

ALCOHOL AND ACADEMIA: A STUDY OF THE ASSOCIATION BETWEEN STUDENT  
HOUSING TYPE AND ALCOHOL ABUSE AT NORTH DAKOTA STATE UNIVERSITY

A Thesis  
Submitted to the Graduate Faculty  
of the  
North Dakota State University  
of Agriculture and Applied Science

By

Charles Louis Lietaert

In Partial Fulfillment of the Requirements  
for the Degree of  
MASTER OF SCIENCE

Major Department:  
Education

August 2013

Fargo, North Dakota

North Dakota State University  
Graduate School

---

**Title**

Alcohol And Academia: A Study Of The Association Between Student Housing  
Type And Alcohol Abuse At North Dakota State University

---

**By**

Charles L Lietaert

---

The Supervisory Committee certifies that this *disquisition* complies with North Dakota State  
University's regulations and meets the accepted standards for the degree of

**MASTER OF SCIENCE**

SUPERVISORY COMMITTEE:

Dr. Thomas Hall

---

Chair

Dr. Ann Clapper

---

Dr. Myron Eighmy

---

Dr. Verena Theile

---

Approved:

8/13/2013

---

Date

William Martin

---

Department Chair

## **ABSTRACT**

The purpose of this study was to determine if student housing gender-type is significantly related to student alcohol consumption at North Dakota State University. The researcher examined whether the residence of students in coeducational residence halls or single-gender residence halls was related to the rate they consumed alcohol in an average week or the frequency they engaged in binge drinking.

NDSU researchers allowed the researcher of this study to add an institutional question to the biannual Student CORE Alcohol and Other Drug Survey that gathered demographic information about what residence hall gender-type participants lived within.

Using this preexisting data set of student alcohol behavior and residence hall demographics, the researcher analyzed the data through descriptive statistics, bivariate correlational analysis, and analysis of covariance while controlling for the effect of age and sex.

Results revealed that there was no significant relationship between NDSU student alcohol consumption and their residence hall gender-type.

## ACKNOWLEDGMENTS

It is with great appreciation that I recognize the support of the various others that helped make my research a reality. I was once told that no study occurs in a vacuum and the process of this thesis had proven that to be true for me.

Thank you to the North Dakota State Division of Student Affairs, particularly the Office of Orientation and Student Success and the Department of Residence Life. The biannual NDSU CORE Alcohol and Other Drug Survey is facilitated by a host of Student Affairs professionals in the Office of Orientation and Student Success, including Laura Oster-Aaland, Erika Beseler - Thompson, and Frank Heley; without their kind collaboration this study would not have been possible. The willingness of such busy professionals to lend assistance in my learning was not only helpful but additionally flattering. The support of my colleagues and supervisors in the Department of Residence Life has been greatly appreciated. I am especially grateful for the guidance of Casey Peterson, research of Dr. Bill Frazier, and encouragement of Karla Thoennes.

I am also indebted to the guidance, editing, and instruction of my thesis committee; Dr. Thomas Hall, Dr. Verena Theile, Dr. Ann Clapper, and Dr. Myron Eighmy. Particular thanks to Dr. Hall who served as my thesis committee chair and adviser; I have appreciated your willingness to know me as an individual and support me as a life-long learner. Special thanks to Dr. Myron Eighmy and Dr. Anita Welch, each of whom I owe greatly for my still growing knowledge of data analysis.

Thank you to my mother Angela and father Charlie who taught me to appreciate what I have but challenged me to pursue greater. Their passion for education and learning has translated into my drive to continue as a life-long learner and educator.

Perhaps most notably I must thank my life-partner Aesha Lietaert who has so patiently endured the late-nights and weekends I dedicated to accomplish this goal. Her love was a constant source of rejuvenation during this enjoyable yet demanding process.

## **DEDICATION**

I dedicate this study to Student Affairs professionals internationally, who tirelessly serve the future of our world by cultivating the personal growth of students in Higher Education. May the lessons garnered from our efforts and research compound upon each other throughout time.

## TABLE OF CONTENTS

ABSTRACT .....	iii
ACKNOWLEDGEMENTS .....	iv
DEDICATION .....	vi
LIST OF TABLES .....	ix
CHAPTER 1. INTRODUCTION .....	1
Statement of Problem .....	3
Purpose of Study .....	4
Research Questions .....	4
Definitions .....	5
Significance of Study .....	6
Limitations of the Study .....	7
Organization of Study .....	8
CHAPTER 2. REVIEW OF RELEVANT LITERATURE .....	9
Alcohol Abuse Amongst College Students .....	9
Development of U.S. Coeducational Student Housing .....	12
Outcomes Related to Student Housing Gender Type .....	16
Summary .....	24
CHAPTER 3. METHODOLOGY .....	25
Research Questions .....	25
Population .....	26
Instrumentation .....	26

Research Design.....	27
Data Collection Procedures.....	27
Data Analysis .....	28
CHAPTER 4. RESULTS .....	30
Study Purpose .....	30
Descriptive Statistics.....	31
Bivariate Correlational Analysis.....	37
Analysis of Covariance while Controlling for Age and Sex.....	40
Summary .....	42
CHAPTER 5. CONCLUSIONS .....	43
Study Purpose .....	43
Research Questions.....	43
Limitations of the Study.....	45
Major Findings.....	45
Conclusion .....	48
Recommendations for Future Research .....	49
REFERENCES .....	50
APPENDIX A. SURVEY INSTRUMENT WITHOUT INSTITUTIONAL QUESTIONS .....	55
APPENDIX B. INSTITUTIONAL SURVEY QUESTIONS .....	59
APPENDIX C. IRB APPROVAL .....	62



## LIST OF TABLES

<u>Table</u>	<u>Page</u>
1. Frequency Distribution of Respondent Residence by Campus Housing Type .....	32
2. Frequency Distribution of Respondent Residence by Residence Hall.....	32
3. Frequency Distribution of Respondent Gender by Residence Hall Type .....	33
4. Frequency Distribution of Respondent Ages by Residence Hall Type .....	34
5. Frequency Distribution of Binge Drinking by Residence Hall Type .....	35
6. Frequency Distribution of Weekly Alcohol Consumption by Residence Hall Type .....	37
7. Relationship Between Residence Hall Type and Student Alcohol Consumption .....	38
8. Relationship Between Residence Hall Type and Student Alcohol Consumption as Sub-Divided by Gender of Respondent.....	40

## CHAPTER 1. INTRODUCTION

Seemingly a hybrid between counselor and hotel manager, the residence life professional strikes an ongoing balance between satisfying customer demand and supporting student success. If the customer was always right in their field, some residence halls might offer bars in their basements. Yet, if administrators assumed they always knew better than the students, opportunities for student growth and field progress would almost certainly be missed. When evaluating benefits, detriments, and customer demand for student housing, modern residence life professionals are faced with a difficult decision; what happens when what is good for business may be bad for students?

Considering the choice between single-gender housing and coeducational housing, the clear and prominent selection from a customer demand perspective is coed housing (Willoughby, Carroll, Marshall, & Clark, 2009). However, since the inception of coed housing many parties have raised concerns for the moral fabric of students in their residence. Different genders began to share the same residence hall; as a result, fears about sex and drugs gripped parents and the public (Life, 1970). Fortunately, these concerns were investigated and laid to rest with research that found no sexual, substance, or academic issues related to coed housing (Blimling, 1988; Greenleaf, 1962, as cited by Byrne, 1998; Roberts, 1990, Williams & Reilley, 1974, as cited by Blimling 1988; White & White, 1973). With customer demand requesting more coed housing and research only discovering positive outcomes, coed housing grew to become the clear majority amongst student housing types nationwide (Willoughby et al., 2009).

Unfortunately, a modern study has reawakened initial concerns with findings that coed housing predicts increased sexual promiscuousness and increased alcohol abuse (Willoughby & Carroll, 2009). While prevalence of precautionous consensual sexual activity can be debated as a

positive or negative outcome based on values, the factual research is clear that alcohol abuse such as binge drinking can impede student success with increased detrimental outcomes (CASA, 2007; National Institute on Alcohol Abuse and Alcoholism, 2012; U.S. Department of Health and Human Services, 2007; Wechsler, 1995). If Willoughby and Carroll's (2009) findings are corroborated by further research it may force student housing professionals to consider if they want to shift away from offering majority coed housing. This decision would likely carry substantial monetary and public perception implications.

A current example already exists less than two years after the publication of Willoughby and Carroll (2009). When John Garvey became the new President of The Catholic University of America (CUA) he made the decision to, in time, revert any coed residence halls on campus to single-gender housing (Scalia, 2011). When Garvey explained his rationale, the research of Willoughby and Carroll (2009) was a key component in his explanation. The resulting reactions came quickly. On June 21, 2011 National Public Radio reported the pending change in CUA housing policy and on September 16, 2011 the CUA student newspaper ran a story about a reactionary lawsuit being brought against the university (Conley, 2011; Fenston, 2011). Although Garvey required no further research before making a sweeping policy decision, other institutional leaders may be waiting for additional research on this topic.

In an effort to further investigate these important questions about housing type and alcohol abuse, this researcher proposes a study with a population uniquely suited for testing the relationship between student housing type and alcohol consumption. An irregularity for a modern public institution of higher education, North Dakota State University (NDSU) houses roughly half of its multi-thousand person first-year student population in single-gender housing. This presents the opportunity to overcome an issue Willoughby and Carroll (2009) faced when

conducting their research, gathering a substantial percentage of participants from single-gender housing as well as coed housing. The researchers noted that they controlled for this issue in their data analysis. Nonetheless, a sample from numerous first-year students across roughly equal sub-populations in multiple single-gender and multiple coed halls presents an excellent opportunity to retest this important research.

By creating and adding an institutional student housing demographic question to a bi-annual campus survey regarding student drinking behaviors, this researcher will be able to use multivariate correlational analysis on the collected data to determine if significant relationships exist between student housing type and alcohol abuse at NDSU.

### **Statement of Problem**

As alcohol abuse continues to detrimentally impact college campuses, it remains a vital role of all those concerned with student success to identify environments that predict heightened rates of alcohol use. Currently there exists initial but limited research suggesting a link between coeducational student housing and increased alcohol abuse. This research area warrants further study. Unfortunately, there exists difficulty in gathering substantial population samples for analysis due to the limited remaining percentage of student living in single-gender housing by which to contrast the behaviors of those in coeducational housing. Fortunately, North Dakota State University houses, at this time, roughly half of their student population in single-gender housing and, subsequently, roughly half of their student population in coeducational housing. This presents a uniquely fortunate population from which to draw a sample for research.

## **Purpose of Study**

The purpose of this study was to determine if the ecological impact of residence hall-type effects resident alcohol consumption as reported by students at North Dakota State University. Specifically, this study will examine the impact of the gender demographics in a student living environment on drinking behaviors.

## **Research Questions**

The major research question sought to determine if student housing gender-type is significantly related to student alcohol consumption. The researcher examined whether the residence of students in coeducational residence halls or single-gender residence halls was notably related to the rate at which they consumed alcohol in an average week or the frequency they engaged in binge drinking. To these quandaries the following research questions were utilized:

- 1) What relationship exists, if any, between the residence hall gender-type NDSU students reside in and the frequency of their alcohol consumption?
- 2) What relationship exists, if any, between the residence hall gender-type NDSU female students reside in and the frequency of their alcohol consumption?
- 3) What relationship exists, if any, between the residence hall gender-type NDSU male students reside in and the frequency of their alcohol consumption?
- 4) What relationship exists, if any, between the residence hall gender-type NDSU students resides in and the frequency of binge drinking they engage in?
- 5) What relationship exists, if any, between the residence hall gender-type NDSU female students reside in and the frequency of binge drinking they engage in?

- 6) What relationship exists, if any, between the residence hall gender-type NDSU male students reside in and the frequency of binge drinking they engage in?

### **Definitions**

**Binge drinking.** Consuming five or more standard drinks of alcohol in one sitting (CORE, 2012). Consuming five standard drinks in a two hour sitting results in the average male incurring a Blood Alcohol Content (BAC) of 0.08 or greater. This level of intoxication is known to put individuals at greater risk of negative consequences such as severe accidents when operating a motor vehicle (NIAA, 2013). Due to average differences in blood volume, body water volume, and dehydrogenase enzymes, the average woman incurs a BAC of 0.08 after four standard drinks in a consecutive two hour sitting. Although an admittedly more precise method would ask men and women different questions to report binge drinking, for conservative simplicity in this study five or more drinks in a two hour setting will constitute binge drinking for both male and female participants (NIAA, 2013; Wilsnack & Wilsnack, 2013).

**Coeducational residence hall.** An entire college student community building on-campus that houses students regardless of legal sex or gender identity. Commonly, students will share the same bedroom with individuals of the same sex but the overall community with mixed-sexes.

**Residence hall.** A building that provides college students a place to live and a community of peers to live and interact with regularly (Frazier, 2009).

**Single-sex residence hall.** An entire college student community building on-campus that houses exclusively one legally identified sex of students. Though this community may contain differing gender identities and expressions, the student occupancy is either exclusively students legally identified as male or exclusively students legally identified as female.

**Standard drink.** A beverage containing 0.6 fluid ounces of pure alcohol. This generally equates to 12 fluid ounces (fl. oz.) of 5% alcohol by volume beer, 5 fl. oz. of 12% alcohol wine, and 1.5 fl. oz. of 40% alcohol liquor (NIAA, 2013).

### **Significance of the Study**

The significance of this study is an attempt to further research regarding factors related to student success. As alcohol consumption frequency and binge drinking are found to be negatively related to student success, it is important to identify optional variables that predict behaviors such as alcohol abuse (CASA, 2007; CORE, 2012; Beseler-Thompson, 2009; NIAA, 2013; Wechsler, 2002). Age and familial history of substance abuse are now known to be predictors of a student's behaviors regarding alcohol (Blimling, 1988; NIAA, 2013; Wechsler, 1995; Willoughby & Carroll, 2009). While a student cannot choose their age or family history, they are free to make informed decisions regarding their student housing selection. If a certain housing type is shown to be a predictor of increased alcohol abuse, then that discovery would serve to inform students, parents, and student affairs professionals.

Although limited in nature, initial research from other studies draw the conclusion that coeducational housing is encouraging notably higher rates of binge drinking (Wechsler et al., 2002; Willoughby and Carroll 2009). While this may initially seem like enough cause to transfer all student housing to gender segregated assignments, the conclusion stands at odds with other important factors. Other researchers (Blimling, 1988; Williams and Reilley, 1974, as cited by Blimling, 1988 Roberts, 1990; Greenleaf 1962, as cited by Byrne, 1998; White and White, 1973, as cited by Byrne, 1998) have found coeducational housing to be related to a host of greater positive student outcomes than single-gender housing.

Additionally, student affairs professionals report that the substantial majority of their customer demand is for coeducational housing (Willoughby et al., 2009). As always, these professionals must strike the challenging balance between what they perceive as best for students and what they know is most preferential for their customers. Knowing that current research is limited, it is important to continue testing the correlation between coeducational housing and alcohol abuse to better inform student affairs professionals about relevant factors in considering what style(s) of housing they will provide their students. Furthermore, this study is particularly significant to intuitions such as North Dakota State University that offer a higher percentage of single-gender housing since no study has been conducted, to this researcher's knowledge, to test this hypothesis on a campus with approximately half of their multi-thousand person on-campus population living in single-gender residence halls.

This researcher hopes that conclusions drawn from this study will add to the overall literature regarding housing type and student success to better inform student affairs leadership, students, and parents. This information may serve to guide decision making about what housing styles institutions offer or raise awareness for student needs that may be particularly present in specific housing styles. At a minimum, this study will serve to better inform student affairs practitioners about the relationship between housing type and student behavior.

### **Limitations of the Study**

This study exclusively examined data from first-year students at North Dakota State University. Therefore, this study specifically focused on the experience of first-year students at one mid-sized, public, land-grant, research university. As a result of the limited nature of the data analyzed, the research conclusions may not be generalizable to institutions of differing sizes, funding models, or geographic locations. Regardless, the conclusions of this study could add to



the overall richness of research concerning student drinking habits in relation to their living environments.

