emotional experiences. Enhancement drinking is a behavior that is driven by desire for change in the quality or intensity of affective experiences (Cooper et al, 1994). This type of motive

has been found to positively predict a pattern of heavy alcohol use and drinking in social situations such as a party, bar, or other social settings.

For example, a general personality dimension associated with enhancement motives to consume alcohol among college students, is described as “impulse expression/sensation seeking,” which has been associated with consuming alcohol more frequently, in greater quantities, and with more negative consequences (Baer, 2002). Cooper et al (1994), found that among adolescents a sensation-seeking personality was significantly more likely to consume alcohol to increase an already positive mood. According to a review of studies that addressed drinking among college students that was completed by Baer (2002), it was found that heavier drinkers were often described as pleasure seeking, extraverted, impulsive, rebellious, and nonconforming. An impulsive sensation seeking style has been associated with expecting greater positive effects from alcohol and increased alcohol consumption.

Enhancement motives are commonly endorsed in adolescents. Individuals who use alcohol to enhance positive emotions tend to retain greater personal control over their drinking, deciding when and under what circumstances it is best to drink. In a study of 2,544 male and female adolescents between the ages of thirteen and nineteen living in Buffalo New York, Cooper (1994) found that enhancement motives were the strongest independent predictor of quantity and frequency of consumption.

Conformity Motives (Externally Generated and Negatively Reinforced)

The ratings students make about the acceptability and typicality of various drinking behaviors can be classified as conformity motivations. This type of motive is characterized as drinking to avoid social censure or rejection (Cooper, 1994). Perception of peer use is a powerful predictor of individual alcohol use rates. The perceived norms for drinking justify or exacerbate heavy drinking only where more accepting social attitudes already exist (Baer, 2002). For example, Preseley et al (2002) found that fraternity leaders used more alcohol, thus speculating that these leaders were setting the norms for their groups. Normative influences vary for college students depending on where they reside while attending school. For example, Greek house residents have been found to have significantly higher levels of problematic alcohol use when compared to non-residents (Preseley et al, 2002). Baer (2002) also found that members of Greek social organizations, fraternities and sororities, drink more heavily and more frequently than do other students. Members of these organizations felt that alcohol was a vehicle for friendship, social activity and sexuality in greater numbers than comparison non-members. However, little is known about how members of Greek organizations differ from non-members on other dimensions such as personality traits and genetic predisposition for alcohol misuse (Baer, 2002).

According to Cooper (1994), few older adolescents endorse conformity motivations for drinking. Further, conformity motives were generally unrelated to heavy or frequent alcohol use among this age group. Therefore, drinking to conform may be more predictive of alcohol use among younger adolescents. Conformity motives may be

more strongly associated with drinking behavior in adolescents who are just beginning to experiment with alcohol and have not yet internalized other motivations for drinking (Cooper, 1994). Even though considerable attention has been given to the issue of social norms dealing with peer alcohol consumption and college drinking, research is also needed on other types of student norms, such as supplying alcohol to underage drinkers and tolerating disruptive secondary effects (which is of importance to students), as well as on local community norms (Dowdall, Wechsler, 2002).

Coping Motives (Internally Generated and Negatively Reinforced)

Alcohol is widely believed to possess a range of properties that facilitate problem avoidance. Coping motives are defined as the strategic use of alcohol to escape, avoid, or otherwise regulate negative emotions (Cooper et al, 1994). Individuals who drink to cope are at increased risk of experiencing drinking problems and to drink alone, in comparison with those who drink primarily for enhancement reasons (Cooper, 1994). Research has shown that drinking to cope is specifically related to low self-esteem and is more common among females than among males (Baer, 2002). Drinking to cope is a maladaptive coping response that is often used when other, more adaptive constructive means of coping are unavailable, for example speaking with a therapist.

Social Motives (Externally Generated and Positively Reinforced)

Social motives to drink are defined by Cooper (1994) as drinking to obtain positive social rewards. This type of motive is most often associated with the specific social atmosphere where the alcohol is being consumed. Social atmosphere can be thought of as the social and psychological environments where drinking takes place (Baer, 2002). Research has shown that parties, dates, and being with friends were the most common situations where students reported their last heavy drinking event occurred (Baer, 2002; Cooper; 1994; Cooper et al, 1994; Dowdall & Weschler, 2002; NIH, 2002). Many researchers, as cited by the National Institutes of Health (NIH) (2002), have examined the variation in student drinking as a function of the types of activities and organizations in which they participate. According to the NIH (2002), research suggests that there are unique aspects of certain college environments that may support or facilitate drinking among students. More personal freedom and independence, greater involvement in social and dating relationships, and freedom from the responsibilities of marriage and family life appear to be intricately linked to alcohol use among college students. Other factors include, but are not limited to, the comingling of students under the legal drinking age of twenty-one with those who can drink legally, substantial amounts of unstructured time, and student-oriented alcohol advertising (Baer, 2002, NIH, 2002, Dowdall & Weschler, 2002).

Gender Differences

Males tend to most frequently report social motives to consume alcohol such as the specific intent of getting drunk. This may explain why researchers tend to find that higher percentages of college males are likely to drink, to drink more often, to consume more, and to experience more drinking problems than their female counterparts (Engs & Hanson 1990; NIH, 2002; Dowdall & Wechsler, 2002; Perkins, 2002). In addition, men were more likely than women to commit property damage, start fights, and cause trouble with the police due to drinking (Perkins, 2002). It is also important to note that for males alcohol consumption tends to occur most often in drinking groups of the same sex (Perkins, 2002, Engs & Hanson, 1990). While males may drink to get drunk more often than females, research has shown that drinking to cope, specifically related to low self-esteem is more common among females (Baer, 2002). More females are drinking than ever before, possibly due to the rejection of traditional gender roles. However, overall, female drinkers have received considerably less attention in the research than males drinkers.

Limitations of the Research

Even though much progress has been made in understanding the issue of college drinking, much remains to be learned. The majority of the college drinking data have been gathered through convenience samples at single colleges. Every college or university has an institutional culture that differs from that of other institutions. The institution's size, location, and student demographics influence this culture. Students

may seek out certain universities to attend based on their alcohol use expectancies of the campus (Preseley et al, 2002). Thus, drinking behaviors vary across students and across colleges, therefore generalizing from these types of studies is problematic (Baer, 2002).

In addition, the majority of literature concerning alcohol use among college students is based on observations made at a single point of time. Cross-sectional data cannot adequately test the assumptions underlying motivational models that drinking motives are causal antecedents to drinking behavior and drinking outcomes (Cooper, 1994). Alternative explanations of the results could come from the presence of a third variable that accounts for the relationship, which are often not tested. However, when using a cross-sectional design, the researcher does not have to worry about attrition, or interference with what is going on in the outside world that could cause changes in the results over time.

Another limitation of the current research regarding motivations to drink is that little comparability exists in the measures used to assess motivations to drink across studies. Also, the same item has been used to assess different motives in different studies. For example, one researcher may ask a student if he/she is motivated to consume alcohol to alter his/her mood. This item could be found in a scale that is used to measure enhancement motives (increasing a good mood) in one study, whereas in another study the item could be used to measure coping motives (escaping from a bad mood).

Even though various research designs and methods have been used to study the motivations for alcohol use, they basically have come to the same conclusion. Drinking can be motivated by different needs and represents phenomenologically- distinct behaviors. This needs to be considered when creating a prevention/intervention program and

conducting research. The notion of multiple etiologic pathways strongly suggests that effective intervention strategies may differ as a function of underlying motivational processes (Cooper et al, 1994).

New perspectives, variables, and methodologies need to be used to advance and enhance the current research and prevention initiatives. If researchers want to fully understand college students' drinking behaviors, it is necessary to expand the current way research is being conducted (Dowdall, Wechsler, 2002). In this study, the use of action research methodologies will allow for student perspectives to emerge. These new perspectives will allow for the researchers to gain a better understanding of undergraduates' motivations to drink and then engage in sexual behaviors.

Sexual Motivations

As previously noted, motivation, is a state of increased interest in a particular goal (Hill & Preston, 1996). In regards to sexual motivations, the goal can be thought of as experiencing satisfaction that is associated with sexual behavior. Sexual motivation research is extremely useful in identifying and better understanding the motivations behind why people engage in sexual intercourse which, in turn, can contribute to the examination of factors that affect sexual dysfunction, domestic violence, rape, and sexual abuse, and sexual risk-taking (Hill & Preston, 1996; NIH, 2002; Cooper et al, 1998). However, the exact nature of sexual motivations has yet to be thoroughly explained in one model and agreed upon by theorists. Also, it should be noted that the

norms surrounding sexual behaviors are influenced greatly by gender and relationship context.

The model that will be used to guide the current study and literature review consists of the following four motivations: conformity, social, enhancement, and coping (Cooper, 1994). This model was chosen because currently it is the most comprehensive and psychometrically sound. Conformity motives can be defined as being both externally generated and negatively reinforced. Engaging in sexual behavior to avoid social censure is a type of conformity motive. Social motives are defined as being both externally generated and positively reinforced. An example of this type of motive is when a person engages in sex to increase his/her intimacy or romance level with a partner. Enhancement motives are defined as being both internally generated and positively reinforced. Engaging in sexual behaviors to increase one's physical pleasure is an example of an enhancement motive. Coping motives are defined as being both internally generated and negatively reinforced. For example a person may be motivated to engage in sexual intercourse to escape from reality (Cooper et al, 1998). Unlike the previous section which motivations to consume alcohol were discussed and easily categorized, the sexuality research is more complex due to the strong link between sexuality and society-imposed gender expectations. Therefore, a different format will be used for the discussion of sexual motivations.

It is believed that the society-imposed gender expectations and norms cause differences to exist in both the sexual attitudes and standards of men and women (Hill & Preston, 1996). Thus, the need to conform to society's prescribed gender-role expectations among both genders influences their motives to engage in sexual behavior.

For example, in the United States, society prescribes expectations that men have a stronger and more pervasive interest in sex as compared to women, whereas women should be less interested in and more restrained about sex than men (Herold & Mewhinney, 1993, Cohen & Shotland, Carrol et al, 1985, Cooper et al, 1998). For example, in a study that included 242 college students who completed a questionnaire, men were found to hold more permissive attitudes related to sexual motives than women on most measures including accepting multiple sexual partners, extensive sexual experience, and premarital intercourse in casual relationships (Cohen & Shotland, 1996).

According to the traditional gender-role scripts concerning sexual intercourse, a woman's job is to avoid sexual intercourse while a man's job is to engage in sexual intercourse (Herold et al 1998). When women conform to these stereotypical gender roles, they may feel guilty when their sexual acts violate cultural norms but also discourages them from giving a sexual definition to a relationship. When women are questioned about their motivations to engage in sexual intercourse, they often report that they are motivated by love, (a social motive), while men typically report physical desire, (an enhancement motive), as their primary motivation (Herold, Mewhinney, 1993).

Similar gender differences were uncovered in a study of college students by Carrol et al (1985). In this study female motivations to engage in sexual intercourse most often included love, commitment, and emotion, all motives that can be categorized as social. In comparison, their male counterparts' primary motivation was pleasure, (an enhancement motive). The researchers speculated that these gender differences were a result of gender-role socialization which began before adolescence. Females were not motivated to engage in sexual intercourse for their own pleasure, (an enhancement

motive), but rather for the pleasure of their partner, (a conformity motive). In comparison, for males in another study the primary motive found for engaging in sexual intercourse the first time was curiosity (Carrol et al, 1985), (an enhancement motive). In addition, Traeen and Kvaalem (1996) studied 920 Norwegian adolescents between the ages of sixteen and twenty years old. They found that even though adolescent boys were more likely to use both social and enhancement motives, such as emotions and physical desire, for engaging in sexual intercourse in the initial stages of their “sexual careers”, the girls were more likely to only be emotionally motivated, a type of social motive.

Further, research has found that females, who are primarily motivated by intimacy needs (a social motive) to engage in sexual intercourse, more often view sexual contact as most appropriate in the context of an ongoing relationship (Cooper et al, 1998). They see specific sexual behaviors as desirable primarily if they further the relationship. Thus, social motives, such as intimacy goals, for engaging in sexual intercourse have been linked to fewer sexual partners (Cooper et al, 1998).

In another study of college students, which was previously discussed, gender differences were also found in the extent to which males and females would consider engaging in sexual intercourse in relationships with no emotional closeness. While 96% of the male participants indicated that they would have sex in relationships characterized by attraction without emotional involvement, (an enhancement motive), fewer than two-thirds (61.2%) of women would consider engaging in sexual intercourse in this type of relationship (Cohen, & Shotland, 1996). Research has found that individuals who experience sexual intercourse in the context of casual sex are motivated by different psychological and social factors than individuals who do not engage in casual sexual

behaviors (Paul et al, 2000). These factors include impulsiveness and high levels of alcohol consumption.

Regan & Deyer (1999) surveyed 105 college students and found that females' motives for engaging in sexual intercourse were more interpersonal than males. For example, a major social motivation for females was to increase the probability of a long-term commitment with their sex partner. On the other hand, male motives tended to deal more with the social environment, such as conforming to peer group behavior and situational expectations and previous experience (Regan, Dreyer, 1999). Situational expectations are the individual's expectations about whether a certain experience, for example spring break, will be conducive to casual sex (Maticka-Tyndale et al, 1998). The strongest influence for men were conformity motives which consisted of their perceptions of the degree of endorsement they would receive from their friends for participation in casual sex while on spring break (Maticka-Tyndale et al, 1998).

Paul et al's (2000) studied a random sample of 555 (37.5% male and 62.5% female) undergraduate students. They found that a male's engagement in casual sex not only influences his attitudes concerning casual sex but also directly influences the likelihood that he will engage in casual sex in the future. Herold et al's (1998) study of 681 university students found that men who had previous experience with casual sex held attitudes that were most accepting of casual sex while females who had no casual sex experience held attitudes that were least accepting.

A common motivation for engaging in sexual intercourse, especially for males, is for self-enhancement, including pleasure, to gratify oneself, and physical attraction (Carrol et al, 1985). Those who are primarily motivated by pleasure-seeking goals tend

to view any person that they find attractive as a potential sexual partner and any behavior that enhances physical gratification is perceived as acceptable. This type of enhancement motive has been linked both to increased numbers of sexual partners and to more frequent intercourse (Cooper et al, 1998).

Some individuals are motivated to engage in sexual intercourse to briefly escape from or cope with stressful emotional states and boost self-esteem (Cooper et al, 1998). These people tend to find the immediate benefits of engaging in sexual intercourse of greater importance than the possible long-term costs. The decision to engage in sexual intercourse is influenced by their immediate psychological needs rather than by the appropriateness or availability of engaging in a particular sexual behavior with a given partner on a given occasion. People who engage in sexual intercourse to cope/escape are also more likely to engage in risky sexual behavior, such as having multiple partners and engaging in specific risky practices (Cooper et al, 1998).

Researchers have also found that a complex relationship exists between self-esteem and casual sex. College males with high self-esteem tend to have significantly more sex partners than their low self-esteem counterparts. However, females with low self-esteem tended to have more sex partners than those with high self-esteem (Paul et al, 2000). Therefore, females with low self-esteem were motivated to engage in sexual intercourse to boost their self-esteem.

The complex intertwining of sexuality with society-imposed gender expectations makes it difficult to decipher whether or not a person's sexual motivations are determined by the traditional gender-role scripts. Females primarily are socially motivated to engage in sexual behaviors, while enhancement is the primary motivation for males (Cooper et

al, 1998; Carol et al, 1985; Cohen & Shotland, 1996; Paul et al 2000; Traeen & Kvaem, 1996). For example, females report that they are motivated by love and intimacy to engage in intercourse, while males report physical desire as their primary motivation. Thus, females unlike their male counterparts, are less likely to engage in casual sex to gratify oneself (Cooper et al, 1998; Carol et al 1985; Cohen & Shotland, 1996; Paul et al 2000; Traeen & Kvaem, 1996). Are these statements accurate or are the males and females just trying to conform to meet society's gender-role expectations?

Limitations

Although some progress has been made in the study of sexual motivations, there is little agreement in the literature concerning the number and nature of the motives underlying sexual behavior (Cooper et al, 1998, Hill & Preston, 1996). Unfortunately, research involving sexual motivations primarily focuses on people's intentions and not actual behaviors. The majority of research on this topic relies on the subjects completion of self-report questionnaires/surveys. Anytime that a self-report method of data collection is used, the subject may report what is socially desirable or what he/she thinks the researcher wants to hear instead of more accurate answers, thus compromising the internal validity of the results. However, self-reports do offer a cost-effective, efficient alternative to other more traditional research methods such as clinical assessment (Mash & Terdal, 1976). Also, due to the personal and private nature of sexuality research, methods of self-report are very likely to be the only access that a researcher has to a subject's motivations for engaging in sexual intercourse (Cooper, 1994). Further, the

majority of sexual motivation research uses a cross-sectional design because it is not only cost effective but also controls for attrition and the possible interference by what is going on in the outside world (Herold et al, 1998).

Another limitation of the sexual motivation research is the operationalization of various terms such as “casual sex”, “hook-up”, and “sexual behavior”. For example, casual sex can be interpreted differently by different respondents creating a barrier when comparing studies or when trying to generalize the findings to other populations. Researchers must keep in mind that their frame of reference and interpretation of various sex-related terms may be different than that of their subjects (Minkler & Wallerstein, 2001).

Yet, the results of studies concerning sexual motivations consistently indicate that people use sex to strategically meet different psychological needs, that the nature and patterning of sexual experiences differ as a function of the needs being served, and that different factors may maintain or promote sexual behavior among individuals. Sexual behavior patterns are extremely hard to change. Therefore, focussing on the reasons why people have sex, or the functions served by sex, is a critical step toward better understanding and changing risky sexual behavior patterns, such as consuming alcohol and then engaging in sexual intercourse. These findings are important because they underscore the need to consider multiple etiologic models of sexual behavior and sexual risk-taking. Studying sexual motivations will give the researcher important insights into the likely causes and consequences of risky sexual behaviors, including engaging in sex after consuming alcohol (Cooper et al, 1998).

Alcohol and Sexual Behavior

Alcohol and sexuality are often seen as complementary themes in which the message is that alcohol consumption can promote and enhance sexual activities. In 1998, an estimated 400,000 college students between the ages of 18 and 24 had unprotected sex after drinking alcohol (Henry J. Kaiser Foundation, 2002). However, alcohol has been implicated in numerous problematic sexual outcomes such as unintended pregnancy, sexual dysfunction, sexual assault, and sexually transmitted infections (Derman & Cooper; 2000; George & Stoner, 2000; MacDonald et al, 2000; NIH, 2002; Steele, 1990; LeBrie et al, 2002). Understanding the mechanisms through which alcohol adversely affects safer-sex intentions and behaviors is important for reducing the risk of contracting HIV and other sexually transmitted infections. However, there is not a lot of research on the motivations for engaging in sexual behaviors after drinking alcohol. The most prominent theory in this field is the expectancy theory.

According to Cooper (2002), the expectancy theory suggests that an individual's behavior after drinking is driven by pre-existing beliefs about alcohol's effects on behavior. These beliefs could act as motivations. Therefore, this model acts as a type of self-fulfilling prophecy in which a person who believes that alcohol promotes risky sexual behavior will be more likely to engage in the risky behavior when he or she drinks alcohol. However, it is possible that an individual's beliefs about how alcohol affects sexual behavior may vary across situations. This variation can be partly determined by the precise meaning that engaging in the specific behavior has for the individual on that occasion (Cooper, 2002).

The majority of research concerning alcohol expectancies attempts to show how positive general expectancies predict drinking patterns (LeBrie et al, 2002). Expectancies are usually assessed by questionnaires that ask respondents to rate the likelihood and/or the values of specific behaviors or feelings that occur with alcohol consumption (Baer, 2002).

It is important that researchers consider these expectancies as more than just behavior mediators of alcohol's effects. These expectancies need to be viewed as possible motivations and psychological risk factors that can possibly be changed with public health intervention/prevention programs (Mora-Rios & Guillermina, 2001). For example, interventions that challenge expectancies of condom use impairment might be successful in reducing the link between alcohol use and risky sex, and particularly useful with people who use "being drunk" as an excuse for risky sexual behavior.

Research has been inconclusive in linking alcohol use and risky sexual behaviors in college students (Derman & Cooper, 2000; George & Stoner, 2000; MacDonald et al, 2000; Steele, 1990). Even though studies indicate that levels of drinking and sexual behavior are positively correlated, this does not provide evidence of a causal link between the two behaviors (Fromme et al, 1999). In expectancy surveys using a variety of instruments, the self-report data have shown that people generally view alcohol as enhancing and disinhibiting to sexual feelings and behaviors. However, these findings do not establish that alcohol truly causes these sexual changes since the findings are primarily cross-sectional, correlational, and self-report. In addition, because most of the data are retrospective, the true ordering of events, alcohol intoxication first then sexual activity, has not been definitely established. These various threats to internal validity

weaken causal inferences (George & Stoner, 2000, MacDonald et al, 2000, Fromme et al, 1999).

Summary

Previous research examining the relationship between alcohol consumption and subsequent risky sexual behavior among college students has yielded inconsistent findings. These inconsistencies may be due in part to differences in research design, data collection method, or sampling. An instrument that is designed through the use of action research methodology that better reflects undergraduates' motivations for engaging in risky sexual behavior after alcohol consumption may allow for more valid and reliable research. Such research would serve as the basis for the development of more effective intervention and prevention programs.

Chapter 3

Methods

“Sexuality is unique in that the topic is sensitive and heavily influenced by culture. Accordingly, when conducting research on sexuality, it is important to consider the effects of [college] culture or placing research findings within a cross-cultural context.” (Wiederman &Whitely, 2002, pg 3).

The purpose of this study was to gain a better understanding of students’ motivations for engaging in sexual behaviors while under the influence of alcohol. In order to do this, the following overall research question was posed: How do undergraduate students view drinking and then engaging in sex? To explore the answer in more detail, the following sub-questions were examined and compared by sex: What are the meanings of the terms students use to discuss these behaviors?; What motivations do students describe for drinking alcohol and engaging in sex?. To help answer these questions, a quantitative survey instrument was developed to reliably and validly measure college student’s motivations for engaging in sexual behaviors after drinking alcohol. A three-stage process was used to design and validate a preliminary form of the “Motivations for Mixing Alcohol and Sex Scale” (MMASS)

This chapter describes the procedures employed in developing and validating the MMASS. An action research approach to scale development was used. Action research is a family of research processes whose flexibility allows for learning and responsiveness

during the research process. Similar to grounded theory research, the researchers' growing understanding can develop in such a way that it is driven by the data that have been collected. Action research, which uses a mixed methodology approach, can help to narrow the gap between how researchers and administrators view alcohol use and sexual behaviors and how undergraduates view these same behaviors. This approach could lead to the creation of more effective prevention and intervention programs and allow more valid research to be conducted.

The approach used to answer the research questions consisted of three primary stages: q-methodology, content analysis of open-ended questions, and scale development. In the first stage of the study, q-methodology was used to categorize various motivations for alcohol consumption and engaging in sex as reported by undergraduate students. This was done using the Sex and Alcohol Log (SAL). In the next stage, additional information was collected, through answers to open-ended questions, to allow for a more complete understanding and clarification of undergraduates' motivations for engaging in sexual behavior after consuming alcohol and terms they use for describing those behaviors. A content analysis was performed on these data. The findings from the first two qualitative stages of this research process were then used to develop a scale (the Mmass) that seeks to accurately represent the undergraduate students' motivations for mixing alcohol and sex. The Mmass was developed using factor analysis. In this chapter, the various methodologies and procedures that were used in the three stages (q-sort, content analysis, and Mmass development) will be described. All of the procedures that were used in this study were approved by the Pennsylvania State University Office of Research Protection.

Mixed Methodology

Mixed method studies are those that combine the qualitative and quantitative approaches into the research methodology of a single or multiphased study. This allows the researcher to have access to several views of the same phenomenon, which is useful in action research. The use of multiple methods promotes an in-depth understanding of the research question. The combination of qualitative and quantitative methodology often produces a more reliable and highly confirmed result than either method could yield alone (Brinton & Fujiki, 2003). It is believed that in the current study, the use of mixed methodology provides a richness of detail that would be unavailable from one method alone, and therefore allowing for the students' viewpoints to be better documented and understood.

Qualitative research tends to focus on a small group of people and generates richly detailed data that helps preserve the perspectives of the study participants'. It is an inquiry process of understanding based on the distinct methodological traditions of inquiry to explore a social or human problem. One of the primary purposes of gathering qualitative data is to enable the researcher to understand and capture the points of view of other people without predetermining those points of view through prior selection of questionnaire categories (Patton, 1990). Qualitative methods help to allow the researcher to understand the world as seen by the respondents.

A qualitative investigation can help organize quantitative data that have already been gathered or can illustrate new ways of approaching the phenomenon (Risjord et al, 2002). Qualitative research methods provide useful tools for bridging the gap from research to practice, the primary goal of action research.

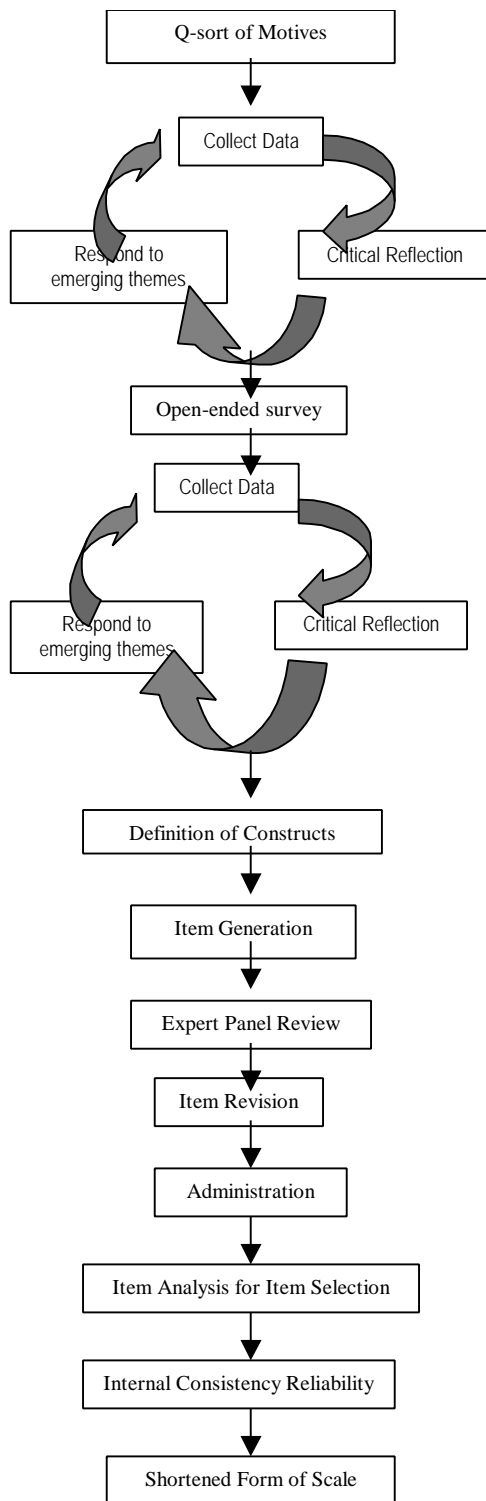
In contrast to the qualitative approaches the quantitative paradigm uses large sample methods and analytic techniques to study variables that are causally or statistically related. Within this paradigm, the research findings may be thought of as being composed of causes and effects and it is the researcher's role to quantify these in order to predict future events, behavior, or other outcomes. With an emphasis on standardization and generalizability, a quantitative survey may not capture what is significant to the subject (Risjord, 2002).

Combination research studies combine the principles of both qualitative and quantitative research methods using both numbers and words to help create a better understanding of the population that is being researched. Reasons identified by Creswell (1994) for using mixed methodology include the generation of knowledge by utilizing diverse research methods and the preparation of researchers to conduct credible, high-quality research. There are many similarities between qualitative and quantitative methodologies. Both generate knowledge, are rigorous processes, and utilize measurement. Social interventions, such as health education and health promotion programs, are complex phenomena, which require the application of multiple methodologies in order to properly understand or evaluate the programs/interventions (Steckler et al, 1992). Therefore, the issue is not whether to use quantitative or qualitative methods, but rather how can they be combined.

The approach that was used in this study integrated qualitative and quantitative methods. This is when qualitative methods are used to develop the first stage of knowledge building to discover key issues and elements for subsequent study using formal structured methods. For example, it is common practice to conduct focus groups and interviews to refine a standardized instrument for use in a new population or before developing a structured questionnaire. This type of sequentialing is common because in most types of quantitative survey research, the results from the qualitative phase are used to inform the construction of more structured and quantifiable survey instruments (Creswell, 1996).

A sequential model is often used to ground quantitative research with formative qualitative approaches. For example, to ensure that a survey instrument includes questions about significant topics using words that will be meaningful to study participants, open-ended questionnaires and interviews are used prior to the finalization of the survey instrument. A strength of this approach is that it increases the appropriateness of the research instruments for the local research setting (i.e. addresses issues of validity) while allowing for the inclusion of a representative sample (i.e. addresses issues of reliability) (Steckler et al, 1992). The current study employed a sequentialing approach, which is depicted in 3-1. The first stage consisted of two separate q-sorts of the various motivations to consume alcohol and to engage in sexual behavior that were found in the Sexuality and Alcohol Log. After this data was collected and analyzed a period of critical reflection occurred. During the critical reflection various themes emerged that need to be explored further. The second stage consisted of two open-ended surveys that were designed to respond to the themes that emerged from

stage one. The first survey that was developed dealt with students' motivations to engage in sexual behaviors while the second survey focused primarily on alcohol use behaviors. After this data was collected and analyzed a period of critical reflection occurred. During this period of critical reflection various themes emerged that were then used to guide the development of the MMass. In this study the data collected in the qualitative stages 1 and 2, the q-sort and the content analysis, were used to strengthen the validity and aid in the development of the MMass. The remaining steps listed in figure 3-1, which consist of definition of constructs, item generation, expert panel review, item revision, administration, item analysis for item selection, internal consistency reliability, and shortened form of scale, were the steps that were followed in stage three. These steps will be discussed in the stage three MMass development section.



Stage 1: Q-sort

Q -methodology provides a foundation for the systematic study of subjectivity. As defined by McKeown (1988), subjectivity is an individual's personal point of view on any matter of personal and/or social importance. Q-methodology provides a systematic means to examine and reach understandings about an individual's experience. This methodology uncovers and identifies the range of options regarding a specific topic under investigation (Valental & Wiggler, 1997).

Commonly known as q-sorting, q-methodology encompasses a distinctive set of psychometric and operational principles that provide researchers with a rigorous means for examining subjectivity. This is based on the premise that subjective points of view are communicable and always advanced from a position of self-reference (Brown, 1996). Respondents are enabled to model their viewpoints on a matter of subjective importance through the operational medium of the q-sort. Modeling is accomplished by a respondent systematically ordering a purposively sampled set of stimuli. Q-methodology involves three stages: 1) developing a set of statements to be sorted (q-sample); 2) sorting the statements (q-sort) by subjects; and 3) data analysis and interpretation (Valenta, Wiggler, 1997). The q-sample and q-sorting instructions and conditions for this current study will be described in this chapter and the data analysis and interpretation of the results will be presented in Chapter 4.

Q-Sample

A q-sample is a collection of stimulus items that are presented to the respondents for ordering in the q-sort. There are two main types of q-samples: naturalistic and ready-made (Brown, 1996). One type, the naturalistic q-sample, is taken from the respondents' oral or written communications. The ready-made sample is drawn from sources other than respondents' own communications. The researcher should select the q-sample that best fits the type of research being done, neither sample is superior.

The q-sample used in this study was taken from The Sexuality and Alcohol Log (SAL), a 23-item daily diary developed by Koch, Wagstaff, and Karshin (2000) which is used to assess the relationships between alcohol use and sexual behavior. The development of the SAL was based on similar diaries used to assess alcohol consumption or sexual behavior (Fromme et al, 1994, Leigh. 1993). The SAL collected data on the rates of alcohol consumption and sexual behavior and related factors from a sample of 87 undergraduate students enrolled in various general education courses at the Pennsylvania State University. The participants were instructed to complete the 23-item SAL for 28 consecutive days in February 2001.

Two specific questions from the SAL were used for the q-sample: 1) What were your reasons for engaging in sexual behavior today? 2) What were your reasons for drinking alcohol today? For the question dealing with sexual behavior, students were instructed to choose from the following list of motives or reasons: in the mood, partner wanted to, show my love and affection, feels good/have fun, horny, why not, easy hook-up, relax/relieve stress, or make myself feel better. For the question concerning alcohol

consumption, the students were given the following list of motives or reasons and instructed to choose all that applied: get drunk, get a buzz, nothing better to do, celebrate/have a good time, relax/relieve stress, enhance romance, to fit in, to be less inhibited, drown my sorrows, to be more outgoing, or hook-up/have sex. The motivations and reasons that were included in the SAL were based on a comprehensive review of the literature related to motivations for sexual behavior and alcohol consumption among college students (Anderson & Mathieu, 1998, Clapper & Lipsitt, 1991, Fisher & Misovich, 1990, Koch et al, 1999).

Q-sorting and Conditions of Instruction

Q-sorting is the process whereby a subject models his or her point of view by rank ordering or categorizing q-sample stimuli along a continuum defined by a condition of instruction (a guide for sorting the q-sample items) (Mckeown & Thomas, 1988). A condition of instruction is a guide for sorting q-sample items. The instructions can be a simple request for agreement or disagreement or operationalizations of theoretical constructs. Typically, a person is presented with a set of statements about a topic and is asked to order them. Each statement is typed onto a card, which results in a pack of cards that are ready for q-sorting. After the initial reading of the cards, the respondents are instructed to begin the sorting process by dividing the cards into piles. Each respondent is required to make many decisions regarding the salience, meaning, and relationship of

each of the q-sample items to the others. Completed q-sorts should be followed with an interview that allows the q-sorter to elaborate on his or her point of view (Brown, 1996).

In this study, based on the two questions from the SAL, a q-sort was conducted during the summer semesters' of 2002 and 2003. The student sample consisted of 45 females and 29 males (approximately 70.5% of the students) that were enrolled in an upper division course in human sexuality, Biobehavioral Health 446, Human Sexuality as a Health Concern. Students received extra credit for their participation. The primary reason that Biobehavioral 446 students did not complete the q-sort was scheduling conflicts. This group of students was sampled because they were enrolled in an upper division sexuality course and it was felt that they would be more likely to feel comfortable dealing with topics related to sexuality than students enrolled in other classes. The group of students who participated in the q-sort were Caucasian upper-classmen in health related majors. Since the data being collected was qualitative more specific demographic information was not collected. Students who opted not to participate in the q-sort did so because of scheduling conflicts

Each participant was given a group of cards. Each card had a motivation to drink (taken from the SAL) written on it, thus creating the ready made q-sample. The individual students were then given the conditions of instruction, which instructed them to sort the cards into groups based on the motivations that they thought belonged together. After the students completed the sorting, they were then given a worksheet to complete on which they were encouraged to not only record their thought process for why they grouped certain motivations together but to also define these new categories. An example of this worksheet can be found appendix A. The same subjects then

repeated this process with a new ready made q-sample which consisted of the motivations to engage in sexual behavior that were previously listed, which were also taken from the SAL.

Analysis of Q-sort

A five-step approach drawn from the recommendations of (Bowling, 1997, Brown, 1996, Creswell, 1996, McKeown & Thomas, 1988) was used to analyze the data collected from the q-sort for males and females separately. The five steps consisted of data preview, pattern and category identification, categorizing of the data, confirmation of findings, and final data examination.

The first step, the data preview, allowed for me to become acquainted with the data set. During this initial reading of the data, I developed a general idea of what possible themes and patterns could emerge in the analysis. Notes on the number and types of categories are taken for each of the respondents

In the second step, pattern and category identification, I went back through the data, focusing on the specific items that respondents placed in each category. I also anticipated new patterns and themes that might not have been uncovered in the first step. Notes were taken on the specific patterns and potential categories that emerged.

After critically reflecting on the information by comparing the groupings of items, I was now able to begin categorizing the data. The categories were based on the patterns and the themes that emerged in the previous two steps. I kept a running tally in which category each participant's q-sort responses belonged.

After a list of categories was compiled and a list of the responses that belonged in each category was developed, a graduate student who was not involved with this study was asked to go through the data and list major patterns and possible categories that she found. Next, the graduate student's findings were compared with my findings. Since both had similar findings, the newly-developed categories were confirmed.

Finally in step five, the final data analysis occurred. During this step, I went back through the data to uncover any emerging themes that may need to be further explored and clarified.

Stage 2: Content Analysis

“Content analysis is a [qualitative] research tool used to determine the presence of certain words or concepts within a text or set of texts. Researchers quantify and analyze the presence, meanings, and relationships of such words and concepts, then make inferences about the messages within the texts, the writer(s), the audience, and even the culture and time of which these are part” (Colorado State University, 2003).

After critically reflecting on the various themes that emerged in stage one, two open-ended surveys were developed to further explore the topics of the motivations for sexual behavior and drinking among undergraduate students. These open-ended surveys would allow the researcher to gain a better clarification of the undergraduates' viewpoints and terminology dealing with sexual behavior and drinking. The first survey primarily dealt with motivations for sexual behavior while the second survey focused on drinking motivations. An example of these surveys can be found Appendix B.

For the sexual behavior survey, participants were instructed to type their responses to a variety of questions concerning sexual behaviors, motivations, and relationships. Participants were asked to be as honest and as detailed as possible in their answers, and reminded that there are no “right” or “wrong” answers. For the purposes of this study, the questions from this survey that were focused on were: “What are some of the main motivations for college students to engage in sex?” and “ Define/describe what these sexual terms mean to you: ‘horny,’ ‘hook-up,’ ‘casual sex,’ ‘friend with benefits,’ and ‘fuck buddy’.”

For the alcohol survey, participants were instructed to type their answers to a variety of questions concerning drinking alcohol and engaging in sex. Participants were reminded that there were no “right” or “wrong” answers and to be as honest as possible. When responding to the questions, the participants could either refer to their own personal experiences or what they have observed on campus. For the purposes of this study the specific questions that were focused on were: “Define/describe the following terms: ‘buzzed,’ ‘drunk,’ and ‘wasted’.”, “Why do you/people drink to get a ‘buzz,’ get ‘drunk,’ and ‘wasted’?”, “Do you think drinking alcohol is used as an excuse for having sex? Why or why not?”, and “Do you think people are more likely to take sexual risks when they are drinking? If so how?”

In the fall of 2003, students were recruited from two undergraduate courses related to human sexuality, Biobehavioral Health 146: Introduction Human Sexuality and Biobehavioral Health 446: Human Sexuality as a Health Concern. This group of students was sampled inasmuch as because they were enrolled in sexuality courses it was felt that they would be more likely to feel comfortable dealing with personal topics related to

sexuality in comparison to students enrolled in other classes. Eighty-six females and thirty-three males (62.6% of the total students enrolled) completed the sexual behavior survey, while seventy-two females and thirty-six males (56.8% of the students enrolled) completed the drinking motivations survey for which they received extra credit. The majority of students who completed the surveys were Caucasian upper classmen. The students who did not complete the extra credit assignments were not interested receiving extra credit points.

A content analysis was then performed on the responses to these surveys. This involves the systematic and objective identification, linking and counting specific characteristics in order to compare categories and make inferences from the data. The researcher categorizes data to make comparisons and to produce counts of the frequency with which words, phrases, and themes occur (Bowling, 1997).

A four-step grounded theory approach was used to analyze the data collected from the surveys (Bowling, 1997, Brown, 1996, Creswell, 1996, McKeown & Thomas, 1988). The four steps consisted of, data preview, pattern and theme identification, data aggregation, and final data examination.

The first stage, the data preview, allowed for me to become acquainted with the data. During this initial reading of the data, I began to develop a general idea of what themes and patterns could possibly emerge in the analysis. Notes on these possible themes and patterns were taken so that they could be used to guide step two.

In the second step, pattern and theme identification, I went back through the data, focusing on the major patterns and themes that had begun to emerge in the previous

stage. I also anticipated new patterns and themes that might not have been uncovered initially. Notes were taken on these specific patterns and themes.

After critically reflecting on the information that was gathered in step two, I was now able to begin aggregating the data. This aggregation was based on the patterns and the themes that emerged in the previous two stages. I kept a running tally of the various common themes and characteristics that were found in the participants' responses to the various questions.

Finally in step four, the final data analysis occurred. After critically reflecting on the aggregated data, I then examined the data again to confirm the data aggregation and to uncover any emerging themes that may have been missed.

The findings from the content analysis were analyzed by sex and used to inform the development of the MMASS. This information was also used to increase the content-related validity of the MMASS.

Stage 3: “Motivations for Mixing Alcohol and Sex” Scale (MMSS) Development

The scale development process is a complex process and requires several characteristic steps described Devellis (1991) in order to be reliable and valid. The development of the MMASS was based on those steps recommended. These steps are depicted in figure 3-1.

Step 1: Defining Constructs to Be Measured

The first step is to define the constructs to be measured. A construct is defined as “a concept that is inferred from commonalities among observed phenomena, which can be used to explain those phenomena. In theory development, a concept that refers to a structure or process is hypothesized to underlie particular observable phenomena” (Gall & Borg, 1996, p 756). For the purpose of instrument development, constructs to be measured must first be clearly and precisely defined before items are generated, based on a comprehensive literature review. It is important to consider relevant theories related to the constructs to be measured since constructs in motivational phenomena cannot be directly observed and have no clear criterion (Devillis, 1991). For the development of this instrument, qualitative data collected in the first two stages was also taken into consideration. This is a crucial step in the process of instrument development because how well the constructs are defined and can greatly influence the reliability and validity of the instrument.

Validity can be thought of as the appropriateness, meaningfulness, and usefulness of the specific inferences made from instrument scores (Nunnally & Bernstein, 1994). A meaningful inference indicates the meaning of instrument scores, and a useful inference means possible support for making a decision regarding the purpose of the study. There are several different types of validity.

Construct-related evidence of validity is concerned with the degree to which the scores from a particular instrument accurately represent the hypothetical construct that it purports to measure (Devillis, 1991). The hypothetical construct, which is not directly

observable, and is assumed to exist in a theoretical model, can only be inferred from the instrument scores. Some researchers feel that construct-related evidence is the most important factor ensuring a scale's validity because this validity is ultimately used to interpret the theoretical context of what the instrument measures (Gregory, 2000).

Before the constructs to be measured in the domain of motivation concerning undergraduates alcohol consumption and sexual behaviors were selected, the purpose for the instrument development in this study was first considered. The purpose was to develop a survey that accurately represented undergraduates' motivations for mixing sexual behaviors with alcohol consumption. The instrument would be used to gain a more complete understanding of the various motivations behind the specific behavior of alcohol consumption followed by sexual behaviors. This understanding would then be used to conduct research that would subsequently lead to the creation of effective and appropriate prevention and intervention programs in this area.

Taking into account these reasons for developing the instrument, motivations pertaining to alcohol consumption and sexual behaviors were explored through the review of relevant and appropriate literature regarding theories and practices in the domains of alcohol use and sexual behavior. This review can be found in chapter two. The constructs identified previously as the foundation for motivations among adolescents for alcohol consumption (Cooper et al, 1994) and engaging in sexual behavior (Cooper et al, 1998) were applied to identifying the motivations for drinking alcohol and then engaging in sexual behaviors. A comprehensive review of these motives can be found in chapter two. These are as follows:

1. Internally-generated, positive reinforcement motives: Defined as consuming alcohol and then engaging in sexual behaviors to enhance a positive mood or well-being generally referred to as enhancement motives. An example of this type of construct could be a person who is out “partying” and having fun and feels that engaging in sexual behavior can only add to the fun of the evening. This person consumes alcohol and then engages in sexual behaviors for reasons of their own sexual pleasure and is not necessarily concerned with what others think.
2. Externally-generated, positive reinforcement motives: Defined as consuming alcohol and then engaging in sexual behaviors to obtain positive social rewards generally referred to as social motives. An example of this construct could be a person who consumes alcohol and engages in sexual behaviors for intimacy-related reasons to enhance the relationship with his or her partner.
3. Internally-generated, negative reinforcement motives: Defined as consuming alcohol and then engaging in sexual behaviors to reduce or regulate negative emotions generally referred to as coping motives. An example of this construct could be a person who consumes alcohol and engages in sexual behaviors to reduce his or her stress or feelings of inadequacy.
4. Externally-generated, negative reinforcement motives: Defined as consuming alcohol and then engaging in sexual behaviors to avoid social censure or rejection, generally referred to as conformity motives. An example

of this construct could be a person who consumes alcohol and engages in sexual behaviors for peer pressure reasons, all of their friends are “doing it” and he or she wants to fit in.

Step 2: Generating the Initial Item Pool

A scaling method (response format) for measurement should be decided before generating initial items. The response format should match the theoretical model. Generally, it is assumed that each of the test items can be scored on a continuum based on its direction and intensity toward the targeted idea or object (Spector, 1992). In this study, the five-point, Likert-type scale format was used. The response set was as follows: from 1-almost never or never, 2-some of the time (less than half), 3-about half of the time, 4-most of the time (more than half), or 5-almost always or always. This response set was used for measuring how often in the previous two months a person engaged in sexual behaviors after consuming alcohol for each of the various listed reasons. The Likert method of summated ratings is the most popular as well as relatively easy to design, generally very reliable, and successfully applied in real-world situations to measure various affective features such as perceptions, opinions, beliefs, attitudes, and values (Nunnally & Bernstein, 1994). Responses to items defining the affective attributes are summed to produce a scale for scoring on the affective instrument.

The nature of items in a scale should specifically represent only the constructs to be included so that the scale can be homogeneous (Spector, 1992). Multiple items in a scale are desired in order to create a more reliable scale. Each item should be clear and

precise, of an appropriate length, and should avoid conveying more than one idea. The reading difficulty, agreement tendency, and confusion with reversal items by respondents were carefully considered in writing items. Items were also written in the common language that undergraduate students often use when describing alcohol use and sexual behaviors, as noted in stages one and two of this research.

In this study, an initial pool of fifty-five items was generated by Dr Patricia Koch, a professor in the Biobehavioral Health department, to reflect the four constructs constituting the motivations to consume alcohol and engage in sexual behavior. Each of the items was written with consideration for its length, preciseness, and reading difficulty level for respondents. After the item pool was generated, a panel of experts then reviewed it. (The initial fifty-five-item pool can be found in Appendix C.)

Step 3: Expert Panel's Judgments

Traditionally, expert opinion plays an important role in instrument development. The judgment by experts of each item provides content-related validity evidence which supports or does not support the underlying construct that each item is supposed to measure since the construction of items is based on a theoretical model (Spector, 1992).

Content-related evidence of validity refers to the degree to which the sampled items on an instrument adequately represent the intended domain of content they are supposed to measure (Gronlund, 1998). This type of validity concerns the adequacy of items. Theoretically, when all items of a scale are randomly selected to represent the

domain of the potential items that a scale is supposed to measure, the content of the scale is considered valid (Gable, 1986).

Since the constructs of affective characteristics such as beliefs, attitudes, motivations, and perceptions are abstract and difficult to observe, they are grounded in a theoretical explanation and conceptual definitions that describe the domain of possible items (Gable, 1986). Based on the defined construct, items are generated and a score on a survey is used to make inferences from the underlying construct. Thus, content validation should be considered an important process during instrument development since it is directly related to meaningfulness, appropriateness, and usefulness of inferences that are made from the scores on a scale.

Content validation is intrinsically a judgmental process evaluated systematically by content experts and is conducted in advance of the actual administration of a scale (Borg & Gall, 1996). There are two main foci of content-related validity. The first is how adequately the domain of a specific content to be measured is defined and the other is how well the generated items represent the defined content domain (Gable, 1986). Therefore, the level of correspondence between the defined content domain and the generated items is the major concern of content validation.

It has been suggested that the procedures used to collect content-related validity evidence often relies on expert judgments to assess the relevance of the test items to the specified content domain as stated (Gable, 1986). Experts are asked to judge whether an item is essential to measure the specified domain. The greater the agreement among the experts on an item, the greater the degree of content validity that can be inferred (Devillis, 1991). However, content validity does not necessarily guarantee other types if

validity (for example, predictive validity). A scale containing a representative sample of a particular content domain often results in multiple types of validity and is a potential measure of that domain (Devillis, 1991).

In this study, a panel of content experts was asked to review the fifty-five initial items in order to evaluate the level of adequacy to reflect the intended content domain. The panel consisted of three undergraduate students, one graduate student, and two faculty members of the Pennsylvania State University. The first task of the content experts was to evaluate how well each of the initial items clearly represented what the items intended to measure. The second task of the panel was to make suggestions regarding the clarity, conciseness, constructs, or methodological approach. Clearly and precisely written items, with exact and succinct wording considerably increases the items' reliability. These various ways of reviewing items are expected to contribute to increasing content validity.

Step 4: Conducting Item Revision

Based on the expert panel's ratings and my subjective opinion, ten additional items were created to ensure that all four constructs were well represented. Some of the initial items were rewritten so that the "students language" was used instead of the scientific based language. Therefore, sixty-five items were included in the first draft of the instrument.

After the sixty-five items were judged as content valid based on the experts' ratings, the items were given an additional review for clarity, readability, and technical

issues. One graduate student and one faculty member participated in this process. Some of the items were modified for clarity reasons in preparation of the first draft of the scale. The format of the scale was also modified to make it easier to read. The new format consisted of the stem “I drank alcohol before having sex because doing this:” which was followed by a list of reasons to which the students would respond. (See appendix D for the modifications.)

Step 5: Administrating the Draft of the Instrument

Pilot administration of the instrument was conducted to select internally consistent items representing the intended construct in order to establish validation. The data collected were later subjected to item analysis to determine the internally consistent items, which were believed to constitute a homogenous scale.

Participants and Contexts

The draft of the MMASS was administered as part of the “College Social Life and Health Survey” to 450 undergraduate students who were enrolled in various general education courses in the Biobehavioral Health and Women’s Studies Department during the last two weeks of the spring semester 2004 at Penn State University. The “College Social Life and Health Survey” was reviewed and approved by the Pennsylvania State Office for Research for Research Protections before it was administered to the

undergraduate students. (The “College Social Life and Health Survey” can be found in appendix E.)

A total of 359 (79.8%) students completed and returned the survey. The “College Social Life and Health Survey” consisted of 8 sections. The eight sections that comprised the “College Social Life and Health Survey” are listed along with the specific items that were used in the current study can be found in table 3-1.

Table 3-1: College Social Life and Health Survey

Section	Variables Used
Section 1: Background	Age Gender Ethnicity Religious Affiliation Semester Standing Sports Team Membership Housing Situation
Section 2: Lifetime Experiences	
Section 3: Experiences During the Past 2 Months	
Section 4: Last Sexual Experience	Relationship of Last Sexual Partner
Section 5: Motivations for Mixing Alcohol and Sex	All 65 Items in This Section Were Used
Section 6: Sexual Opinion Survey	
Section 7: Experiences, Interests and Preferences	
Section 8: Feelings	

The Mmass, the fifth section consisted of sixty-five items. This section addressed respondents motivations for mixing alcohol and sexual behaviors. This section was the focus of the current study. The Mmass will be discussed in detail in the following sections. Even though all of the questions encompassed in the “College Social Life and Health Survey” were not used in the current study this data will be used in future in analyses.

Even though a convenience sample was used, the participants were recruited from various general education classes in order to provide a cross-section of undergraduate students. The timing of the pilot administrations was to occur towards the end of the spring semester so that St Patrick's Day weekend, spring break, and Blue and White football weekend (the football team breaks into a blue and white team and plays a game that is open to the public, this is the first time people get to see the team play), times when students traditionally participate in heavy drinking, would be included in the time frame of the survey.

Step 6: Factor Analysis to Provide Construct Validity

Many statistical techniques are used to provide construct-level evidence of data collected by administering the instrument to a representative sample of populations for which the instrument was aimed. Factor analysis is one of the most popular analyses techniques in instrument development (Gregory, 2000). The primary purpose of factor analysis is to identify the existence of a hypothesized and meaningful construct (or factor) sharing sufficient variation by examining empirically the interrelationships between a set of observed variables and its underlying constructs (Gregory, 2000). The results of the factor analysis indicate the relative strength of the variance in identified factors in accounting for common variance. The more the items are closely related with each other and the items share common variance, the more likely the items will be found to belong to the same factor. Therefore, factor analysis can be used as a starting point to

extensively investigate whether meaningful constructs exist (Nunnally & Bernstein, 1994).

Exploratory factor analysis is used to explore the dimensionality of the scale itself under general assumptions for a latent variable structure (Spector, 1992). In an exploratory factor analysis, a researcher does not specify the underlying variable structure. The focus of the analysis is to identify the minimal number of factors that underlie the observed variables to explain the intercorrelations, or the most variance, of a set of observed variables. Accordingly, two major questions of exploratory factor analysis relate to determining the number of factors that best represent the items and how to interpret the factors that emerge. Development of answers to these questions depends on the researcher's subjective judgment as well as on the statistical rules (Gable & Wolf, 1992).

Exploratory factor analysis can also be used to explore how the observed items and their underlying factors are related for the purpose of theory building rather than theory testing. Regarding the purpose of instrument development, exploratory factor analysis is used to investigate the relationships between the conceptually developed content categories and the empirically drawn constructs (Gable & Wolf, 1992).

The resulting constructs are then examined based on the theoretical framework from the comprehensive literature review and previous research. The relationships between observed variables and underlying latent variables are shown as factor loadings. Accordingly, the number of factors and the relationships of the items to the factors are generally determined by the results of the factor analysis rather than from the instrument

developer's theoretical framework. Typically, instruments that are developed through an exploratory factor analysis explain about 60% of the variance (Sharma, 1996).

Comparison of Principle Component Analysis (PCA) to Factor Analysis (FA)

In both PCA and FA, the variance that is analyzed is the sum of values in the positive diagonal in the correlation matrix (the diagonal that contains the correlation between the variable and itself) (SPSS, 2000). In PCA ones are in the diagonal and there is as much variance to be analyzed as there are observed variables; each variable contributes a unit of variance by contributing a one to the positive diagonal of the correlation matrix. All the variance is distributed to components, including error and unique variance for each observed variable. Therefore, if all of the components are retained, PCA duplicates exactly the observed the observed correlation matrix and the standard scores of the observed variables (Hatcher & Stepanski, 1994).

In FA, only the variance that each observed variable shares with other observed variables is available for analysis. Exclusion of error and unique variance from FA is based on the belief that such variance only confuses the picture of underlying processes. Shared variance is estimated by communalities, values between zero and one that are inserted in the positive diagonal of the correlation matrix. The solution in FA concentrates on variables with high communality values. The sum of the communalities is the variance that is distributed among factors and is less than the total variance in the set of observed variables. Since unique and error variances are omitted, a linear

combination of factors approximates, but does not duplicate, the observed correlation matrix and scores on observed variables (Tabachnick & Fidell, 2001).

PCA analyzes variance; FA analyzes covariance (communality). The goal of PCA is to extract maximum variance from a data set with a few orthogonal components. The goal of FA is to reproduce the correlation matrix with a few orthogonal factors. PCA is a unique mathematical solution, whereas most forms of FA are not unique (SPSS, 2001).

The choice of PCA or FA depends on the assessment of the fit between models, the data set, and the goals of the research. PCA is often used when one is interested in reducing the large number of variables down to a smaller number of components. PCA is also useful as an initial step in FA where it reveals a great deal about maximum number and nature of factors (Tabachnick & Fidell, 2001). FA is often used when it is believed that certain latent factors exist that exert causal influence on the observed variables they are studying (Tabachnick & Fidell, 2001).

Factor Extraction

The number of components extracted is equal to the number of variables being analyzed, thus the researcher must decide how many of the components are truly meaningful and worthy of being retained for rotation and interpretation. In PCA, one of the most commonly used criteria for solving the number-of-components problem is the eigenvalue-one criterion. With this approach, components with an eigenvalue greater than one are retained (Hatcher & Stepanski, 1994).

Each observed variable contributes one unit of variance to the total variance in the data set. Any component that displays an eigenvalue greater than 1 is accounting for a greater amount of variance than had been contributed by one variable. Such a component is therefore accounting for a meaningful amount of variance, and is worthy of being retained. A component with an eigenvalue less than 1 is accounting for less variance than had been contributed by one variable. The purpose of PCA is to reduce a number of observed variables into a relatively smaller number of components; this cannot be effectively achieved if components are retained that account for less variance than had been contributed by individual variables. Thus, components with eigenvalues less than 1 are viewed as trivial, and are not retained (SPSS, 2000).