### **Organization of the Study**

This chapter introduced the remainder of the study by detailing contextual definitions and outlining research questions in consideration. It sought to explain how this particular study is significant for the field of student affairs and North Dakota State University professionals. The study is organized into four subsequent chapters. The succeeding chapter will review contemporary literature regarding the possible link between living environment and student behavior concerning alcohol. Chapter two will also review literature regarding binge drinking in relation to the variables of gender and class of traditionally-aged college students. The third chapter describes the research design and methodology utilized in this study. This includes sampling, instrumentation, data collection, and procedures used for data analysis.

## **CHAPTER 2. REVIEW OF RELEVANT LITERATURE**

In an effort to garner foundational context regarding a potential relationship between alcohol abuse and coeducational housing this researcher sought and reviewed pertinent literature. Shared here is an overview of literature that the researcher finds particularly beneficial to understanding the context of this study's purpose.

The first portion of the literature review, Alcohol Abuse Amongst College Students, highlights research regarding alcohol use by students in post-secondary education as well as the repercussion of alcohol abuse in college cultures. In order to better lend context to the variable of student housing type in this study, an historical overview of the emergence of coeducational housing is detailed in the second section, Development of U.S. Coeducational Student Housing. The final and most expansive section of the literature review, Outcomes Related to Student Housing Gender Type, provides an overview existing research regarding student outcomes correlated to their type of residence. This section is subdivided into three main themes of research regarding outcomes related to student residence: sexual activity, beneficial student outcomes, and detrimental student outcomes. Amongst detrimental student outcomes that have been analyzed, the researcher presents a review of the sparse research existing that examines the relationship between alcohol and student housing gender type.

### **Alcohol Abuse Amongst College Students**

As college students journey through post-secondary education they are likely to encounter a path littered with numerous potential obstacles. An indisputably prevalent and substantial obstacle to college student success is alcohol abuse. Even amongst other available drugs, alcohol continues to be known as one of, if not the most substantial drug problem related to student success. Granted, there exists a clear and growing trend of marijuana use, prescription drug abuse, and the introduction of various new substances to hinder students. Nevertheless, this

researcher argues that no drug currently surpasses the continuing detriment that alcohol inflicts on campus communities across the nation. Alcohol contributes to a substantial portion of preventable college student deaths each year, an estimated 1,825. Additionally, while under the influence of alcohol, nearly 600,000 college students are annually unintentionally injured (National Institute on Alcohol Abuse and Alcoholism, 2013).

Plausibly, alcohol incurs such statistically significant damage to college communities because it remains to be one of the most predominantly used drugs, second on campuses perhaps only to caffeine. When surveyed about use in the last 30 days, 3% of college students reported misusing amphetamines and 18% reported marijuana use. These numbers may be concerning but pale in comparison to the 69% of college students that reported using alcohol in the last 30 days (CORE Institute, 2012). When the question was asked of students under the legal drinking age, 61% stated that they used in the last 30 days. Alcohol was found to be more prevalently used amongst persons aged 12 to 20 than any other illicit drug and even more prevalently used than tobacco (U.S. Department of Health and Human Services, 2007, as cited by Beseler-Thompson, 2009). Alcohol misuse is drastically more prevalent than a couple weekends of excess per semester. The age group 18 to 20 year-olds had a higher reported percentage of alcohol dependence than any other age group in the United States (U.S. Department of Health and Human Services, 2007). Of college students aged 18 to 24, nineteen percent qualify as alcohol dependent (National Institute on Alcohol Abuse and Alcoholism, 2012).

While a host of negative consequences are associated with alcohol use, students who binge drink report experiencing an even greater degree of negative consequences as a result of being under the influence of alcohol (Wechsler et al., 1995). Binge drinking for the purposes of this paper is defined as consuming five or more standard drinks in one two-hour sitting (for

greater depth of explanation regarding the definition of binge drinking please refer to the definition section in chapter one, located on pages four and five). Negative student repercussions from binge drinking range from academic concerns such as missing class, receiving lower grades, and suspension; to health concerns such as injury or death (CASA, 2007; Thompson, 2009; U.S. Department of Health and Human Services, 2007; Wechsler et al., 1995; Wechsler et al., 2002). As Wechsler et al. (1995) observed, “College students, who are in an age group that has the highest rate of binge drinking, are at an even higher risk for heavy episodic drinking than their peers who do not attend college” (p. 921). Notably, 44% of students that were surveyed in the national CORE alcohol and other drug survey reported binge drinking in the two weeks preceding the survey (CORE Institute, 2012).

Disturbingly, alcohol and sexual assault are closely intertwined. Although other illicit drugs are used by perpetrators of sexual assault to target victims, no drug is more commonly used to facilitate acts of sexual assault than alcohol (Abbey, 2002; Rape Abuse and Incest National Network, 2013). An aggregate survey of North Dakota public universities revealed that 14% of students reported being taken advantage of sexually as one of the consequences related to alcohol use in the past academic year (CORE, 2012). When perpetrators of college date rape were surveyed, roughly 3 in 4 stated that they intentionally aided a date in getting intoxicated in order to have sexual intercourse with them (Abbey, 2002). An estimated 97,000 college students are survivors of alcohol related sexual assault annually (NIAAA, 2012). Clearly, alcohol abuse among college students is a pervasive issue that warrants ongoing attention from the various college stakeholders concerned with student success and student wellbeing.

At North Dakota State University an entire department of personnel, Alcohol and Other Drug Prevention (AOD) Programs, is dedicated to addressing the issue of student misuse of

alcohol and illicit drugs. Additionally, there exists, at the time of this publication, a President's Council on Alcohol and Other Drugs, policies regarding alcohol in the NDSU Student Code of Conduct, addiction counseling, support groups, and regular research on AOD student consumption. The resources of time, funds, and personnel have been dedicated to assessing and addressing student drug use in college. Certainly these dedicated professionals are making a positive difference on campuses such as NDSU. Yet, in the face of numerous efforts on a "dry campus" (alcohol is not allowed on campus), NDSU students surpass the national binge drinking average with 53% of NDSU students reporting that they have consumed five or more drinks in one sitting at least once in the past two weeks (CORE, 2012). Further, three out of every four NDSU students reported consuming alcohol in the past 30 days. This aligns with research showing a greater prevalence of binge drinking occurring in the Midwest United States (Nelson, Naimi, Brewer, Bolen & Wells, 2004, as cited by Beseler-Thompson, 2009). As professionals continue in their passionate work regarding college student alcohol use, research helping to determine predictors for increased binge drinking can only help. Understanding the development of coeducational student housing and any possible correlation it has to increased binge drinking rates would serve to better inform the efforts of college student personnel at NDSU and across the nation.

### **Development of U.S. Coeducational Student Housing**

Student Housing in America was born in 1636 when the Great and General Court of the Governor and Company of the Massachusetts Bay approved funding for a "Colledge." ("History of Harvard," 2013; "Historical Facts: Harvard Archives," 2013). Being that predominate colony members of the area were alumni of Cambridge and Oxford, it only seemed fitting that the new "Colledge" would also follow the English model of education (Frederiksen, 1993). According to

Frederiksen (1993) the English model utilized student's living quarters as an area for holistic learning as guided by faculty who lived in the housing as well. By the time the first nine students of this institution graduated in 1642, their diplomas bore the contemporarily familiar name of Harvard.

Ninety-one years after the founding of Harvard came the founding of the first American women's academy, Ursuline Convent School in 1727 (Eisemann, 1998, p. 4; "Ursuline Heritage," 2013). The timeline stretches out even further to find the first institution to grant bachelorette degrees to women. Founded in 1742 and chartered to grant bachelorette degrees in 1863, the Bethlehem Female Seminary (known today as Moravian College) is noted as the first higher education institution to graduate women in America with bachelor's degrees (Eisemann, 1998; "College History," 2013). Nonetheless, women did continue to enroll once given the chance, and overtime the prevalence of women in higher education increased. Along with this growth came the dramatic increase in student housing (Frederiksen, 1993; Owens, 2010). Nearly 2.5 million students reside in on-campus student housing in the United States and 54% of those students are female (U.S. Census Bureau, 2009). For obvious reasons, student housing spent its early years in America as single-gender. With only one sex of student at a given college, the idea of coeducational housing was laughable. Another century and a decade would pass between women participating in higher education and women being allowed to attend college with men. Oberlin Collegiate Institution became the first coeducational American college in 1837 when they admitted four women (Eisemann, 1998; "About Oberlin: History," 2013). This Ohio institution, now known as Oberlin College, garnered a great deal of attention when they also became one of the first colleges to offer coeducational housing in 1970 ("Co-ed Dorms," 1970). Compared to the history of student housing, coeducational student housing in the United States is

a relatively recent student option. As such, research on this topic is still developing and all the more imperative.

According to Willoughby et al. (2009) the nation's initially male exclusive higher education system progressed to include women and housing accordingly progressed to provide separate living quarters for males and females. Though highly restrictive at first, the inhibiting boundaries between males and females on campuses followed a trend through time of decreasing restriction across the country. Starting with males/females in completely separate buildings, sometimes on opposite ends of the campus, institutions evolved to provide housing for both sexes in the same hall but remained separated by floor or wing. This integration gave way to the birth of coeducational residence halls. Although somewhat young in existence, this housing style quickly became the top preference of college students and most commonly offered housing type by most public institutions. Some institutions made the progression out of necessity, rushing to accommodate enrollment increases that ballooned occupancies with facilities unprepared to accommodate all of their students separately by gender. Other institutions explain that they were simply accommodating the growing demand of their customers: more students were asking for coeducational housing. As Willoughby et al. (2009) noted, university housing officers in their study comment that there are a very limited number of students who prefer to live in single-gender student housing at their universities.

Of course, changing tides rarely arrive without waves; parents and the general public openly expressed their dissenting opinions about the change in housing accommodations when Oberlin College began to offer coeducational housing. On the November 20th, 1970 the cover of Life magazine read, "CO-ED DORMS; An intimate revolution on campus" ("Co-ed Dorms," 1970). Both the title and the content of the article addressed the single major concern expressed

by the public: Were the students having more sex? The article stated, “Parents sometimes anxiously conclude that sex in the most urgent physical manifestations will overwhelm the rest of college life. The morals of their children will be under constant assault” (“Co-ed Dorms,” 1970).

As shocking as Oberlin’s liberal practice was to some in 1970, there is record of even earlier coeducational housing at the University of Michigan. This initial use of coeducational housing came out of necessity as the University of Michigan underestimated the high volume of female students needing housing. After receiving positive feedback from the happenstance occurrence, the University tasked employees to look into possibly offering the option in the early 1960s. The University did begin intentionally offering the option of coed housing in the 1960s and continued onward (Bordin, 1999). Regardless of parental fears, coed housing steadily grew in popularity and, inversely, single-gender housing diminished in both customer demand and university use (Frederiksen, 1993; Willoughby, 2009).

It had become plainly clear that the majority of student housing in America was coed. However, the precise percentages of coeducational housing compared to single-gender housing were not documented until recently. Willoughby et al. (2009) sought to examine the prevalence of coeducational housing by gathering data from 100 American universities, 50 of which were large institutions, 25 mid-sized, and 25 small. The researchers quantified large universities as those with more than 30,000 enrolled students, mid-sized as 20,000 to 30,000 students, and small to be universities with less than 20,000 students enrolled. The findings indicated that 82% of residence halls at large universities were coeducational by design. At full capacity, these coed halls accounted for 93% of student housing accommodations at large institutions. The discrepancy between residence hall type percentage and residence hall occupancy percentage is



accounted for because of the smaller size of single-gender housing facilities used. At mid-sized institutions coed housing accounted for 76% of halls and 79% of offered occupancy. Small universities sampled reported 79% of halls and 87% of occupancy respectively. This research shows that gender specific student housing is offered less often at most institutions; when offered, it is for a smaller number of students, and, most commonly it is offered for female students. Even when offered on a limited basis for female students, housing professionals generally receive too little a demand to fill this housing option to fill their accommodations with students who prefer single gender-housing. At the time of the Willoughby and Carroll (2009) study, half of the largest 50 US universities offered zero single-gender student housing options. The researchers even went as far to claim that, “These numbers and the trends suggest that gender-specific housing may soon disappear at American universities other than at religiously affiliated schools” (Willoughby et al., 2009).

Willoughby and Carroll (2009) further validated the limited existence of gender segregated housing on campuses today inadvertently when they gathered data for their study. Although the researchers gathered data from students surveyed at five different colleges, varying in geographic region, institutional type (public, private, religious), and institutional size, their participants living in coed housing made up roughly 87% of total participants. Meaning, only 68 of their 510 participants lived in single-gender housing of either the all-male or the all-female variety. This data is aligned with the Willoughby et al. (2009) study that found similar representation of student living in coed housing as compared to single-gender housing.

### **Outcomes Related to Student Housing Gender Type**

The modern existence of coed housing has been researched on a limited basis to date. In particular, the impact of coed housing on students as compared with, the previously more

popular, gender-specific housing is a topic yet to be fully explored. As Willoughby and Carroll (2009) remarked, “Despite the rapid pace with which co-ed housing has overtaken gender-specific housing in the United States, little is known about what impact different types of college housing may have on young adult development and outcomes.” (p. 241) In an effort to better understand the known comparisons of housing type influence on student outcomes and behavior this researcher here explores an overview of known topical research.

**Sexual activity.** When coeducational housing first came into existence, researchers had a brand new horizon of student outcomes as related to housing type they could examine. Public outcry, assumption, and intrigue made one subtopic abundantly easy to select: sex! The question had to be answered: Do students living in coed housing engage in more sexual activity than their peers living in single-gender housing? For decades the question was investigated and for decades the answer appeared to be “no.” Research found no significant difference between the amounts of sexual activity amongst students residing in coed halls as compared to their peers living in single-sex halls (Blimling, 1988; Greenleaf, 1962, as cited by Byrne, 1998; Roberts, 1990, Williams & Reilley, 1974, as cited by Blimling 1988; White & White, 1973).

Yet, when the topic was researched again in recent years, Willoughby and Carroll (2009) stated that they discovered a significant correlation between student housing type and high risk behavior, including sexual promiscuity. The researchers found that students living in coed housing, on average, have engaged with a higher number of sexual partners in the 12 months preceding the study. Additionally, students in coed housing reported higher rates of pornography use. When considering Willoughby and Carroll’s (2009) research, a particular element to consider may be the research question of ‘how many sexual partners a student has had in the past 12 months.’ Knowing that extremely few students live in student housing 12 months of the year

it appears unlikely that housing type can be claimed as the sole influence for an entire year period. Further, unless the research occurred towards the end of the academic year the majority of a first-year student's past 12 months would have been lived outside of student housing. In such a scenario it may seem unreasonable to infer that housing type accounts for the majority influence on a student's number of sexual partners in the last year.

Willoughby and Carroll (2009) found that concerns about sex and housing type may not be completely unjustified. They concluded that students living in coed housing expressed more liberal attitudes towards sexual activity than their peers living in gender-segregated housing. This conclusion supports the initial findings of Lance (1976) who determined that students living in coeducational housing had more permissive attitudes towards premarital sex than their peers in single-gender housing. Some might claim this attitude difference to be attributed to self-selection, meaning that students with more liberal sexual attitudes more prominently select coed housing. While Willoughby and Carroll (2009) failed to control for this possibility, Lance (1976) gathered data at two points in the year. Interestingly, Lance found no significant difference in sexual permissiveness when data was gathered in the fall semester but data gathered in the spring semester showed there to be increased attitudes of sexual permissiveness amongst students living in coeducational housing. A student's liberalness in sexual attitudes and activity are not objectively negative outcomes, nor are they objectively positive outcomes. Personal philosophies will guide if these outcomes are to be viewed as benefits or detriments for each respective person. Knowing this, knowledge about outcomes related to residence hall types can help inform parents and students in selecting their student residence.

**Beneficial outcomes related to coeducational housing.** Regardless of possible concerns surrounding males and females residing in the same building, researchers have found a number

of positive outcomes related to coeducational student housing. Williams and Reilley (1974, as cited by Blimling, 1988) found that students living in coeducational housing were more open to change and growth than their peers living in single gender-halls. Similarly, they stated that students in coeducational housing underwent, on average, a greater degree of interpersonal development than their counterparts in single-gender housing.

Blimling (1988) found that students living in coeducational halls reported higher average interpersonal competency than their peers in single gender housing. Blimling (1988) went on to note that students living in coeducational housing were found to have a higher degree of sensitivity to others in their community, express a higher level of interest in community events, and a express greater interest in cultural activities than peers living in single gender halls.