Another criteria that is commonly used for solving the number-of-components problem is the scree test. With the scree test, eigenvalues associated with each component are plotted. The component numbers are listed on the horizontal axis, while the eigenvalues are listed on the vertical axis. The researcher then looks for a “break” between the components with relatively large eigenvalues and those with small eigenvalues. The components that appear before the break are assumed to be meaningful and are retained for rotation; those appearing after the break are assumed to be unimportant and are not retained. The scree test can be expected to provide reasonable accurate results, provided the sample is large (over 200) and most of the variable communalities are large (Stevens, 1986).

Factor Rotation

Factor rotation is the process of turning the reference axes of the factors about their origin to achieve a simple structure and theoretically more meaningful factor solution (SPSS, 2000). There are two broad classes of rotation, orthogonal and oblique, which have different underlying assumptions but which share the common goal of simple structure. In an orthogonal rotation, it is assumed that the generated factors are independent of each other. In contrast, in an oblique rotation, the supposition is made that the factors are not independent of one another. Rather, there is some correlation among two or more of the factors being rotated (SPSS, 2000).

There are three main approaches to orthogonal rotation: varimax, quartimax, and equamax. Varimax rotation is the most commonly used orthogonal rotation. The goal of varimax is to simplify the columns of the unrotated factor-loading matrix. Varimax maximizes the variances of loadings within the factors while also maximizing differences between the high and low loadings on a particular factor. In essence, higher loadings on a factor are made higher and lower loadings are made lower (Tabachnick & Fidell, 2001).

A varimax solution is easily interpreted and provides relatively clear information about which items correlate most strongly with a given factor. A disadvantage of varimax is that it tends to split up the variances of the major factors among the less important factors, thus reducing the possibility of identifying an overall general factor (Tabachnick & Fidell, 2001).

An oblique rotation follows the same rotation principles as an orthogonal rotation. Like the orthogonal rotation, there is no change in the interitem correlations because the

position of the scale items relative to each other do not change. The difference is, that in an oblique rotation, the assumption is made that there is some correlation among two or more of the factors being rotated. Since the factors are not independent, a 90 degree angle of rotation is no fixed between the axes. Instead, each original factor is rotated separately by different amounts (SPSS, 2000). Although there are many approaches to oblique rotations, the two most commonly used approaches are oblimin and promax (SPSS, 2000).

In this study, principle components analysis techniques were conducted to provide construct-related validity evidence of the Mmass. A principle component factoring solution using varimax rotation was used to extract factors having an eigenvalue 1.00 or greater.

Step 7: Item Analysis

The next step of the data analysis was to conduct an item analysis. The purpose of item analysis is to select internally consistent items that reflect the same underlying scale (Devellis, 1991). Both the corrected item-total correlation coefficient and coefficient alpha, if the item was deleted, are used to form a better quality scale. The items with the highest item-total coefficient should be retained first, regardless of item selection strategies, since deleting the item decreases the alpha coefficient of a scale. Also, the items having a smaller alpha, if the item was deleted, should remain since it means that the items are highly correlated with the others. In addition, the items with a relatively small variance and extreme value for item means should be removed since the items are

not worded strongly enough to be diverse and have a response tendency. The items retained through item analysis are then applied to further study.

Step 8: Assessing Internal Consistency Reliability

The major theoretical construct, motivations to consume alcohol and then engage in risky sexual behaviors, is not directly observable and is therefore difficult to measure. When measuring a theoretical construct two important considerations need to be taken into account: 1) To what extent are the data free from error? 2) To what extent is the interpretation of the data appropriate, meaningful, and useful? (Spector, 1992). The first question is related to reliability, while the second is related to validity. The reliability and validity of the instrument significantly influence the interpretations and conclusions based on the information collected with the instrument.

Reliability is a fundamental matter in scale development. Reliability refers to the degree to which scores are free from errors of measurement (Spector, 1992). In other words, the reliability of a scale concerns the degree of measurement error and the consistency of test values. Therefore, measurement error, which includes random error and systematic error, reduces the reliability of the instrument's results. Although a scale may measure a shared, common construct, as indicated by high reliability, this does not mean that it measures what it is supposed to measure.

Several sources of errors reduce reliability of instrument scores. The primary source of error in an instrument comes from an inadequate sampling of items (Nunnally & Bernstein, 1994). Situational factors such as variations in individual responses and

administration procedures can be common sources of errors in measuring affective characteristics such as attitudes and beliefs (Gable, 1986). Also, technical factors such as quality of items, test length, variability of among the groups being tested, guessing of participants, and instrument scoring suppress reliability (Cunningham, 1986). To get a more reliable test score requires that the sample of the items as well as the subjects be selected to represent adequate variability of the target population, that the content of items in a scale be homogeneous, and that the number of items be determined by considering item-total correlation. It is believed that the larger item pool is, the more adequate will be the sampling of the content.

Internal consistency reliability indicates the degree to which individual items of a scale reflect a common, underlying construct (Spector, 1992). This is the correlation between items in a scale and is related to the homogeneity of items measuring a construct (DeVellis, 1991). When a scale is internally consistent, its items are highly intercorrelated and generally occurs when there is a strong relationship between items and underlying constructs.

The coefficient alpha (or Cronbach alpha) is commonly used to compute the internal consistency reliability. The value .70 for alpha is widely accepted as the minimum value to demonstrate internal consistency (Nunnally, Bernstein, 1994). However, in practice compared to cognitive measures, affective measures have relatively lower alpha values because constructs such as attitudes in the affective domain are more abstract by definition and have typically a greater range of responses in measurement than constructs such as achievement in cognitive domains (De Vellis, 1991).

Step 9: Revisions of the Scale

The items retained were refined to develop a second draft of the scale based on the results of the pilot administration. In the process of refinement, based on the pilot study results and the factor analysis six items were dropped. The same five-point Likert scale method for measurement was used in the second draft. Based on the researcher's judgment, the revision of the second draft items were made to appropriately represent the content to be measured. The resulting items constituted the second draft scale (see appendix F).

Summary

In this chapter, the procedures employed in developing and validating the MMASS were described. An action research approach to scale development was used. This approach consisted of three primary stages: q-methodology, content analysis of open-ended questions, and scale development. In the first stage of the study, q-methodology was used to categorize various motivations for alcohol consumption and engaging in sex as reported by undergraduate students on the Sexuality and Alcohol Log. In the second stage, information was collected through answers to open-ended questions, to allow for a more complete understanding and clarification of undergraduates' motivations for engaging in sexual behavior after consuming alcohol and terms they use for describing those behaviors. A content analysis was performed on these data. The findings from the first two qualitative stages of this research process were then used to

develop a scale that accurately represented the undergraduate students' motivations for mixing alcohol and sex. The findings from the three stages of this research project are presented and discussed in chapter four.

Chapter 4

Results & Discussion

This chapter provides the results that were obtained during the three stages of the development of the “Motivations for Mixing Alcohol and Sex Scale” (MMASS) while answering the following research question: How do undergraduate students view drinking and then engaging in sex? To explore the answer in more detail, the following sub-questions were examined: What are the meanings of the terms students use to discuss these behaviors? and What motivations do students describe for drinking alcohol and engaging in sex?

The construction of the MMASS consisted of three stages: q-methodology, content analysis of open-ended surveys, and scale development. First, the q-methodology was used to categorize the various motivations for alcohol consumption and engaging in sex as expressed by undergraduate students. In the second stage, information was collected in the form of an open-ended survey to allow for a more complete understanding and clarification of undergraduates’ viewpoints and the terminology they use for dealing with sexual behavior and alcohol consumption. A content analysis was then performed on these data. The findings from the first two stages were then used to

develop a scale that accurately represented the undergraduate students' motivations for mixing alcohol and sex.

In this chapter, the results from each stage will be reported and discussed: 1) the q-methodology, 2) the content analysis, 3) pilot test of the MMASS. the q-methodology will be reported and then discussed. Significant similarities and differences based on gender will be addressed in each discussion.

Stage 1: Q-sort

Results

A q-sort was conducted during the summer semesters of 2002 and 2003 based on two questions from the Sexuality and Alcohol Log (SAL). The person sample consisted of 45 females and 20 males who were currently enrolled in Biobehavioral Health 446, Human Sexuality as a Health Concern. The first ready-made q-sample, which was drawn from the SAL, consisted of the following motivations to drink: it was there/nothing better to do, get a buzz, get drunk, have a good time, hook-up/have sex, relax/relieve stress, celebrate, drown my sorrows, to fit in, enhance romance, be more outgoing, and be less inhibited. The second ready-made q-sample consisted of the following motivations to engage in sexual intercourse: in the mood, partner wanted to, show my love and affection, feels good/ have fun, horny, why not?, easy hook-up, curiosity/experimentation, relax/relieve stress, and make myself feel better.

In the following sub-sections, first the decision-making process for the qualitative analyses will be discussed. Then, the final results, of the q-sort concerning the reasons to engage in sexual behavior will be analyzed by sex and presented. Second, the q-sort concerning reasons to drink will be analyzed by gender and reported. Next, the results for the reasons to engage in sexual behavior q-sort will be discussed. Finally, the results from the reasons to drink q-sort will be discussed. It should be noted that q-sort category names were generated by the students and not the researcher.

Decision Making Process

In step one, the data preview, overall categories that students created were reviewed. Students generated two to four categories of motives for each q-sort. Most of the students created between three and four categories. The majority of the category names were unique.

In the second step, pattern and category identification occurred. Category identification was defined as occurring when the data reached saturation and all of the potential themes were exhausted. Exhaustion of a theme occurred when 90% of the data was categorized.

During the third stage, critical reflection of the newly formed categories occurred. The researcher re-examined the original data in comparison to the newly emerged categories. In the fourth stage, the categories that the researcher developed were confirmed by another graduate student, who was not involved with this project. The graduate student examined the original data. First asked notes were taken on any themes

and patterns that emerged from the data. Next the graduate student was asked to create categories based on the data. The graduate student's categories matched the researcher's categories thus, the newly created categories were confirmed. The final data analysis of the q-sorts will be presented in the following sections.

Males: Reasons for Engaging in Sexual Behavior

When the males completed the q-sort concerning reasons for engaging in sexual behavior, four main categories emerged. (Table 4-1) The first category primarily dealt with desire and fun and was called *feels good/sex-drive* or the physical aspects of sex. This category included reasons to engage in sexual behavior such as: in the mood, feels good/have fun, and horny. This statement made by a male student; “*What other single activity [can a person engage in] that feels so good and is so much fun?*” best describes this category.

Table 4-1: Q-sort Results for Males Reasons to Engage in Sexual Behaviors

Category Name	Reasons
Feels good/sex-drive	In the mood Feels good/have fun Horny
Relationship related/availability	Partner wanted to Show love and affection
Just to do it/pure pleasure	Why not Easy hook-up Curiosity/experimentation
Personal gratification/pick-me-up sex	Relax/relieve stress Make myself feel better

The next category, entitled *relationship related/availability*, included the following reasons from the SAL: partner wanted to and show my love and affection. These reasons are often referred to as why people in a relationship engage in sexual behaviors. As stated best by a male student who said, “*You want to show your lover that you care...It (shows love and affection) is only possible when having sex with someone you care for, non-party girls.*”

The *just do it/pure pleasure* category consisted of the following reasons for engaging in sex including: why not, easy hook-up, and curiosity/experimentation. This statement, “if the opportunity is there, might as well take it,” best describes this category. According to one male student, “*(You) just want to bust a nut.*” This category primarily

focuses on the male students interests in engaging in sex with as many partners as possible.

The fourth and final category that emerged was called *personal gratification/pick-me-up sex*. Reasons to engage in sexual behavior included relax/relieve stress and make myself feel better. According to one male student, “*(Sex) makes you feel relieved after your day and ready for a new day.*”

Females: Reasons for Engaging in Sexual Behavior

From the q-sort concerning reasons for engaging in sexual behaviors for the females, three main categories emerged. (See Table 4-2) The first category, entitled *desire/fun*, consisted of the motivations from the SAL: in the mood, feels good/have fun, and experimentation/curiosity. According to a female student, “*It [sex] feels good and fun and it’s easy for some people to get...why not do it if your body is telling you to.*”

Table 4-2: Q-Sort Results for Females Reasons for Engaging in Sexual Behavior

Category	Reasons
Desire/fun	In the mood Feels good/have fun Experimentation/Curiosity
Relationship reasons	Partner wanted to Why not Easy hook-up Show my love and affection
Self-Satisfaction/increase well-being	Relax/relieve stress Make myself feel better

The *relationship reasons* category included the following reasons for engaging in sexual behaviors: partner wanted to, why not, easy hook-up, and show my love and affection. According to the female students, these are reasons why people in any type of relationship would engage in sexual behaviors. As expressed best by a female student who stated, “*It (sex) is a very intimate way of expressing your feelings for someone else.*”

The third and final category that emerged was called *self-satisfaction*. Reasons in this category to engage in sexual behaviors included relax/relieve stress and make myself feel better. This category seemed to deal with issues related to increasing a person’s self-esteem. According to one female student, “*The fact that someone desires you enough to have sex with you can alleviate mental and emotional strains a person has about themselves.*”

Males: Reasons to Drink

Four reason to drink categories emerged for males (see table 4-3). The first category, entitled *drinking for the sake of the drinking*, included the reasons from the SAL: get drunk, get a buzz, nothing better to do, and drown my sorrows (this reason was also placed in another category by some of the males). These reasons are often thought of by the male students as basic reasons to drink. According to one male student, “*I do it (drink) because there is nothing better and cheaper to do than to get buzzed or drunk.*”

Table 4-3: Q-Sort Results for Males Reasons to Drink

Category	Reasons
Drinking for the sake of drinking	Get a buzz Get drunk Nothing better to do
Social/good time reasons	Have a good time Celebrate Relax/relieve stress Down my sorrows*
Sex/love related	Enhance romance Hook-up/have sex
Drinking to change personality	To fit in Be more outgoing Be less inhibited Drown my sorrows*

*Denotes a reason that was placed in more then one category

The *social/good time* category consisted of four reasons for drinking: have a good time, celebrate, relax/relieve stress, and drown my sorrows (was also placed in the previous category by some males). The male students seemed to feel that relieving stress and having fun went hand-in-hand. A male student encapsulated this best when he said, “*In some situations you use the alcohol as a way to relax and enjoy the time.*”

The third category, entitled *sex/love*, focused on two reasons to drink: enhance romance and hook-up/have sex. Male students felt that it was easier to hook-up/have sex when consuming alcohol. According to a male student, “*(Alcohol) makes you less inhibited; your feelings aren’t held back when you are drinking.*” Interestingly, even though the males referred to this category as *sex/love*, the topics of love and romance were rarely mentioned. The male students only used these terms in the context of naming the category.

The fourth and final category that emerged was called *drinking to change a [specific] personality characteristic* and included three reasons to drink: to fit in, be more outgoing, and be less inhibited. These reasons involved how alcohol is thought to alter individuals’ psychological mind set in order to feel more comfortable in a social situation. For example, according to one male student, “*(You) don’t have to worry about being nervous...(you) can be more social when under the influence of alcohol.*”

Females: Reasons to Drink

Five categories emerged from the q-sort concerning reasons for females (see table 4-4). The first category, entitled *bored/why not*, included three motivations: from: get drunk, get a buzz, and nothing better to do. Like their male counterparts, the females also thought of this category as “simple reasons” to drink. According to one female student, “*Here in State College everything centers around drinking so if your work is done, you go out and drink with others.*”

Table 4-4: Q-Sort Results for Females Reasons to Drink

Category	Reasons
Bored/why not	There was nothing better to do Get a buzz Get drunk
Let's party	Have a good time Celebrate Relax/relieve stress*
Sex-related reasons	Hook-up/have sex Enhance romance Be less inhibited*
Social issues/to loosen up	To fit in Be more outgoing Drown my sorrows* Be less inhibited*
Escape	Drown my sorrows* Relax/relieve stress*

*Denotes that reason was placed in more than one category

The *let's party* category consisted of three reasons: have a good time, celebrate, and relax/relieve stress (this reason was also included in another category by some female students). Females tended to report that relieving stress and having fun go together. A female student encapsulated this best when she said, "*Drinking allows the day to fade away, you can forget your stress and concentrate on fun.*"

The third category, entitled *love/sex-related*, included three reasons to drink: hook-up/have sex, enhance romance, and be less inhibited (this reason was also included in another category by some female students). Some female students reported that it is easier to hook-up/have sex when consuming alcohol. According to a female student, "*Alcohol is used to give you an opportunity to be carefree about sexuality.*" Other female students reported that drinking alcohol can be viewed as part of a romantic environment. For example, "*Alcohol can be viewed in a romantic light when you are having a nice dinner and a bottle of wine.*"

The fourth emerged category was called *social issues/to loosen up*, included four reasons to drink: to fit in, be more outgoing, drown my sorrows (this reason was also included in another category by some female students), and be less inhibited (this reason was also included in another category by some female students). According to the females, this category consists of reasons that involve how alcohol is thought to alter a person's personality and psychological mindset in order to make the person feel more comfortable in social situations. For example, according to a female student, "*You can be someone you are not when you are drunk...it (alcohol) lowers insecurities and allows one to be more social.*" Unlike their male counterparts who associated these reasons more

with specific personality characteristics, the females related them more to the specific characteristic of “loosening up.”

The fifth and final category *escape*, included the two reasons to drink: drown my sorrows and relax/relieve stress (both reasons were included in other categories by some of the female students). This category was described as drinking as a way to cope. As described best by a female student, “*You can escape what is bothering you, at least temporarily...if stressed or depressed, I drink to take mind off of what is causing the stress.*”

The information gathered in the q-sort brought to light the similarities and differences in the ways that male and female undergraduate students categorize various reasons for drinking and sexual behavior. The following section will discuss how the q-sort findings relate to the previous research and fit into the action research theoretical framework. Sex differences and similarities will also be reviewed.

Discussion

In contrast to more traditional social science research approaches, action research rejects the separation of the researcher from the research subjects, therefore recognizing that the research process is not value neutral (Minkler, Wallerstein, 2003). The results of the q-sort represent the undergraduates’ perspectives of how they would categorize the various reasons listed in the SAL for engaging in sexual behavior and for drinking. The consideration of the students’ lived experiences may enhance understanding of the

current research and the development of more valid research methods, and in turn, leading to the creation of more effective intervention/prevention programs. Domains that could be better understood when examined through an action research framework are undergraduates' categorization of the various reasons to engage in sexual behaviors and to consume alcohol.

Reasons to Engage in Sexual Behavior

According to the previous research (Carol et al, 1985; Cooper et al, 1998; Cohen & Shotland, 1996; Paul et al 2000; Traeen & Kvalem, 1996), there is a complex enmeshment of sexuality and society-imposed gender expectations. Traditional gender-role expectations concerning sexual behaviors state that a female's job is to avoid sexual intercourse while a man's job is to engage in sexual behaviors (Herold et al, 1998). Thus, when women are asked about their motivations to engage in sexual behaviors, they often report that they are motivated by reasons related to love and intimacy, while men report physical desire as their primary motivation (Herold & Mewhinney, 1993). These findings were echoed in the q-sort concerning reasons for engaging in sexual behaviors. A summary of these q-sort findings can be found in tables 4.1 and 4.2 for males and females respectively.

When females completed the q-sort, they identified three categories. The most prominent was called *relationship reasons* and consisted of four out of the nine possible reasons that they had to categorize. However, the male's *relationship-related* category only included two of the nine reasons that were listed in the SAL. Even though both

genders agreed that the reasons “show love and affection” and “partner wanted to” belonged in the *relationship-related* category, the females also included “why not” and “easy hook-up.” According to society’s imposed traditional gender-role expectations, it seems that females have been socialized to view sexual contact as only appropriate in the context of an ongoing relationship (Cohen & Shotland, 1996; Cooper et al, 1998; Paul et al, 2000). Therefore, it could be speculated that females categorized the reasons “easy hook-up” and “why not” as only acceptable if in some type of a relationship.

Traditional gender-role expectations prescribe that males typically report physical desire as their primary motivation to engage in sexual behaviors (Carrol et al, 1985; Cooper, 1998; Herold & Mewhinney, 1993; Traeen & Kvalem, 1996). The findings from the q-sort were consistent with this previous research. When the male undergraduates completed the q-sort, they identified four categories, two of which had the underlying theme of physical desire. However, of the females’ three suggested categories, only one contained the theme of physical desire. It is interesting to note that out of the nine reasons for engaging in sexual behavior that were categorized in the q-sort, males related six of the reasons to physical pleasure. Unlike the males, females only related three of the reasons to physical pleasure. It seems that females are motivated by reasons related to love and intimacy to engage in sexual behaviors, while males report reasons related to physical desire as their primary motivation. Are these statements true or are the males and females just trying to conform to meet society’s gender-role expectations?

Coping, another type of motivation found in the literature, (Cooper et al, 1998; Carrol et al; Paul et al, 2000) is defined as engaging in sexual behaviors to escape from a

stressful situation and boost self-esteem (Cooper et al, 1998). When completing the q-sort, both males and females included a coping category that incorporated the reasons “relax/relieve stress” and “make myself feel better.” It should be noted that when describing this category, males referred more to personal gratification while the females tend to discuss increasing “well-being.” Although both sexes incorporated that same reasons into this category it may be that the female are more aware that they are engaging in sex to cope compared to the males.

Overall, the results of the reasons for engaging in sexual behavior q-sort confirmed what was previously found in the literature. However there were some differences between how the undergraduates categorized the reasons from the SAL as compared to the categorization based on Cooper’s (1998) four-factor motivational model. Table 4-5 depicts how the reasons to engage in sexual behavior from the SAL could fit into Cooper’s (1994) four-factor motivational model. Even though Cooper (1994), argues that conformity, coping, social (also known as intimacy/romance), and enhancement (often referred to physical pleasure) are unique and distinct motives, the Penn State University students did not feel the same. For example, both genders included the reason “partner wanted to” (a conformity-related motive), in their intimacy/romance (social) category. In fact the students did not identify a separate conformity category. Thus, undergraduate students’ categorization of the reasons for engaging in sexual behaviors may be more complex than Cooper’s (1994) four-factor motivational model. An action research based theoretical framework can be used to bridge the gap between how the students categorize the reasons to engage in sexual behavior as compared to the experts’ categorization. Another domain that can be better understood when examined

through an action research theoretical framework is the categorization the reasons for drinking.

Table 4-5: Categorization of SAL Reasons to Engage in Sexual Behavior Based on Cooper's Model

Positively-Internally generated (enhancement, physical pleasure/desire)	In the mood Feels good/have fun Horny
Positively-Externally generated (social, intimacy/romance)	Easy hook-up Why not Show love and affection
Negatively-Internally generated (coping)	Relax/relieve stress Make myself feel better
Negatively-Externally generated (conformity)	Partner wanted to

*Curiosity/experimentation did not fit into any of the above categories

Reasons for Drinking

Unlike the results of the previous q-sort, the reasons for drinking q-sort did not contain many sex differences, as indicated in tables 4.3 and 4.4 for males and female, respectively. The main gender difference that was found was that females that designated an *escape* category that males did not. This category consisted of “drown my sorrows” and “relax/relieve stress” reasons for drinking. This result is consistent with the previous

research that has shown that drinking to cope is specifically related to low self-esteem and is more common among females than males (Baer, 2002).

However, “relax/relieve stress” was designated by the male students and half of the female students as a *good time/party* reason to drink. This is an interesting finding because generally research associates drinking to “relax/relieve stress” with coping rather than celebrating (Baer, 2002; Cooper, 1994). Since “relax/relieve stress” was considered together as a single reason, there is no way to know that if students would categorize them the same way if they had been considered separately.

Additionally, even though both males and females when completing the q-sort included a category that was comprised of “get a buzz,” “get drunk,” and “nothing better to do” each gender named the category differently. When females described this category they often used the word “bored,” thus acknowledging that they are using alcohol as a vehicle to escape the boredom, addressing the underlying reason for their alcohol consumption. Males titled the category “drinking for the sake of drinking” which could imply that they are unaware or do not acknowledge the actual underlying reason of their alcohol consumption.

There were some differences between how the undergraduates categorized drinking reasons compared to how these would be categorized based on Cooper’s (1994) four-factor model (table 4-6). Even though Cooper (1994) categorizes conformity, coping, social, and enhancement as unique and distinct motives, the Penn State University students felt differently. For example, the students felt that “enhance romance” (a social motive) and “hook-up/have sex,” (an enhancement motive) belonged

in the *sex-related/love* category. Students also put relax/relieve stress under social reasons rather than coping reasons.

Table 4-6: Categorization of SAL Reasons to Drink Based on Cooper's Model

Positively-Internally generated (enhancement)	Enhance romance Get drunk? Get a buzz? Be less inhibited
Positively-Externally generated (social)	Have a good time Celebrate Hook-up/have sex Be more outgoing
Negatively-Internally generated (coping)	Relax/relieve stress Drown my sorrows
Negatively-Externally generated (conformity)	To fit in

*Nothing better to do does not fit into any of the above categories
?Depends how it is defined

It is possible that students may interpret and define the various reasons to drink that (as taken from the SAL) differently than the researchers, this in turn, leading up to different methods of categorization. Since there is no agreed upon definition of the term "drunk" found in the literature, people could operationalize it differently, thus placing it in different categories. For example, the reason "get drunk" can be designated as an enhancement motive if one interprets it as drinking to get drunk so he/she can intensify their "buzz." Even though the terms "drunk" and "buzz" are commonly used in the student community, they have yet to be defined in the literature. If researchers intend to

fully comprehend undergraduates' categorization of the various reasons to drink, the researchers must understand the students' language.

To gain a better understanding of students' motivations for engaging in sexual behaviors after drinking alcohol the gap between students and researchers perceptions needs to be bridged. Therefore, the meanings of the terms students use to discuss and describe these behaviors needs to be clarified. Also, students must to be given the opportunity to express and describe in their own words their motivations for drinking alcohol and engaging in sex. This will allow for more penetrating questions and processes to be developed that better suit the college culture. For these reasons, a content analysis of an open-ended questions was undertaken in stage two of this project with the aim of better understanding the Penn State University students motivations to engage in sexual behaviors after consuming alcohol.

Stage 2: Content Analysis

After critically reflecting on the various themes that emerged from the q-sort, two open-ended questionnaires were developed to respond to the emerging themes and to further explore the motivations for sexual behavior and drinking among undergraduate students. It was also important to determine meanings for these various themes that the students used in discussing their motivations for drinking and having sex. In the fall of 2003, 205 students were recruited from both Biobehavioral Health 146: Introduction to Human Sexuality and Biobehavioral Health 446: Human Sexuality as a Health Concern. Eighty-six females and thirty-three males completed the sexual behavior survey (66.6%

of the students responded), while seventy-two females and thirty-six male students completed the drinking motivations survey (58.6% of the students responded). The students received extra credit if they completed the survey. A content analysis was performed on these surveys. This allowed for the data to be analyzed, quantified, and categorized. The most commonly mentioned responses will be discussed and examined by sex.

Decision Making Process

In step one, the data preview, general overall themes of the data were noted. Even though the majority of the students' answers were uniquely written, three to four common themes and patterns were found.

In the second step, pattern and theme identification occurred. Theme identification was defined as occurring when the data reached saturation and all of potential themes were exhausted. Exhaustion occurred when 90% of the data had been coded by theme.

After critically reflecting on the information that was gathered in the previous step, data aggregation occurred. In this step the coded students responses were matched with one of the previously noted themes. The data was aggregated into three themed categories and one miscellaneous category.

In step four, the final data analysis occurred. The researcher re-examined the original data to confirm the data aggregation and ensure that all themes had been

uncovered. The final analysis of the content analysis will be presented in the following sub-sections.

Findings

Sexual Motivation Survey

The first survey primarily dealt with motivations for sexual behaviors and relationships (see an example of this survey in appendix B). Students were instructed to define and describe various sexual terms, such as: “horny,” “hook-up,” “casual sex,” “friend with benefits,” and “fuck-buddy”. These terms emerged in the q-sort as commonly used by the students but not always used and defined in the research. Better understandings of this terminology are likely to help researchers to understand more fully the student population and their motivations for engaging in sexual behaviors. In the following sub-sections, I will report the terminology findings and will summarize the results of the open-ended question: “What are some of the main motivations for college students to engage in sex?”

Terminology

The purpose of this analysis was to gain a better understanding of the various sexual behavior related terms that emerged from the q-sort. As these data were analyzed, subtle variations emerged. This resulted in the creation of definitions and descriptions that may not always be distinct and contain some overlap. The following terms are

defined and described in the following paragraphs: “horny,” “hook-up,” “casual sex,” “friend with benefits,” and “fuck-buddy.” These terms definitions are summarized in table 4-7 for males and table 4-8 for females.