Roberts (1990) determined that coeducational student housing positively impacts student development in regard to maturity levels. Interestingly, he also found that students living in coeducational housing experienced greater satisfaction with their living environment than students living in single-gender halls. However, this outcome may or may not be related to the gender demographics of the living environment. For instance, if the newer halls on a campus were being used for coeducational housing, one might expect a higher degree of satisfaction with living environment regardless of building gender because of the difference in building quality.

Greenleaf (1962, as cited by Byrne, 1998) observed that students who lived in coeducational housing tended to hold less stereotypical views of their peers of the opposite sex. This may be attributed to the increased interaction between genders that allows students to see men and women as more than their gender. Similarly, White and White (1973, as cited by Byrne, 1998) discovered that students living in coeducational housing tend to develop more platonic relationships with the opposite sex than students living in single-gender housing.

As males experience more frequent interaction with females, and vice versa, they learn the complexity of personhood and look less to gender norms as defining characteristics of one another. Quite contrary to the fear that students living in coed housing will be continually overcome with sexual attraction to their neighbors, the research previously cited shows that coeducational housing more commonly results in decreased gender stereotypes, increased platonic relationships, increased maturity, and increased interpersonal competence.

**Detrimental outcomes related to coeducational housing.** Although the previous research cited indicates that coeducational housing provides positive learning opportunities for students, there is also research warning of the possible negative student outcomes associated with mixed-gender environments. Spencer, Barrett, Storti, and Cole (2012) noted that women starting their college career share similar ideals regarding body type, but there is a notable difference in body type attitudes expressed by upper-division female students after spending years in a single-gender environment as compared to a mixed-gender environment. Women who attended all-female colleges tended to support larger body ideals, while female students at mixed-gender colleges were more likely to support thinner body ideals. However, this research regarding body image was specifically related to college types instead of hall environment types within a college campus. When coed student housing was examined by Berg (1988, as cited by Flicek & Urbas, 2003) women in coed environments were found to have higher levels of body dissatisfaction, a drive for thinness, and bulimic behaviors. Surprisingly, when Flicek and Urbas (2003) conducted research in an effort to validate these findings they found no significant difference in these behaviors and attitudes as correlated with housing type.

Another negative outcome related to coeducational housing is the proposed correlation between gender of housing type and student use of alcohol. This will be a main focus of this

study and therefore an area of particular interest when considering correlation of student outcomes as related to housing type.

Harford, Wechsler, and Muthen (2002) found that students living in coeducational housing reported higher levels of problem related consequences from consuming alcohol than their peers in single-gender housing. Students in coed housing were more likely to incur serious negative consequences when they consumed alcohol, while students living in single-gender housing reported a lower occurrence of problematic consequences when consuming alcohol. These authors did not note any correlation in their research between housing type and frequency of consumption or binge drinking.

Wechsler, Kuo, Lee, and Dowdall (2002) compared housing types of single-gender and coed as related to drinking behaviors. The researchers found that students living in coeducational student housing reported a greater prevalence of what they termed “heavy episodic drinking” than students who lived in single-gender student housing. This reinforces the earlier findings of Wechsler, Dowdall, Davenport, and Castillo (1995). These researchers discovered that residence in a coeducational residence hall increased a student’s likelihood to engage in binge drinking.

Willoughby and Carroll (2009) determined that students living in coeducational student housing reported substantially higher rates of binge drinking than their peers in single-gender housing. Additionally, the number of students who reported drinking on a weekly basis in coed housing was roughly double the number who reported weekly consumption in single-gender housing. One important aspect of this study to be aware of is that 70% of the participants were female and 87% of the participants lived in coed housing. Knowing that gender can be a predictor of alcohol consumption and further that single-gender housing is significantly more likely to occur for women, it would seem likely that the coed population utilized in this study

was compared to a vastly female majority population living in single-gender housing. When comparing a small number of majority females to a large number of males and females, previously mentioned research would suggest that alcohol consumption rates would be higher in the group with a greater percentage of males. Although Willoughby and Carroll (2009) did not publish the demographic percentages of gender within their sub-populations of single-gender and coed housing, they did note that they controlled for gender in their research.

Cross, Zimmerman, and Grady (2009) sought to analyze potential relationships between student alcohol consumption and residence hall room type residence. These researchers noted that there was little doubt from their literature review that students living in fraternity/sorority housing reported higher levels of alcohol abuse than their peers in residence hall housing. However, Cross et al. (2009) poignantly stated that, “Researchers have often lumped student living on campus as a homogenous group without exploring the potential effects of different on-campus living arrangements,” even though college students reside in an array of hall and room types (pp. 584-585). Amongst other findings, the researchers discovered that students living in suite-style student housing reported higher rates of binge drinking than students who lived in traditional non-suite-style student housing. Additionally, students living in coed housing were found to be more likely to engage in higher rates of binge drinking than those living in single-gender housing. Initially, these results appear to align with the research of Willoughby and Carroll (2009) and Wechsler et al. (2002). Instead, Cross et al. (2009) directly calls into question the research design of these former studies by suggesting that the failure to recognize room type as a factor is a mistake. Astutely, Cross et al. (2009) observed that room type is a predictor of binge drinking behavior and gender-type of housing is strongly paralleled to room type, meaning the majority of suite-style residence halls also happen to be coeducational; meanwhile, the clear

majority of single-gender halls use traditional room designs. Since suite-style room types predict higher rates of student binge drinking as compared to traditional room types, what appears as a correlation between gender-type of housing and drinking behavior may more accurately be a correlation between room type and drinking behavior.

To more appropriately determine if gender of housing type is a predictor of binge drinking behavior, a researcher would need to examine reported binge drinking behavior of males in single-gender housing as compared to males in coed housing. Similarly, an analysis of binge drinking rates among females living in single-gender housing as compared to females living in coed housing could more accurately illuminate the possible relationship between binge drinking and gender of student housing. Cross et al. (2009) examined these very research questions in order to better delineate if room type or instead the gender of housing more strongly influenced student binge drinking behavior. They found that room type was the strongest predictor of binge drinking. Students living in suite-style bedrooms reported significantly higher rates of binge drinking than their peers living in traditional residence hall rooms. The researchers determined that there was no significant difference in alcohol consumption rates reported by males living in single-gender housing as compared to males living in coed housing. Conversely, Cross et al. (2009) found a significant relationship between housing type for women and alcohol consumption. Females who resided in coed housing were notably more likely to report consuming alcohol more frequently than their female counterparts in single-gender housing. This supports the research of Ricciardelli and Williams (1997) who noted that women living on campus alongside men reported alcohol consumption rates similar to their male peers. Perhaps, this speaks to the influence of male drinking behaviors on women who have increased social



interactions with men as their peers. More specifically, these findings may relate to the impact heavier drinkers have on their peer group with regard to alcohol social norming.

## **Summary**

This review of relevant literature established a foundational context for analyzing the relationship between alcohol consumption and student housing type at North Dakota State University. The review began with an initial section focusing on the prevalence and impact of alcohol use on college campus communities. The second area examined the development of coeducational student housing in the United States. The final portion of the literature review presented an overview of student outcomes related to student housing. This final area was divided into three subdivisions of outcomes correlated with coeducational student housing: sexual activity, beneficial outcomes related to coeducational housing, and detrimental outcomes related to coeducational housing. Among the harmful student outcomes was a discussion regarding a potential link between first-year student housing and alcohol consumption. This topic review is of particular relevance since this study seeks to expand the currently limited research on the topic of alcohol consumption as related to student housing type. The following chapter will provide an outline of the methodology to be utilized in this study.

## CHAPTER 3. METHODOLOGY

This chapter will outline the methodology to be utilized in order to accomplish the purpose of this study. The purpose of this study will be to determine if the ecological impact of residence hall-type effects resident alcohol consumption as reported by students at North Dakota State University. Specifically, this study will examine the impact of the gender demographics in a student living environment on drinking behaviors.

### Research Questions

The major research question sought to determine if student housing gender-type is significantly related to student alcohol consumption. The researcher examined whether the residence of students in coeducational residence halls or single-gender residence halls was notably related to the rate at which they consumed alcohol in an average week or the frequency they engaged in binge drinking. To answer, the following research questions were employed:

- 1) What relationship exists, if any, between the residence hall gender-type NDSU students reside in and the frequency of their alcohol consumption?
- 2) What relationship exists, if any, between the residence hall gender-type NDSU female students reside in and the frequency of their alcohol consumption?
- 3) What relationship exists, if any, between the residence hall gender-type NDSU male students reside in and the frequency of their alcohol consumption?
- 4) What relationship exists, if any, between the residence hall gender-type NDSU students resides in and the frequency of binge drinking they engage in?
- 5) What relationship exists, if any, between the residence hall gender-type NDSU female students reside in and the frequency of binge drinking they engage in?

- 6) What relationship exists, if any, between the residence hall gender-type NDSU male students reside in and the frequency of binge drinking they engage in?

### **Population**

The data analyzed was mined from a raw data set of institutional achieved data resulting from the 2012 NDSU Student CORE Alcohol and Other Drug survey. The participants of this survey were undergraduate students of North Dakota State University across all colleges, classes, and ethnicities. In order to gather such a representative body of participants, a stratified random sampling procedure was implemented. The survey was administered during the Fall 2012 semester to the various colleges and class levels selected by the stratified random sampling technique. Participants were gathered on a continuing basis until the needs of the stratified sample were met to total a representative sample population of 781 students. Any undergraduate students under the age of 18 were excluded from the sampling process. Therefore all participants were of the age of 18 or above at the time of participation in the survey.

### **Instrumentation**

This study utilized the North Dakota CORE Alcohol and Other Drug Survey to gather data regarding student binge drinking behaviors. This 45 question biannual survey is administered in conjunction with the NDSU Department of Alcohol and Other Drug Prevention Programs. The survey contained questions regarding student demographics, alcohol consumption, illicit drug use, participant perceptions of alcohol and other drug use, as well as their parent's perceptions of alcohol and other drug use. This survey was printed and administered as a paper and pencil survey. The instrument was used at 10 other North Dakota public universities at the time of this study and was used on 6 previous occasions at NDSU prior to 2012. This instrument was developed by the Core Institute of Southern Illinois University

Carbondale. The CORE Institute boasts that they are currently the largest alcohol and other drug database in the nation (“Welcome to CORE Institute,” 2013).

Of the 45 questions asked, 32 are standard questions utilized across various institutions. The remaining 13 questions were institutional questions and specifically chosen or created by the surveying institution. As a member of the 2012 NDSU NDCORE Alcohol and Drug Survey team, this researcher created an institutional specific question that was added to the survey. This additional question gathered information about the style of student housing participants resided in, if any. This new information provides the researcher with the ability to analyze, for the first time, if student housing type impacts student drinking at NDSU.

### **Research Design**

Utilizing quantitative data, this correlation research study tested possible relationships between student housing type and alcohol consumption. Prior to the research team collecting data to undergo various analyses, approval for the study was obtained from the NDSU Institutional Review Board. Mined by this researcher, the survey data in Statistical Package for the Social Sciences (SPSS) file format was used to run bivariate correlational analyses and analysis of covariance to discover any significant relationship between the variables.

### **Data Collection Procedures**

A stratified random sampling process selected percentages of response rates needed based on NDSU college and class level within that college. As these classes are made of a diverse set of students this technique is thought to provide a representative sampling of the institutional demographics. Faculty of selected areas for data gathering were contacted; those who agreed to take part were provided a paper and pencil version of the North Dakota CORE Alcohol and Other Drug Survey to administer in class.

The survey was passed out and completed during regularly scheduled class time. The survey was used most frequently during daytime classes Monday-Wednesday. This was specifically selected in the research planning in order to maximize on higher attendance during the start of the week. Each time the surveys were distributed and collected back, a very small, and undocumented number, of students chose not to take the survey and passed back a blank form. Students were instructed that they could work on class work instead of taking the survey if they chose, and there would be no repercussion on their class grade. Students were instructed to not take the survey if they had taken it previously this year or were under 18 years of age. This process was continued until the percentage of respondents per class level within a college reached the desired level identified to meet qualifications for a stratified sample.

For ethical reasons, the surveys did not ask for personally identifying information. Not asking for individually identifying information from participants was also an intentional choice from the research team in an effort to encourage honest reporting through the protection of anonymity.

The collected surveys were scanned through a survey reading machine at the CORE Institute and an SPSS file for analysis was provided back to the NDSU research team along with the original paper copies of the surveys. Members of the research team utilized this data to run various analyses. This researcher was given access to this data file to analyze the research questions previously presented.

### **Data Analysis**

This study utilized descriptive statistics to contrast percentages and frequencies or variables overall, as subdivided by sex, and as subdivided by age. Means were calculated and compared. Bivariate correlation was used to analyze the relationship between housing type and

binge drinking as well as the relationship between housing type and frequency of alcohol consumption. Additionally, bivariate analysis was utilized to examine the before mentioned relationships as subdivided by sex. Then relationships between variables were examined through analysis of covariance, where the researcher controlled for the influence of sex and age on the data.

## CHAPTER 4. RESULTS

This chapter details the data analysis conducted by the researcher. This study utilized purely quantitative data to address the research questions. The results are displayed through descriptive statistics, tests for significance in correlation between variables, and analysis of covariance between variables.

The purpose of this study was to determine if the ecological impact of residence hall-type effects resident alcohol consumption as reported by students at North Dakota State University. Specifically, this study examined the impact of the gender demographics in a student living environment on drinking behaviors.

### **Study Purpose**

The purpose of this study was to determine if student housing gender-type is significantly related to student alcohol consumption at NDSU. Specifically, the researcher questioned whether the residence of students in coeducational residence halls or single-gender residence halls was notably related to the rate at which they consumed alcohol in an average week or the frequency they engaged in binge drinking. To answer this, the following research questions are examined and discussed in this chapter:

- 1) What relationship exists, if any, between the residence hall gender-type NDSU students reside in and the frequency of their alcohol consumption?
- 2) What relationship exists, if any, between the residence hall gender-type NDSU female students reside in and the frequency of their alcohol consumption?
- 3) What relationship exists, if any, between the residence hall gender-type NDSU male students reside in and the frequency of their alcohol consumption?

- 4) What relationship exists, if any, between the residence hall gender-type NDSU students resides in and the frequency of binge drinking they engage in?
- 5) What relationship exists, if any, between the residence hall gender-type NDSU female students reside in and the frequency of binge drinking they engage in?
- 6) What relationship exists, if any, between the residence hall gender-type NDSU male students reside in and the frequency of binge drinking they engage in?

### **Descriptive Statistics**

The 2012 CORE NDSU Alcohol and Other Drug Survey gathered a total of 781 respondents. Question 40 of the survey was created by the researcher to identify the type of housing and residence hall that participants resided in. When asked, “If you live in on-campus housing, which type of housing do you live in?,” participants had the option of answering by penciling in a number 0-3 to identify their housing. The numbers and possible responses read, “0, N/A - I do not live in on-campus housing; 1, Campus apartment (i.e., Bison Court, University Village, Niskanen Expansion Apartments); 2, Co-ed residence hall (i.e., Pavek, Seim, Thompson, Sevrinson, LLC East, LLC West, Niskanen Hall); 3, Single sex residence hall (i.e., Weible, Reed-Johnson, Churchill, Dinan, Stockbridge, Burgum).” Of the survey respondents 86 chose not to identify their housing type, leaving a remaining 695 responses. One respondent selected the number “4” and one respondent selected the number “5”. These two erroneous answers and the missing data were removed to leave a valid data file of 693 respondents. The frequencies and percentages of usable respondent data for question 40 are summarized in Table 1.



Table 1

*Frequency Distribution of Respondent Residence by Campus Housing Type*

	Frequency <i>f</i>	Percent %	Cumulative Percent cum %
I do not live in on-campus housing	486	70.1	70.1
I reside in an on-campus apartment	73	10.5	80.7
I reside in Coed Residence Hall	71	10.2	90.9
I reside in Single-Sex Residence Hall	63	9.1	100.0
Total	693	100.0	100.0

For the purpose of this study the researcher sought to solely utilize data that referred to students living in either a coeducational residence hall or a single-sex residence hall. Knowing this, the researcher created a separate variable “Residence Hall Type” that only included respondents that identified as living in one of the two gender-types of residence halls at NDSU. This resulted in a data file with 134 participants. The frequencies and percentages of participants living in residence halls at NDSU are summarized in Table 2.

Table 2

*Frequency Distribution of Respondent Residence by Residence Hall*

	Frequency <i>f</i>	Percent %	Cumulative Percent cum %
I reside in Coed Residence Hall	71	53.0	53.0
I reside in Single-Sex Residence Hall	63	47.0	100.0
Total	134	100.0	100.0

The researcher created a separate data file that only included the 134 valid participant responses to residence hall type. In order to understand the birth-sex demographics of the data set the researcher ran a cross tabulation of responses to sex and responses to residence hall type. Descriptive statistics demonstrated that four individuals that lived in coeducational residence halls chose not to list their sex. All participants living in single-sex hall chose to provide their

gender identity. The majority of participants living in coeducational housing identified as female ( $n = 37, 52\%$ ) while the majority of participants living in single-sex halls were male ( $n = 43, 68\%$ ). Considering total respondents to residence hall type by sex those who selected not to identify a sex made up approximately 3% ( $n = 3$ ), females represented 43% ( $n = 57$ ), and males represented 54% ( $n = 73$ ). The frequencies and percentages of respondent sex by residence hall type are summarized in Table 3.

Table 3  
*Frequency Distribution of Respondent Sex by Residence Hall Type*

	Coeducational Halls		Single-Sex Halls		Total	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Sex	<i>f</i>	%	<i>f</i>	%	<i>F</i>	cum %
Female	37	52.1	20	31.7	57	42.5
Male	30	42.3	43	68.3	73	97.0
Unknown	4	5.6	0	0.0	4	100.0
Total	71	100.0	63	100.0	134	100.0

In order to understand the age demographics of the data set the researcher ran a cross tabulation of responses to age and residence hall type. One participant selected not to identify their age, this missing data was left out of the analyses of frequencies by participant age within residence halls. The researcher found that vast majority of the overall data set contained respondents identified as either 18 or 19 years of age ( $n = 102, 76.7\%$ ). 18 and 19 year old participants made up approximately 61% of coeducational residence hall participants ( $n = 43$ ) and approximately 94% ( $n = 59$ ) of single-sex residence halls. The average participant living in a coeducational residence hall was found to be older ( $M = 19.7$ ) than the average participant living in a single-sex residence hall ( $M = 18.4$ ). The frequencies and percentages of respondent ages by residence hall type are summarized in Table 4.

Table 4  
*Frequency Distribution of Respondent Ages by Residence Hall Type*

Age	Coeducational Halls		Single-Sex Halls		Total	
	Frequency <i>f</i>	Percent %	Frequency <i>f</i>	Percent %	Frequency <i>F</i>	Percent cum %
18	13	18.6	40	63.5	53	39.8
19	30	42.9	19	30.2	49	76.7
20	12	17.1	3	4.8	15	88.0
21	5	7.1	1	1.6	6	92.5
22	5	7.1	0	0.0	5	96.2
23	2	2.9	0	0.0	2	97.2
25	2	2.9	0	0.0	2	99.2
26	1	1.4	0	0.0	1	100.0
Total	70	100.0	63	100.0	133	100.0

Question 14 asked participants how often in the past two weeks they consumed five or more alcoholic drinks in a single sitting. On the survey tool, an explanation of what was considered as a standard drink was noted directly under question 14 in an effort to increase the accuracy of responses. Although the language “binge drinking” was not included in the survey question, respondents were in effect answering how often they had engaged in binge drinking in the two weeks prior to taking to survey. They were able to choose from a scale of responses; none, once, twice, 3-5 times, 6-9 times, or 10 or more times. When examining responses from participants who also identified as living in a residence hall ( $n = 131$ ) there were no participants who reported binge drinking 6-9 times or 10 or greater occurrences in the two weeks prior to taking the survey. Participant selections of 6-9 times or 10 or greater came solely from participants who identified as living in on-campus apartments or living off-campus.

The majority of these residence hall residents ( $n = 84$ , 64%) reported no occurrences of binge drinking in the two weeks prior to participating in the survey. Leaving more than a third,

( $n = 47$ , 36%) of the 131 respondents that noted that they did engage in binge drinking recently. The students who engaged in binge drinking were somewhat evenly distributed between coeducational hall residence and single-sex hall residence. Of the responding students who lived in coeducational housing that answered question 14 ( $n = 71$ ) twenty seven (39%) identified both as someone who engaged in binge drinking recently and also lived in a coeducational residence hall. Of the responding students who lived in a single-sex residence hall that answered question 14 ( $n = 61$ ) twenty students (33%) identified both as someone who engaged in binge drinking at some point in the prior two weeks and also lived in a single-sex residence hall.

The frequencies and percentages of participant responses to question 14 are summarized in Table 5.

Table 5  
*Frequency Distribution of Binge Drinking by Residence Hall Type*

Binge in last 2 weeks	Coeducational Halls		Single-Sex Halls		Total	
	Frequency <i>f</i>	Percent %	Frequency <i>f</i>	Percent %	Frequency <i>F</i>	Percent cum %
None	43	61.4	41	67.2	84	64.1
Once	12	17.1	9	14.8	21	80.1
Twice	11	15.7	7	11.5	18	93.7
3-5	4	5.7	4	6.6	8	100.0
6-9	0	0.0	0	0.0	0	100.0
10+	0	0.0	0	0.0	0	100.0
Total	70	100.0	61	100.0	131	100.0

Question 15 provides information about the frequency of alcohol use the survey respondent engages in during an average week. In response to the statement, “Average # of drinks you consume a week,” students were able to respond on a scale of zero to 99 by selecting a first number 0-9 and a second number 0-9 to form an answer ranging from 00 to 99. The respondents to question 15 who identified as students identified as living in a residence hall ( $n =$

132) approximately half ( $n = 67, 51\%$ ) of the students reported not consuming alcohol in an average week. When considering the portion of students who do not consume alcohol in an average week, we see that 37 (52%) of the respondents living in coed-housing do not consume and 30 (49%) of the respondents living in single-sex halls do not consume. These frequencies demonstrate that there is a relatively even distribution of non-drinkers across residence hall gender-types.

The mean number of alcoholic drinks consumed in an average week by students living in residence halls ( $M = 2.5$ ) was found to be two and a half drinks per week. Of course, this number is affected by the large percentage of students who reported not consuming alcohol. Amongst residence hall students who did report drinking in an average week ( $n = 65, 49\%$ ) the mean ( $M = 5.05$ ) was approximately five drinks per average week. Meaning, students living in the NDSU residence hall that choose to drink, do so at a rate of about five drinks per week. Amongst students living in coeducational residence halls, the mean ( $M = 2.23$ ) was found to be approximately two drinks per week. For coeducational residence hall students who did report drinking the mean ( $M = 4.65$ ) was found to be approximately five drinks per average week. Amongst students living in single-sex residence halls, the mean ( $M = 2.79$ ) was found to be approximately three drinks per average week for students who consume alcohol. For single-sex residence hall students who did report drinking the mean ( $M = 5.48$ ) was found to be approximately five and a half drinks per average week. The frequencies and percentages of participant responses to question 15 are summarized in Table 6.

Table 6

*Frequency Distribution of Weekly Alcohol Consumption by Residence Hall Type*

Drinks per week	Coeducational Halls		Single-Sex Halls		Total	
	Frequency <i>f</i>	Percent %	Frequency <i>f</i>	Percent %	Frequency <i>F</i>	Percent cum %
0	37	52.1	30	49.2	67	50.8
1	9	12.7	4	6.6	13	60.6
2	5	7.0	5	8.2	10	68.2
3	3	4.2	2	3.3	5	72.0
4	1	1.4	6	9.8	7	77.3
5	6	8.5	4	6.6	10	84.9
6	2	2.8	2	3.3	4	87.9
7	1	1.4	0	0.0	1	88.7
8	1	1.4	0	0.0	1	89.5
9	1	1.4	1	1.6	2	91.0
10	4	5.6	5	8.2	9	97.8
15	0	0.0	1	1.6	1	98.6
20	1	1.4	1	1.6	2	100.0
Total	71	100.0	61	100.0	132	100.0

**Bivariate Correlational Analysis**

Bivariate correlational analysis was used to investigate the relationship between residence hall gender-type and the frequency students reported engaging in binge drinking over the two weeks prior to taking the survey. A weak negative correlation,  $r(130) = -.044$ ,  $p = .615$ , was present, the correlation was not statistically significant at the .05 level.

Similarly, bivariate correlational analysis was used to examine the relationship between residence hall gender-type and frequency of alcohol use by students in an average week. A weak positive correlation,  $r(131) = .072$ ,  $p = .411$ , was present, the correlation did not meet the confidence interval of 95% and therefore was not considered a statistically significant correlation.

The results of correlational analysis regarding residence hall type and alcohol behavior are detailed in Table 7. The table summarizes two separate bivariate correlational analyses; firstly, the relationship between residence hall type and binge drinking rates and secondly, the relationship between residence hall type and frequency of drinking within an average week.

Table 7  
*Relationship Between Residence Hall Type and Student Alcohol Consumption*

		Frequency of Binge Drinking	Average number of drinks per week
Residence Hall Type	Pearson Correlation	-.044	.072
	Sig. (2-tailed)	.615	.411
	N	131	132

\* Correlation is significant at the 0.05 level (2-tailed).  
No significance detected between variables.

In order to test if the relationship between the frequency of alcohol consumption and residence hall gender-type was different when analyzing separate sexes, the data was split by sex and again analyzed with a bivariate correlation. Of the participants ( $n = 73$ ) that identified themselves as males living in residence halls, two participants did not answer the survey question pertaining to frequency of alcohol use. This data was excluded from analysis of correlation between the housing type and frequency of alcohol use amongst male students. The mean ( $M = 2.99$ ) number of drinks male students living in residence halls at NDSU reported consuming was approximately three drinks per week. The valid responses ( $n = 71$ ) were analyzed with the Pearson Correlation Coefficient to test for significance in the relationship between frequency of alcohol use in an average week and housing gender-type for male students. A weak correlation,  $r(70) = -.003, p = .982$ , was detected and not considered to be significant. With a correlation coefficient so drastically close to a zero value, it would appear that residence hall gender-type and frequency of alcohol use were nearly perfectly uncorrelated for males. Additionally, at  $p = .982$  it would appear that any correlation that was detected had less than a 2% probability of not

occurring by chance. Based on analysis of this sample of students it would seem that there is almost certainly no relationship between residence hall gender-type and frequency of alcohol consumption amongst male students at NDSU. Meaning, the residence hall type a male NDSU student lives in is unlikely to be related to the frequency of their average alcohol consumption.

Of the participants that identified themselves as females living in residence halls ( $n = 57$ ), all participants also answered the survey question pertaining to frequency of alcohol use. The mean number of alcoholic drinks reported by these females ( $M = 1.95$ ) was approximately two drinks per week, one drink less than their male counterparts. A weak positive correlation was detected,  $r(56) = .114$ ,  $p = .398$ , but it was found not to be statistically significant. Meaning, there was a higher mean frequency of alcohol use in single-sex halls but that minor relationship could not be confidently claimed as a statistical relationship between variables. This would indicate that there is not a notable relationship between the gender-type of residence hall NDSU females reside in and how often they consume alcohol.

Bivariate correlative analysis for question 14 regarding binge drinking was calculated after splitting the data file by sex in order to examine the relationship between variables as subdivided by sex. Amongst female participants ( $n = 56$ ) it was determined that a very weak positive correlation existed,  $r(55) = .020$ ,  $p = .884$ , and this correlation was determined not to be statistically significant. This indicated that there was not a notable relationship between binge drinking and residence hall type for female NDSU students. The analysis showed that any minor relationship that was detected had a substantial likelihood of occurring simply by chance.

Amongst male participants ( $n = 71$ ) there was a weak negative correlation,  $r(70) = -.103$ ,  $p = .391$ , that was not significant. This indicated that binge drinking for males was slightly higher in coeducational halls but only to a slight degree. Additionally, the analysis showed that



any weak relationship detected was not statistically significant because of the unacceptably high probability that the relationship occurred by chance.

The results of correlational analysis regarding residence hall type and alcohol behavior, as subdivided by sex, are detailed in Table 8.

Table 8  
*Relationship Between Residence Hall Type and Student Alcohol Consumption as Sub-Divided by Sex of Respondent*

Sex			Frequency of Binge Drinking	Average number of drinks per week
Female	Residence Hall Type	Pearson Correlation	.020	.114
		Sig. (2-tailed)	.884	.398
		N	56	57
Male	Residence Hall Type	Pearson Correlation	-.103	-.003
		Sig. (2-tailed)	.391	.982
		N	71	71

\* Correlation is significant at the 0.05 level (2-tailed).  
 No significance detected between variables.

### **Analysis of Covariance while Controlling for Age and Sex**

Although descriptive statistics and bivariate correlational analysis found no significant relationship between residence hall type and student alcohol behavior, the researcher chose to utilize more sophisticated data analysis to be certain that the research questions were thoroughly answered. Noting that differences were present between residence hall type demographics regarding both sex and age the researcher chose to perform analysis of covariance (ANCOVA) tests to mitigate for any skewed influence caused by either sex or age on the data set. Knowing that both sex and age may be predictive of differencing behavior regarding alcohol, the ability to control for their influence on the rest of the data was helpful in the pursuit of thoroughly answering the research questions.

Prior to each ANCOVA a Levene's Test of Equality of Error variance was utilized to determine if there was homogeneity of variance amongst the data being analyzed. In each of the following ANCOVA tests discussed, the Levene's Test was found to be non-significant, meaning there was homogeneity of variance within the data and therefore more reliable conclusions can be drawn from ANCOVA results. Analysis of covariance demonstrated that after controlling for the effect of age and sex that no significant relationship existed between residence hall type and frequency of alcohol use,  $F(1, 127) = 1.71, p = .194, R^2 = .013$ . Similarly, the ANCOVA test found no significance between residence hall type and frequency of binge drinking after controlling for the effect of age and sex,  $F(1, 126) = .509, p = .477, R^2 = .004$ . These results corroborated the results of the Pearson correlation coefficient test that was discussed earlier in this chapter.

The data set was split by sex and then two separate ANCOVAs were run to see if a significant relationship could be detected when considering sexes separately. Since sex was already separated the researcher only controlled for the impact of age in these subsequent tests. No significant relationship was found between residence hall type and frequency of alcohol use for males,  $F(1, 67) = .958, p = .331, R^2 = .014$ ; nor was it significant for females,  $F(1, 54) = 1.099, p = .299, R^2 = .020$ . No significant relationship was found between residence hall type and binge drinking frequency of females,  $F(1, 53) = 1.239, p = .271, R^2 = .023$ ; nor was it significant for males,  $F(1, 67) = .019, p = .892, R^2 = .000$ . All of these ANCOVA tests affirm the initial findings of the Pearson correlation coefficient that no notable relationship exists between residence hall type and alcohol use/abuse at NDSU.

## **Summary**

After considering descriptive statistics, bivariate correlational analysis, and analysis of covariance while controlling for the influence of age and sex, the researcher has concluded that the answer to all six of the research questions posed is that there is no significant relationship present between the variables in question. The following chapter will discuss study limitations, findings, conclusions, and recommendations for future research.

## CHAPTER 5. CONCLUSIONS

Since the inception of coeducational student housing various university stakeholders have raised questions and concerns. People wanted to know how the departure from segregating genders into separate halls would impact students. A modern point of discussion centers on alcohol behavior as related to student housing gender-type.

### **Study Purpose**

The purpose of this quantitative study was to analyze the relationship between student housing gender type and student behavior regarding alcohol. Specifically, the research sought to determine if a relationship existed between a student's residence in either a single-gender residence hall or a coeducational residence hall at NDSU when considering their reported drinking habits. Alcohol behavior in consideration included rates of binge drinking during the two weeks prior to being surveyed and the frequency of standard drinks consumed in an average week.

### **Research questions**

The major research question sought to determine if student housing gender-type is significantly related to student alcohol consumption. The researcher examined whether the residence of students in coeducational residence halls or single-gender residence halls was notably related to the rate at which they consumed alcohol in an average week or the frequency they engaged in binge drinking. To answer this, the following research questions were examined and discussed:

- 1) What relationship exists, if any, between the residence hall gender-type NDSU students reside in and the frequency of their alcohol consumption?