Table 4-7: Males Sexual Terminology

Term	Definition	Percent
Horny	strong sexual urge/desire to have sex	63.6
	feelings/urges fulfilled by sex	18.1
	wanting sexual gratification after being deprived	9.0
	Misc. (Sexual outburst, state of longing, aroused for no reason	9.3
Hook-up	engaging is sexual contact (not intercourse)	42.0
	kissing someone you are not dating	37.0
	engaging in sexual intercourse	13.5
	Misc. (interaction with a girl)	7.5
Casual Sex	intercourse w/ a person not in a relationship w/	45.0
	engaging in sex for the physical pleasure	29.0
	intercourse between people not in love	15.0
	Misc. (relieve stress, random sex, bored)	11.0
Friend w/ benefits	friend you have sexual relations w/ but not in a relationship	37.0
	friend you count on for sexual favors	25.9
	"friends" in public, have sex in private	22.2
	Misc. (an "ex" you have sex w/, not intercourse)	14.9
Fuck-buddy	person you have sex w/, not even friends w/ this person	46.5
	less delicate way of referring to a "friend w/ benefits"	27.9
	friend you regularly engage in sex w/ on a regular basis	20.9
	Misc. (alcohol is always involved, not romantic)	4.7
N= of responses		

Table 4-8: Females Sexual Terminology

Term	Definition	Percent
Horny	anxious to engage in sexual activities	41.0
	when you become sexually aroused/excited	32.0
	ultimate urge to have sex	21.8
	Misc. (slang term, more masculine, happens when drink)	5.2
Hook-up	engaging in sexual behaviors when not in a relationship	36.3
	extensive kissing and groping	29.5
	engaging in intercourse	27.2
	Misc. (just hanging out)	7.0
Casual Sex	intercourse w/ a person not in a relationship w/	47.2
	engaging in sex for the physical pleasure	30.0
	intercourse between people not in love	19.0
	Misc. (sex w/ a friend, random sex, one night stand)	3.8
Friend w/ benefits	friend you have sexual relations w/ but not in a relationship	69.0
	not "random" , sex doesn't affect the friendship	21.2
	bad idea	8.0
	Misc. (an "ex" you have sex w/, not intercourse)	1.8
Fuck-buddy	person you have sex w/, not even friends w/ this person	54.8
	less delicate way of referring to a "friend w/ benefits"	25.7
	friend you engage in sex w/ on a regular basis	19.8
	Misc. (alcohol is always involved, strictly physical, neg. term)	

N=responses

When asked to describe and define the term “horny,” males most frequently (63.6%) described this word as meaning a strong sexual urge or desire to have sex or engage in sexual behavior because they were sexually excited or really in the mood. “[It is] a heightened state of mind when sex is on the brain, beyond the basic state of sexual arousal.” An additional 18.1% felt that the term horny dealt with feelings or urges that you want fulfilled by any type of sex. It should be noted that there was no mention of whether or not these “urges” would be fulfilled by a significant other or a casual

acquaintance. According to a male student, “horny” is when “*You’re anxious, looking for sex, wanting to have sex as soon as possible, sex is the main thing on your mind.*”

The third most commonly mentioned response (9%) was that males wanted some kind of sexual gratification after being deprived of it for a period of time. The remaining 9.3% of the male responses comprised the miscellaneous category. The responses in this category were inappropriate and did not define or describe the term “horny.”

Females (41%) more frequently defined horny as anxious to engage in sexual activities from intercourse to kissing. “*It’s almost like hunger pains for food, horny means that you are hungry for sex,*” said one female student. Other female students (32%) felt that horny is best defined as when you become sexually aroused or excited. Specifically, the women described horny as a “mental” and “physical” feeling that triggers “sexual urges.” About one in four (26.8%) females described the term as the ultimate urge to have sex. “*You want it now, and are extremely turned on...your body is starting to want some type of sexual gratification that it can’t control.*” The remaining 5.2% of female responses comprised the miscellaneous category. An example of a response that was placed in this category was being touched in a sexual way. Even though at first glance the various definitions of “horny” may appear to be the same, there are subtle differences. For example, both sexes distinguished between a heightened state of arousal and the actual physical “urges” that need to be fulfilled.

Another term that emerged from the q-sort was “hook-up.” Both males and females had similar descriptions and definitions of this term. However, both genders responded with a range of descriptions and meanings that showed that among undergraduates, there is no one agreed upon definition of the term. This could potentially

impact research if the term is used in a survey or questionnaire and not operationalized appropriately.

For males, descriptions of “hook-up” ranged from engaging in sexual contact but not intercourse, (42%), to kissing someone you are not dating or romantically involved with (37%), to engaging in sexual intercourse (13.5%). As summed up best by a male student, “*Hook-up can mean many things among college kids, from simply meeting a girl to actually having sex, basically means any interaction with the opposite sex.*” The remaining 7.5% of responses comprised the miscellaneous category. The majority of the responses in this category were inappropriate and did not define or describe the term “hook-up.”

Much like the males, females also had a wide range of responses when asked to define and describe the term “hook-up.” About a third, (36.3%) defined “hook-up” as engaging in any type of sexual behaviors when you are not in a relationship. Another 29.5% described the term as extensive kissing and groping for a while. Finally, 27.2% defined the term as actually engaging in sexual intercourse. As illustrated by a female student, “*Hook-up has different meanings for different people. For my friends and I, if we say we hooked-up with someone, it means that we did anything in the range of kissing to intercourse.*” The miscellaneous category contained the remaining 7% of female responses. These responses ranged from descriptions of behaviors that one engages in with their boyfriend to meeting a friend.

Another term that is often used by both researchers and students is “casual sex.” There were no evident gender differences found in the definitions and descriptions of casual sex. Almost half of males (45%) and half of females (47.2%) described the term

as engaging in sexual intercourse with a person that you are not committed to or in a serious relationship with. One female student described the term casual sex as, “*A person who has sex frequently and doesn’t want a committed relationship but just likes to have sex, the no strings attached idea.*” Further, 29% of males and 30% of females added that casual sex could best be described as engaging in sexual intercourse purely for the physical enjoyment. “*Sex with someone who doesn’t expect you to call or even care afterwards...it is known by both members that the encounter is only sexual and although you might speak later you are never in a relationship...*” responded a male student. Another 15% of males and 19% of females viewed casual sex as intercourse between two people who are not in love. As described by a male student, “*I guess it is periodic sex between people who don’t really love each other.*” Overall, casual sex is best described as “sex with no feelings or strings attached.” “*It is not an act of love but a gesture much like a handshake...*” said a female student. The remaining 11% of male responses and 3.8% of female responses comprised the miscellaneous category. The majority of male responses in this category were inappropriate and did not describe or define the term “casual sex.” The female responses in this category ranged from oral sex to something that is sinful. In summary, the students’ definitions clearly distinguished between love, physical pleasure, and relationships.

Even though most researchers commonly tend to focus on the categories of casual sex and relationship sex, the students seem to distinguish behaviors that comprise more than just the two categories. For example, while critically reflecting on the data that were generated in stage one, the term “friend with benefits” emerged. Students tend

to feel that this term is different than casual sex because you have a friendship with the person with whom you have sexual relations.

Both males (37%) and females (69%) defined the term “friend with benefits” as someone who you are friends with and who you hook-up and have sexual intercourse with, that you are not in a committed relationship with. One male student stated that, *“This is an understanding between two friends, usually very close friends, in which they make sexual activity part of their relationship without directly changing the nature of their friendship...this allows one to forgo any exclusivity in terms of other sexual partners, and leaves both parties open to pursue committed relationships with others if the opportunity arises.”*

About one in five females (21.2%) specifically described a friend with benefits as not random because the two people have a previously established friendship and feel that the friendship is not affected in a negative way. In contrast, 8% of females felt that having a friend with benefits is a bad idea because even though both parties agree that no feelings are involved, someone always ends up getting hurt. This is best characterized by a female student who described the term as, *“ You have fun together without the stress and feeling of a boyfriend/girlfriend relationship, although it usually doesn’t work out that way because someone, usually the girl, always gets hurt.”*

One in four males (25.9%) felt that a friend with benefits is a friend that you can always count on to for sexual favors ranging from kissing to intercourse. As illustrated best by a male student who said, *“[A friend with benefits is] a close friend that is essentially used as a ‘plan B’ for sexual desires...there is no serious relationship between the two.”* About one in five males (22.2%) described the term as two people who are

friends most of the time but when alone perform intimate sexual acts. This is best exemplified by a male student who stated, *“When I am out in public or hanging with my boys, I would acknowledge this girl only as a friend but in private we would hook-up.”* Both males and females distinguished between a specific friend that they can rely on for sexual favors and the more “general” friend that they engage in sexual behaviors with. Males also distinguished between “public” vs. “private” friendship. The remaining 14.9% of male responses and 1.8 of the female responses comprised the miscellaneous category. The majority of male responses ranged from slut to that is what my hand is for or were inappropriate and did not describe or define the term “friend with benefits.” An example of a female response that was found was something a good Christian does not do.

Another term often used by students that was uncovered in the q-sort is “fuck-buddy.” About half of both males (46.5%) and females (54.8%) defined the term fuck-buddy as someone you have sexual relations but have no desire to enter into any other type of relationship with, including friendship. According to one male student, fuck-buddy is *“Different from friend with benefits because you have less actual interaction with the person (that you have sex with) or if you do interact it is not in a meaningful way.”* A female stated, *“A fuck-buddy is someone who you occasionally have sex with, but probably don’t do much else with, whereas a friend with benefits is a friend you hang out with and also occasionally have sex with.”*

However, approximately one in four males (27.9%) and females (25.7%) felt that the term “fuck-buddy” was a less delicate way of referring to a friend with benefits. Both males (20.9%) and females (19.8%) associated fuck-buddy with a friend that you engage

in sex with on a regular basis. As described by a female student this is a “*Relationship that is shared between two people. This is the buddy, the person; you call late night (after the bars) when you want some sex. Basically all you do is fuck then go home.*”

The remaining 4.7% of male responses and 18.8% of female responses comprised the miscellaneous category. The male responses that comprised this category were inappropriate and did not describe or define the term “fuck buddy.” It should be noted that both genders differentiated between a “general” nonspecific person and a specific person called on a regular basis. Additionally, 6.7% of female responses in the miscellaneous category described the term “fuck-buddy” as having negative connotations such as not having respect for your body.

Summary

Definitions of the terms “horny,” “hook-up,” “casual sex,” “friend with benefits,” and “fuck-buddy” provided by undergraduate students were presented in the previous sub-section. Even though each term had a distinct definition, there was some overlap found among the response categories for some of the terms. Subtle differences among response categories also emerged. The following sub-section will present the findings to an open-ended question that focused on students’ motivations to engage in sexual behaviors.

Motivation

To more fully understand the students' thought processes and the emerging themes, the students were given the opportunity to respond to the open-ended question: "What are some of the main motivations for college students to engage in sex?" As stated by one student, "*It is important to keep in mind that it is hard to pin down why a college student engages in sex and what his or her motivation is because it can be slightly different for everyone.*" Even though some of the main motivating factors were the same across genders, some differences were uncovered. These findings are summarized in table 4-9.

Table 4-9: Sexual Motivations

Gender	Motive	Percent
Male	experimentation	42.5
	peer pressure (status)	34.6
	Alcohol	22.0
	Misc. (revenge, love)	0.9
Female	peer pressure (to fit in)	43.0
	alcohol	31.0
	pleasure/feels good	17.6
	Misc. (lonely, curiosity, love, horniness, bored)	8.4
N=responses		

The most frequently cited motivation to engage in sex by females (43%) was peer pressure to fit in. One female student stated that, "*Friends play a role and pressure people to have sex. Sometimes girls do it because they think guys will like them more.*"

While another female student said that, *“The main motivation for college students to engage in sex is to fit in...it is a stereotype that many students try to live up to...this is a time to have fun and have sex.”* Almost a third (31%) of females responded that alcohol consumption motivated college students to engage in sex. *“Many men and women admit that alcohol makes them horny. We know that alcohol affects judgment and decision-making. Since it is cool to go out and get trashed every weekend, finding someone to hook-up with seems like a good and fun thing to do after drinking...”* said one female student. In contrast, 17.6% of females thought that sexual satisfaction and pleasure was the motivator for why college students engage in sex. This is best illustrated by a female student who said, *“College students engage in sex mainly for pleasure...whether it is with someone you love or someone you barely know, students have sex because it feels good.”* The remaining 8.4% of female motives comprised the miscellaneous category. Responses in this category ranged from lonely to curiosity.

For males, the highest-ranking motivation to engage in sex was experimentation (42.5%). Male students felt that college was a time when you should have as much sex with as many different partners as possible. This is illustrated best by a male student who said, *“College is the time for random sexual encounters and experimentation because you are going to get married soon and have to have sex with the same person for the rest of the rest of your life.”* An additional 34.6% of males felt that peer pressure motivated college students to engage in sex. *“Having sex can be a measure of status of who you are... the norm is to engage in it...”* responded one male student. Alcohol was listed by 22% of males as the third most common motivator. According to one male student, *“Sexual intercourse is just part of getting drunk,”* while another male felt that *“Drinking*

can effect sexual engagement [sexual arousal], it tends to bring out college students desire for sexual activity.” The remaining .9% of male response was part of the miscellaneous category. The response found in this category was inappropriate.

Neither gender described love as a major motivator for college students' to engage in sex. Instead, both genders felt that peer pressure motivated students to engage in sex. Importantly, males and females both linked alcohol consumption and sexual behavior. The following sub-sections will further explore the topic of alcohol use and sexual behaviors.

Alcohol Survey

This questionnaire primarily dealt with motivations for drinking alcohol and engaging in sexual behaviors. An example of this survey can be found in appendix B. Students were instructed to define and describe various alcohol-related terms that had emerged from the q-sort, such as: “buzzed,” “drunk,” and “wasted.” The students used these terms to refer to their subjective experiences as related to their level of inebriation. They were then asked to explain why they felt students get “buzzed,” “drunk,” and “wasted.” The participants also responded to the following open-ended questions: “Do you think drinking alcohol is used as an excuse for having sex?” and “Do you think people are more likely to take sexual risks when they are drinking?”

Terminology and Related Motives

In this section, the various definitions and descriptions of students' subjective experiences on inebriation will be reported. The specific terms that will be defined and described are "buzzed," "drunk," and "wasted." The students' explanation as to the motives behind the terms will also be reported in this section. The terminology responses are summarized for males and females in tables **4-10** and **4-12**. The motivational responses are for males and females are summarized in tables **4-11** and **4-113** .

Table **4-10**: Males: Alcohol Terminology

Term	Definition	Percent
Buzzed	controlled drinking	43.0
	feel good stage	30.0
	begin to feel the physical effects (dizziness)	19.4
	Misc. (tipsy, tingly, no side effects, euphoria)	7.6
Drunk	consume enough alcohol so that motor skills are impaired	56.0
	lowered inhibitions	26.0
	consume enough alcohol to cause emotional extremes	10.0
	Misc. (drinking heavily, feeling full effects of alcohol)	8.0
Wasted	consuming enough alcohol to cause lack of motor control	42.0
	consuming enough alcohol to cause vomiting/pass-out	35.0
	consuming enough alcohol to cause mental impairment	22.0
	Misc. (same as drunk, little past drunk, getting sloppy)	1.0
N=responses		

Table 4-11: Males: Motivations to Drink

Level of Inebriation	Motive	Percent
Buzz	helps to relax and loosen up	48.0
	feel good/have a good time w/out being drunk	27.0
	social purposes (drink w/ dinner)	22.5
	Misc. (cheaper than getting drunk, like the taste)	2.5
Drunk	to have fun and good time	45.0
	relax, forget about the rough day/week	32.0
	ultimate goal of drinking	20.0
	Misc. (I why not?)	3.0
Wasted	unintentional (happened by accident)	58.0
	Escape reality	35.0
	Misc. (bored, alcoholic, to have sex, to brag)	7.0
N=responses		

Table 4-12: Females: Alcohol Terminology

Term	Definition	Percent
Buzzed	controlled drinking	35.0
	feel good stage	27.6
	begin to feel the physical effects (dizziness)	22.0
	Misc. (ok to drive, more confident, initial stage of drunk)	15.4
Drunk	consume enough alcohol to lower inhibitions	57.0
	consume enough alcohol to impair motor skills	21.0
	consume enough alcohol to cause emotional extremes	11.3
	Misc. (too much to drink, 3-5 or 5-6 drinks)	10.7
Wasted	consuming enough alcohol to cause mental impairment	47.0
	consuming enough alcohol to cause loss of motor control	33.0
	consuming enough alcohol to cause vomiting/pass-out	16.0
	Misc. (slang for drunk)	4
N=responses		

Table 4-13: Females: Motivations to Drink

Level of Inebriation	Motive	Percent
Buzz	helps to relax and loosen up	46.8
	feel good/have a good time w/out being drunk	32.0
	social purposes (drink w/ dinner)	20.2
	Misc. (have to drive home, to fit)	1.0
Drunk	escape reality and relieve stress	39.7
	to have fun and good time	31.0
	not fun to be the only sober one, "baby-sit"	22.0
	Misc. (accident, bored, gives courage, like to drink)	7.3
Wasted	unintentional (happened by accident)	56.0
	escape reality	33.0
	Misc. (celebrate, to fit in, don't understand why)	11.0
N=responses		

“Buzzed”

When asked to define the word buzzed, both males (43%) and females (35%) described a state of “controlled drinking” or drinking without getting drunk. Students felt that at this level of alcohol consumption, their judgment was not impaired and there were no outward signs of intoxication. As stated best by a male student, “*At this point you can conduct a conversation normally and most would probably not realize that you have been drinking.*” Another 30% of males and 27.6% of females described getting buzzed as the “feel good stage” of drinking. During this stage, people tend to feel calm, happy, and relaxed. A male student felt that, “*Getting buzzed means having several drinks to create*

an overall “happy” sensation.” According to the students, these are feelings typically experienced when alcohol first begins to have an effect on a person. In comparison, 19.4% of males and 22% of females defined and described buzzed as consuming enough alcohol to begin to feel the physical effects of such as dizziness, lightheadedness, and haziness without being intoxicated. For example, as stated by a male student, buzzed is “*When your head feels a little dizzy but you are still aware of what is going on and still able to contribute to conversations without sounding stupid.*” The remaining 15.4% of female responses and 7.6% of male responses comprised the miscellaneous category. The male responses that comprised this category ranged from tipsy and tingly to no side effects. The female responses in this category ranged from “OK to drive” to more confident.

When the students were asked to describe why they thought undergraduates got buzzed, the most frequent response by both males (48%) and females (46.8%) was to help people relax and loosen up. As described by a female student, “*A buzz is a good way to relax and not worry about all of the twenty-thousand things that you need to do.*” However, 27% of males and 32% of females felt that people were motivated to get buzzed so they could feel good and have a good time without being drunk. “*You would drink to get buzzed because you like the way it feels and you still have control over what you are doing,*” said a female student. A male student felt that “*People drink to get a buzz because it makes everything seem much more enjoyable. It allows you to have more fun without drinking too much and without really losing much awareness.*” The third most common motivation for getting buzzed for both males (22.5%) and females (20.2%) was for social purposes, described as having a drink with dinner or when hanging out

with friends. As described by a female student, “ *I think most people drink to get a buzz if they are in a situation where there is alcohol but don’t really feel like drinking and they do anyway just to be polite in a social situation.*” The remaining 2.5% of the male responses and 1% of female responses comprised the miscellaneous category. The responses found in this category ranged from have to drive home to cheaper than getting drunk.

Getting buzzed is a level of inebriation that most students associated with “positive” attributes of alcohol consumption with minimal, if any, outwardly noticeable effects. However, the term drunk had a different connotation. Even though both genders had similar description and definitions of the term drunk, there were some differences in the rankings.

“Drunk”

For over half of the males (56%), the most frequent description and definition of the term drunk was to consume enough alcohol so that a person’s motor skills are noticeably impaired, specifically in regards to speech (slurred speech) and vision. Over half of the females, (57%) described and defined this level of inebriation as consuming enough alcohol to cause inhibitions to be lowered. This would cause a person to act out of character and make bad decisions because they are not fully aware of what is going on around him/her. For example, a person who is usually shy may decide to dance on stage with the band when drunk. One female student stated that when a person is drunk, “*You have consumed enough alcohol so that you are vulnerable to a bad situation because*

your decision making skills are strongly impaired.” Another female student bluntly stated, “*Drunk people do stupid things and act without thinking.*” Another 26% of males listed lowered inhibition as their second most frequent definition of being drunk “doing things” you would not do if sober. For example, according to a male student, “*This is when you say things you normally wouldn’t and are much more bold and carefree than normal.*”

Even though over half of males ranked consuming enough alcohol to impair motor skills as the most frequent description and definition of the term drunk, only one in five females (21%) defined it that way. In addition, while the males tended to describe motor skill impairment as related to speech and vision, females tended to report it as related to coordination, specifically related to the act of walking. “*When I know I am going out with the girls to party, I always make sure to wear sensible shoes because when I am drunk I tend to trip and fall which could get you thrown out of the bar...*” said a female student.

A similar percentage of both males (10%) and females (11.3%) defined drunk as when a person consumes enough alcohol to cause him/her to have “emotional extremes.” A person may act very dramatic and blow things out of proportion or have fits of uncontrolled laughter or crying. This was best depicted by a female student, “*A person who is drunk can often act goofy and laugh a lot, or at the other extreme becomes very angry and exercises his/her anger more easily than he/she normally would.*” The remaining 8% of male responses and 10.7% of female responses comprised the miscellaneous category. Male responses in this category ranged from drinking heavily to

feeling the full effects of alcohol. In the female miscellaneous category responses ranged from too much to drink to consuming five or six drinks.

When asked to describe what motivates students to become drunk, males (45%) most highly ranked “to have fun and good time.” However, females (31%) ranked this as their number two motivator to get drunk. As best described by a male student, “ *One gets drunk to have fun with friends...most of the time people get drunk in social settings, this way they can have fun because everything is funny.*”

More than one in three female students (39.7 %) felt that the primary motivation to getting drunk was to escape reality and relieve stress. “ *People drink to get drunk to escape reality. They want to loosen up, do what they want without consequences, and not have to be serious and think all the time. The last time I got drunk was so that I didn’t have to deal with the stress of my recent break-up.*” In comparison, males (32%) second most commonly reported motivation to get drunk was to relax and forget about the rough day/week of school. “ *Whenever you have a hard week of classes, at the end of it you sometimes just want to go out and just get drunk and have a good time...you lose all of the worries of the week when you are drunk and are able to celebrate it being over.*”

Even though similarities were found between sexes in regards to the top two motivations for college students getting drunk, the third ranking motivation for males and females was different. Male students (22%) felt that people are motivated to get drunk because it is the ultimate goal of drinking, best illustrated by a male student who said, “ *People get drunk because it is the ultimate goal of drinking...since the feeling of getting buzzed is one that could be categorized as a “nice” one so people keep drinking to enhance that feeling.*” In contrast, females (20%) responded that they were motivated to

get drunk so that they could have fun and not become the designated “baby-sitter” for their intoxicated friends. As explained best by a female student, “*When you are at a party, it is not fun being the only sober one...sometimes it can get annoying so a person may want to get drunk just to join in and have a good time.*” The remaining 6% of male responses and 7.3% of female responses comprised the miscellaneous category. Male responses in this category ranged from “why not” to tastes good. The female responses that comprised this category ranged from “like to drink” to accident.

“Wasted”

The third and final level of inebriation was “wasted.” When defining the term wasted, both sexes tended to focus on the mental and physical effects of alcohol consumption. Even though there were similarities in the definitions across genders, the rankings were different. This level of inebriation is often referred to as the “sloppy” version of drunk. A person who is wasted is usually out of control both mentally and physically. According to a male student, “*This is the point where I have no conception of reality and cannot walk or talk.*”

Almost half (47%) of females’ felt that wasted could best be defined as consuming enough alcohol to become cognitively impaired and experience symptoms such as memory loss, blackouts, trouble speaking and disorientation. One female student stated, “*You can tell when a person is wasted because when they try and talk it usually does not make too much sense because they usually don’t even know that they are talking.*” Males (22%) ranked cognitive impairment as their third most common

response, defining it only in terms of memory loss. As described best by a male student, *“The last time I went out with my boys and got wasted I woke up the next morning in some girl’s room and had no idea who she was or how I got there.”*

One third or more of students (33% of females and 42% of males) characterized wasted as consuming enough alcohol to cause a loss of motor control. This was often described as being unable to stand or walk. In addition, 35% of males and 16 % of females felt that a person is wasted when he/she consumes enough alcohol to cause him/her to vomit and pass-out. At times, this is described as being “one sip away from needing a hospital.” The miscellaneous category comprised the remaining 4% of female responses and 1% of male responses. The male responses in this category were the same as “drunk” and “little past drunk.” The female responses in this category ranged from slang for “drunk” to disgusting habit.

When asked to describe what motivates people to become wasted, there were no evident gender differences and the responses tended to fall into either the “unintentional” or “escape” category. Both males’ (58%) and females’ (56%) top response was that getting wasted does not happen on purpose, but rather accidentally because students are busy and do not realize how much they are drinking. This was described by a male student who said, *“Wasted is what happens when you accidentally take drinking too far...when people become drunk it becomes really difficult to judge how intoxicated one is until it is too late and one becomes wasted.”*

The next most frequent motivation for both males (35%) and females (33%) to become wasted was to escape reality. As explained best by a male student, *“When a person becomes wasted it is a way of totally disregarding one’s responsibilities...perhaps*

some people feel that the expectations placed on them are too great and that when they are wasted can escape them and forget the stresses of their lives.” According to one female student, she gets wasted *“To get away from all of the worries and stress of life... sometimes I get wasted to run away from my problems and erase them from my mind.”*

The remaining 7% of male responses and 11% of female responses comprised the miscellaneous category. Male responses in this category ranged from alcoholic to have sex, while female responses ranged from don't understand why a person would do this to celebrate.

In this analysis, three distinct levels of inebriation emerged as a continuum, with buzzed at one end, followed by drunk in the middle, and wasted at the other end. Students also suggested that each level of inebriation had its own distinct set of motives.

Therefore, a person who could be categorized as drunk may be motivated to consume alcohol for different reason than their buzzed counterparts. Although the definitions of the three levels of inebriation were similar for both genders, variation was found in the motives. The following sub-section will further explore the theme of alcohol and sexual behavior.

Alcohol and Sexual Behavior

In stage one, students were asked to perform a q-sort on the various motivations to drink (summarized in table 4.2) uncovering various alcohol-related terms that the students defined in the open-ended survey. To fully understand the thought processes and emerging themes, the students were also given the opportunity to respond to two

open-ended questions that dealt with engaging in sexual behaviors after consuming alcohol. (See tables 4-14 and 4-15.)

Table 4-14: Is alcohol used as an excuse for sex?

Gender	No	Yes
Male	58%	42%
Female	61%	39%
N=responses		

Table 4-15: Are people more likely to take sexual risks when drinking?

Gender	Yes	No
Male	71%	29%
Female	75%	26%
N=responses		

One question that the students were asked was: “Do you think drinking alcohol is used as an excuse for having sex?” The majority of both males (58%) and females (61%) answered “yes,” stating that when you are consuming alcohol you are not responsible for your decisions or actions. In particular, a person’s judgment is impaired from the alcohol, a person could engage in sexual activity with someone they would normally not. Also, it is possible that a person that does not usually engage in casual sex when sober may engage in casual sexual activities when drunk and use alcohol as an excuse for their “bad” behavior. According to a male student, *“I think in many circumstances alcohol is*

used as an excuse for having sex, people may say “oh I was drunk” meaning that because they lost their inhibitions and had sex it is ok because if they were sober they would have known better.” The excuse of alcohol may also be used when a person is teased by their peers about their choice of partner. It is easier for person to say, “Oh I was drunk” than it is to admit that that they may be attracted to a person that their friends did not deem worthy.