- 2) What relationship exists, if any, between the residence hall gender-type NDSU female students reside in and the frequency of their alcohol consumption?
- 3) What relationship exists, if any, between the residence hall gender-type NDSU male students reside in and the frequency of their alcohol consumption?
- 4) What relationship exists, if any, between the residence hall gender-type NDSU students resides in and the frequency of binge drinking they engage in?
- 5) What relationship exists, if any, between the residence hall gender-type NDSU female students reside in and the frequency of binge drinking they engage in?
- 6) What relationship exists, if any, between the residence hall gender-type NDSU male students reside in and the frequency of binge drinking they engage in?

In pursuit of answering the research questions posed, the researcher collaborated with campus partners who were administering the biannual campus-wide CORE Alcohol and Other Drug Survey. This survey collected valuable data regarding student alcohol behavior, but never before had the demographic information needed to answer the research questions posed. This researcher was able to add an institutional specific question, see appendix B, which provided information about participant student housing gender type. Once gathered the researcher performed data analysis on the pre-existing data file to answer the research questions posed.

Data analysis included descriptive statistics of cross-tabulations that revealed the frequencies of responses by birth-sex, age, and residence hall type. Additionally, bivariate correlation was performed with the data file initially and then again after the data was divided by gender. In the same manner, the researcher then ran analysis of covariance tests in order to control for the influence of birth-sex and age while examining the relationship between variables.

This chapter will detail the limitations the study, summarize major findings, discuss conclusions drawn from those findings, and make recommendations for future research of this kind.

### **Limitations of the Study**

Although the sample was gathered in an intentionally representative manner, it was only gathered out of a population of North Dakota State University students. Therefore, these results may be reliably generalizable for the NDSU campus community at the time of this study but they are not generalizable beyond this institution. In regards to the ongoing national discussion on student alcohol behavior, these results only provide a notable glimpse of the larger picture. Additionally, due to the ethnic demographics of the population, the sample is composed of a strong majority of participants who identify as Caucasian.

### **Major Findings**

The significant findings in this study all stem from the inability to find significance within the data. Based on the precedent of recent research (Willoughby & Carroll, 2009) one would expect find a notable relationship with the variables considered in this study. However, this researcher found that there was no notable relationship between student housing gender-type and student behavior regarding alcohol at NDSU. This was demonstrated through the six different research questions analyzed in this study.

The six research questions were composed of two categories of three questions each. The first category focused on the relationship between student housing gender-type and frequency of alcohol consumption. This category was initially addressed by the research question, “What relationship exists, if any, between the residence hall gender-type NDSU students reside in and the frequency of their alcohol consumption?” In an effort to answer this question the researcher

ran bivariate correlational analysis and found no significance in the relationship between housing type and frequency of alcohol use. To further investigate the relationship the researcher used analysis of covariance, controlling for the influence of age and birth-sex on the data. Again, no significance was detected.

**Research question 1: What relationship exists, if any, between the residence hall gender-type NDSU students reside in and the frequency of their alcohol consumption?** A bivariate correlation was used to determine if there was a significant relationship between housing gender-type and frequency of alcohol consumption. The researcher determined that correlation output at or beyond the 95% confidence interval would be considered significantly correlated. This would require a significance value of .05 or less. The researcher used the Pearson correlation coefficient. The value of the coefficient can range from 1 to -1, where 1 represents perfect positive correlation, -1 represents a perfectly inverse correlation, and 0 represents no correlation. The results of the bivariate correlational analysis was  $r(130) = -.044, p = .615$ , a weak negative correlation, not significant at the 95% confidence interval. To further validate these results an analysis of covariance (ANCOVA) was used to analyze the same relationship between variables but in this instance the researcher was able to control for the influence of age and birth-sex on the data. Supporting the initial findings, ANCOVA found no significant relationship between residence hall gender-type and frequency of alcohol use,  $F(1, 127) = 1.71, p = .194, R^2 = .013$ .

**Research question 2: What relationship exists, if any, between the residence hall gender-type NDSU female students reside in and the frequency of their alcohol consumption?** Both bivariate correlational analysis and ANCOVA were also used to answer Research Question 3. However, unlike in the process for the two prior research questions, the

data file was divided by sex so the researcher could focus on the relationship between variables and uniquely experiences by women. The Pearson correlation coefficient determined that there was a weak positive correlation,  $r(56) = .114, p = .398$ , but it was not statistically significant. These results were supported by ANCOVA that also found no significant relationship between variables after controlling for the influence of age on the data,  $F(1, 54) = 1.099, p = .299, R^2 = .020$ .

**Research question 3: What relationship exists, if any, between the residence hall gender-type NDSU male students reside in and the frequency of their alcohol consumption?**

Bivariate correlational analysis determined that there was a weak correlation present,  $r(70) = -.003, p = .982$ , but it was not significant to the 95% confidence interval. These results were supported by analysis of covariance when controlling for the influence of age on the data,  $F(1, 67) = .958, p = .331, R^2 = .014$ , not significant.

**Research question 4: What relationship exists, if any, between the residence hall gender-type NDSU students resides in and the frequency of binge drinking they engage in?**

The analysis process used for Research Question 1 was also used to determine the answer to Research Question 4. The main difference being that the variable frequency of alcohol consumption was replaced with frequency of binge drinking. Bivariate correlational analysis demonstrated that there was a weak positive correlation between residence hall gender-type and frequency of binge drinking but it was not significant at the 95% confidence interval,  $r(131) = .072, p = .411$ . ANCOVA found no significance between residence hall gender-type and frequency of binge drinking after controlling for the effect of age and sex,  $F(1, 126) = .509, p = .477, R^2 = .004$



**Research question 5: What relationship exists, if any, between the residence hall gender-type NDSU female students reside in and the frequency of binge drinking they engage in?** After splitting the file by sex, the Pearson correlation coefficient was used to determine the relationship between residence hall gender-type and binge drinking frequency for women at NDSU. This bivariate correlational analysis detected a weak positive correlation existed,  $r(55) = .020$ ,  $p = .884$ , this correlation was not significant at the 95% confidence interval. ANCOVA supported this finding of a relationship between variables that was not significant,  $F(1, 53) = 1.239$ ,  $p = .271$ ,  $R^2 = .023$ , even after controlling for the effect of age.

**Research question 6: What relationship exists, if any, between the residence hall gender-type NDSU male students reside in and the frequency of binge drinking they engage in?** Using only responses from male participants, bivariate correlational analysis was run and determined that a weak negative correlation was present,  $r(70) = -.103$ ,  $p = .391$ , but it was not significant to the 95% confidence interval. ANCOVA was used to analyze the same relationship between variables while controlling for the effect of age. The results of the ANCOVA found no significance in the relationship between variables,  $F(1, 67) = .019$ ,  $p = .892$ ,  $R^2 = .000$ , which supported the correlational analysis.

## **Conclusion**

This is a study where “no significance” has proven to be quite significant. The findings of this study are contrary to those of Willoughby and Carroll (2009) regarding the proposed relationship between student housing and alcohol consumption. Data analysis clearly demonstrated that there is no notable relationship between the alcohol consumption of students and the gender-type of student housing they reside in at NDSU. While a notable difference was detected in the sample analyzed by Willoughby and Carroll (2009), such findings could not be

corroborated at NDSU for women, men, or on-campus students overall. This drastic difference in findings may mean that NDSU is an anomaly. It might also mean that a stratified sample, drawn from a pool where students were evenly distributed between coed and single-gender housing provided a uniquely well represented sample to better answer the research question. At the time of this study, the limited research regarding this relationship prevents a definitive answer from being drawn. For that very reason this is an apparent need for further research regarding the possible relationship between student housing type and alcohol consumption.

### **Recommendations for Future Research**

Undoubtedly there is further research needed before a solidified answer can be provided regarding the relationship between student housing gender-type and alcohol behavior. This researcher would suggest that the CORE Institute on Alcohol and Other Drugs adjusts their demographic question detailing student housing by breaking “residence hall” into the two subsets of “coeducational residence hall” and “single-gender residence hall.” Doing this would allow researchers to continue any analyses that were occurring with the survey question previously and add the ability to analyze, on a national scale, the relationship between residence hall gender-type and student alcohol behavior. Additionally, the researcher suggests that analysis of this kind include controlling for variables that have been found to traditionally impact alcohol use.

## REFERENCES

- Abbey, A. (2002). Alcohol related sexual assault: A common problem among college students. *Journal of Studies on Alcohol*, supplement No. 14.
- Atwood, Elizabeth B. (2011). *Don't blame it on the Alcohol: College binge drinking predictors related to student life and campus involvement* (Master's thesis). Available from ProQuest Dissertation and Theses database. (UMI No. 1491875)
- Beseler-Thompson, E. L. (2009). *An examination of parent responses to notification their underage student's alcohol or other drug violations* (Master's thesis). Fargo: North Dakota State University.
- Blimling, G. S. (1988). *The influences of college residence halls on students: A meta-analysis of the empirical research, 1966-1985, volume I-III* (Doctoral dissertation). Available from ERIC database. (UMI No. 63040373)
- Bordin, R. (1999). From the ages of conformity to the stirrings of dissent. *Women at Michigan: The "dangerous Experiment," 1870s to the Present* (pp. 63-76). Retrieved from <http://hdl.handle.net/2027/mdp.39015027498529>
- Byrne, J. (1998). *Outcomes of the resident advisor position* (Master's thesis). Retrieved from Virginia Tech Digital Library and Archives. (UMI No. etd-41098-203723)
- Co-ed dorms: An intimate campus revolution. (1970, November). *Life*, 69(21), 32-41.
- Conley, R. (2011, September 16). Sex discrimination law suit begins proceedings. *The Tower*. Retrieved from <http://www.cuatower.com/news/2011/09/16/breaking-news-sex-discrimination-law-suit-begins-proceedings/>
- CORE Institute. (2012). *CORE alcohol and drug long form 194, executive summary*. Retrieved from <http://core.siu.edu/pdfs/report09.pdf>
- CORE Institute. *Welcome to CORE Institute*. Retrieved from <http://core.siu.edu/>

- Cross, J. E., Zimmerman, D., & O'Grady, M. A. (2009). Residence hall room type and alcohol use among college students living on campus. *Environment and Behavior*, 41(4), 583-603.
- Eisemann, L. (1998). *Historical dictionary of women's education in the United States* (p. 4). Westport, CT: Greenwood Press.
- Fenston, J. (2011, June 21). Catholic University to phase out co-ed dorms. *National Public Radio*. Retrieved from <http://www.npr.org/2011/06/21/137303208/catholic-university-to-phase-out-co-ed-dorms>
- Flicek, K., & Urbas, B. (2003). Coed versus single-sex residence halls: Correlates of Disordered eating behavior. *UW-L Journal of undergraduate Research*, 6, 1-6.
- Frazier, W. (2009). *A study of themed residential learning communities at a Midwest four-year university*: North Dakota State University. Fargo: North Dakota State University.
- Frederiksen, C. F. (1993). A Brief History of Collegiate Housing. In R. B. Winston Jr., S. Anchors, & Associates (Eds.), *Student Housing and Residential Life*. San Francisco, CA: Jossey-Bass.
- Harford, T. C., Wechsler, H., & Muthen, B. O. (2002). The impact of current residence and high school drinking on alcohol problems among college students. *Journal of Studies on Alcohol*, 63(May), 271-279.
- Harvard University. *Historical facts: Harvard University archives*. Retrieved from <http://www.harvard.edu/historical-facts>
- Harvard University. *History of Harvard*. Retrieved from <http://www.harvard.edu/history>
- Lance, L. M. (1976). Sex-integrated and sex-segregated university dormitory living: A trend analysis of college student sexual permissiveness. *Human Relations*, 29(2), 115-123.

- Moravian College. *College history*. Retrieved from <http://www.moravian.edu/default.aspx?pageid=37>
- National Institute on Alcohol Abuse and Alcoholism. *College drinking*. Retrieved from <http://pubs.niaaa.nih.gov/publications/CollegeFactSheet/CollegeFactSheet.pdf>
- National Institute on Alcohol Abuse and Alcoholism. *Rethinking drinking: Alcohol and your health*. Retrieved from <http://rethinkingdrinking.niaaa.nih.gov/whatcountsdrink/whatsastandarddrink.asp>
- Oberlin College. *About Oberlin: History*. Retrieved from <http://new.oberlin.edu/about/history.dot>
- Owens, J. T. (2010). *The impact of university housing construction type on psychosocial development of first-year students* (Doctoral dissertation). Available from ProQuest Dissertation and Theses database. (UMI No. 3439374)
- Rape Abuse and Incest National Network. *Drug facilitated sexual assault*. Retrieved from <http://www.rainn.org/get-information/types-of-sexual-assault/drug-facilitated-assault>
- Ricciardelli, L. A., & Williams, R. J. (1997). Gender differences in drinking and alcohol expectancies as modified by gender stereotypes and living arrangements. *Journal of Alcohol and Drug Education* 43(1), 8-17.
- Roberts, G. A. (1990). *The impact of coeducational living in college and university residence halls*. Columbus, Ohio; Association of College and University Housing Officers International.
- Scalia, E. (2011, June 13). CUA re-embracing single-sex dormitories. *Patheos*. Retrieved from <http://www.patheos.com/blogs/the anchoress/2011/06/13/cua-re-embracing-single-sex-dormitories/>

Spencer, B., Barrett, C., Storti, G., & Cole, M. (2012). "Only girls who want fat legs take the elevator": Body image in single-sex and mixed-sex colleges. *Springer Science Business Media, LLC*. Retrieved from <http://link.springer.com/content/pdf/10.1007%2Fs11199-012-0189-4.pdf>

The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2007). *Wasting the best and the brightest: Substance abuse at America's colleges and universities*. New York: The National Center on Addiction and Substance Abuse (CASA) at Columbia University.

U.S. Census Bureau. *Group quarters population by type of group quarter and selected characteristics*. Retrieved on March 25, 2013 from <http://www.census.gov/compendia/statab/2012/tables/12s0073.pdf>

U.S. Department of Health and Human Services. (2007). *The surgeon general's call to action to prevent and reduce underage drinking*. Retrieved from <http://www.surgeongeneral.gov/library/calls/underagedrinking/calltoaction.pdf>

Ursuline Academy. *Ursuline Heritage*. Retrieved on March 25, 2013 from <http://ursulineneworleans.org/about-ursuline/our-heritage/>

Wade, J. E. (2009). *The influence of collegiate living environment on social self-efficacy* (Doctoral dissertation). Available from ProQuest Dissertation and Theses database. (UMI No. 3351875)

Wechsler, H., Dowdall, G. W., Davenport, A., & Castillo, S. (1995). Correlates of college student binge drinking. *American Journal of Public Health, 85*(7), 921-926.

Wechsler, H., Lee, J. E., Kuo, M., Nelson, T. F., & Lee, H. P. (2002). Trends in college binge drinking during a period of increased prevention efforts: Findings from four Harvard

- School of Public Health study surveys, 1993-2001. *Journal of American College Health*, 50(5), 203-217.
- White, F., & White, J. R. (1973). A study of bisexual relationships developed by residents of a co-ed living arrangement. *Journal of College and University Housing*, 3(2), 20-23.
- Willoughby, B. J., & Carroll, J. D. (2009). The impact of living in co-ed resident halls on risk-taking among college students. *Journal of American College Health*, 58(3), 241-246.
- Willoughby, B. J., Carroll, J. S., Marshall, W. J., & Clark, C. (2009). The decline of in loco parentis and the shift to coed housing on College Campuses. *Journal of Adolescent Research*, 24, 21-36.
- Wilsnack, R., & Wilsnack, S. (2013). Gender and alcohol: Consumption and consequences. In P. Boyle, P. Boffetta, A. B. Lowenfels, H. Burns, O. Brawley, W. Zatonski, & J. Rehm (Eds.), *Alcohol: Science, policy, and public health* (pp. 153-163). Oxford, United Kingdom: Oxford University Press.