On the other hand, 42% of males and 39% of females reported that alcohol is not an excuse for having sex. A male student said, *“I don’t think drinking alcohol is an excuse to have sex...people will have sex if they want to have sex, the alcohol could just speed up the choice or decision to engage in sex...I think that if a person is ready to have sex and then they are put into a situation where they could have sex then they might just go along with it and have sex to get it over with not because of the alcohol.”*

Next, students were asked to respond to the question: “ Are people more likely to take sexual risks when they are drinking? How?” Over two-thirds of males (71%) and females (75%) felt that people are more likely to engage in unsafe sexual behaviors when drinking (table 4.15), these behaviors described as not using a condom or using a condom incorrectly. According to a male student, *“ People are less likely to use condoms when drunk...if you do use one you probably are using it wrong...my one friend, when he was drunk remembered to wear a condom but forgot to pull-out, talk about a sticky situation.”* More specifically, 29% of males and 26% of females felt that people are more likely to take sexual risks when drinking because they just don’t think of the consequences. Under normal sober circumstances, a person may always use a condom, however, when he/she is drinking thoughts of safer sex do not exist. As described by a

female student: *“If you’ve had enough to be drunk or nearing wasted, you are more likely to not thoroughly think out what you’re doing. This leads to going home with someone you might not normally go home with, going home with someone that you don’t know and hence don’t know if you can trust with your safety, and becoming so caught up in sex that you do not practice safe sex.”*

The overall theme that emerged from the open-ended questions was that a connection between alcohol use and sexual behaviors does exist. Although over half of the students felt that drinking alcohol was a valid “excuse” for engaging in sex, one-third did not. All of the students agreed that people are more likely to take sexual risks when drinking. These responses allowed for a better understanding of the students’ thought processes in the sexuality and alcohol domain.

Summary

Students were instructed to define and describe various sexual and alcohol-related terms that emerged from the q-sort, terms that were commonly used by the students but not always used and defined in the research. A more complete understanding and clarification of the undergraduates’ viewpoints and the terminology they use for dealing with sexual behaviors and alcohol consumption emerged from the findings. These findings allowed the researcher to view the motivations for engaging in sexual behaviors and drinking alcohol from an undergraduate student’s perspective. This new perspective will aid in the development of more valid and appropriate research instruments in the sexuality and alcohol domain, thus leading to the design of more affective intervention

and prevention programs. In the following sub-sections, I will discuss the previous findings as they relate to the current literature, fit Cooper's (1994) four-factor motivational model, and inform the development of the Mmass.

Discussion

An action based research approach is useful in bridging the current gap between how students view their motivations to drink and engage in sexual behaviors as compared to the researchers viewpoints. In order for this gap to be bridged, it is imperative that researchers and students speak the same language. Therefore, it is important to understand the meanings of terms that are commonly used by students to describe alcohol and sexually-related behaviors but are not usually used and defined in the current research.

Sexuality

Terminology

Researchers define the term "casual sex" quite differently. One approach has been to focus on the absence of previous commitment to, or relationship with, a partner and the time-period between first meeting a person and having sexual intercourse (Herold et al 1998; Hill & Preston, 1996; Paul et al 2000). Others focus on the degree of emotional involvement with a partner (Herold et al 1998). According to Herold and

Mewhinney (1993), the term casual sex is defined as meeting someone for the first time and having sex with them that same day or evening. Casual sex has also been defined as engaging in sexual intercourse with someone that you have no previous established relationship with (Hill & Preston, 1996).

Like the researchers, students also defined casual sex in a variety of ways. A common theme that emerged from both the literature and the student findings was the idea that casual sex is intercourse with a person who you are not in a relationship with. Additionally, the students emphasized that casual sex may be something that occurs between people who are not currently in love and/or purely for physical pleasure. It is interesting that researchers tend to emphasize the timeframe before engaging in intercourse, whereas students focus more on the nature of the sexual relationship.

Perhaps the reason for this difference is that while researchers view sexual relationships as either casual or relationship based, the students' view is more nuanced. For example, students use terms such as "friend with benefits" and "fuck-buddy" to describe various types of sexual relationships that the researchers might have difficulty categorizing as casual or relationship-based. According to both the male and female students, a "friend with benefits" is a friend you have sexual relations with but are not in a "real" committed relationship. Since the sexual relations that occurs within the "friend with benefits" dyad is between friends, this might not fit the researcher's definition of casual sex. However, because these people are only "friends" and not in a dating relationship they may not fit the "relationship" sex category either. It is almost as if a new category of sexual relations among students has emerged. In order to more fully understand students' motivations for engaging in sexual behaviors researchers must learn

about this new type of sexual relationship, a relationship that is based more on physical desire than romance and emotion.

Another term that was found in the research and used by students was “hook-up.” According to Paul and colleagues, (2000) hook-up is defined as a sexual encounter between two people who are strangers or brief acquaintances usually lasting only one night. The sexual encounter may or may not involve sexual intercourse. Like the research, the students also felt that a hook-up involved sexual contact between people who were not in a relationship; however, the students did not mention a specific time frame in which sexual relations were to occur. Further, even though the students referred to “hooking-up” as occurring between people who were not in a relationship, the term relationship was never defined. When a person engages in sexual behaviors with a “friend with benefits,” would this be considered hooking-up?

For both the students and the researchers, the definitions of the various sexual-behavior related terms may be ambiguous. At times, the student definitions may not be in agreement with the researcher’s. This is possibly due to subtle differences in the ways that the terms are interpreted. However, both males and females for the most part, define and interpret the sexual-behaviors related terms the same.

As previously stated, if researchers want to fully understand undergraduates’ motivations to engage in sexual behaviors they must fully understand the students’ terminology and the types of sexual relationships they engage in. It is also important that this terminology be clearly operationalized by both the researchers and the students. This new understanding will allow for the development of research instruments that better suit

the college culture and, in turn, to a better understanding of college students' motivations to engage in sex.

Motivations

According to the prior research, females are more motivated by love to engage in sexual intercourse whereas the males primarily report being motivated by physical desire (Carrol et al, 1985; Cooper, 1998; Herold & Mewhinney, 1993; Taeen & Kvaem, 1996). Further, females are more motivated to engage in sexual intercourse for the pleasure of their partner than for their own pleasure (Cooper et al, 1998; Herold & Mewhinney, 1993; Regan & Dreyer, 1999) and view sexual contact as only appropriate in the context of an ongoing relationship (Cooper et al, 1998). The results of this present study do not support those conclusions.

For example, when the female undergraduates were questioned about the main motivations for college students to engage in sex, their top answer was to fit in/peer pressure. More specifically, almost one-fifth of the females reported that their main motivation to engage in sex was for pleasure and good feelings. Unlike the previous research that linked female sexual conformity to societal imposed gender roles, this study linked conformity to peer pressure, more closely inline with Regan and Dreyer (1999), who found male motives to engage in sexual behavior dealt more with social environment, such as conforming to peer group behavior.

For males, engaging in sexual behaviors for self-enhancement/physical pleasure motives is a commonly found theme in the literature (Carrol et al 1985; Cooper et al

1998; Maticka-Tyndale et al, 1998). In the current study, physical pleasure was found to be a motivation; however, females rather than males reported this as a motivation. Males did report experimentation (also an enhancement based motive) as their top motivation to engage in sex. A common theme that relates to experimentation that emerged, was, that according to the male students college is a time to engage in sex and experiment with as many people as possible. However, perhaps the male's need to have sex with as many people as possible is more closely related to the need to conform to the traditional gender-role scripts than to physical pleasure. Possibly, number of male sexual conquests is directly related to male social status. Additionally, research has shown that the strongest influence on males' motivations was their perceptions of degree of endorsement that they would receive from their friends (Paul et al, 2000). The findings from the current study confirmed this when one in four males stated that peer pressure/status was the main motivation for college students to engage in sex. It seems as though males are behaving according to their society prescribed gender roles for fear that if they do not engage in sexual behaviors they will not be considered a "real" man and be accepted by their peer-group.

The majority of the motives to engage in sexual behaviors that students reported fit very well into Cooper's (1994) four-factor motivational model (table 4-16). One motive that did emerge for both genders was alcohol. Research linking alcohol use and sexual behaviors among college students has been inconclusive (Derman & Cooper, 2000; George & Stoner, 2000; MacDonald et al, 2000; Steele, 1990) Even though studies do indicate that levels of drinking and sexual behavior are positively correlated, prior research does not provide evidence of a causal link between the two behaviors (Fromme

et al, 1999). In expectancy surveys using a variety of instruments, the self-report data have shown that people generally view alcohol as enhancing and disinhibiting to sexual feelings and behaviors. However, these findings do not establish a casual relationship because the findings are primarily cross-sectional, correlational and self-report (George & Stoner, 2000; Fromme et al, 1999; MacDonald et al, 2000). The students in the current study felt that engaging in sexual behaviors is just a part of getting drunk. Since drunk has not been operationalized, and the research primarily refers to binge drinking, it is difficult to comprehensively understand how alcohol motivates a person to engage in sexual behavior. It is possible that female students use alcohol as an excuse to engage in sexual behaviors that society typically associates with and is more acceptable for male students.

Table 4-16: Students' Sexual Motivations Categorization Based on Cooper's Model

Positively-Internally generated (Enhancement)	Experimentation Pleasure/Feels Good Alcohol
Positive-Externally Generated (Social)	
Negative-Internally Generated (Coping)	
Negative-Externally Generated (Conformity)	Status (Peer Pressure) To Fit In (Peer Pressure)

Alcohol

Terminology

As stated in the literature review, researchers tend to focus primarily on binge drinking behaviors among college students. Binge drinking is commonly defined as having five or more drinks in a row for males, and four or more drinks in a row for females (NIH, 2002). When students were asked to describe and define drinking behaviors, they very rarely use the term binge drink, but rather use the terms buzzed, drunk, and wasted. These were the terms that emerged from the stage one q-sort, which the students used to describe their subjective experiences of inebriation.

Different from the literature, the levels of inebriation are not based by students on the amount of alcohol consumed but instead they are based on the person's subjective experience. Students agreed that the amount of alcohol consumed to reach each level of inebriation differs for each person; thus, there is no clear-cut way to generalize across the student population the amount of drinks a person must consume to reach each designated level of inebriation. As illustrated by a male student, "*For a light drinker, a single drink might give you a buzz, for a heavy drinker two or three very strong drinks might not even be enough.*"

According to the students, the levels of inebriation can be thought of as a continuum with buzzed at one end, drunk in the middle, and wasted at the other end (as defined in tables 4-10 and 4-11). According to the students, "buzzed" is the level of inebriation that is associated with very minimal, if any, outwardly noticeable effects of alcohol consumption. In contrast, drunk, the next level, was associated with consuming

enough alcohol so that a person's motor skills are impaired and inhibitions are lowered. Finally, wasted was described as when a person has consumed enough alcohol to cause them to be out of control both mentally and physically. The student definitions of the three levels of inebriation are quite different from those in prior research, which only refers to binge drinking.

For researchers to better comprehend undergraduates' motivations to consume alcohol, it is important to understand how the students view the levels of inebriation. Currently, much of the research focuses on the motivations to binge drink. Although, in the alcohol research community there is a recent debate concerning the use of the term "binge drink." Binging, as defined as by clinicians and physicians refers to a period of extended intoxication lasting at least two days during which time the drinker neglects usual life responsibilities (Hoover, 2002). To refer to consuming four drinks for females and five drinks for males on a single occasion as a binge is deceptive and misleading. For example, a person that may have consumed five drinks might not have a measurable blood alcohol content because a typical college event may last at least six or seven hours (Schuckit, 1998). For example, a study of estimated blood alcohol concentrations reached by so-called binge drinkers in a survey of 500 adolescents between the ages of eighteen and twenty-four revealed that 63% did not reach a blood alcohol concentration of .10 and 48% did not reach a blood alcohol concentration of .08 during their last binge (Hoover, 2002). Some researchers feel that the term binge drinking fails to consider the time-period of consumption, blood alcohol level, and the size of the drinker thus, a sober person can be labeled a binge drinker (Inter-Association Task Force on Alcohol and Other Substance Abuse Issues, 2002). Therefore, it might be useful to focus on what

motivates a college student to become buzzed, drunk, and wasted. Understanding the motives that underlie an individual's drinking provides insight into the circumstances in which an individual is likely to drink, including how much he or she is likely to drink, what the probable consequences are, and how best to intervene.

Motivations

Research suggests that people will drink to the extent that they believe that alcohol will intensify their emotional experiences (Cooper, 1994; George & Stoner, 2000; MacDonald et al, 2000). Enhancement drinking is a behavior that is driven by desire for change in the quality or intensity of affective experiences (Cooper et al, 1994). In addition, the literature suggests that enhancement motives to drink are commonly endorsed among adolescents. According to the findings of the current study, college students also support this type of motive. Consuming alcohol for enhancement motives was a recurring theme found in all three levels of inebriation. For example, both sexes reported they were motivated to become buzzed "to have a good time without being drunk," to become drunk to "have fun/goodtime," and that they became wasted "unintentional[ly]/ having so much fun just kept drinking." The recurring theme that emerged from this study was that alcohol is associated with having a good time. According to Penn State University students alcohol and fun go hand-in-hand. It is possible that if an individual has had a previous "fun" experience when consuming alcohol that in the future he/she might expect alcohol to have the same "fun" effect.

According to the literature, alcohol is also believed to possess a range of properties that facilitate problem avoidance (Baer, 2002; Cooper et al, 1994; Cooper, 1994; Dowdell & Wechsler, 2002). Research has shown that drinking to cope is more common among females, than among males (Baer, 2002). This finding was confirmed in the current study. Consuming alcohol to escape reality and relieve stress was the top-ranked motive by females to become drunk. It could be speculated that due to society imposed gender roles it is more socially acceptable for females to admit to being motivated to consume alcohol to cope rather than for more socially related reasons.

However, one in three males were also motivated to become drunk so that they could relax and forget about the rough day/week. It is possible that it is more socially acceptable for a male to use alcohol to cope and deal with stress than use other stress reduction methods such as meditation or talking to a friend or therapist. In addition, both males and females reported that they were motivated to become wasted to escape reality and buzzed to relax. Even though each level of inebriation was unique and was associated with different motives, coping is common among all three levels.

Penn State University students' motives to drink were not as distinct and as clear-cut as Cooper's (1994) four motivational factors. (See table 4-17 to see how students' motivations to drink are hypothesized to fit Cooper's (1994) four-factor motivational model.) The students seemed to be motivated by more than one factor for each level of inebriation. Just as each level of inebriation has a unique definition and description, the motives that relate to each level are also different. Even though according to Cooper (1994), conformity, enhancement, coping, and social motives are unique and distinct the students did not agree. For example, a person is motivated to become buzzed to have a

good time (enhancement), to help relax (coping), and social purposes for example having a drink with dinner (social). It is also possible that students have different alcohol related expectations for each level of inebriation. Thus, students' motives to become buzzed are more complex than Cooper's (1994) four-factor model. Instead of focusing on one specific factor that motivates a person to become buzzed, drunk, or wasted, it may be more beneficial to focus on each individual level of inebriation and how the various factors work together to motivate a person to drink.

Table 4-17: Students' Drinking Motivations Categorization Based on Cooper's Model

Inebriation Level	Copper's Factor	Motive
Buzz	Positive-Internally Generated (Enhancement) Positive-Externally Generated (Social) Negative-Internally Generated (Coping) Negative-Externally Generated (Conformity)	Have a good timen w/out being drunk M/F Social purposes (Drink w/ dinner) M/F Helps to relax and loosen up *M/F*
Drunk	Positive-Internally Generated (Enhancement) Positive-Externally Generated (Social) Negative-Internally Generated (Coping) Negative-Externally Generated (Conformity)	To have fun/good time *M/F Ultimate goal of drinking M Escape reality/relieve stress *F Relax, forget about the rough day/week M Not fun to be the only sober one, "baby-sit" F
Wasted	Positive-Internally Generated (Enhancement) Positive-Externally Generated (Social) Negative-Internally Generated (Coping) Negative-Externally Generated (Conformity)	Unintentional (Happened by accident)? *M/F* Unintentional (Happened by accident)? *M/F* Escape reality M/F

*denotes highest ranked answer, M denotes Males, F denotes Female

Summary

The results of the content analysis represent the students' definitions of various terms that they associate with alcohol consumption and sexual behavior. These findings

will aid in bridging the current gap between how students view their motivations to drink and engage in sexual behaviors, compared to the researchers view. It is important that researchers take into account the students' lived experiences by viewing alcohol use and sexual behaviors through the students' eyes. This will allow for the development of an instrument that better reflects undergraduates' motivations for engaging in sexual behaviors after consuming alcohol.

Action Research Summary

Action research can be compared to the construction of a house. In both cases, the foundation is most important. A house needs a strong cement foundation so that walls and ceilings can emerge. Similarly, in action research stages one and two were the foundation of this study, allowing for the emergence of the walls and ceilings of stage three. In the first stage of the study, q-methodology categorized the various motivations for alcohol consumption and engaging in sex as expressed by the undergraduate students. In this stage, various alcohol and sex related terms emerged that are often used by students but not often defined and described in the literature. In the second stage, information was collected in the form of an open-ended survey to allow for a more complete understanding and clarification of the undergraduates' viewpoints and the terminology they use for dealing with sexual behavior and alcohol consumption. The data collected in the first two stages served as the foundation for the development of a scale that more accurately represents the undergraduate students' motivations for mixing alcohol and sex than have scales in prior research.

Stage 3: MMASS Development

In the first two stages of this study, the motivational domains of alcohol use and sexual behaviors were studied and discussed separately. While critically reflecting on the findings from the q-sort and content analysis, the recurring theme of engaging in sexual behaviors after drinking alcohol emerged. Students reported that they consume alcohol in the hopes that they will engage in sex. Additionally, the findings from the open-ended questions posed in stage two confirmed the previously uncovered student theme of alcohol use and sexual behavior. Even though researchers have examined both the motivations to engage in sexual behaviors and motivations to consume alcohol independently, very few have studied these motivations together. Thus, it became apparent that the development of an instrument specifically designed to study undergraduates' motivations to consume alcohol and engage in sexual behaviors in tandem was necessary.

To ensure that the instrument developed would suit the college culture and be both valid and reliable, an action research theoretical framework was used. This framework allowed for the construction of an instrument that reflected both the students' reported motivations to consume alcohol and engage in sex in conjunction with the previously established ones found in the literature review. The literature review and the findings from stages one and two served as the foundation for the construction of the "Motivations for Mixing Alcohol and Sex Scale (MMASS).

Description of the Sample

The College Social Life and Health Survey was completed by 359 undergraduate college students (251 female and 107 male). In general, the participants were mostly upperclassmen (see table 4-18). The participants ranged in age from 18 to 35 years of age with a mean age of 20.9; 97% were between the ages of 18 and 23. Most (84.7%) identified themselves as White/Anglo Americans; the remaining (15.3%) identified as African American, Latino/Hispanic, Asian/Pacific Islander, or other. The majority (60.8%) of the participants were sixth, seventh, or eighth semester standing. Most (76.3%) identified themselves as not being a member of a social sorority/fraternity or a member of a sports team. Almost two-thirds (63.5%) of the participants lived off-campus in a house or apartment, while 27.6% resided in a dormitory. Almost all of the participants had consumed alcohol (91.4%) and engaged in sexual intercourse (87.5%) in the previous two months. The sample that was used for this survey was comparable to the sample used in the Penn State Pulse Surveys.

Table 4-18: Demographic Characteristics of Survey Respondents

Characteristics	Number	Percent
Gender		
Female	251	69.9
Male	107	29.9
Age (years)		
18-19 years old	74	20.6
20-21 years old	182	50.7
22-23 years old	94	26.2
24-25 years old	4	1.1
26-27 years old	0	0
28-29 years old	1	0.3
30-35 years old	3	0.9
Race/Ethnic Group		
White	304	84.7
African American	20	5.6
Latino/Hispanic	10	2.8
Asian/Pacific Islander	16	4.5
Other	8	2.2
Religious Affiliation		
Catholic	139	38.7
Protestant	92	25.6
Jewish	26	7.2
Moslem	3	0.8
Agnostic	11	3.1
Atheist	9	2.5
None	39	10.9
Other	39	10.9
Semester Standing		
1st -2nd Semester	49	13.9
3rd-4th Semester	60	16.7
5th-6th Semester	80	22.3
7th-8th Semester	140	39.0
9th-12th Semester	24	6.7

* percentages may not add up to 100 due to missing data

MMASS Analysis

The sixty-five items in the survey used a five-point, Likert-type scale response format, ranging was from 1=almost never/never, 2=some of the time (less than half), 3=about half of the time, 4=most of the time (more than half), to 5=almost always/always, the responses measured how often in the previous two months a person engaged in sexual behaviors after consuming alcohol for the sixty-five listed reasons.

The sixty-five MMASS items were reduced into distinct factors by exploratory factor analysis procedures. A detailed discussion of these procedures can be found in chapter three. Varimax rotation was used to simplify the pattern structures and provide a more meaningful patterning of variables. Nine initial factors emerged which explained 71.4% of the total variance. However, after examining the scree plot, eigenvalues, and the percent of variance explained after the varimax rotation, seven of the nine factors would be retained. Only those items with loadings greater than .4 were retained after rotation. All of the MMASS items met this criterion and therefore no items were eliminated. Tables 4-19 through 4-25 present the selected results of this factor analysis and the description of each of the seven factors follows.

Factor one was defined by fourteen items that dealt with students using alcohol as an excuse to engage in behaviors that they normally would not engage in (Table 4-19). The students refer to people who engage in these types of behaviors as “players.” Therefore this factor was named “player/excuse.” The item “easier to do something don’t really want to do,” had the lowest rotated factor loading of 0.481, whereas the item

“easier to find a partner,” received the highest rotated factor loading of 0.712. This factor explained 11.88% of the variance.

Table 4-19: Rotated Factor Loadings for Factor 1: Player/Excuse

Item	Rotated Factor Loading
engage in sex with people normally wouldn't	0.603
easier to find a partner	0.712
more of a player	0.633
courage to have sex	0.486
makes others more sexually desirable	0.579
excuse for sexual actions	0.653
allows me to have more partners	0.680
easier to hook-up	0.642
easier to do something don't really want to do	0.481
oblivious to what is going on	0.541
forget about the consequences of my actions	0.614
more likely to take risks	0.506

Percent of Variance = 11.88%

The second factor was defined by twelve items (Table 4-20). The theme of these items dealt with issues related to boosting self-esteem and feeling comfortable. This factor was labeled “self esteem/comfort.” The item “feel more sexually desirable/sexier,” had the highest rotated factor loading of 0.721, whereas the “more confident about having sex,” item had the lowest rotated factor loading of 0.429. This factor had a percent of variance was 11.21%.

Table 4-20: Rotated Factor Loadings for Factor 2: Self esteem/ Comfort

Item	Rotated Factor Loading
feel more comfortable	0.520
boosts self-esteem	0.471
feel more attractive	0.688
express my emotions with partner	0.463
feel more sexually desirable/sexier	0.721
more affectionate with partner	0.500
less self conscious during sex	0.574
feel more sexually desirable	0.703
less nervous about having sex	0.495
more confident about having sex	0.429
boosts my ego	0.553
makes me feel good about myself	0.584

Percent of Variance = 11.21%

Factor three was defined by nine items (Table 4-21). This factor had a percent of variance of 10.05%. The theme of these items dealt with issues related to relationships and romance. Therefore this factor was named “romance/relationship.” The lowest rotated factor loading of 0.414 was for the “release my tension,” item. The highest rotated factor loading of 0.717 was for the “feel more romantic,” item.

Table 4-21: Rotated Factor Loadings for Factor 3: Romance/Relationship

Item	Rotated Factor Loading
feel more sexually liberated	0.459
helps me express my love	0.522
makes mood more romantic	0.604
better lover	0.712
release my tension	0.414
feel more powerful	0.541
feel more in control	0.546
feel more romantic	0.717

Percent of Variance = 10.05%

Factor four was defined by six items (Table 4-22). The themes of these items dealt with relieving stress and coping. Therefore, this factor was labeled “relieve stress/relax.” This factor had a percent of variance of 7.94%. The “helps me to relieve stress” item had the highest rotated factor loading of 0.701. The “help relax,” item had the lowest rotated factor loading of 0.545.

Table 4-22: Rotated Factor Loadings for Factor 4: Relieve Stress/Coping

Item	Rotated Factor Loadings
helps me to relieve stress	0.701
helps relax	0.545
helps lift spirits	0.597
escape reality	0.658
helps me forget my problems	0.736
better mood	0.649

Percent of Variance = 7.94%

Factor five was defined by five items (Table 4-23). The theme of the items dealt with issues related to peer and partner influences. Therefore, this factor was labeled “peer/partner influence.” This factor had a percent variance of 5.27%. The item with the highest rotated factor loading of 0.676 was “helps me fit in.” The item “impresses my friends” had the lowest rotated factor loading of 0.532.

Table 4-23: Rotated Factor Loadings for Factor 5: Peer/Partner Influence

Item	Rotated Factor Loading
Everyone else does	0.665
partner wanted me to	0.637
impresses my friends	0.532
helps me fit in	0.676
my peers expect it	0.546

Percent of Variance = 5.27%

The sixth factor was defined by nine items that dealt with issues related to sexual responding and physical pleasure (Table 4-24). Thus, this factor was labeled “pleasure/sexual response.” The highest rotated factor loading of 0.711 was for the “increase my sex drive,” item. The “helps me perform better” item had the lowest factor loading of 0.463. The percent of variance for this factor was 9.16%.

Table 4-24: Rotated Factor Loadings for Factor 6: Pleasure/Sexual Response

Item	Rotated Factor Loadings
helps set the mood	0.588
makes sex more pleasurable	0.668
helps me perform better	0.463
makes sex more fun	0.678
increases my sex drive	0.711
helps me let loose	0.524
makes me horny	0.650
makes sex more exciting	0.620
enhances sexual response	0.488

Percent of Variance = 9.16%

The seventh factor was defined by four items that dealt with issues related to partying and being bored and was labeled “celebrate/relieve boredom” (Table 4-25). The lowest rotated factor loading of 0.524 was for the “makes life less boring” item. The “nothing better to do” item had the highest rotated factor loading of 0.72. The percent of variance for this factor was 5.65%.

Table 4-25: Rotated Factor Loadings for Factor 7: Celebrate/Relieve Boredom

Item	Rotated Factor Loadings
makes life less boring	0.524
way to party	0.645
way to celebrate	0.670
nothing better to do	0.720

Percent of Variance = 5.65%

Analysis of inter-item correlations in each of these subscales was conducted to determine the reliability of the respective factors. This reliability analyses showed that all of the seven factors could be deemed adequately reliable. Table 4-26 presents the factors names, scale means, standard deviations and Cronbach alphas. Alpha's ranged from 0.95 for the self-esteem/comfort factor to 0.841 for the peer/partner influences factor. Based on these analyses, the Mmass is judged to be a reliable and valid instrument to measure college students' motivations for engaging in sexual behaviors after consuming alcohol.

Table 4-26: Factor Scale Means, Standard Deviations, and Cronbach Alphas

Factor	Cases	Items	Scale Means	Standardized Means	SD	Alpha
Player/Excuse	282	14	20.95	1.5	10.07	0.946
Self Esteem/Comfort	286	12	20.86	1.74	10.26	0.950
Romance/Relationship	284	9	17.21	1.91	7.69	0.922
Stress/Relax	285	6	12.51	2.09	6.13	0.915
Peer/Partner	288	5	6.81	1.36	3.11	0.841
Pleasure/Sexual Response	284	9	17.21	1.91	7.69	0.922
Celebrate/Relieve Boredom	284	4	8.67	2.17	4.49	0.887

1=Almost never/never 2=Some of the time (less than half) 3=About half of the time 4=Most of the time 5=Almost always/always

Analysis of Gender and Sexual Relationship Status

Based on the literature review and qualitative findings that indicated some gender and relationships status differences in the motivations for drinking and having sex, a factorial two analysis of variance of the seven factors based on gender and relationship status was performed. See table 4-27 for the results. For the purposes of this study, the

sexual relationship status was based on the respondent's most recent sexual partner and categorized as either casual or committed. A committed relationship was operationalized as either an exclusive dating relationship or an ongoing committed relationship of less than six months, or an on-going relationship of more than six months. A casual sexual relationship was defined as just met/didn't know each other before, or knew each other but no relationship (booty-call, hook-up), or casual relationship (friend with benefits, past boyfriend/girlfriend, non-exclusive dating).

Table 4-27: 2-Way ANOVA of Mmass Factors by Sex and Relationship Status

Factor	# of items	Females			Males			Relationship Combined	
		Casual	Committed	Combined	Casual	Committed	Combined	Casual	Committed
		Mean (SD)	Mean (SD)		Mean (SD)	Mean (SD)		Mean	Mean
Peer/Partner Influence	5	6.9 (3.3)	5.7 (1.6)	6.32	9.8 (3.4)	7.0 (4.1)	8.43	8.36	6.39
Celebrate/Relieve Boredom	4	9.9 (5.1)	7.6 (4.2)	8.76	11.8 (3.7)	8.3 (4.1)	10.05	10.87	7.94
Relieve Stress/Relax	6	14.5 (7.3)	10.8 (5.3)	12.61	16.3 (5.2)	11.6 (6.1)	13.94	15.36	11.19
Pleasure/Sexual Response	9	18.4 (8.3)	16.0 (7.2)	17.19	22.1 (6.4)	16.4 (8.1)	19.27	20.24	16.22
Romance/Relationship	8	14.7 (7.7)	12.6 (6.0)	13.65	18.0 (7.2)	13.0 (7.1)	15.50	16.33	12.82
Self Esteem/Comfort	12	21.2 (9.5)	17.8 (9.0)	19.50	25.4 (8.9)	16.6 (9.0)	20.99	23.29	17.20
Player/Excuse	12	21.7 (9.8)	17.8 (7.0)	19.77	30.0 (9.3)	21.3 (12.8)	25.64	25.83	19.58

Player/Excuse Subscale Differences

The values for the player/excuse subscale were examined by gender and type of relationship using factorial (two-way) analysis of variance. Table 4-28 presents a summary of the analysis of variance results. The results indicate a significant difference in Player/Excuse subscale values for the main effect gender ($F=16.69$; $p<0.001$; $df=1$). Males had significantly higher Player/Excuse subscale values ($M=25.64$) than did

females ($M=19.77$); see table 4-27. There was also a significant main effect for type of relationship ($F=18.87$; $p<0.001$; $df=1$). Those in a casual relationship had significantly higher Player/Excuse subscale values ($M=25.83$) than did undergraduates in a committed relationship ($M= 19.58$). There was no statistically significant interaction between gender and type of relationship ($F=2.27$, $p=0.099$; $df=1$).

4-28: Player/Excuse Subscale 2-Way ANOVA by Sex and Relationship Status

Factor	# of items	Females			Males
		Casual	Committed	Combined	Casual
		Mean (SD)	Mean (SD)		Mean (SD)
Peer/Partner Influence	5	6.9 (3.3)	5.7 (1.6)	6.32	9.8 (3.4)
Celebrate/Relieve Boredom	4	9.9 (5.1)	7.6 (4.2)	8.76	11.8 (3.7)
Relieve Stress/Relax	6	14.5 (7.3)	10.8 (5.3)	12.61	16.3 (5.2)

Self-Esteem/Comfort Subscale Differences

The values for the self-esteem/comfort subscale were examined by gender and type of relationship using factorial (two-way) analysis of variance. Table 4-29 presents a summary of the analysis of variance results. The results indicate no significant difference in the self-esteem subscale values for the main effect gender ($F=1.16$; $p=0.29$; $df=1$). Males had a self-esteem/comfort subscale value of $M=20.99$ and females has a subscale value of $M=19.50$, see table 4-27. There was a significant main effect for type of relationship ($F=3.72$; $p<0.001$; $df=1$). Those in a casual relationship had significantly higher self-esteem/comfort subscale values ($M=23.29$) than did undergraduates in a

committed relationship ($M=17.20$). There was not statistically significant interaction between gender and type of relationship ($F=0.93$; $p=0.34$; $df=1$).

4-29: Self-Esteem/Comfort Subscale 2-Way ANOVA by Sex and Relationship Status

Source	df	SS	MS	F	Sig
Gender	1	96.33	96.33	1.16	0.29
Relationship	1	1603.15	1603.15	19.26	$p<0.001$
Gender * Relationship	1	309.70	309.70	3.72	0.06
Total	230	104893.00			

n=230

Romance/Relationship Subscale Differences

The values for the romance/relationship subscale were examined by gender and type of relationship using factorial (two-way) analysis of variance. Table 4-30 presents a summary of the analysis of variance results. The results indicate no significant difference in the romance/relationship subscale values for the main effect gender ($F=3.2$; $p=0.08$; $df=1$). Males had a subscale value of $M=15.50$ and females has a subscale value of $M=13.65$, see table 4-27. There was a significant main effect for type of relationship ($F=11.48$; $p<0.001$; $df=1$). Those in a casual relationship had significantly higher romance/relationship subscale values ($M=16.33$) then did undergraduates in a committed relationship ($M=12.82$). There was not a statistically significant interaction between gender and type of relationship ($F=1.83$; $p=0.18$; $df=1$).

4-30: Romance/Relationship Subscale 2-Way ANOVA by Sex and Relationship Status

Source	df	SS	MS	F	Sig
Gender	1	148.20	148.20	3.2	0.08
Relationship	1	531.98	531.98	11.48	p<0.001
Gender * Relationship	1	84.92	84.92	1.83	0.18
Total	230				

n=230

Pleasure/Sexual Response Subscale Differences

The values for the pleasure/sexual response subscale were examined by gender and type of relationship using factorial (two-way) analysis of variance. Table 4-31 presents a summary of the analysis of variance results. The results indicate no significant difference in the pleasure/sexual response subscale values for the main effect gender ($F=3.21$; $p=0.07$; $df=1$). Males had a pleasure/sexual response subscale value of $M=19.27$ and females has a subscale value of $M=17.19$, see table 4-27. There was a significant main effect for type of relationship ($F=12.10$; $p<0.01$; $df=1$). Those in a casual relationship had significantly higher pleasure/sexual response subscale values ($M=20.24$) then did undergraduates in a committed relationship ($M=16.22$). There was not a statistically significant interaction between gender and type of relationship ($F=2.17$; $p=0.14$; $df=1$).

4-31: Pleasure/Sexual Response Subscale 2-Way ANOVA by Sex and Relationship Status

Source	df	SS	MS	F	Sig
Gender	1	184.07	184.07	3.21	0.07
Relationship	1	693.02	693.02	12.10	0.01
Gender * Relationship	1	124.45	124.45	2.17	0.14
Total	229				

n=229

Relieve Stress/Relax Differences

The values for the relieve stress/relax subscale were examined by gender and type of relationship using factorial (two-way) analysis of variance. Table 4-32 presents a summary of the analysis of variance results. The results indicate a significant difference in the self-esteem subscale values for the main effect gender ($F=2.12$; $p=0.001$; $df=1$). Males had a significantly higher relieve stress/relax subscale values of ($M=20.13.94$) than did females ($M=12.61$), see table 4.27. There was also a significant main effect for type of relationship ($F=20.82$; $p<0.001$; $df=1$). Those in a casual relationship had significantly higher relieve stress/relax subscale values ($M=15.36$) than did undergraduates in a committed relationship ($M=11.19$). There was not statistically significant interaction between gender and type of relationship ($F=0.25$; $p=0.62$; $df=1$).

4-32: Relax/Relieve Stress Subscale 2-Way ANOVA by Sex and Relationship Status

Source	df	SS	MS	F	Sig
Gender	1	76.08	76.08	2.12	p<0.001
Relationship	1	747.78	747.78	20.82	p<0.000
Gender * Relationship	1	9.10	9.10	0.25	0.62
Total	229	44029.00			

n=229

Celebrate/Relieve Boredom Subscale Differences

The values for the celebrate/relieve boredom subscale were examined by gender and type of relationship using factorial (two-way) analysis of variance. Table 4-33 presents a summary of the analysis of variance results. The results indicate a significant difference in the celebrate/relieve boredom subscale values for the main effect of gender ($F=3.72$; $p<0.001$; $df=1$). Males had significantly higher celebrate/relieve boredom subscale values ($M=10.05$) than did females ($M=8.76$), see table 4-27. There was a significant main effect for type of relationship ($F=19.37$; $p<0.001$; $df=1$). Those in a casual relationship had significantly higher celebrate/relieve boredom subscale values ($M=10.87$) than did undergraduates in a committed relationship ($M=7.94$). There was not statistically significant interaction between gender and type of relationship ($F=0.93$; $p=0.34$; $df=1$).

4-33: Celebrate/Relieve Boredom Subscale 2-Way ANOVA by Sex and Relationship Status

Source	df	SS	MS	F	Sig
Gender	1	70.69	70.69	3.72	p<0.001
Relationship	1	368.05	368.05	19.37	p<0.001
Gender * Relationship	1	17.69	17.69	0.93	0.34
Total	228	22055.00			

n=228

Partner/Peer Influence Subscale Differences

The values for the partner/peer influence subscale were examined by gender and type of relationship using factorial (two-way) analysis of variance. Table 4-34 presents a summary of the analysis of variance results. The results indicate significant differences in the partner/peer influence subscale values for the main effect gender ($F=23.67$, $p<0.001$; $df=1$). Males had a significantly higher partner/peer influence subscale value ($M=8.43$) than did females ($M=6.32$), see table 4-27. There was also a significant main effect for type of relationship ($F=20.74$, $p<0.001$; $df=1$). Those in a casual relationship had significantly higher partner/peer influence subscale values ($M=8.36$) than did undergraduates in a committed relationship ($M=6.39$). There was not a statistically significant interaction between gender and type of relationship ($F=3.74$; $p=0.06$; $df=1$).

4-34: Partner/Peer Influence Subscale 2-Way ANOVA by Sex and Relationship Status

Source	df	SS	MS	F	Sig
Gender	1	191.83	191.83	23.67	p<0.001
Relationship	1	168.14	168.14	20.74	p<0.001
Gender * Relationship	1	30.34	30.34	3.74	0.06
Total	231	12487.00			

n=231

Discussion

According to the literature (Carrol et al 1985; Cooper et al, 1998, Cooper, 1994; Paul et al, 2000; Regan & Dreyer, 1999) and to the findings from the previous analytic stages of this study, college students are motivated to consume alcohol and engage sexual behaviors for a variety of reasons described below. These reasons were further confirmed by the quantitative analyses generated from the pilot test data of the MMAPS.

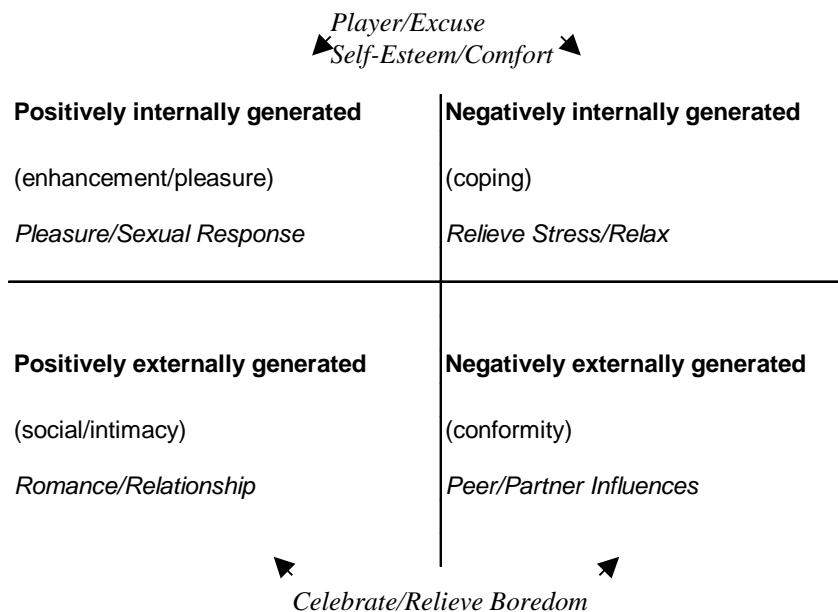
Motivations

As previously reported, individuals are generally motivated to engage in a specific behavior to obtain a positive outcome or to avoid a negative one as well as to respond to internal rewards (the manipulation of one's own internal emotional state) or to external rewards (social acceptance or approval). When these two dimensions (eg. outcomes and rewards) are brought together, four types of motives emerge: 1) enhancement motives which are internally generated and positively reinforced, 2) social motives which are externally generated and positively reinforced, 3) coping motives

which are internally generated and negatively reinforced, and 4) conformity motives which are externally generated and negatively reinforced (Cooper, 1994). In the previous discussion sections, these four factors were discussed in relation to undergraduates motivations to engage in sexual behaviors and consume alcohol separately. In this section, these four types of motives will be discussed in relation to undergraduates motivations to engage in sexual behaviors after drinking alcohol.

Unlike the first two stages in which qualitative research methods were used, stage three employed a quantitative methodology. The data that were analyzed in this stage came from the MMASS, one section of the “College Health and Social Life Survey.”

As discussed earlier, after an exploratory factor analysis was performed on these data, nine factors emerged and based on the scree plot and eigenvalues, seven factors were retained. (A summary of how the seven factors fit Cooper’s (1994) four-factor motivational model can be seen in figure 4-1.) Of the seven factors, four fit Cooper’s (1994) model well. The “pleasure/sexual response” factor was considered an example of an enhancement motive. The “relieve stress/relax” factor fit Cooper’s (1994) definition of a coping motive. The items that defined the “romance/relationship” factor were an example of a social motive. The “peer/partner influences” factor met Cooper’s (1994) criteria for a conformity motive. Thus, these factor findings confirmed what has been previously found when motivations to drink and engage in sexual behaviors were studied separately.



4-1: Cooper's Motivational Model with MMASS Factors

In addition to the above-discussed factors, the MMASS data produced an additional three factors. These factors were more difficult to fit into Cooper's (1994) model. The "player/excuse" and "self-esteem/comfort" factors met the criteria of both an enhancement motive and a coping motive. The "celebrate/relieve boredom" factor met the criteria of both social and conformity motives. This reiterates what was found in the previous stages of this research. Even though each of Cooper's factors were considered unique and distinct, the students' motivations were not.

As previously stated, the research suggests that undergraduates are motivated to engage in sexual behaviors and consume alcohol for a variety of reasons. Even though the current study addressed college student's motivations to engage in sex after drinking alcohol, these findings were comparable to what was previously found when the sex and

alcohol domains were studied separately. Similar to the alcohol-related research (Baer, 2002, NIH, 2002; Cooper, 1994; Cooper et al, 1994; Cox & Klinger, 1998), the current study also found that differences exist in the motivations for and patterns of engaging in sexual behaviors after consuming alcohol among college students.

The findings from the MMASS suggested that males and females were significantly likely to respond differently to being motivated by the reasons represented in the “player/excuse,” “relieve stress/relax,” “partner/peer influence,” and “celebrate/bored” factors for engaging in sex after consuming alcohol. It is speculated that, as stated earlier in the literature review and previous discussions, that society imposed gender expectations could be the cause of these differences. For example, society prescribes that males have a stronger and more pervasive interest related to self enhancement in sex than females thus leading to the higher scores on the “player/excuse” subscale (Cooper et al, 1998). Even though according to prior research drinking to cope is more common among females (Baer, 2002), it is possible that engaging in sex after consuming alcohol is more socially acceptable for males, then expressing their emotions. Also, according to society imposed gender expectation a male’s peer- group status is related to their sexual conquests. As the number of sexual conquests increase so does the male’s peer-group status (Cooper, 1994; Herold et al, 1998; Traeen & Kvaem, 1996). Prior research has also found that peer endorsement is considered a major motivating factor for a person to engage in casual sex (Paul et al 2000). It has been reported that the strongest influence on men’s intentions to engage in casual sex was their perceptions of the degree of endorsement they would receive from their friends for participation in casual sex (Maticka-Tyndale et al, 1998).

Supporting the literature and the findings from the previous stages, the current study also found that students were significantly likely to respond differently to being motivated based on their sexual relationship status (committed vs. casual) for all of the factors for engaging in sex after consuming alcohol. Given the nature of a casual relationship, these respondents may be more likely to be motivated to engage in sexual behaviors after drinking alcohol for reasons related their to pre-existing beliefs that alcohol increases pleasure seeking behavior thus making it easier to find a partner by allowing others seem more sexually desirable, while giving others the courage to engage in sexual behaviors. People in committed relationships who are comfortable with themselves and their partners may not need to use alcohol as a crutch to enhance their sexual relationship.

Summary

The MMASS was designed through the use of action research methodology. This scale reflected undergraduate's motivations for engaging in risky sexual behavior after consuming alcohol, thus leading to more valid and reliable research. The findings from the current study will aid in bridging the current gap between how students and researchers view their motivations to engage in sexual behaviors after consuming alcohol. The better understanding of the motives that underlie this risky behavior will provide insight into the circumstances in which students are likely to engage in sex after drinking, including where and when he/she will engage in the behavior, what the probable consequences will be, and how to best intervene.

Chapter 5

Summary, Recommendations, and Implications of the Study

The purpose of this study was to gain a better understanding of undergraduate students' motivations for engaging in sexual behaviors after drinking alcohol. In order to do this, the following overall research question was posed: How do undergraduate students view drinking and then engaging in sex? To explore the answer in more detail, the following sub-questions were examined and compared by sex: What are the meanings of the terms students use to discuss these behaviors?, What motivations do students describe for drinking alcohol and then engaging in sex?. To help answer these questions, a quantitative survey instrument was developed that reliably and validly measures college students' motivations for engaging in sexual behaviors after drinking alcohol. As discussed in chapter three, a mixed methodology, action research-based three-stage process was followed to fulfill the aims of this study. Chapter four presented the results and discussion of the data analysis. Finally, this chapter will include a summary of the study, a discussion of the limitations of this research, a critique of action research, the implications of the findings, and reflections and recommendations for future research.

Summary and Limitations of the Study

This study was developed to better grasp the understanding of undergraduate students' motivations for engaging in sexual behaviors after drinking alcohol. As

discussed in chapter one, there seems to be a gap between how researchers and administrators view and define college drinking, sexual behaviors and motivations, and the undergraduates' views of these behaviors. As presented in chapter two, action research is the practice of systematically developing knowledge, working toward practical outcomes, and also creating new forms of understanding (Johnson, 2002). As used in this study, action research allowed for the students' "voices" to be heard.

In the public health arena, a better understanding of the motivations behind people's risky behaviors can aid in development of appropriate and effective intervention and prevention strategies to reduce unhealthy behaviors (Cooper et al, 1998). As described in chapter two, a four-factor motivational model (Cooper et al, 1994) was the proposed framework for categorizing undergraduates' motivations to engage in sexual behaviors after consuming alcohol. The four classes of motives that were represented in this four-factor motivation model and previously identified in the literature review were: social (positive-externally generated), enhancement (positive-internally generated), conformity (negative-externally generated), and coping (negative-internally generated).

If researchers want to discern undergraduates' motivations to engage in sexual behaviors after consuming alcohol, they should understand the students' alcohol and sex-related terminology and the types of sexual relationships in which they are involved. The development of a valid and reliable instrument that better reflects undergraduates' motivations for engaging in sexual behaviors after consuming alcohol will occur from this new understanding. In turn, this will help to support the development of more effective intervention and prevention programs. The following sub-sections will

summarize and discuss the procedures, findings, and limitations of each of the three stages of the current study.

Stage 1: Q-sort

A q-sort was conducted during the summer semesters of 2002 and 2003 based on two questions from the Sexuality and Alcohol Log (SAL). The person sample consisted of forty-five females and twenty males who were currently enrolled in Biobehavioral Health 446, Human Sexuality as a Health Concern. The first ready made q-sample consisted of motivations to drink, and the second ready made q-sample consisted of motivations to engage in sexual intercourse. Both q-sorts were analyzed by sex. The results of the q-sorts represented the undergraduates' perspectives of how they would categorize the various reasons listed in the SAL for engaging in sexual behavior and drinking.

Overall, the results of the q-sort reasons for engaging in sexual behavior confirmed what was previously found in the literature that there is a complex enmeshment of sexuality and society-imposed gender expectations (Carol et al, 1998; Cohen & Shotland, 1996; Paul et al 2000; Traen & Kvaem, 1996). However, there were differences between how the undergraduates categorized the reasons from the SAL, compared to how they might be classified using the four-factor motivational model (Cooper et al, 1998). Even though Cooper (1994) argues that conformity, coping, social

(also known as intimacy/romance), and enhancement (often referred to as physical pleasure) are unique and distinct motives the Penn State University students did not feel that same (Refer to table 4.5 for the details.) The undergraduate students' categorization of the reasons for engaging in sexual behaviors was found to be more complex than the four-factor motivational model (Cooper et al, 1998). For example, both sexes included the reason "partner wanted to," a conformity-related motive, in their intimacy/romance (social) related category. In fact, students' did not identify a separate conformity category. In addition, women labeled some enhancement motives as relationship ones.

Additionally, the sex differences that resulted from this q-sort supported the previous research concerning sexuality and society-imposed gender role expectations (Carol et al, 1998; Cohen & Shotland, 1996; Paul et al 2000; Traen & Kvalem, 1996). Traditional gender-role expectations concerning sexual behaviors state that a female's job is to avoid sexual intercourse while a man's job is to engage in sexual behaviors (Herold et al, 1998). Thus, when women are asked about their motivations to engage in sexual behaviors, they often report that they are motivated for reason related to love and intimacy, while men report physical desire as their primary motivation (Herold & Mewhinney, 1993). These findings were echoed in the q-sort. For the males, four main categories emerged: "feels good/sex-drive," "relationship related/availability," "just do it/pure pleasure," and "personal gratification/pick-me-up sex." For the females, three categories emerged: "desire/fun," "relationship reasons," and "self-satisfactions/increase well-being." Males had two enhancement-based (pleasure) categories while females only had one. A summary of these q-sort findings can be found in tables 4-1 and 4-2 for males and females, respectively.

Unlike the results of the previous q-sort, the reasons for drinking q-sort did not contain many gender differences. The main gender difference that was found was that females designated a coping-related category and the males did not. This category consisted of “drown my sorrows” and “relax/relieve stress” reasons for drinking. This result is consistent with previous research that has found that drinking to cope is specifically related to low self-esteem and is more common among females than males (Baer, 2002). Nonetheless, “relax/relieve stress” was designated by the male students and half of the female students as a *good time/party* reason to drink. This is a unique finding because research generally tends to associate drinking to “relax/relieve stress” with coping rather than celebrating (Baer, 2002; Cooper, 1994). The categories that resulted from the male q-sort were as follows: “drinking for the sake of drinking,” “social/good time reasons,” “sex/love related,” and “drinking to change personality.” The categories that emerged for the females were: “bored/why not,” “let’s party,” “sex-related reasons,” “social issues/to loosen up,” and “escape.” A summary of these q-sort findings can be found in tables 4-3 and 4-4 for males and females respectively.

There were some differences found in how the undergraduates categorized the reasons for drinking from the SAL as compared to how the reasons would be categorized according to the 4-factor motivational model (Cooper et al, 1994). These results are summarized in table 4-6. An overall theme that emerged was that even though Cooper’s model identified conformity, social, coping, and enhancement as distinct motives, the students felt differently. Rather the students motives were more complex and not as clear-cut. Female students in particular placed motives in more than one category. The students felt that “enhance romance,” a social motive, and “hook-up/have sex,” an

enhancement motive, belonged in the same category, sex/love related. Male students also put relax/relieve stress under social reasons rather than coping reasons. Female students designated a separate coping related category.

A limitation of the q-sort findings was that both ready-made q-samples contained terms that were commonly used in the student community but were not defined in the literature. It is possible that students may interpret and define the various reasons to drink and engage in sex that were taken from the SAL differently than the researchers do, and in turn, would categorize these terms quite differently. If researchers intend to fully comprehend undergraduate students' categorization of the various reasons to drink, the researchers must understand the students' language and meanings. An additional limitation was that the q-sort participants were restricted to undergraduate students who were enrolled in Biobehavioral 446 during the summers of 2002 and 2003. This sample may not be representative of the entire student population at Penn State University, University Park campus or all other colleges and universities in the United States.. Another limitation of the q-sort findings were that that reasons for drinking and engaging in sex that were listed on the SAL were limited, it is possible that students may have had other reasons that were listed in the SAL.

State 2: Content Analysis

Two open-ended surveys were developed to respond to the various themes that emerged from the q-sort. In the fall of 2003, students were recruited from both Biobehavioral Health 146 and Biobehavioral Health 446: Human Sexuality as a Health

Concern to complete the surveys. A content analysis was performed on these surveys. This allowed the data to be analyzed, quantified, and categorized.

The first survey primarily dealt with motivations for sexual behaviors and relationships. Students were instructed to define and describe various sexual terms that emerged from the q-sort that were commonly used by the students but not always used and defined in the research. Specifically, they were asked to respond to the open-ended question: “ What are some of the main motivations for college students to engage in sex?” The second survey primarily dealt with motivations for drinking alcohol and engaging in sexual behaviors. Similarly, students were instructed to define and describe various alcohol-related terms that emerged from the q-sort and asked to explain why they felt people get “buzzed,” “drunk,” and “wasted.” The participants also responded to the following open-ended questions: “Do you think drinking alcohol is used as an excuse for having sex?” and “Do you think people are more likely to take sexual risks when they are drinking?”

A more complete understanding and clarification of the undergraduates’ viewpoints and the terminology they use for dealing with sexual behaviors and alcohol consumption emerged from these findings. It was found that the definitions of the various sexual-behavior-related terms might be ambiguous. Additionally, the student definitions may not concur with the definitions found in the research. For example, when defining the term casual sex, researchers tend to emphasize the timeframe before engaging in intercourse, whereas students focus more on the nature of the sexual relationship. Both males and females were found to interpret the sexual-related terms similarly. (Refer to tables 4-7 and 4-8 for a summary of these definitions for males and

females respectively.) When the undergraduates were questioned about what they thought the main motivations for college students to engage in sex were, gender differences emerged. Females top three responses were peer-pressure, alcohol, and pleasure/feels good. Males responded first with experimentation, followed by peer pressure, and alcohol. The majority of the motives to engage in sexual behaviors that the students reported fit into the 4-factor motivational model (Cooper et al, 1994). This can be seen in table 4.16. The one motive that did emerge that did not easily fit into Cooper's (1994) model was alcohol since alcohol can be consumed for a variety of different reasons.

The primary finding that emerged from the alcohol survey was that unlike some of the previous research that has primarily focused on binge drinking, the students identified three levels of inebriation. (The definitions of the various levels of inebriation can be found in tables 4-10 and 4-11 for males and females, respectively.) The levels of inebriation were not defined by the students by the amount of alcohol consumed but were instead based on a person's subjective experience. Thus, the amount of alcohol needed to consume to reach each level of inebriation is different for each person. Just as found with the q-sort, students' motives to drink were not as distinct and clear-cut as described in the four-factor- motivational model. (See table 4-17 for a summary of how the students' motivations to drink fit Cooper's (1994) 4-factor motivational model.) According to the findings, the students were motivated by more than one factor for each level of inebriation. For example, a person is motivated to become buzzed to have a good time (enhancement), to help relax (coping), and social purposes such as having a drink with dinner (social).

The results of the content analysis did aid in bridging the gap that currently exists between how students view their motivations to drink and engage in sexual behaviors as compared to the researcher's view. These findings were used to inform the development of an instrument that reliably and validly reflects undergraduates' motivations for engaging in sexual behaviors after consuming alcohol. A limitation of content analysis findings was that the sample was limited to students enrolled in two sexuality classes and may not have been representative of the entire Pennsylvania State University student population. Since this group of students was chosen because they were enrolled in sexuality courses and would be more likely to feel comfortable dealing with topics related to sexuality than students enrolled in other classes. Another limitation of the content analysis was that at times it was hard to fit individual responses into specific categories. Since qualitative data is not always as cut and dry as quantitative data some of the responses either fit into more than one category or not into a category.

Stage 3: Motivations for Mixing Alcohol and Sex Scale Development

To ensure that the MMASS would be appropriate for the college community and be both valid and reliable, an action research theoretical framework was used. This framework allowed for the construction of an instrument that reflected both the students' described motivations to consume alcohol and then engage in sex in combination with the previously established ones found in the literature. The scale development process is a very difficult and complex process and requires several characteristic steps. The development of the MMASS was based on those steps required to develop a reliable and

valid instrument (Devellis, 1991). These steps consisted of: definition of constructs, item generation, expert panel review, item revision, administration, item analysis for item selection, internal consistency reliability, and revision to a shortened form of the Mmass. These steps are depicted in figure 3-1.

The draft of the Mmass was administered as part of the ‘College Social Life and Health Survey’ to 450 undergraduates who were enrolled in various general education courses in the Biobehavioral Health and Women’s Studies Department during the last two weeks of the spring semester 2004 at Penn State University. A total of 359 out of 500 students completed and returned the survey.

Through the use of exploratory factor analysis, the sixty-five item Mmass was reduced into nine distinct factors. A principle components analysis using varimax rotation was used to simplify the pattern structures and to provide a more meaningful patterning of the variables. Nine initial factors emerged which explained 71.4% of the total variance. Based on the scree plot and eigenvalues seven of the nine factors were retained for future use in instrument development. (Tables 4.19 through 4.25 present the results of the factor analysis and description of each of the seven factors.) The names of the factors that emerged were: “player/excuse,” “self esteem/comfort,” “romance/relationship,” “relieve stress/relax,” “peer/partner influence,” “pleasure/sexual response,” and “celebrate/relieve boredom.”