APPENDIX A. SURVEY INSTRUMENT WITHOUT INSTITUTIONAL QUESTIONS

**North Dakota Higher Education Consortium for Substance Abuse Prevention**  
**NDCORE-Alcohol and Drug Survey**  
**Funded by "U.S. Department of Education PR Award Number Q184Z090048"**

**Marking Instructions**

- Use number 2 pencil only.
- Make dark marks that fill the oval completely.
- Erase cleanly any mark you wish to change.
- Make no stray marks.

Incorrect Marks

Correct Mark

USE NO. 2 PENCIL ONLY

<p><b>1. Classification:</b></p> <p>Freshman ..... <input type="radio"/></p> <p>Sophomore..... <input type="radio"/></p> <p>Junior ..... <input type="radio"/></p> <p>Senior ..... <input type="radio"/></p> <p>Grad/professional ..... <input type="radio"/></p> <p>Not seeking a degree ..... <input type="radio"/></p> <p>Other ..... <input type="radio"/></p>	<p><b>2. Age:</b></p> <table style="width: 100%; text-align: center;"> <tr> <td style="border: 1px solid black; width: 30px; height: 30px;"></td> <td style="border: 1px solid black; width: 30px; height: 30px;"></td> </tr> </table> <p> <input type="radio"/> 0   <input type="radio"/> 1  <input type="radio"/> 2   <input type="radio"/> 3  <input type="radio"/> 4   <input type="radio"/> 5  <input type="radio"/> 6   <input type="radio"/> 7  <input type="radio"/> 8   <input type="radio"/> 9         </p>			<p><b>3. Ethnic origin:</b></p> <p>American Indian/Alaskan Native ..... <input type="radio"/></p> <p>Hispanic ..... <input type="radio"/></p> <p>Asian/Pacific Islander ..... <input type="radio"/></p> <p>White (non-Hispanic) ..... <input type="radio"/></p> <p>Black (non-Hispanic) ..... <input type="radio"/></p> <p>Other ..... <input type="radio"/></p>	<p><b>4. Marital status:</b></p> <p>Single ..... <input type="radio"/></p> <p>Married ..... <input type="radio"/></p> <p>Separated ..... <input type="radio"/></p> <p>Divorced ..... <input type="radio"/></p> <p>Widowed ..... <input type="radio"/></p>																																																																																																																														
<p><b>5. Birth Sex:</b></p> <p>Male ..... <input type="radio"/></p> <p>Female ..... <input type="radio"/></p>	<p><b>6. Is your current residence as a student:</b></p> <p>On-campus ..... <input type="radio"/></p> <p>Off-campus ..... <input type="radio"/></p>	<p><b>7. Are you working?</b></p> <p>Yes, full-time ..... <input type="radio"/></p> <p>Yes, part-time ..... <input type="radio"/></p> <p>No ..... <input type="radio"/></p>																																																																																																																																	
<p><b>9. Approximate cumulative grade point average: (choose one)</b></p> <p> <input type="radio"/> A+   <input type="radio"/> A   <input type="radio"/> A-   <input type="radio"/> B+   <input type="radio"/> B   <input type="radio"/> B-   <input type="radio"/> C+   <input type="radio"/> C   <input type="radio"/> C-   <input type="radio"/> D+   <input type="radio"/> D   <input type="radio"/> D-   <input type="radio"/> F         </p>		<p><b>8. Living arrangements:</b></p> <p><b>A. Where: (mark best answer)</b></p> <p>House/apartment/etc. .... <input type="radio"/></p> <p>Residence hall ..... <input type="radio"/></p> <p>Approved housing ..... <input type="radio"/></p> <p>Fraternity or sorority ..... <input type="radio"/></p> <p>Other ..... <input type="radio"/></p> <p><b>B. With whom: (mark all that apply)</b></p> <p>With roommate(s) ..... <input type="radio"/></p> <p>Alone ..... <input type="radio"/></p> <p>With parent(s) ..... <input type="radio"/></p> <p>With spouse ..... <input type="radio"/></p> <p>With children ..... <input type="radio"/></p> <p>Other ..... <input type="radio"/></p>																																																																																																																																	
<p><b>10. Some students have indicated that alcohol or drug use at parties they attend in and around campus reduces their enjoyment, often leads to negative situations, and therefore, they would rather not have alcohol and drugs available and used. Other students have indicated that alcohol and drug use at parties increases their enjoyment, often leads to positive situations, and therefore, they would rather have alcohol and drugs available and used. Which of these is closest to your own view?</b></p> <p style="text-align: center;">Have available   Not have available</p> <p>With regard to drugs? ..... <input type="radio"/>   <input type="radio"/></p> <p>With regard to alcohol? ..... <input type="radio"/>   <input type="radio"/></p>																																																																																																																																			
<p><b>11. Student status:</b></p> <p>Full-time (12+ credits) ..... <input type="radio"/></p> <p>Part-time (1-11 credits) ..... <input type="radio"/></p>	<p><b>12. Campus situation on alcohol and drugs:</b></p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th style="text-align: center;">yes</th> <th style="text-align: center;">no</th> <th style="text-align: center;">don't know</th> </tr> </thead> <tbody> <tr> <td>a. Does your campus have alcohol and drug policies? .....</td> <td style="text-align: center;"><input type="radio"/></td> <td style="text-align: center;"><input type="radio"/></td> <td style="text-align: center;"><input type="radio"/></td> </tr> <tr> <td>b. If so, are they enforced? .....</td> <td style="text-align: center;"><input type="radio"/></td> <td style="text-align: center;"><input type="radio"/></td> <td style="text-align: center;"><input type="radio"/></td> </tr> <tr> <td>c. Does your campus have a drug and alcohol prevention program? .....</td> <td style="text-align: center;"><input type="radio"/></td> <td style="text-align: center;"><input type="radio"/></td> <td style="text-align: center;"><input type="radio"/></td> </tr> <tr> <td>d. Do you believe your campus is concerned about the prevention of drug and alcohol use? .....</td> <td style="text-align: center;"><input type="radio"/></td> <td style="text-align: center;"><input type="radio"/></td> <td style="text-align: center;"><input type="radio"/></td> </tr> <tr> <td>e. Are you actively involved in efforts to prevent drug and alcohol use problems on your campus? .....</td> <td style="text-align: center;"><input type="radio"/></td> <td style="text-align: center;"><input type="radio"/></td> <td style="text-align: center;"><input type="radio"/></td> </tr> </tbody> </table>				yes	no	don't know	a. Does your campus have alcohol and drug policies? .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	b. If so, are they enforced? .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	c. Does your campus have a drug and alcohol prevention program? .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	d. Do you believe your campus is concerned about the prevention of drug and alcohol use? .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	e. Are you actively involved in efforts to prevent drug and alcohol use problems on your campus? .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>																																																																																																								
	yes	no	don't know																																																																																																																																
a. Does your campus have alcohol and drug policies? .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>																																																																																																																																
b. If so, are they enforced? .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>																																																																																																																																
c. Does your campus have a drug and alcohol prevention program? .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>																																																																																																																																
d. Do you believe your campus is concerned about the prevention of drug and alcohol use? .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>																																																																																																																																
e. Are you actively involved in efforts to prevent drug and alcohol use problems on your campus? .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>																																																																																																																																
<p><b>13. Place of permanent residence:</b></p> <p>North Dakota ..... <input type="radio"/></p> <p>USA, but out of state ..... <input type="radio"/></p> <p>Country other than USA ..... <input type="radio"/></p>	<p><b>14. Think back over the last two weeks. How many times have you had five or more drinks* at a sitting?</b></p> <p>None ..... <input type="radio"/></p> <p>Once ..... <input type="radio"/></p> <p>Twice ..... <input type="radio"/></p> <p>3 to 5 times ..... <input type="radio"/></p> <p>6 to 9 times ..... <input type="radio"/></p> <p>10 or more times ..... <input type="radio"/></p> <p><small>*A drink is a bottle of beer, a glass of wine, a wine cooler, a shot glass of liquor, or a mixed drink.</small></p>																																																																																																																																		
<p><b>15. Average # of drinks* you consume a week:</b></p> <table style="width: 100%; text-align: center;"> <tr> <td style="border: 1px solid black; width: 30px; height: 30px;"></td> <td style="border: 1px solid black; width: 30px; height: 30px;"></td> </tr> </table> <p>(if less than 10, code answers as 00, 01, 02, etc.)</p> <p> <input type="radio"/> 0   <input type="radio"/> 1  <input type="radio"/> 2   <input type="radio"/> 3  <input type="radio"/> 4   <input type="radio"/> 5  <input type="radio"/> 6   <input type="radio"/> 7  <input type="radio"/> 8   <input type="radio"/> 9         </p>			<p><b>16. At what age did you first use... (mark one for each line)</b></p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th style="text-align: center;">Under 10</th> <th style="text-align: center;">10-11</th> <th style="text-align: center;">12-13</th> <th style="text-align: center;">14-15</th> <th style="text-align: center;">16-17</th> <th style="text-align: center;">18-20</th> <th style="text-align: center;">21-25</th> <th style="text-align: center;">26+</th> </tr> </thead> <tbody> <tr> <td>a. Tobacco (smoke, chew, snuff) .....</td> <td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td> </tr> <tr> <td>b. Alcohol (beer, wine, liquor)* .....</td> <td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td> </tr> <tr> <td>c. Marijuana (pot, hash, hash oil).....</td> <td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td> </tr> <tr> <td>d. Cocaine (crack, rock, freebase) .....</td> <td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td> </tr> <tr> <td>e. Amphetamines (diet pills, speed) .....</td> <td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td> </tr> <tr> <td>f. Sedatives (downers, ludes) .....</td> <td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td> </tr> <tr> <td>g. Hallucinogens (LSD, PCP) .....</td> <td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td> </tr> <tr> <td>h. Opiates (heroin, smack, horse) .....</td> <td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td> </tr> <tr> <td>i. Inhalants (glue, solvents, gas) .....</td> <td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td> </tr> <tr> <td>j. Synthetic Drugs (K2, Spice, Bath Salts) ..</td> <td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td> </tr> <tr> <td>k. Steroids .....</td> <td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td> </tr> <tr> <td>l. Non-medical use of prescription drug ..</td> <td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td> </tr> <tr> <td>m. Other illegal drugs. ....</td> <td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td> </tr> </tbody> </table> <p style="text-align: center;"><small>*Other than a few sips</small></p>				Under 10	10-11	12-13	14-15	16-17	18-20	21-25	26+	a. Tobacco (smoke, chew, snuff) .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	b. Alcohol (beer, wine, liquor)* .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	c. Marijuana (pot, hash, hash oil).....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	d. Cocaine (crack, rock, freebase) .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	e. Amphetamines (diet pills, speed) .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	f. Sedatives (downers, ludes) .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	g. Hallucinogens (LSD, PCP) .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	h. Opiates (heroin, smack, horse) .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	i. Inhalants (glue, solvents, gas) .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	j. Synthetic Drugs (K2, Spice, Bath Salts) ..	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	k. Steroids .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	l. Non-medical use of prescription drug ..	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	m. Other illegal drugs. ....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Under 10	10-11	12-13	14-15	16-17	18-20	21-25	26+																																																																																																																											
a. Tobacco (smoke, chew, snuff) .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>																																																																																																																											
b. Alcohol (beer, wine, liquor)* .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>																																																																																																																											
c. Marijuana (pot, hash, hash oil).....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>																																																																																																																											
d. Cocaine (crack, rock, freebase) .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>																																																																																																																											
e. Amphetamines (diet pills, speed) .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>																																																																																																																											
f. Sedatives (downers, ludes) .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>																																																																																																																											
g. Hallucinogens (LSD, PCP) .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>																																																																																																																											
h. Opiates (heroin, smack, horse) .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>																																																																																																																											
i. Inhalants (glue, solvents, gas) .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>																																																																																																																											
j. Synthetic Drugs (K2, Spice, Bath Salts) ..	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>																																																																																																																											
k. Steroids .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>																																																																																																																											
l. Non-medical use of prescription drug ..	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>																																																																																																																											
m. Other illegal drugs. ....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>																																																																																																																											



17. Within the last year about how often have you used... (mark one for each line)

	Did not use	0 times/year	1-2 times/year	3 times/year	4-5 times/year	6-7 times/year	8-9 times/year	10-15 times/year	16-20 times/year	21-30 times/year	31-40 times/year	41-50 times/year	50+ times/year
a. Tobacco (smoke, chew, snuff)													
b. Alcohol (beer, wine, liquor)													
c. Marijuana (pot, hash, hash oil)													
d. Cocaine (crack, rock, freebase)													
e. Amphetamines (diet pills, speed)													
f. Sedatives (downers, ludes)													
g. Hallucinogens (LSD, PCP)													
h. Opiates (heroin, smack, horse)													
i. Inhalants (glue, solvents, gas)													
j. Synthetic Drugs (K2, Spice, Bath Salts)													
k. Steroids													
l. Non-medical use of prescription drug													
m. Other illegal drugs													

18. During the past 30 days on how many days did you have: (mark one for each line)

	0 days	1-2 days	3-5 days	6-9 days	10-19 days	20-29 days	30 days
a. Tobacco (smoke, chew, snuff)							
b. Alcohol (beer, wine, liquor)							
c. Marijuana (pot, hash, hash oil)							
d. Cocaine (crack, rock, freebase)							
e. Amphetamines (diet pills, speed)							
f. Sedatives (downers, ludes)							
g. Hallucinogens (LSD, PCP)							
h. Opiates (heroin, smack, horse)							
i. Inhalants (glue, solvents, gas)							
j. Synthetic Drugs (K2, Spice, Bath Salts)							
k. Steroids							
l. Non-medical use of prescription drug							
m. Other illegal drugs							

19. How often do you think the average student on your campus uses... (mark one for each line)

	Never	0 times/year	Once/month	Twice/month	3 times/month	4 times/month	5 times/month	6-7 days
a. Tobacco (smoke, chew, snuff)								
b. Alcohol (beer, wine, liquor)								
c. Marijuana (pot, hash, hash oil)								
d. Cocaine (crack, rock, freebase)								
e. Amphetamines (diet pills, speed)								
f. Sedatives (downers, ludes)								
g. Hallucinogens (LSD, PCP)								
h. Opiates (heroin, smack, horse)								
i. Inhalants (glue, solvents, gas)								
j. Synthetic Drugs (K2, Spice, Bath Salts)								
k. Steroids								
l. Non-medical use of prescription drug								
m. Other illegal drugs								

21. Please indicate how often you have experienced the following due to your drinking or drug use during the last year... (mark one for each line)

	Never	Once	Twice	3-5 times	6-8 times	10 or more times
a. Had a hangover						
b. Performed poorly on a test or important project						
c. Been in trouble with police, residence hall, or other college authorities						
d. Damaged property, pulled fire alarm, etc.						
e. Got into an argument or fight						
f. Got nauseated or vomited						
g. Driven a car while under the influence						
h. Missed a class						
i. Been criticized by someone I know						
j. Thought I might have a drinking or other drug problem						
k. Had a memory loss						
l. Done something I later regretted						
m. Been arrested for DWI/DUI						
n. Have taken advantage of another sexually						
o. Tried unsuccessfully to stop using						
p. Seriously thought about suicide						
q. Seriously tried to commit suicide						
r. Been hurt or injured						

20. Where have you used... (mark all that apply)

	Never used	On campus at school	Residence hall	Fraternity	Off campus	Where you live	In a car	Private parties	Other
a. Tobacco (smoke, chew, snuff)									
b. Alcohol (beer, wine, liquor)									
c. Marijuana (pot, hash, hash oil)									
d. Cocaine (crack, rock, freebase)									
e. Amphetamines (diet pills, speed)									
f. Sedatives (downers, ludes)									
g. Hallucinogens (LSD, PCP)									
h. Opiates (heroin, smack, horse)									
i. Inhalants (glue, solvents, gas)									
j. Synthetic Drugs (K2, Spice, Bath Salts)									
k. Steroids									
l. Non-medical use of prescription drug									
m. Other illegal drugs									

22. Have any of your family had alcohol or other drug problems: (mark all that apply)

- Mother
- Father
- Stepmother
- Stepfather
- Brothers/sisters
- Mother's parents
- Father's parents
- Aunts/uncles
- Spouse
- Children
- None

24. What was the population of the community in which you grew up?

- A 1,000 or less
- B 1,001 - 2,500
- C 2,501 - 5,000
- D 5,001 - 10,000
- E 10,001 - 20,000
- F 20,001 - 50,000
- G 50,001 - 100,000
- H 100,001 - 500,000
- I 500,001 - 1 million
- J More than 1 million

23. Question 23 Omitted

25. Have you ever been taken advantage of sexually while under the influence of alcohol or other drugs?

- Never
- Once
- Twice
- 3-5 times
- 6-9 times
- 10 or more times

Please continue on the next page...