Significant gender differences were found. Males had significantly higher subscales in the “player/excuse,” “relieve stress/relax,” “peer/partner influence,” and “celebrate/relieve boredom” factor regarding their motivations to engage in sex after consuming alcohol. It could be speculated that these findings stem from society imposed

gender roles regarding both males and females attitudes and behaviors concerning alcohol use and sexuality. Additionally, significant differences in motivations for having sex after drinking based on the type of sexual relationship (committed vs. casual) were found for all of the factors. Those in casual relationships had significantly higher subscale values than did the undergraduates in committed relationships. It is possible that people in casual relationships feel the need to consume alcohol allow them to feel comfortable or less awkward with their partner unlike those in committed relationships.

A limitation of the Mmass findings is that even though the reliability in terms of internal consistency was found, reliability as temporal stability still needs to be tested. A recommended method of testing for temporal stability is test-retest. Test-retest reliability estimates the stability of instrument scores on the same instrument over a time period. The correlation between the scores on two occasions is expressed by the test-retest reliability coefficient or a stability coefficient which is affected by error within the measurement procedure and by the stability of responses of the instrument (Gronlund, 1998). The longer the time interval between the two occasions a lower reliability can result.

In addition, another limitation of the Mmass findings is that criterion-related evidence of the scale has not yet been established. Criterion-related evidence of validity is concerned with the relationship between the scores in a scale being validated by some independent, external criterion that directly measures an intended construct (Gronlund, 1998). The relationship between test scores and criterion scores is the analysis based on the theory underlying the instrument and the criterion (Gable, 1986).

Depending on the time frame employed to interpret a score on an instrument, two types of criterion-related evidence have been reported: predictive and concurrent. Predictive validity refers to the extent to which the instrument's scores are used to predict later criterion scores of the same person. Concurrent validity is defined as the degree to which the instrument's scores correspond to the criterion scores of the same construct that are administered at approximately the same time (Gable, 1986). Therefore, criterion-related evidence refers to the degree to which the scores of a new instrument accurately predict, or estimate, the performance of the same person on a criterion underlying the same construct. Before future use of the Mmass occurs it is recommended that the criterion-related validity be examined by validating the scale based on its relationship to another independent measure by making a prediction about how the operationalization will perform on some other measure based on the theory of the construct (Trochim, 2001).

A general limitation of the Mmass findings was that the sample that was used for the pilot test was limited to undergraduate students who were 18 years of age or older, enrolled in one of five general education courses offered during the spring semester of 2004 at the University Park Campus, Pennsylvania State University, and had agreed to participate.

Action Research

An action research approach to scale development was used in this study. This approach consisted of three primary stages: q-methodology, content analysis of open-

ended surveys, and scale development. In the first stage of the study, q-methodology was used to categorize various motivations for alcohol consumption and engaging in sex as reported by undergraduate students on the Sexuality and Alcohol Log. In the second stage, information was collected through answers to open-ended questions, to allow for a more complete understanding and clarification of undergraduates' motivations for engaging in sexual behaviors after consuming alcohol and the terms they use for describing those behaviors. A content analysis was performed on these data. The findings from the first two qualitative stages of this research process were then used to develop a scale that accurately represented the undergraduate students' motivations for mixing alcohol and sex. The following subsections will present a critique of the use of action research and the application of the action research findings.

Critique

As used in public health, action research is the practice of systematically developing knowledge about working toward practical outcomes and creating new forms of understanding (Johnson, 2002). Through the use of action research a more complete understanding and clarification of the undergraduates' viewpoints and the terminology used when defining and describing sexual behaviors and alcohol consumption emerged. This allowed for the researcher to view the motivations for engaging in sexual behaviors and drinking alcohol from the undergraduates' perspective. The better understanding of

the undergraduate students' lived experiences in relation to alcohol and sexual behavior will allow for the design of more affective intervention/prevention programs.

Action research has many strengths; however, some of the strengths are also limitations. For example, action research is extremely useful in college settings because it provides a paradigm that offers practical benefits to researchers by bridging the gap between theory, research, and practice. This collaborative partnership between the students and the researchers is useful/beneficial because it ensures that the research and intervention and prevention programs developed are relevant, meaningful, and appropriate to the college community. However, whenever community members are intimately involved in the research process, the amount of time it will take to collect the data can be significantly lengthened.

Also, data collected through action research is often more complex than what is predominately found in the literature. These data represent people's lived experiences in the "real" world as opposed to data collected through traditional positivistic social science methodologies. The unique personal nature of the data that is generated from action research makes it difficult to generalize the findings from one community to another. The findings of the Penn State students may be different from what would be found at other universities because every college and university has an institutional culture that is unique and differs from that of every other institution such as size, location, and student demographics.

The cyclic nature of an action research approach, with each cycle involving data collection, interpretation, and literature review, allows it to be a rigorous research approach (Susman & Evered, 1978), resulting in the development of research processes

that better suit the college community. However, if done properly, the rigorous cyclic procedures of action research can be quite time consuming. Additionally, due to this cyclic nature it is possible that the focus and methodology will change as the research process unfolds. This continuous emergence of themes makes it difficult for the researcher to plan detailed future stages of the study in advance.

Effective intervention and prevention programs can be developed through the use of action research methodologies since the researcher critically reflects and responds to the emerging themes of the students and in turn, this then allows the researcher to adjust his/her research agenda appropriately. Through the use of action research, unique findings emerged that illuminated how undergraduates' define and describe and view their motivations to engage in sexual behaviors after consuming alcohol. These findings will aid in the advancement of the research in both the alcohol and sex domains.

Since a primary goal of action research is for the results to directly benefit the situation in which they were collected, the following subsection will discuss how some the current study's findings can be applied at Penn State University.

Application of Findings

According to the present study, Penn State students do not determine their level of inebriation by the number of drinks a person has consumed. Instead, students define their levels of inebriation based on subjective experience of their physical and mental control. In addition, the literature refers to only binge drinking, whereas the students refer to the

three levels of inebriation: buzzed, drunk, and wasted. The following paragraphs will describe how these important findings could possibly be incorporated into university based intervention and prevention programs.

In chapter one, the “Party Smart” social norms based poster campaign to combat alcohol misuse was discussed. This poster campaign has not been found to be very effective in decreasing binge drinking among the students. It is possible that the “Party Smart” campaign would be more effective if it incorporated some of the findings from the current study. When the university received a grant to develop a social norms based poster campaign, it might have had a greater impact if the students’ terminology and their definitions were incorporated. For example, instead of the slogan being “70% of Penn State Students Party Smart by Consuming 4 or Less Drinks when Partying,” a more effective slogan would be “The Majority of Penn State Students Party Responsibly and Don’t Get Wasted.” This new slogan incorporates terminology that students commonly use thus, making this slogan more meaningful to the students.

Additionally, according to the current study an underlying theme that emerged was that of students using alcohol to “relax and relieve stress.” It may be useful for the college administrators and researchers to design a stress management program that the students are required to attend. Also, the idea of students using alcohol to help them to relax and relieve stress should be discussed with both the parents and incoming freshmen during orientation. Programs need to be designed to educate students about more effective ways to deal with stress.

Also, it is possible that prevention and intervention programs designed to prevent sexual behaviors after alcohol consumption are actually reinforcing the behavior.

Researchers and administrators may unintentionally be encouraging students to use alcohol strategically prior to engaging in sexual intercourse thus providing them with an “excuse” for engaging in sex without considering the potential consequences.

Interventions need to be focused on weakening, not strengthening, students’ expectancies with regard to alcohol being an “excuse” for sexual behavior. For example, campaigns need to be developed that promote safer sex even when drunk.

Designated driver programs have received a lot of support as a solution to the impaired driving problems that occur on and around many college campuses. Some feel that these programs encourage and give tacit approval to excessive drinking by the designated driver’s companions. Thus, ending up with one or more designated drinkers, students who are afforded the opportunity and encouragement to get drunk (NIH, 2002).

In addition to program planning, it is also of great importance that the students “voices” are taken into account when developing university policy. For example, as previously discussed in chapter one, when the students were asked how they thought the university should handle behaviors associated with problem drinking, they mentioned increasing fines and policing. To combat alcohol misuse, it may be useful to not only increase the fines for inappropriate alcohol-related behaviors but to also incorporate the level of inebriation along with blood alcohol concentration (BAC) into the fine. For example, a student who met the criteria for wasted with a higher BAC would pay a larger fine than a person who was considered “drunk” with a lower BAC. Students might be more likely to drink responsibly if they were made aware that as their level of inebriation and BAC increased so would their fine. However, administrators and researchers must take into consideration that this type of policy may actually encourage some students who

normally do not drink to consume alcohol because they feel that they can get away with drinking to the lower limit.

Furthermore, even though as previously stated in chapter one, college administrators are more concerned with the health-related consequences of alcohol misuse, they need to keep in mind that the students are primarily concerned with consequences such as having their sleep and studying interrupted. A policy needs to be created and enforced to combat this type of consequence. For example, a zero tolerance policy where any intoxicated student that is caught or reported as disturbing and interrupting another's studying or sleeping will be fined and possibly even have their parents notified. It is imperative that a similar type of zero-tolerance policy is also adopted by the local police for the off-campus housing. Even though these secondary consequences are not life threatening, it is important that they are addressed. By addressing the secondary consequences, the primary life threatening consequences will be indirectly addressed. Administrators should keep in mind that if they acknowledge the students' felt needs and concerns, they will be far more likely to experience success in changing the students' behavior than if they just imposed their own agenda.

When the researchers and administrators do not listen to and fully understand the lived experiences of the university students, the development of effective intervention and prevention programs is all the more difficult. The current study has begun to bridge the gap between how researchers and administrators view and define college drinking, sexual behaviors, and the motivations and the undergraduates' views. However, if these research findings are to be turned into action, university administrators and researchers

must take these results into account when developing new policy and intervention and prevention programs.

Researcher's Reflections/Future Recommendations

It is useful for a researcher to reflect on what aspects of the study could have been improved or done differently. In retrospect, I would have taken a slightly different approach. Instead of developing a quantitative survey instrument to answer the overarching research question “How do undergraduate students view drinking and then engaging in sex?” the researcher would have used a more of a participatory qualitative approach so that the students would take a more active role in defining their own needs, setting priorities, and evaluating intervention and prevention efforts. This would have also allowed the researcher to spend more “face-time” with the undergraduates in their social environment to experience a better understanding of what it means to be undergraduate at Pennsylvania State University. This information could be gathered by conducting focus groups, interviews, and participant observation.

Also, some themes that emerged from the q-sort and content analysis that should be further explored. For example, the theme of students consuming alcohol and then engaging in sex because they are bored needs to be better understood. Questions that need to be addressed include: When does this “boredom” occur? What causes the boredom? and Which students are bored?. Are the students bored because the classes that they are enrolled in are not challenging and do not provide enough homework? Are the students bored because they are lazy and it easier to engage in risky behaviors then

find something else to do? Another theme that needs to be explored further is the one of students engaging in sex after drinking to relax and relieve stress. The underlying cause of the stress needs to be further researched. Understanding what is causing the stress would allow researchers to develop and design more appropriate stress management programs.

In addition, it is also important that research is conducted that specifically focuses on undergraduates that are considered light to moderate drinkers. It is possible that these students' motivations to consume alcohol and then engage in sexual behavior may be different than their heavy drinking counterparts.

Although a step in the right direction, the current study has only just begun to bridge the gap. In order to further the field, future research on the topics of stress and coping among college students, the levels of inebriation, and the "friend's with benefits/fuck-buddy" phenomenon need to be conducted. In addition, since action research findings are not generalizable, it is necessary for other universities to conduct the same type of research so that more can be learned about undergraduates motivations to engage in sex after consuming alcohol. As previously mentioned, the Mmass also needs to be tested for temporal stability and the criterion related validity before it can be used again as well as be pilot tested on a more diverse population. It is also recommended that a confirmatory factor analysis is also performed.

In conclusion, action research should be thought of as a social change project in which the research aspect is only one component. Ideally, the findings of this study would be presented separately to the various stakeholders such as: student groups, University Health Services, administrators, and interested community groups. After the

presentation of the findings the researcher would then work with the various stakeholders to develop appropriate intervention and prevention programs. Now that the research component of this project has been accomplished it is up to the university administrators, researchers, and students to turn the current study's findings into action.

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Appendix A

Q-Sort Worksheets

Reasons for drinking:

It was there/ nothing better to do

Get a buzz

Get drunk

Have a good time

Hook-up / Have Sex

Relax / Relieve Stress

Celebrate

Drown my sorrows

To fit in

Enhance romance

Be more outgoing

Be less inhibited

Other _____

Reasons for engaging in sexual behavior

In the mood

Partner wanted to

Show my love and affection

Feels good / have fun

Horny

Why not?

Show love / affection

Easy hook-up

Curiosity / experimentation

Relax / Relieve Stress

Make myself feel better

Other _____

Appendix B

Sexual Behavior and Alcohol Use Open-ended Surveys

BBH 446 EXTRA CREDIT ASSIGNMENT 1 (5 POINTS)

On a separate paper, type/ word-process your answers to the following questions about sexual behaviors, motivations, relationships, etc. Since your instructor and assistants do research on sexual behavior, your input will help us gain a better understanding of college students' viewpoints. Please be honest and as detailed as possible in your answers. (There are no right or wrong answers.) The term "sex" refers to genital sex (vaginal-penile, oral or anal).

Be sure to put your name, student ID, and section number on the top of your paper and mark it "extra Credit Assignment".

1. Please define/describe what these sexual terms mean to you, in as much detail as possible:
 - A. "Horny"

- B. “In the mood”
- C. “Hook-up”
- D. “Easy Hook-up”
- E. “Sexual Desire”
- F. “Casual Sex”
- G. “Friend With Benefits”
- H. “Feels Good”
- I. “F___ Buddy”

2. How could engaging in sex with someone make a person feel better?

How could it make a person feel worse?

3. How does engaging in sex strengthen a relationship?

How does it weaken a relationship?

4. In a relationship, how does someone know it is time to take it to the “next level”
by having sex?

5. What are some of the main motivations for college students to engage in sex?

**BBH 446 EXTRA CREDIT ASSIGNMENT (5
POINTS)**

On a separate paper, type/word-process your answers to the following questions about drinking alcohol and engaging in sex. Since your instructor and assistants do research on sexual behavior, your input will help us gain a better understanding of college students' viewpoints. Please be as honest and detailed as possible in your answers. (There are no right or wrong answers.) The term "sex" refers to genital sex (vaginal-penile, oral, and anal). If you drink alcohol, you can refer to your own experiences. If you do not, refer to what you have observed on campus.

Be sure to put your name and student ID on the top of your paper and mark it "Extra Credit Assignment". It is due by the last day of class or sooner.

1. Please define/ describe what these terms mean to you, in as much detail as possible (for example: how much alcohol would it take, how would the person feel/ behave?).

- A. "Getting buzzed"
- B. "Getting drunk"
- C. "Getting wasted"
- D. When people drink alcohol, they say it helps them to "loosen up".

Exactly what does this mean? How does drinking alcohol change you/people?

2. **Why** do you/people drink to:
 - A. Get a buzz
 - B. Get drunk
 - C. Get wasted

3.
 - A. How does alcohol make for a good time?
 - B. What is fun about drinking alcohol?
 - C. Does drinking alcohol cause people to be less inhibited? If so, in what ways?

4.
 - A. How does drinking alcohol **enhance** a **casual** sexual encounter, if at all?
 - B. How does drinking alcohol **enhance** sexual relations in an **on-going** sexual relationship, if at all?
 - C. How does drinking alcohol **detract from** or **interfere with** a **casual** sexual encounter, if at all?
 - D. How does drinking **detract from** or **interfere with** an **on-going** sexual relationship, if at all?

5.
 - A. Do you think drinking alcohol is used as an excuse for having sex?
Why or why not/under what circumstances?

- B. Do you think that people are more likely to take sexual risks when they are drinking? If so, how?
- C. How does drinking alcohol affect the likelihood of practicing safer sex, if at all?

Appendix C

Original Draft of the MASS

ond to the following statements honestly and accurately. Use the following scale:

1 – Almost never/never 3 – about half of the time 4 – most of the time
 2 - some of the time 4- most of the time 5 – Almost always/always

Drinking alcohol sets the mood for sex for me.
 Drinking lowers my inhibitions about sex.
 When drinking, I am **likely** to have sex and then regret it later.
 When I drink, I am **likely** to engage in sexual activities that I would **not** do if sober.
 (NOT including sex without condoms (unprotected sex).
 When I drink, I am more **likely** to have sex with people I normally would not.

When drinking, I am more sexually *aggressive (outgoing)*.
 When drinking, I am **less likely** to use a condom.
 Drinking makes sex more pleasurable for me.
 When drinking, I perform better during sex.

. When I drink sex is more fun
 . Drinking makes it easier for me to find a sexual partner.
 . Drink allows me to feel more comfortable about sex.
 . Drinking makes me feel more attractive.
 . When I drink I am more **likely**, to experiment/try new things during sex.

Drinking allows me to enjoy sex without worrying/thinking about possible consequences.
 . Drinking allows me to feel more sexually liberated
 . *When I drink, I feel more desirable.*

. Drinking increases my sex drive/desire.
 . Drinking allows me to let loose during sex
 . When I drink I am more likely to hit on/flirt with people.
 . When I drink, I am more likely to have problems getting an erection/getting wet and having an orgasm.

. When drinking, I am more likely to blackout and not remember a sexual encounter.
 . Drinking gives me the *courage* to have sex.
 . When drinking I feel sexually uninhibited.
 . When I drink I have sex to escape the stress of *everyday life*.
 . *I drink and then have sex to lift my spirits.*

. *I drink then have sex to boost my self-esteem.*
 . *After I drink and have sex, I feel worse about myself.*
 . When I drink, I become horny.
 . When I drink, I have an excuse for my sexual actions. For example “ I was drunk, it wasn’t fault”
 . Drinking allows me to have more sexual partners.

. When I drink, I feel more sexually desirable.
 . When drinking, I am **more likely to engage in safer sex**.
 . When drinking, I am likely to discuss sexual histories with my sexual partner.
 . When drinking, I am **more likely** to have an unwanted sexual experience.
 . Drinking allows me to have a *good* sexual experience.

. When I drink, I am **more likely** to connect on an emotional level when I have sex.
 . When I drink, I am **less likely** to talk with my sexual partner.
 . Drinking makes me **less likely** to experiment sexually.
 . When drinking, I am **more likely** to have a *bad* sexual experience.
 . When drinking, I am more **likely** to talk with my sexual partner.
 . It is **easier** to get an erection/get wet and have orgasm when I drink.
 . When drinking, I am **less likely** to connect on an emotional level when having sex.
 . When I drink, I can last longer during sex.
 . Drinking is an excuse for me to have sex.
 . When I drink, I am more self-conscious during sex.

Appendix D

Revised MMASS

The following is a list of different reasons people give for drinking alcohol and then having sex. Thinking of all of the times that you have alcohol and then had sex afterwards, how often (out of those times) would you say that you did this for each of the following reasons. Use rating scale:

- 1 = Almost never/never**
- 2 = Some of the time (less than half)**
- 3 = About half of the time**
- 4 = Most of the time (more than half)**
- 5 = Almost always/always**

I drank alcohol before having sex because doing this:

- | | | | | | | |
|-----|--|---|---|---|---|---|
| 1. | Helps set the mood for sex. | 1 | 2 | 3 | 4 | 5 |
| 2. | Lowers my inhibitions about sex. | 1 | 2 | 3 | 4 | 5 |
| 3. | Helps me to relieve stress. | 1 | 2 | 3 | 4 | 5 |
| 4. | Is what everyone else does. | 1 | 2 | 3 | 4 | 5 |
| 5. | Helps me to engage in sexual activities that I would not do if I were sober. | 1 | 2 | 3 | 4 | 5 |
| 6. | Helps me to have sex with people I normally would not have sex with. | 1 | 2 | 3 | 4 | 5 |
| 7. | Makes sex more pleasurable. | 1 | 2 | 3 | 4 | 5 |
| 8. | Helps me to relax. | 1 | 2 | 3 | 4 | 5 |
| 9. | Is what my partner wanted me to do. | 1 | 2 | 3 | 4 | 5 |
| 10. | Helps me to be more sexually aggressive. | 1 | 2 | 3 | 4 | 5 |
| 11. | Helps me to perform better sexually. | 1 | 2 | 3 | 4 | 5 |
| 12. | Helps me to be more outgoing. | 1 | 2 | 3 | 4 | 5 |
| 13. | Helps to lift my spirits. | 1 | 2 | 3 | 4 | 5 |
| 14. | Makes it easier to find a sexual partner. | 1 | 2 | 3 | 4 | 5 |
| 15. | Helps me feel more comfortable about sex. | 1 | 2 | 3 | 4 | 5 |
| 16. | Makes sex more fun. | 1 | 2 | 3 | 4 | 5 |
| 17. | Helps me to flirt with/hit on people I'm interested in. | 1 | 2 | 3 | 4 | 5 |
| 18. | Helps to boost my self esteem. | 1 | 2 | 3 | 4 | 5 |
| 19. | Impresses my friends. | 1 | 2 | 3 | 4 | 5 |
| 20. | Helps me feel more attractive. | 1 | 2 | 3 | 4 | 5 |
| 21. | Helps me to experiment/try new things during sex. | 1 | 2 | 3 | 4 | 5 |
| 22. | Helps me to escape reality. | 1 | 2 | 3 | 4 | 5 |
| 23. | Helps me to express my emotions to my sexual partner. | 1 | 2 | 3 | 4 | 5 |
| 24. | Helps me to fit in. | 1 | 2 | 3 | 4 | 5 |

I drank alcohol before having sex because doing this

- | | | | | | | |
|-----|---|---|---|---|---|---|
| 25. | Helps me to be more spontaneous. | 1 | 2 | 3 | 4 | 5 |
| 26. | Helps me feel more sexually desirable/sexier. | 1 | 2 | 3 | 4 | 5 |
| 27. | Helps me to forget my problems. | 1 | 2 | 3 | 4 | 5 |
| 28. | Helps me to be more affectionate with my sexual partner. | 1 | 2 | 3 | 4 | 5 |
| 29. | Is expected by my peers. | 1 | 2 | 3 | 4 | 5 |
| 30. | Helps me feel more sexually liberated. | 1 | 2 | 3 | 4 | 5 |
| 31. | Increases my sex drive/sexual desire. | 1 | 2 | 3 | 4 | 5 |
| 32. | Helps me to let loose during sex. | 1 | 2 | 3 | 4 | 5 |
| 33. | Helps me to express my love to my sexual partner. | 1 | 2 | 3 | 4 | 5 |
| 34. | Helps me be more of a player. | 1 | 2 | 3 | 4 | 5 |
| 35. | Gives me the courage to have sex. | 1 | 2 | 3 | 4 | 5 |
| 36. | Makes me horny. | 1 | 2 | 3 | 4 | 5 |
| 37. | Helps me to talk with my sexual partner. | 1 | 2 | 3 | 4 | 5 |
| 38. | Helps me to be less self-conscious during sex. | 1 | 2 | 3 | 4 | 5 |
| 39. | Makes others more sexually desirable/attractive to me. | 1 | 2 | 3 | 4 | 5 |
| 40. | Makes sex more exciting/arousing. | 1 | 2 | 3 | 4 | 5 |
| 41. | Gives me an excuse for my sexual actions because "I was drunk." | 1 | 2 | 3 | 4 | 5 |

42.	Helps me feel more sexually desirable.	1	2	3	4	5
43.	Makes life less boring.	1	2	3	4	5
44.	Makes the mood more romantic.	1	2	3	4	5
45.	Allows me to have more sexual partners.	1	2	3	4	5
46.	Makes me a better lover.	1	2	3	4	5
47.	Helps me feel less lonely.	1	2	3	4	5
48.	Makes it easier to hook-up.	1	2	3	4	5
49.	Helps me feel less nervous about having sex.	1	2	3	4	5
50.	Helps me to release my sexual tension.	1	2	3	4	5
51.	Makes me feel more powerful.	1	2	3	4	5
52.	Makes me more confident about having sex.	1	2	3	4	5
53.	Makes it easier to do something I don't really want to do.	1	2	3	4	5
54.	Makes me oblivious to what is going on.	1	2	3	4	5
55.	Helps me be in a better mood.	1	2	3	4	5
56.	Helps me to forget about the consequences of my actions.	1	2	3	4	5
57.	Makes me feel more in control.	1	2	3	4	5
58.	Makes me more likely to take risks.	1	2	3	4	5
59.	Makes me feel more romantic.	1	2	3	4	5
60.	Is a way to party.	1	2	3	4	5
61.	Enhances my sexual response, such as orgasm.	1	2	3	4	5
62.	Is a way to celebrate.	1	2	3	4	5
63.	Is just something to do since there's nothing better to do.	1	2	3	4	5
64.	Boosts my ego.	1	2	3	4	5
65.	Makes me feel good about myself.	1	2	3	4	5

Appendix E

College Social Life and Health Survey

COLLEGE SOCIAL LIFE AND HEALTH SURVEY

Directions: Please fill in the blank or circle your answer.

I. Background

1. How old are you? _____ years old.

2. What is your gender?

1. Female 2. Male 3. Transgendered

3. Which of these racial/ethnic groups describes you best? (You may indicate more than one if you are bi-racial).

1. **White/Anglo-American**
2. **Black/African-American**
3. **Latino/Hispanic**
4. **Asian/Pacific Islander**
5. **Native American Indian/Native Alaskan**
6. **Other: (specify) _____**

4. What is your religious affiliation?

1. **Catholic**
2. **Protestant**
3. **Jewish**
4. **Moslem**
5. **Agnostic**
6. **Atheist**
7. **None**
8. **Other: (specify) _____**

5. How important is religion to you?

1. **Not at all important**
2. **A little important**
3. **Fairly important**
4. **Important**
5. **Very important**

6. What is your semester standing? _____ semester

7. Are you a member of a:

1. Social fraternity or sorority

1. Yes 2. No

2. A sports team

1. Yes 2. No

8. Where do you currently live?

1. Residence hall/dormitory

4. Off-campus house or apartment

2. Fraternity or sorority house

5. At home with family

3. Other university housing

6. Other: (specify) _____

II. Lifetime Experiences

The next set of questions refer to your experiences throughout your lifetime.

9. Have you ever had sexual intercourse (vaginal-penile, oral, or anal) during your lifetime?

3. Anal intercourse _____ female partners

_____ male partners

12. Overall, *how many different sexual partners have you had?* _____ female partners.

_____ male partners

13. How many times have the following happened:

Put "0" if this has never happened.

Put "9" if you don't know.

1. You were concerned that you (or your partner) had become pregnant. _____ times

2. You (or your partner) became pregnant unintentionally. _____ times

3. You were concerned that you might have a sexually transmitted disease. _____ times

4. You were diagnosed with a sexually transmitted disease. _____ times

5. You were sexually assaulted. _____ times

6. You sexually assaulted someone. _____ times

7. You got tested for HIV. _____ times

8. You were diagnosed as HIV positive _____ times

14. Indicate how often you've used a condom or dental dam with your sexual partners throughout your

lifetime:

A. For vaginal-penile intercourse:

B. For oral intercourse:

C. For anal intercourse

1. Every single time

1. Every single time

1. Every single time

2. Almost always

2. Almost always

2. Almost always

3. More than half the time

3. More than half the time

3. More than half the time

4. About half the time

4. About half the time

4. About half the time

5. Less than half the time

5. Less than half the time

5. Less than half the time

6. Never (Not Once)

6. Never (Not Once)

6. Never (Not Once)

0. Never engaged in this

0. Never engaged in this

0. Never engaged in this

II. Lifetime Experiences

The next set of questions refer to your experiences throughout your lifetime.

9. Have you ever had sexual intercourse (vaginal-penile, oral, or anal) during your lifetime?

1. Yes 2. No (Skip to Part III Question # 17 on page 3)

10. At what age did you *first* engage in:

(Put "0" if you have never engaged in the behavior.)

1. Vaginal-penile intercourse _____ years old

2. Oral sex _____ years old

3. Anal intercourse _____ years old

11. In your lifetime, with *how many different sexual partners* have you had: (Put "0" if you have not had any partners in a category).

1. Vaginal-penile intercourse _____ female partners

_____ male partners

2. Oral sex _____ female partners

_____ male partners

3. Anal intercourse _____ female partners

_____ male partners

12. Overall, *how many different sexual partners have you had?* _____ female partners.

_____ male partners

13. How many times have the following happened:

Put "0" if this has never happened.

Put "9" if you don't know.