<p><b>26. If you consume alcohol or use marijuana, from which of the following sources do you obtain it? (Mark as many as apply):</b></p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> <p><b>Alcohol Sources</b></p> <p><input type="checkbox"/> A Friends under 21</p> <p><input type="checkbox"/> B Friends older than 21</p> <p><input type="checkbox"/> C Using a fake ID</p> <p><input type="checkbox"/> D Using a false ID (someone else's)</p> <p><input type="checkbox"/> E Adult acquaintances</p> <p><input type="checkbox"/> F Parent with consent</p> <p><input type="checkbox"/> G Parent without consent</p> <p><input type="checkbox"/> H Self</p> <p><input type="checkbox"/> I Other</p> </td> <td style="width: 50%; vertical-align: top;"> <p><b>Marijuana Sources</b></p> <p><input type="checkbox"/> A Friends at school</p> <p><input type="checkbox"/> B Friends at home</p> <p><input type="checkbox"/> C Parent with consent</p> <p><input type="checkbox"/> D Parent without consent</p> <p><input type="checkbox"/> E Drug Dealer</p> <p><input type="checkbox"/> F Acquaintances</p> <p><input type="checkbox"/> G Self</p> <p><input type="checkbox"/> H Other</p> </td> </tr> </table>	<p><b>Alcohol Sources</b></p> <p><input type="checkbox"/> A Friends under 21</p> <p><input type="checkbox"/> B Friends older than 21</p> <p><input type="checkbox"/> C Using a fake ID</p> <p><input type="checkbox"/> D Using a false ID (someone else's)</p> <p><input type="checkbox"/> E Adult acquaintances</p> <p><input type="checkbox"/> F Parent with consent</p> <p><input type="checkbox"/> G Parent without consent</p> <p><input type="checkbox"/> H Self</p> <p><input type="checkbox"/> I Other</p>	<p><b>Marijuana Sources</b></p> <p><input type="checkbox"/> A Friends at school</p> <p><input type="checkbox"/> B Friends at home</p> <p><input type="checkbox"/> C Parent with consent</p> <p><input type="checkbox"/> D Parent without consent</p> <p><input type="checkbox"/> E Drug Dealer</p> <p><input type="checkbox"/> F Acquaintances</p> <p><input type="checkbox"/> G Self</p> <p><input type="checkbox"/> H Other</p>	<p><b>27. In your opinion, would stricter campus policies, state laws, or city ordinances deter you from drinking?</b></p> <p><input type="checkbox"/> A Yes      <input type="checkbox"/> B No</p> <p><b>If you answered "yes" to the above question, what do you believe would be the most effective?</b></p> <p><input type="checkbox"/> A Fines/Fees</p> <p><input type="checkbox"/> B Education</p> <p><input type="checkbox"/> C Community Service</p> <p><input type="checkbox"/> D Removal from residence hall</p> <p><input type="checkbox"/> E Expulsion from college</p> <p><input type="checkbox"/> F Jail</p> <p><input type="checkbox"/> G Parental Notification</p>																																	
<p><b>Alcohol Sources</b></p> <p><input type="checkbox"/> A Friends under 21</p> <p><input type="checkbox"/> B Friends older than 21</p> <p><input type="checkbox"/> C Using a fake ID</p> <p><input type="checkbox"/> D Using a false ID (someone else's)</p> <p><input type="checkbox"/> E Adult acquaintances</p> <p><input type="checkbox"/> F Parent with consent</p> <p><input type="checkbox"/> G Parent without consent</p> <p><input type="checkbox"/> H Self</p> <p><input type="checkbox"/> I Other</p>	<p><b>Marijuana Sources</b></p> <p><input type="checkbox"/> A Friends at school</p> <p><input type="checkbox"/> B Friends at home</p> <p><input type="checkbox"/> C Parent with consent</p> <p><input type="checkbox"/> D Parent without consent</p> <p><input type="checkbox"/> E Drug Dealer</p> <p><input type="checkbox"/> F Acquaintances</p> <p><input type="checkbox"/> G Self</p> <p><input type="checkbox"/> H Other</p>																																			
<p><b>28. How seriously do you consider the following factors as a way of limiting or controlling your alcohol, tobacco, or other drug use:</b></p> <table style="width: 100%; border: none;"> <thead> <tr> <th style="text-align: left; border-bottom: 1px solid black;">Parents expectations:</th> <th style="text-align: center; border-bottom: 1px solid black;">Very Effective</th> <th style="text-align: center; border-bottom: 1px solid black;">Somewhat Effective</th> <th style="text-align: center; border-bottom: 1px solid black;">Not Effective</th> </tr> </thead> <tbody> <tr> <td>For alcohol</td> <td style="text-align: center;"><input type="radio"/></td> <td style="text-align: center;"><input type="radio"/></td> <td style="text-align: center;"><input type="radio"/></td> </tr> <tr> <td>For tobacco</td> <td style="text-align: center;"><input type="radio"/></td> <td style="text-align: center;"><input type="radio"/></td> <td style="text-align: center;"><input type="radio"/></td> </tr> <tr> <td>For other drugs</td> <td style="text-align: center;"><input type="radio"/></td> <td style="text-align: center;"><input type="radio"/></td> <td style="text-align: center;"><input type="radio"/></td> </tr> </tbody> </table> <table style="width: 100%; border: none; margin-top: 10px;"> <thead> <tr> <th style="text-align: left; border-bottom: 1px solid black;">Parents rules:</th> <th style="text-align: center; border-bottom: 1px solid black;">Very Effective</th> <th style="text-align: center; border-bottom: 1px solid black;">Somewhat Effective</th> <th style="text-align: center; border-bottom: 1px solid black;">Not Effective</th> </tr> </thead> <tbody> <tr> <td>For alcohol</td> <td style="text-align: center;"><input type="radio"/></td> <td style="text-align: center;"><input type="radio"/></td> <td style="text-align: center;"><input type="radio"/></td> </tr> <tr> <td>For tobacco</td> <td style="text-align: center;"><input type="radio"/></td> <td style="text-align: center;"><input type="radio"/></td> <td style="text-align: center;"><input type="radio"/></td> </tr> <tr> <td>For other drugs</td> <td style="text-align: center;"><input type="radio"/></td> <td style="text-align: center;"><input type="radio"/></td> <td style="text-align: center;"><input type="radio"/></td> </tr> </tbody> </table> <p>Do either of your parents drink alcohol? <input type="radio"/> Yes      <input type="radio"/> No</p> <p>Do either of your parents talk to you about alcohol use? <input type="radio"/> Yes      <input type="radio"/> No</p> <p>Have either of your parents ever talked to you about your drinking? <input type="radio"/> Yes      <input type="radio"/> No</p> <p>Do either of your parents use illicit drugs? <input type="radio"/> Yes      <input type="radio"/> No</p> <p>Do either of your parents talk to you about illicit drugs? <input type="radio"/> Yes      <input type="radio"/> No</p> <p>Have either of your parents ever talked to you about your use of illicit drugs? <input type="radio"/> Yes      <input type="radio"/> No</p> <p>Have you ever had to take care of a parent when they were drinking heavily? <input type="radio"/> Yes      <input type="radio"/> No</p>		Parents expectations:	Very Effective	Somewhat Effective	Not Effective	For alcohol	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	For tobacco	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	For other drugs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Parents rules:	Very Effective	Somewhat Effective	Not Effective	For alcohol	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	For tobacco	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	For other drugs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			
Parents expectations:	Very Effective	Somewhat Effective	Not Effective																																	
For alcohol	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>																																	
For tobacco	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>																																	
For other drugs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>																																	
Parents rules:	Very Effective	Somewhat Effective	Not Effective																																	
For alcohol	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>																																	
For tobacco	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>																																	
For other drugs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>																																	
<p><b>29. Question 29 Omitted</b></p>	<p><b>31. Have you ever been cited for:</b></p> <table style="width: 100%; border: none;"> <thead> <tr> <th style="text-align: left; border-bottom: 1px solid black;"></th> <th style="text-align: center; border-bottom: 1px solid black;">YES</th> <th style="text-align: center; border-bottom: 1px solid black;">NO</th> </tr> </thead> <tbody> <tr> <td>a. Minor in consumption/possession</td> <td style="text-align: center;"><input type="radio"/></td> <td style="text-align: center;"><input type="radio"/></td> </tr> <tr> <td>b. DUI / Actual physical control</td> <td style="text-align: center;"><input type="radio"/></td> <td style="text-align: center;"><input type="radio"/></td> </tr> <tr> <td>c. Disorderly Conduct</td> <td style="text-align: center;"><input type="radio"/></td> <td style="text-align: center;"><input type="radio"/></td> </tr> <tr> <td>d. Assault / Violent Behavior</td> <td style="text-align: center;"><input type="radio"/></td> <td style="text-align: center;"><input type="radio"/></td> </tr> </tbody> </table> <p><b>If Yes, was the citation(s) issued by:</b></p> <table style="width: 100%; border: none;"> <thead> <tr> <th style="text-align: left; border-bottom: 1px solid black;"></th> <th style="text-align: center; border-bottom: 1px solid black;">Law Enforcement</th> <th style="text-align: center; border-bottom: 1px solid black;">Campus Judicial affairs</th> <th style="text-align: center; border-bottom: 1px solid black;">Both</th> </tr> </thead> <tbody> <tr> <td>a. Minor in consumption/possession</td> <td style="text-align: center;"><input type="radio"/></td> <td style="text-align: center;"><input type="radio"/></td> <td style="text-align: center;"><input type="radio"/></td> </tr> <tr> <td>b. DUI / Actual physical control</td> <td style="text-align: center;"><input type="radio"/></td> <td style="text-align: center;"><input type="radio"/></td> <td style="text-align: center;"><input type="radio"/></td> </tr> <tr> <td>c. Disorderly Conduct</td> <td style="text-align: center;"><input type="radio"/></td> <td style="text-align: center;"><input type="radio"/></td> <td style="text-align: center;"><input type="radio"/></td> </tr> <tr> <td>d. Assault / Violent Behavior</td> <td style="text-align: center;"><input type="radio"/></td> <td style="text-align: center;"><input type="radio"/></td> <td style="text-align: center;"><input type="radio"/></td> </tr> </tbody> </table>		YES	NO	a. Minor in consumption/possession	<input type="radio"/>	<input type="radio"/>	b. DUI / Actual physical control	<input type="radio"/>	<input type="radio"/>	c. Disorderly Conduct	<input type="radio"/>	<input type="radio"/>	d. Assault / Violent Behavior	<input type="radio"/>	<input type="radio"/>		Law Enforcement	Campus Judicial affairs	Both	a. Minor in consumption/possession	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	b. DUI / Actual physical control	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	c. Disorderly Conduct	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	d. Assault / Violent Behavior	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	YES	NO																																		
a. Minor in consumption/possession	<input type="radio"/>	<input type="radio"/>																																		
b. DUI / Actual physical control	<input type="radio"/>	<input type="radio"/>																																		
c. Disorderly Conduct	<input type="radio"/>	<input type="radio"/>																																		
d. Assault / Violent Behavior	<input type="radio"/>	<input type="radio"/>																																		
	Law Enforcement	Campus Judicial affairs	Both																																	
a. Minor in consumption/possession	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>																																	
b. DUI / Actual physical control	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>																																	
c. Disorderly Conduct	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>																																	
d. Assault / Violent Behavior	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>																																	
<p><b>30. Do you believe having alcohol available is necessary for having a good time?</b></p> <p><input type="radio"/> Yes      <input type="radio"/> No</p> <p><b>Are there alcohol free activities for the following age groups?</b></p> <table style="width: 100%; border: none;"> <thead> <tr> <th style="text-align: left; border-bottom: 1px solid black;"></th> <th style="text-align: center; border-bottom: 1px solid black;">YES</th> <th style="text-align: center; border-bottom: 1px solid black;">NO</th> <th style="text-align: center; border-bottom: 1px solid black;">Don't Know</th> </tr> </thead> <tbody> <tr> <td>a. Youth</td> <td style="text-align: center;"><input type="radio"/></td> <td style="text-align: center;"><input type="radio"/></td> <td style="text-align: center;"><input type="radio"/></td> </tr> <tr> <td>b. College Students</td> <td style="text-align: center;"><input type="radio"/></td> <td style="text-align: center;"><input type="radio"/></td> <td style="text-align: center;"><input type="radio"/></td> </tr> <tr> <td>c. Young Adults</td> <td style="text-align: center;"><input type="radio"/></td> <td style="text-align: center;"><input type="radio"/></td> <td style="text-align: center;"><input type="radio"/></td> </tr> <tr> <td>d. Adults</td> <td style="text-align: center;"><input type="radio"/></td> <td style="text-align: center;"><input type="radio"/></td> <td style="text-align: center;"><input type="radio"/></td> </tr> <tr> <td>e. Parents</td> <td style="text-align: center;"><input type="radio"/></td> <td style="text-align: center;"><input type="radio"/></td> <td style="text-align: center;"><input type="radio"/></td> </tr> <tr> <td>f. Alumni</td> <td style="text-align: center;"><input type="radio"/></td> <td style="text-align: center;"><input type="radio"/></td> <td style="text-align: center;"><input type="radio"/></td> </tr> </tbody> </table> <p><b>Where you live, are there alcohol free activities:</b></p> <p><input type="checkbox"/> A Yes plenty of activities</p> <p><input type="checkbox"/> B Yes, but not enough activities</p> <p><input type="checkbox"/> C Not within walking distance</p> <p><input type="checkbox"/> D Not enough inexpensive or free options</p> <p><input type="checkbox"/> E None that are fun</p> <p><input type="checkbox"/> F None that my friends would attend</p> <p><input type="checkbox"/> G No activities</p> <p><input type="checkbox"/> H Don't know</p>		YES	NO	Don't Know	a. Youth	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	b. College Students	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	c. Young Adults	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	d. Adults	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	e. Parents	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	f. Alumni	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<p><b>32. Question 32 Omitted</b></p>							
	YES	NO	Don't Know																																	
a. Youth	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>																																	
b. College Students	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>																																	
c. Young Adults	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>																																	
d. Adults	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>																																	
e. Parents	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>																																	
f. Alumni	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>																																	

Please continue on the next page...

33. In which of the following ways does the drinking of other students interfere with your life on or around campus (mark one for each line)?

Doesn't interfere with my life (Go to question 34).

	YES	NO
a. Interrupts your studying	<input type="radio"/>	<input type="radio"/>
b. Makes you feel unsafe	<input type="radio"/>	<input type="radio"/>
c. Messes up your physical living space (Cleanliness, neatness, organization, etc.)	<input type="radio"/>	<input type="radio"/>
d. Adversely affects your involvement on an Athletic team or in other organized groups	<input type="radio"/>	<input type="radio"/>
e. Prevents you from enjoying events (Concerts, sports, social activities, etc.)	<input type="radio"/>	<input type="radio"/>
f. Interferes in other way(s)	<input type="radio"/>	<input type="radio"/>

34. If you use prescription drugs/medication not prescribed to you, or use your prescription medication different from how it's prescribed, from which of the following source(s) do you obtain it? (Mark as many as apply):

- Friends
- Adult Acquaintances
- Parent with their consent
- Parent without their consent
- Self
- Internet
- Family Member
- Drug Dealer
- Doctor
- Other

35. Do you currently, or have you in the past, held a prescription for medical marijuana?

- Yes     No

If so, which state?