1. You were concerned that you (or your partner) had become pregnant. _____ times

2. You (or your partner) became pregnant unintentionally. _____ times

3. You were concerned that you might have a sexually transmitted disease. _____ times

- 4. You were diagnosed with a sexually transmitted disease. _____ times
- 5. You were sexually assaulted. _____ times
- 6. You sexually assaulted someone. _____ times
- 7. You got tested for HIV. _____ times
- 8. You were diagnosed as HIV positive _____ times

14. Indicate how often you've used a condom or dental dam with your sexual partners throughout your lifetime:

B. For vaginal-penile intercourse:	B. For oral intercourse:	C. For anal intercourse
7. Every single time	1. Every single time	1. Every single time
8. Almost always	2. Almost always	2. Almost always
9. More than half the time	3. More than half the time	3. More than half the time
10. About half the time	4. About half the time	4. About half the time
11. Less than half the time	5. Less than half the time	5. Less than half the time
12. Never (Not Once)	6. Never (Not Once)	6. Never (Not Once)
1. Never engaged in this	0. Never engaged in this	0. Never engaged in this

15. For vaginal-penile intercourse only: How often did you or your partner(s) use a form of birth control other than a condom?

2. Every single time
3. Almost always
4. More than half the time
5. About half the time
6. Less than half the time
7. Never (Not Once)
8. I Don't Know
0. Never engaged in this

16. How often during your sexual encounters (vaginal-penile, oral, or anal) had you drunk alcohol beforehand?

1. Every single time
2. Almost always

3. More than half the time

4. About half the time

5. Less than half the time

III. Experiences During the Past Month

Answer the next set of questions based on your experiences during the past month (beginning with spring break).

17. Did you drink any alcohol?

1. Yes 2. No (Skip to Question #23 on page 4).

18. a. How many times (out of the last 30 days) have you drunk alcohol? _____ times

Students use these terms to describe their drinking experiences:

“Buzzed” – consuming enough alcohol to “feel good” but not enough that you think there are outward signs of intoxication or that your judgment is impaired. You think that you are in control.

“Drunk” – consuming enough alcohol that you think others can tell you are intoxicated.

“Wasted” – consuming alcohol to the point of getting sick, vomiting, passing or blacking out.

- b. Of the times you drank alcohol: how many times did you get “buzzed”? _____ times
- c. how many times did you get “drunk”? _____ times
- d. how many times did you get “wasted”? _____ times

19. Use this calculation to determine how many drinks you consume: 1 12-ounce beer, 1 4-ounce wine or 1

shot of liquor or standard cocktail = 1 drink

On average, how many drinks did you consume during each drinking occasion? _____ drinks

20. How many times, did you drink more than 4 drinks (if you are female) or more than five drinks (if you are male) during one drinking occasion? _____ times

21. Who did you most often drink with:

- | | |
|--------------------------------|-------------------------------------|
| 1. Alone | 5. With family |
| 2. With significant other | 6. With someone/people you just met |
| 3. With friends (same gender) | 7. Other (specify): _____ |
| 4. With friends (mixed gender) | |

22. Where did you most often drink?

- | | |
|------------------------|---------------------------|
| 1. Dorm room | 5. Own home |
| 2. Apartment | 6. Car |
| 3. Fraternity/Sorority | 7. Outside |
| 4. Bar/Club | 8. Other (specify): _____ |

23. How would you describe your current relationship status?

- | | |
|------------------------------------|---------------------------------------|
| 1. Not in a relationship | 4. Dating (sexually exclusive) |
| 2. In a casual relationship(s) | 5. Committed for less than six months |
| 3. Dating (sexually non-exclusive) | 6. Committed for more than six months |

24. Have you engaged in vaginal-penile, oral, or anal intercourse in the past month?

1. Yes 2. No (Skip to Part V, Question 39 on page 7)

25. In the past month with *how many different sexual partners* have you had:

Put "0" if you have not had any partners in a category.

1. Vaginal-penile intercourse _____ female partner

_____ male partners

2. Oral sex _____ female partners

_____ male partners

3. Anal intercourse _____ female partners

_____ male partners

26. Overall, *how many different sexual partners* have you had in the past month?

_____ female partners.

_____ male partners

27. With how many of these sexual partners did you discuss their sexual history? _____ partners.

28. Indicate how often you used a condom or dental dam with your sexual partners in the past month.

- | A. For vaginal-penile intercourse: | B. For oral intercourse: | C. For anal intercourse |
|------------------------------------|----------------------------|----------------------------|
| 1. Every single time | 1. Every single time | 1. Every single time |
| 2. Almost always | 2. Almost always | 2. Almost always |
| 3. More than half the time | 3. More than half the time | 3. More than half the time |
| 4. About half the time | 4. About half the time | 4. About half the time |
| 5. Less than half the time | 5. Less than half the time | 5. Less than half the time |
| 6. Never (Not Once) | 6. Never (Not Once) | 6. Never (Not Once) |
| 0. Never engaged in this | 0. Never engaged in this | 0. Never engaged in this |

29. For vaginal-penile intercourse only: How often did you or your partner(s) use a form of birth control

other than a condom?

1. Every single time
2. Almost always

3. More than half the time

4. About half the time

5. Less than half the time

6. Never (Not Once)

7. I Don't Know

0. Never engaged in this

30. How often during your sexual encounters (vaginal-penile, oral, or anal) had you drunk alcohol

beforehand?

1. Every single time

2. Almost always

3. More than half the time

4. About half the time

5. Less than half the time

6. Never (Not Once)

0. Never engaged in this

IV. Last Sexual Experience

The next set of questions refer to your experience the last time you had vaginal-penile, oral, or anal sex (whenever that was).

31. How long ago was this experience?

- 1. In the past week**
- 2. In the past month**
- 3. In the past three months**
- 4. In the past six months**
- 5. In the past year**
- 6. More than a year ago**

32. What was your relationship with your sexual partner?

- 1. Just met – didn't know each other before**

2. **Knew each other but no relationship (e.g. “booty call,” “hook-up,” etc.)**
 3. **Casual relationship (e.g friend with benefits, past boyfriend/girlfriend, non-exclusive dating, etc.)**
 4. **Exclusive dating relationship**
 5. **On-going committed relationship of less than six months**
 6. **On-going committed relationship of more than six months.**
- 33.
1. **Did you drink any alcohol before you had sex?** 1. No 2. Yes
 2. **Were you “buzzed”?** 1. No 2. Yes
 3. **Were you “drunk”?** 1. No 2. Yes
 4. **Were you “wasted”?** 1. No 2. Yes
- 34.
1. **Did your partner drink any alcohol before you had sex?** 1. No 2. Yes 3. Don’t Kn
 2. **Was she/he buzzed?** 1. No 2. Yes 3. Don’t Know
 3. **Was she/he drunk?** 1. No 2. Yes 3. Don’t Kn
 4. **Was she/he wasted?** 1. No 2. Yes 3. Don’t Know
35. **Had the two of you ever discussed:**

1. Your feelings for each other? 1. No 2. Yes

2. Your sexual histories? 1. No 2. Yes

3. Using condoms? 1. No 2. Yes

4. Using another form of birth control 1. No 2. Yes

36. Did you engage in:

1. Vaginal-penile intercourse 1. No 2. Yes

2. Oral sex 1. No 2. Yes

3. Anal intercourse 1. No 2. Yes

37. 1. Did you use a condom 1. No 2. Yes

2. Did you use another type of birth control? 1. No 2. Yes (specify): _____

38. 1. Was this an enjoyable experience for you? 1. No 2. Yes

2. Were you able to get an erection/get wet (lubricated)? 1. No 2. Yes

3. Were you able to have an orgasm 1. No 2. Yes

4. Do you have a clear memory of this experience? 1. No 2. Yes

5. Do you regret this experience?

1. No 2. Yes

V. Motivations for Mixing Alcohol and Sex

39. Following is a list of different reasons people give for drinking alcohol and then having sex. Thinking of all of the times that you have drunk alcohol and then had sex afterwards, how often (out of those times) would you say that you did this for each of the following reasons. Use this rating scale:

1 = Almost never/never

2 = Some of the time (less than half)

3 = About half of the time

4 = Most of the time (more than half)

5 = Almost always/always

(If you have never drunk alcohol and then had sex, skip to Part VI, Question 41 on Page 9 .)

I drank alcohol before having sex because doing this:

- | | | |
|-----------|---|-------|
| 1.
4 5 | Helps set the mood for sex. | 1 2 3 |
| 4 5 | 2. Lowers my inhibitions about sex. | 1 2 3 |
| 4 5 | 3. Helps me to relieve stress. | 1 2 3 |
| 4 5 | 4. Is what everyone else does. | 1 2 3 |
| 4 5 | 5. Helps me to engage in sexual activities that I would not do if I were sober. | 1 2 3 |
| 4 5 | | |

- | | | |
|-----|--|-------|
| 6. | Helps me to have sex with people I normally would not have sex with. | 1 2 3 |
| 4 5 | | |
| 7. | Makes sex more pleasurable. | 1 2 3 |
| 4 5 | | |
| 8. | Helps me to relax. | 1 2 3 |
| 4 5 | | |
| 9. | Is what my partner wanted me to do. | 1 2 3 |
| 4 5 | | |
| 10. | Helps me to be more sexually aggressive. | 1 2 3 |
| 4 5 | | |
| 11. | Helps me to perform better sexually. | 1 2 3 |
| 4 5 | | |
| 12. | Helps me to be more outgoing. | 1 2 3 |
| 4 5 | | |
| 13. | Helps to lift my spirits. | 1 2 3 |
| 4 5 | | |
| 14. | Makes it easier to find a sexual partner. | 1 2 3 |
| 4 5 | | |
| 15. | Helps me feel more comfortable about sex. | 1 2 3 |
| 4 5 | | |
| 16. | Makes sex more fun. | 1 2 3 |
| 4 5 | | |
| 17. | Helps me to flirt with/hit on people I'm interested in. | 1 2 3 |
| 4 5 | | |
| 18. | Helps to boost my self esteem. | 1 2 3 |
| 4 5 | | |
| 19. | Impresses my friends. | 1 2 3 |
| 4 5 | | |

20. Helps me feel more attractive. 1 2 3
4 5
21. Helps me to experiment/try new things during sex. 1 2 3
4 5
22. Helps me to escape reality. 1 2 3
4 5
23. Helps me to express my emotions to my sexual partner. 1 2 3
4 5
- I drank alcohol before having sex because doing this*
25. Helps me to be more spontaneous. 1 2 3
4 5
26. Helps me feel more sexually desirable/sexier. 1 2 3
4 5
27. Helps me to forget my problems. 1 2 3
4 5
28. Helps me to be more affectionate with my sexual partner. 1 2 3
4 5
29. Is expected by my peers. 1 2 3
4 5
30. Helps me feel more sexually liberated. 1 2 3
4 5
31. Increases my sex drive/sexual desire. 1 2 3
4 5
32. Helps me to let loose during sex. 1 2 3
4 5
33. Helps me to express my love to my sexual partner. 1 2 3
4 5

34. Helps me be more of a player. 1 2 3
4 5
35. Gives me the courage to have sex. 1 2 3
4 5
36. Makes me horny. 1 2 3
4 5
37. Helps me to talk with my sexual partner. 1 2 3
4 5
38. Helps me to be less self-conscious during sex. 1 2 3
4 5
39. Makes others more sexually desirable/attractive to me. 1 2 3
4 5
40. Makes sex more exciting/arousing. 1 2 3
4 5
41. Gives me an excuse for my sexual actions because "I was drunk." 1 2 3
4 5
42. Helps me feel more sexually desirable. 1 2 3
4 5
43. Makes life less boring. 1 2 3
4 5
44. Makes the mood more romantic. 1 2 3
4 5
45. Allows me to have more sexual partners. 1 2 3
4 5
46. Makes me a better lover. 1 2 3
4 5

47. Helps me feel less lonely. 1 2 3
4 5
48. Makes it easier to hook-up. 1 2 3
4 5
49. Helps me feel less nervous about having sex. 1 2 3
4 5
50. Helps me to release my sexual tension. 1 2 3
4 5
51. Makes me feel more powerful. 1 2 3
4 5
52. Makes me more confident about having sex. 1 2 3
4 5
53. Makes it easier to do something I don't really want to do. 1 2 3
4 5
54. Makes me oblivious to what is going on. 1 2 3
4 5
55. Helps me be in a better mood. 1 2 3
4 5
56. Helps me to forget about the consequences of my actions. 1 2 3
4 5
57. Makes me feel more in control. 1 2 3
4 5
58. Makes me more likely to take risks. 1 2 3
4 5
59. Makes me feel more romantic. 1 2 3
4 5
60. Is a way to party. 1 2 3
4 5

- | | | | | |
|---|---|-----|---|-------|
| 4 | 5 | 61. | Enhances my sexual response, such as orgasm. | 1 2 3 |
| 4 | 5 | 62. | Is a way to celebrate. | 1 2 3 |
| 4 | 5 | 63. | Is just something to do since there's nothing better to do. | 1 2 3 |
| 4 | 5 | 64. | Boosts my ego. | 1 2 3 |
| 4 | 5 | 65. | Makes me feel good about myself. | 1 2 3 |

40. Now think of the last time you drank alcohol and then had sex.

Look over the above list (#s 1-65). Choose the *three* reasons that best describe why you did this and write the numbers of these reasons in the following spaces: _____ , _____ , _____ .

VI. Sexual Opinion Survey

41. Please indicate your level of agreement or disagreement with the following statements. Respond to each item as honestly as you can. There are no right or wrong answers.

- | | Strongly
Agree | Strongly
Disagree |
|--|-------------------|----------------------|
| 1. Almost all pornographic material is nauseating. | 1 2 3 4 5 6 | |
| 2. Masturbation can be an exciting experience. | 1 2 3 4 5 6 | |
| 3. It would be emotionally upsetting to me to see someone exposing themselves in public. | 1 2 3 4 5 6 | |
| 4. The thought of engaging in unusual sexual practices is highly arousing. | 1 2 3 4 5 6 | |
| 5. The thought of having long-term sexual relations with more than one sexual partner is not disgusting to me. | 1 2 3 4 5 6 | |
| 6. Sex without love is OK. | 1 2 3 4 5 6 | |
| 7. I can imagine myself being comfortable and enjoying casual sex with different partners. | 1 2 3 4 5 6 | |
| 8. I would have to be closely attached to someone (both | 1 2 3 4 5 6 | |

emotionally and psychologically) before I could feel comfortable and fully enjoy having sex with him or her.

1 2 3 4 5 6

VII. Experiences: Interests and Preferences

42. Each of the items below contains two choices: 1 or 2. Please indicate which of the choices most describes your likes or the way you feel by circling the appropriate statement. In some cases, you may find items in which both choices describe your likes or feelings. Please choose the one that *better* describes your likes or feelings. In some cases, mark the choice you *dislike the least*. It is important that you respond to all items with only one choice, 1 or 2. We are interested only in your likes or feelings, not in how you feel about these things or how one is supposed to feel. There are no right or wrong answers. Be truthful and give your honest appraisal of yourself.

1.
 1. I like "wild" uninhibited parties.
 2. I prefer quiet parties with good conversation.
2.
 1. I dislike all body odors.
 2. I like some of the earthy body smells.
3.
 1. I dislike people who do or say things just to shock or upset others.
 2. When you can predict everything a person will do & say, he or she must be a bore.
4.
 1. I have tried marijuana or would like to.
 2. I would never smoke marijuana.
5.
 1. I would not like to try any drug that might produce strange and dangerous effects on me.
 2. I would like to try some of the new drugs that produce hallucinations.
6.
 1. A sensible person avoids activities that are dangerous.
 2. I sometimes like to do things that are a little frightening.
7.
 1. I dislike "players" (people who are uninhibited and free about sex).
 2. I enjoy hanging out with "players."
8.
 1. I find that drugs that get me high make me uncomfortable.
 2. I often like to get high (drinking alcohol or smoking marijuana).

9.
 1. I would like to meet some people who identify themselves as homosexual (men or women).
 2. I stay away from anyone I suspect of being gay or lesbian.

10.
 1. I prefer friends who are excitingly unpredictable.
 2. I prefer friends who are reliable and predictable.

11.
 1. I am not interested in experience for its own sake.
 2. I like to have new and exciting experiences and sensations even if they are a little frightening, unconventional or illegal.

12.
 1. I like to date people who are physically attractive.
 2. I like to date people who share my values.

13.
 1. Heavy drinking usually ruins a party because some people get loud and obnoxious.
 2. Keeping the drinks full is the key to a good party.

14.
 1. A person should have considerable sexual experience before marriage.
 2. It is better if two married people begin their sexual experience with each other.

15.
 1. I like people who are sharp and witty even if they do sometimes insult others.
 2. I dislike people who have their fun at the expense of hurting the feelings of others.

16.
 1. There is altogether too much portrayal of sex in movies.
 2. I enjoy watching many of the "sexy" scenes in movies.

17.
 1. I feel best after taking a couple of drinks.
 2. Something is wrong with people who need alcohol to feel good.

18.
 1. People should dress according to some standard of taste, neatness, and style.
 2. People should dress in individual ways even if the effects are sometimes strange.

19.
 1. I have no patience with dull or boring people.
 2. I find something interesting in almost every person I talk to.

20.
 1. I get bored seeing the same old faces.
 2. I like the comfortable familiarity of everyday friends.

VIII. Feelings

43. Below is a list of words that describe feelings people have. Please read each one carefully. Circle the number that best describes HOW YOU HAVE BEEN FEELING DURING THE PAST MONTH. Use this scale: 0 = Not at all

1 = A little

2 = Moderately

3 = Quite a bit

4 = Extremely

- | | | | |
|---------------|-----------|----------------|-----------|
| 1. Tense | 1 2 3 4 5 | 16. Nervous | 1 2 3 4 5 |
| 2. Angry | 1 2 3 4 5 | 17. Lonely | 1 2 3 4 5 |
| 3. Worn Out | 1 2 3 4 5 | 18. Muddled | 1 2 3 4 5 |
| 4. Lively | 1 2 3 4 5 | 19. Exhausted | 1 2 3 4 5 |
| 5. Confused | 1 2 3 4 5 | 20. Anxious | 1 2 3 4 5 |
| 6. Shaky | 1 2 3 4 5 | 21. Gloomy | 1 2 3 4 5 |
| 7. Sad | 1 2 3 4 5 | 22. Sluggish | 1 2 3 4 5 |
| 8. Active | 1 2 3 4 5 | 23. Weary | 1 2 3 4 5 |
| 9. Grouchy | 1 2 3 4 5 | 24. Bewildered | 1 2 3 4 5 |
| 10. Energetic | 1 2 3 4 5 | 25. Furious | 1 2 3 4 5 |
| 11. Unworthy | 1 2 3 4 5 | 26. Efficient | 1 2 3 4 5 |

- | | | | |
|-----------------|-----------|------------------|-----------|
| 12. Uneasy | 1 2 3 4 5 | 27. Full of pep | 1 2 3 4 5 |
| 13. Fatigued | 1 2 3 4 5 | 28. Bad-tempered | 1 2 3 4 5 |
| 14. Annoyed | 1 2 3 4 5 | 29. Forgetful | 1 2 3 4 5 |
| 15. Discouraged | 1 2 3 4 5 | 30. Vigorous | 1 2 3 4 5 |

44. Please read each statement and decide whether you feel in general that it is **mostly true (#1)** or **mostly false (#2)** as applied to you. Answer “True” to positively stated questions if they are true as often or more often than stated. For example, answer “True” to “Occasionally I play poker” if you play occasionally or more often.

- | | |
|--|-----|
| 1. I find it is hard to keep my mind on a task or job. | 1 2 |
| 2. I am sometimes irritated by people who ask favors of me. | 1 2 |
| 3. I am happy most of the time. | 1 2 |
| 4. Before voting, I thoroughly investigate the qualifications of all candidates. | 1 2 |
| 5. I believe I am no more nervous than most others. | 1 2 |
| 6. I sometimes think when people have a misfortune they only got what they deserved. | 1 2 |
| 7. I am more sensitive than most other people. | 1 2 |
| 8. I like to gossip at times. | 1 2 |
| 9. On occasion I have had doubts on my ability to succeed in life. | 1 2 |
| 10. There have been occasions when I took advantage of someone. | 1 2 |
| 11. I am a high-strung person. | 1 2 |
| 12. I have never intensely disliked anyone. | 1 2 |
| 13. I cannot keep my mind on one thing. | 1 2 |
| 14. I never make a long trip without checking the safety of my car. | 1 2 |

15. I have periods of such great restlessness that I cannot sit long in a chair. 1 2
16. I am always courteous, even to people who are disagreeable. 1 2
17. On a few occasions, I have given up doing something because I thought too little of my ability. 1 2
18. I am always careful about my manner of dress. 1 2
19. At times I think I am no good at all. 1 2
20. I have never felt that I was punished without cause. 1 2
21. When I don't know something, I don't at all mind admitting it. 1 2
22. I am usually calm and not easily upset. 1 2
23. I never resent being asked to return a favor. 1 2
24. I am not unusually self-conscious. 1 2
25. I sometimes try to get even, rather than forgive and forget. 1 2
26. If I could get into a movie without paying and be sure I was not seen, I would probably do it. 1 2
27. I work under a great deal of pressure. 1 2
28. I have never deliberately said something that hurt someone's feelings. 1 2
29. I can remember "playing sick" to get out of something. 1 2
30. I am inclined to take things hard. 1 2
31. I sometimes feel resentful when I don't get my way. 1 2
32. Life is a strain for me much of the time. 1 2
33. No matter who I'm talking to, I'm always a good listener. 1 2
34. I certainly feel useless at times. 1 2
35. I always try to practice what I preach. 1 2
36. There have been times when I was quite jealous of the good fortune of others. 1 2
37. I sometimes feel that I am about to go to pieces. 1 2

38. I have never been irked when people expressed ideas very different from my own. 1 2
39. My table manners at home are as good as when I eat out in a restaurant. 1 2
40. There have been occasions when I felt like smashing things. 1 2
41. I have sometimes felt that difficulties were piling up so high that I could not overcome them. 1 2
42. I never hesitate to go out of my way to help someone in trouble. 1 2
43. At times I have really insisted on having things my own way. 1 2
44. It is sometimes hard for me to go on with my work if I am not encouraged. 1 2
45. I feel anxiety about something or someone almost all the time. 1 2
46. I'm always willing to admit it when I make a mistake. 1 2
47. There have been times when I felt like rebelling against people in authority even though I knew they were right. 1 2
48. I frequently find myself worrying about something. 1 2
49. I have almost never felt the urge to tell someone off. 1 2
50. I shrink from facing a crisis or difficulty. 1 2
51. I don't find it particularly difficult to get along with loud-mouthed, obnoxious people. 1 2
52. I am certainly lacking in self-confidence. 1 2
53. I would never think of letting someone else be punished for my wrong doings. 1 2

THANK YOU!

YOU HAVE COMPLETED THE COLLEGE SOCIAL LIFE AND HEALTH SURVEY.

YOUR TIME AND THOUGHTFULNESS IS APPRECIATED .

Appendix F

Revised Mass Post Analysis

Motivations for Mixing Alcohol and Sex

The following is a list of different reasons people give for drinking alcohol and then having sex. Thinking of all of the times that you drunk alcohol and then had sex afterwards, how often (out of those times) would you say that you did this for each of the following reasons. Use this rating scale:

- 1 = Almost never/never**
2 = Some of the time (less than half)
3 = About half of the time
4 = Most of the time (more than half)
5 = Almost always/always

I drank alcohol before having sex because doing this:

- | | | | | | | |
|-----|--|---|---|---|---|---|
| 1. | Helps set the mood for sex. | 1 | 2 | 3 | 4 | 5 |
| 2. | Helps me to relieve stress. | 1 | 2 | 3 | 4 | 5 |
| 3. | Is what everyone else does. | 1 | 2 | 3 | 4 | 5 |
| 4. | Helps me to have sex with people I normally would not have sex with. | 1 | 2 | 3 | 4 | 5 |
| 5. | Makes sex more pleasurable. | 1 | 2 | 3 | 4 | 5 |
| 6. | Helps me to relax. | 1 | 2 | 3 | 4 | 5 |
| 7. | Is what my partner wanted me to do. | 1 | 2 | 3 | 4 | 5 |
| 8. | Helps me to be more sexually aggressive. | 1 | 2 | 3 | 4 | 5 |
| 9. | Helps me to perform better sexually. | 1 | 2 | 3 | 4 | 5 |
| 10. | Helps to lift my spirits. | 1 | 2 | 3 | 4 | 5 |
| 11. | Makes it easier to find a sexual partner. | 1 | 2 | 3 | 4 | 5 |
| 12. | Helps me feel more comfortable about sex. | 1 | 2 | 3 | 4 | 5 |
| 13. | Makes sex more fun. | 1 | 2 | 3 | 4 | 5 |
| 14. | Helps to boost my self esteem. | 1 | 2 | 3 | 4 | 5 |
| 15. | Impresses my friends. | 1 | 2 | 3 | 4 | 5 |
| 16. | Helps me feel more attractive. | 1 | 2 | 3 | 4 | 5 |
| 17. | Helps me to experiment/try new things during sex. | 1 | 2 | 3 | 4 | 5 |
| 18. | Helps me to escape reality. | 1 | 2 | 3 | 4 | 5 |
| 19. | Helps me to express my emotions to my sexual partner. | 1 | 2 | 3 | 4 | 5 |
| 20. | Helps me to fit in. | 1 | 2 | 3 | 4 | 5 |

I drank alcohol before having sex because doing this

- | | | | | | | |
|-----|---|---|---|---|---|---|
| 21. | Helps me feel more sexually desirable/sexier. | 1 | 2 | 3 | 4 | 5 |
| 22. | Helps me to forget my problems. | 1 | 2 | 3 | 4 | 5 |
| 23. | Helps me to be more affectionate with my sexual partner. | 1 | 2 | 3 | 4 | 5 |
| 24. | Is expected by my peers. | 1 | 2 | 3 | 4 | 5 |
| 25. | Helps me feel more sexually liberated. | 1 | 2 | 3 | 4 | 5 |
| 26. | Increases my sex drive/sexual desire. | 1 | 2 | 3 | 4 | 5 |
| 27. | Helps me to let loose during sex. | 1 | 2 | 3 | 4 | 5 |
| 28. | Helps me to express my love to my sexual partner. | 1 | 2 | 3 | 4 | 5 |
| 29. | Helps me be more of a player. | 1 | 2 | 3 | 4 | 5 |
| 30. | Gives me the courage to have sex. | 1 | 2 | 3 | 4 | 5 |
| 31. | Makes me horny. | 1 | 2 | 3 | 4 | 5 |
| 32. | Helps me to talk with my sexual partner. | 1 | 2 | 3 | 4 | 5 |
| 33. | Helps me to be less self-conscious during sex. | 1 | 2 | 3 | 4 | 5 |
| 34. | Makes others more sexually desirable/attractive to me. | 1 | 2 | 3 | 4 | 5 |
| 35. | Makes sex more exciting/arousing. | 1 | 2 | 3 | 4 | 5 |
| 36. | Gives me an excuse for my sexual actions because "I was drunk." | 1 | 2 | 3 | 4 | 5 |
| 37. | Helps me feel more sexually desirable. | 1 | 2 | 3 | 4 | 5 |
| 38. | Makes life less boring. | 1 | 2 | 3 | 4 | 5 |
| 39. | Makes the mood more romantic. | 1 | 2 | 3 | 4 | 5 |
| 40. | Allows me to have more sexual partners. | 1 | 2 | 3 | 4 | 5 |

41.	Makes me a better lover.	1	2	3	4	5
42.	Helps me feel less lonely.	1	2	3	4	5
43.	Makes it easier to hook-up.	1	2	3	4	5
44.	Helps me feel less nervous about having sex.	1	2	3	4	5
45.	Helps me to release my sexual tension.	1	2	3	4	5
46.	Makes me feel more powerful.	1	2	3	4	5
47.	Makes me more confident about having sex.	1	2	3	4	5
48.	Makes it easier to do something I don't really want to do.	1	2	3	4	5
49.	Makes me oblivious to what is going on.	1	2	3	4	5
50.	Helps me be in a better mood.	1	2	3	4	5
51.	Helps me to forget about the consequences of my actions.	1	2	3	4	5
52.	Makes me feel more in control.	1	2	3	4	5
53.	Makes me more likely to take risks.	1	2	3	4	5
54.	Makes me feel more romantic.	1	2	3	4	5
55.	Is a way to party.	1	2	3	4	5
56.	Enhances my sexual response, such as orgasm.	1	2	3	4	5
57.	Is a way to celebrate.	1	2	3	4	5
58.	Boosts my ego.	1	2	3	4	5
59.	Makes me feel good about myself.	1	2	3	4	5

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