- |                               |                             |
|-------------------------------|-----------------------------|
| <input type="checkbox"/> AL   | <input type="checkbox"/> MI |
| <input type="checkbox"/> AZ   | <input type="checkbox"/> MT |
| <input type="checkbox"/> CA   | <input type="checkbox"/> NV |
| <input type="checkbox"/> CO   | <input type="checkbox"/> NJ |
| <input type="checkbox"/> CT   | <input type="checkbox"/> NM |
| <input type="checkbox"/> D.C. | <input type="checkbox"/> OR |
| <input type="checkbox"/> DE   | <input type="checkbox"/> RI |
| <input type="checkbox"/> HI   | <input type="checkbox"/> VT |
| <input type="checkbox"/> ME   | <input type="checkbox"/> WA |

**Additional Use Questions**

- |   |   |   |   |   |
|---|---|---|---|---|
| 36. <input type="radio"/> 0 <input type="radio"/> 1 <input type="radio"/> 2 | 37. <input type="radio"/> 0 <input type="radio"/> 1 <input type="radio"/> 2 | 38. <input type="radio"/> 0 <input type="radio"/> 1 <input type="radio"/> 2 | 39. <input type="radio"/> 0 <input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5 <input type="radio"/> 6 <input type="radio"/> 7 <input type="radio"/> 8 <input type="radio"/> 9 | 49. <input type="radio"/> 0 <input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5 <input type="radio"/> 6 <input type="radio"/> 7 <input type="radio"/> 8 <input type="radio"/> 9 |
| 1 <input type="radio"/> 1 <input type="radio"/> 1                           | 1 <input type="radio"/> 1 <input type="radio"/> 1                           | 1 <input type="radio"/> 1 <input type="radio"/> 1                           | 0 <input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5 <input type="radio"/> 6 <input type="radio"/> 7 <input type="radio"/> 8 <input type="radio"/> 9                           | 0 <input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5 <input type="radio"/> 6 <input type="radio"/> 7 <input type="radio"/> 8 <input type="radio"/> 9                           |
| 2 <input type="radio"/> 2 <input type="radio"/> 2                           | 2 <input type="radio"/> 2 <input type="radio"/> 2                           | 2 <input type="radio"/> 2 <input type="radio"/> 2                           | 0 <input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5 <input type="radio"/> 6 <input type="radio"/> 7 <input type="radio"/> 8 <input type="radio"/> 9                           | 0 <input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5 <input type="radio"/> 6 <input type="radio"/> 7 <input type="radio"/> 8 <input type="radio"/> 9                           |
| 3 <input type="radio"/> 3 <input type="radio"/> 3                           | 3 <input type="radio"/> 3 <input type="radio"/> 3                           | 3 <input type="radio"/> 3 <input type="radio"/> 3                           | 0 <input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5 <input type="radio"/> 6 <input type="radio"/> 7 <input type="radio"/> 8 <input type="radio"/> 9                           | 0 <input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5 <input type="radio"/> 6 <input type="radio"/> 7 <input type="radio"/> 8 <input type="radio"/> 9                           |
| 4 <input type="radio"/> 4 <input type="radio"/> 4                           | 4 <input type="radio"/> 4 <input type="radio"/> 4                           | 4 <input type="radio"/> 4 <input type="radio"/> 4                           | 0 <input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5 <input type="radio"/> 6 <input type="radio"/> 7 <input type="radio"/> 8 <input type="radio"/> 9                           | 0 <input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5 <input type="radio"/> 6 <input type="radio"/> 7 <input type="radio"/> 8 <input type="radio"/> 9                           |
| 5 <input type="radio"/> 5 <input type="radio"/> 5                           | 5 <input type="radio"/> 5 <input type="radio"/> 5                           | 5 <input type="radio"/> 5 <input type="radio"/> 5                           | 0 <input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5 <input type="radio"/> 6 <input type="radio"/> 7 <input type="radio"/> 8 <input type="radio"/> 9                           | 0 <input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5 <input type="radio"/> 6 <input type="radio"/> 7 <input type="radio"/> 8 <input type="radio"/> 9                           |
| 6 <input type="radio"/> 6 <input type="radio"/> 6                           | 6 <input type="radio"/> 6 <input type="radio"/> 6                           | 6 <input type="radio"/> 6 <input type="radio"/> 6                           | 0 <input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5 <input type="radio"/> 6 <input type="radio"/> 7 <input type="radio"/> 8 <input type="radio"/> 9                           | 0 <input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5 <input type="radio"/> 6 <input type="radio"/> 7 <input type="radio"/> 8 <input type="radio"/> 9                           |
| 7 <input type="radio"/> 7 <input type="radio"/> 7                           | 7 <input type="radio"/> 7 <input type="radio"/> 7                           | 7 <input type="radio"/> 7 <input type="radio"/> 7                           | 0 <input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5 <input type="radio"/> 6 <input type="radio"/> 7 <input type="radio"/> 8 <input type="radio"/> 9                           | 0 <input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5 <input type="radio"/> 6 <input type="radio"/> 7 <input type="radio"/> 8 <input type="radio"/> 9                           |
| 8 <input type="radio"/> 8 <input type="radio"/> 8                           | 8 <input type="radio"/> 8 <input type="radio"/> 8                           | 8 <input type="radio"/> 8 <input type="radio"/> 8                           | 0 <input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5 <input type="radio"/> 6 <input type="radio"/> 7 <input type="radio"/> 8 <input type="radio"/> 9                           | 0 <input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5 <input type="radio"/> 6 <input type="radio"/> 7 <input type="radio"/> 8 <input type="radio"/> 9                           |
| 9 <input type="radio"/> 9 <input type="radio"/> 9                           | 9 <input type="radio"/> 9 <input type="radio"/> 9                           | 9 <input type="radio"/> 9 <input type="radio"/> 9                           | 0 <input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5 <input type="radio"/> 6 <input type="radio"/> 7 <input type="radio"/> 8 <input type="radio"/> 9                           | 0 <input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5 <input type="radio"/> 6 <input type="radio"/> 7 <input type="radio"/> 8 <input type="radio"/> 9                           |

*Thanks*

## APPENDIX B. INSTITUTIONAL SURVEY QUESTIONS

36. In order to compute your average blood alcohol content, it is important that we ask your body weight. Please enter your body weight (in pounds) in the ovals.

Please use the examples below to complete the answer on the answer sheet.

*Example: If you weigh 150 pounds, you would darken the oval that corresponds with a 1 in the left column, a 5 in the center column, and a 0 in the right column for question 36.*

*Example: If you weigh 98 pounds, you would darken the oval that corresponds 0 in the left column, a 9 in the center column, and an 8 in the right column for question 36.*

37. Think of the occasion you drank the most during the past month. How much did you drink?

Please use the examples below to complete the answer on the answer sheet.

*Example: If you drank 5 drinks, you would darken the oval that corresponds with a 0 in the left column, a 0 in the center column, and a 5 in the right column for question 37.*

*Example: If you drank 12 drinks, you would darken the oval that corresponds with a 0 in the left column, a 1 in the center column, and a 2 in the right column for question 37.*

38. Think of the occasion you drank the most during the past month. How many HOURS did you spend drinking on that occasion?

Please use the examples below to complete the answer on the answer sheet.

*Example: If you drank over a 5 hour period of time, you would darken the oval that corresponds with a 0 in the left column, a 0 in the center column, and a 5 in the right column for question 38.*

*Example: If you drank 12 hour period of time, you would darken the oval that corresponds with a 0 in the left column, a 1 in the center column, and a 2 in the right column for question 38.*

39. What are you involved with at your campus? (mark all that apply):

- 0 Intercollegiate Athlete (Varsity and/or scholarship)
- 1 Club Sports
- 2 Intramural Team Member
- 3 Sorority Member
- 4 Fraternity Member
- 5 Student Government/Senate
- 6 Other Student Organization/Club
- 7 Resident Assistant/Mentor

40. If you live in on-campus housing, which type of housing do you live in?

- 0 N/A – I do not live in on-campus housing
- 1 Campus apartment (i.e., Bison Court, University Village, Niskanen Expansion Apartments)

- 2 Co-ed residence hall (i.e., Pavek, Seim, Thompson, Sevrinson, LLC East, LLC West, Niskanen Hall)
  - 3 Single sex residence hall (i.e., Weible, Reed-Johnson, Churchill, Dinan, Stockbridge, Burgum)
41. If you have been through treatment and/or consider yourself to be in recovery from alcohol and/or other drug abuse, which of the following campus services would you be interested in using? (mark all that apply):
- 0 N/A – I have not been through treatment for alcohol or other drugs and/or I am not in recovery from alcohol and other drug abuse
  - 1 Recovery housing (campus sponsored substance-free housing for those in recovery from substance use)
  - 2 Alcoholics Anonymous
  - 3 Narcotics Anonymous
  - 4 Peer-led support group
  - 5 Counselor-led support group
  - 6 Personal Counseling
42. Have either of your parents talked to you about their expectations regarding your drinking (alcohol)?
- 0 Yes
  - 1 No
43. How do you think your parents would feel if you drank one or two drinks per day?
- 0 Approve
  - 1 Wouldn't Care
  - 2 Disapprove
44. How do you think your parents would feel if you drank four or five drinks per day?
- 0 Approve
  - 1 Wouldn't Care
  - 2 Disapprove
45. How do you think your parents would feel if you drank five or more drinks once or twice each weekend?
- 0 Approve
  - 1 Wouldn't Care
  - 2 Disapprove

46. How do you think your parents would feel if you drove (a vehicle) after having five or more drinks?

- 0 Approve
- 1 Wouldn't Care
- 2 Disapprove

47. How do you think your parents would feel if you drank alcohol on special occasions (ex: Homecoming, sporting events, dances)?

- 0 Approve
- 1 Wouldn't Care
- 2 Disapprove

48. Please fill in the circle that corresponds to your academic college.

- 0 Agriculture, Food Systems & Natural Resources
- 1 Arts, Humanities & Social Sciences
- 2 Business Administration
- 3 Engineering & Architecture
- 4 Human Development & Education
- 5 Pharmacy, Nursing & Allied Sciences
- 6 Science & Mathematics
- 7 University Studies (undecided)

## APPENDIX C. IRB APPROVAL

**NDSU**

**NORTH DAKOTA STATE UNIVERSITY**

*Institutional Review Board*

*Office of the Vice President for Research, Creative Activities and Technology Transfer  
NDSU Dept. 4000  
1735 NDSU Research Park Drive  
Research 1, P.O. Box 6050  
Fargo, ND 58108-6050*

701.231.8995

Fax 701.231.8098

Federalwide Assurance #FWA00002439

September 26, 2012

Laura Oster-Aaland  
Department of Orientation and Student Success  
WDC Lower Level

IRB Approval of Protocol #XX13038, "Core Drug and Alcohol Survey 2012"

Co-investigator(s) and research team: Jane Vangsness Frisch, Erika Beseler Thompson, Ericka WEntz, Frank Heley, Nancy Mueller, Jackie Schluchter, Angela Seewald Marquardt, Zach Heimann, Keri Kimble, Kelly Layman, Kaylee Martin, Caroline McLaughlin, Abby Nelson Jessie Osebold, Jackson Lindom, Julia Haase, Megan Lambertson

Approval period: 9/26/2012 to 9/25/2013

Continuing Review Report Due: 8/1/2013

Research site(s): NDSU

Funding agency: n/a

Review Type: Expedited category # 7

IRB approval is based on original submission, with revised: faculty letter and research assistant instructions (received 9/25/2012).

**Additional approval is required:**

- o prior to implementation of any proposed changes to the protocol (*Protocol Amendment Request Form*).
- o for continuation of the project beyond the approval period (*Continuing Review/Completion Report Form*). A reminder is typically sent two months prior to the expiration date; timely submission of the report is your responsibility. To avoid a lapse in approval, suspension of recruitment, and/or data collection, a report must be received, and the protocol reviewed and approved prior to the expiration date.

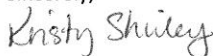
**A report is required for:**

- o any research-related injuries, adverse events, or other unanticipated problems involving risks to participants or others within 72 hours of known occurrence (*Report of Unanticipated Problem or Serious Adverse Event Form*).
- o any significant new findings that may affect risks to participants.
- o closure of the project (*Continuing Review/Completion Report Form*).

**Research records are subject to random or directed audits at any time to verify compliance with IRB regulations and NDSU policies.**

Thank you for cooperating with NDSU IRB procedures, and best wishes for a successful study.

Sincerely,



Kristy Shirley, CIP  
Research Compliance Administrator

Last printed 9/26/2012 10:56:00 AM

NDSU is an EO/AA university.

NDSU North Dakota State University  
Orientation and Student Success  
NDSU Dept #5260  
PO Box 6050  
Fargo, ND 58108  
(701) 231-8379

**Title of Research Study:** Core Drug and Alcohol Survey 2012

**This study is being conducted by:** Laura Oster-Aaland, PhD; Director of Orientation and Student Success at NDSU in conjunction with the President's Council on Alcohol and Other Drugs. [Laura.oster-aaland@ndsu.edu](mailto:Laura.oster-aaland@ndsu.edu). (701)231-7750.

**Why am I being asked to take part in this research study?** You are asked to take part in a survey since you are a student at NDSU. If you are under 18 years old or if you have completed this survey recently in another class, you are excluded from the study.

**What is the reason for doing the study?** The purpose of this survey is to gather information from NDSU students regarding student alcohol and other drug use. This survey was completed by NDSU students in previous years, so the data obtained from this year's survey will not only address gaps in knowledge related to alcohol and other drugs on the NDSU campus, but will also be compared to survey results from previous years to gauge whether these behaviors/perceptions have changed.

**What will I be asked to do?** You will be given a brief paper survey to complete using a #2 pencil. A pencil will be provided to you if you do not have one. The survey will ask you questions regarding your perceptions and involvement in alcohol and other drug use. If you agree to participate in the survey, you will complete the questions. Once you complete the survey, you will place the finished survey in the box provided in your classroom. If you opt not to participate, you will turn in your blank survey in the same box.

**Where is the study going to take place, and how long will it take?** Since the study focuses on NDSU students, the survey will be completed in the classroom during class time. It is estimated that it will take 20 minutes or less to complete.

**What are the risks and discomforts?** The risks associated with this study are minimal. Since there is no identifying information on the survey (ie. name, email address, etc.) the only potential risk appears to be the possibility that other students may be able to see your responses. For this reason, **we ask that you cover your responses with this informed consent sheet as you answer the questions.**

**What are the benefits to me?** The benefits you may expect to receive from participating in this study include: 1) A better understanding of the research process, and 2) An increased awareness about your current substance use behaviors and/or attitudes.

**What are the benefits to other people?** Excessive alcohol and other drug use may contribute to reasons why NDSU students perform poorly or drop-out of school. Your

**Institutional Review Board**  
**North Dakota State University**  
**PROTOCOL #:**         VX13038          
**APPROVED:**         9/26/13          
**EXPIRES:**         9/25/13        

1 of 2



responses on this survey may be used to assist in the development of alcohol and other drug abuse interventions to improve the climate for all NDSU students.

**Do I have to take part in the study?** Your participation in this research is your choice. If you decide to participate in the study, you may change your mind and stop participating at any time without penalty or loss of benefits to which you are already entitled.

**What are the alternatives to being in this research study?** Instead of being in this research study, you can choose not to participate. If you choose not to participate in this study, you may remain in the classroom and work on school work once the survey is handed out.

**Who will see the information that I give?** This study is anonymous. That means that no one, not even members of the research team, will know that the information you give comes from you.

**What if I have questions?**

Before you decide whether to accept this invitation to take part in the research study, please ask any questions that might come to mind now. Later, if you have any questions about the study, you can contact the researchers, Laura Oster-Aaland, PhD at (701)231-8379 or [laura.oster-aaland@ndsu.edu](mailto:laura.oster-aaland@ndsu.edu).

**What are my rights as a research participant?**

You have rights as a participant in research. If you have questions about your rights, or complaints about this research, you may talk to the researcher or contact the NDSU Human Research Protection Program by:

- Telephone: 701.231.8908
- Email: [ndsu.irb@ndsu.edu](mailto:ndsu.irb@ndsu.edu)
- Mail: NDSU HRPP Office, NDSU Dept. 4000, PO Box 6050, Fargo, ND 58108-6050.

The role of the Human Research Protection Program is to see that your rights are protected in this research; more information about your rights can be found at: [www.ndsu.edu/research/irb](http://www.ndsu.edu/research/irb)

**Documentation of Informed Consent:**

You are freely making a decision whether to be in this research study. Completing the survey means that:

1. you have read and understood this consent form
2. you have had your questions answered, and
3. you have decided to be in the study.

You may keep this consent form.

**Institutional Review Board**  
North Dakota State University  
**PROTOCOL #:** XX13038  
**APPROVED:** 9/26/12  
**EXPIRES:** 9/25/13