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A Study of the Relationship Between the Perception of Selected Variables Within the Residence Hall Environment and College Student Drinking

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has been accepted towards fulfillment of the requirements for

PHD degree in <u>College and</u> University Administration

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A STUDY OF THE RELATIONSHIP BETWEEN THE PERCEPTION OF SELECTED VARIABLES WITHIN THE RESIDENCE HALL ENVIRONMENT AND COLLEGE STUDENT DRINKING

By

Julia Ann Hower

A DISSERTATION

Submitted to Michigan State University in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

Department of Educational Administration

ABSTRACT

A STUDY OF THE RELATIONSHIP BETWEEN THE PERCEPTION OF SELECTED VARIABLES WITHIN THE RESIDENCE HALL ENVIRONMENT AND COLLEGE STUDENT DRINKING

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Julia Ann Hower

This study employs variables from the social-psychological framework, Problem Behavior Theory, developed by Richard Jessor. The purpose of the study was examine the relationship between college student drinking and social influence variables within the residence hall environment. A random sample of college freshmen were surveyed regarding their perception of their close friends who lived on the same floor, their roommate and Resident Assistant with regard to those individuals modeling for drinking, pressure for drinking, approval for drinking and controls against drinking. Respondents were also asked about their motivations to consume alcohol, quantity and frequency of alcohol consumption and negative consequences experienced as a result of alcohol use. Respondents were classified as either non-drinkers, non-problem drinkers, or problem drinkers based upon their frequency of intoxication and number of negative consequences experienced within the first six of school. Sixteen statistical hypotheses were tested using t-tests, analysis of variance, multiple regression and discriminant analysis. Significant differences were found for fourteen of the sixteen hypotheses tested. Students residing in alcohol free rooms perceived fewer models for drinking, less pressure for drinking, less approval for drinking and more controls against alcohol related problem behavior. The

findings supported the directional hypotheses suggested by Problem Behavior Theory. Problem drinkers perceived more approval for drinking, modeling for drinking, pressure for drinking and less controls against alcohol related problem behavior from their close friends on the floor and their roommate than either non-drinkers or non-problem drinkers. Discriminant analyses revealed that the perceived environment variables were more useful in classifying non-drinkers and problem drinkers (88% accuracy rate) than non-problem drinkers and drinkers (76% accuracy rate).

To M.A.H.

Without whose support, guidance and love this dissertation would never have been completed.

ACKNOWLEDGEMENTS

I would like to acknowledge and thank my advisor, Dr. Kathryn Moore, for the valuable assistance she gave me in completing this dissertation. Her support academically, financially, and emotionally were indispensable.

I would also like to thank my committee members, Drs. Anna Neumann, Anne Austin and Linda Forrest for their help and guidance with this dissertation.

I wish to thank Dr. Richard Brandenburg and the staff of the Office of Academic and Student Affairs within the College of Agriculture and Natural Resources for their support over the past two years. My graduate assistant position was instrumental in allowing me to focus on and complete my dissertation.

I want to thank my friend Cindy Helman for without her encouragement I would not have taken my first doctoral level class as well as Kay Ketzenberger for her continuous support and especially her assistance with discriminant analysis.

Lastly, I wish to acknowledge the faculty, staff and students of Lyman Briggs School for their understanding of my need to complete my degree and that in order to do so, I had to leave my position as Director of Student Affairs. My experience in Briggs was very rewarding and will always hold many fond memories for me. Special thanks to my former colleagues and now dear friends, Ed Ingraham and Sandy Conner, for their on-going support, guidance, and friendship.

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Chapter 1

INTRODUCTION AND STATEMENT OF THE PROBLEM

Alcohol abuse is the major substance abuse problem on college campuses today (Gonzalez, 1993). Across the nation, college and university presidents cite alcohol abuse as their greatest concern within the campus environment (Carnegie Report, 1990). Students experience extremely negative consequences from alcohol abuse including health problems, property damage, poor academic performance, legal or institutional disciplinary problems, violence and death (Berkowitz and Perkins, 1986; Burrell, 1992; Shore & River, 1985; Strange & Schmidt, 1979). Institutions face adverse publicity, expanded tort liability laws, increased social host and property owner responsibilities, and student attrition (American Council on Education, 1988; Clay, 1989).

A comparison of a 1982 and a 1991 nationwide survey of student drinking patterns found more students in 1991 reporting problems with the law, getting into fights, engaging in acts of vandalism, missing class, earning poor grades and losing jobs as a result of their drinking (Engs & Hanson, 1992). Students who drink heavily report lower GPAs than students who drink moderately or abstain (Lall & Schandler, 1991; Maney, 1990; Presley, Meilman & Lyerla, 1993). Over seven percent of the 1991 freshman class will leave school for alcohol-related reasons (Eigen, 1991).

The financial costs of alcohol abuse are staggering for both students and institutions. Students spend \$5.5 billion dollars on alcohol, more than they spend on soft drinks, tea, milk, juice, coffee or books combined (CASA, 1994). As the <u>New York</u> <u>Times</u> reported (1993): "Though intoxicated students routinely smash toilets, yank out sinks, punch through ceilings, head butt street lamps, uproot ornamental trees and bodyslam vending machines, few are apprehended. Repairs become a hidden cost underwritten by the taxpayer or parent or squeezed from the library or faculty salary budget" (Matthews, 1993, p. 38).

One in three college students drinks primarily to get drunk (Wechsler & Issac, 1992). In a 1991 survey of 56,000 students, 42% reported engaging in binge drinking (consuming five or more drinks at one occasion) at least once during a period of two weeks (New York Times, 1992). Despite the fact that 80% of all college students are underage and cannot drink legally, 96% report that they have drunk in the past year (Johnston, O'Malley & Bachman, 1992b).

The U.S. Department of Health and Human Services Office of Substance Abuse Prevention (1991) describes the alcohol problem on college campuses as essentially one of culture and environment and suggests that the solution to this problems lies in changing the social norms and behaviors of college student life. In <u>Alcoholism/Chemical</u> <u>Dependency and the College Student</u> (in Rivinus, 1988, p. xi), Ernest Boyer expressed this concern:

> All human communities have their dark side, and college communities are no exception. As the papers in this issue of the <u>Journal of College Student Psychotherapy</u> remind us, the same environment that fosters personal growth, learning

and commitment to others, may also intensify the dangers of drug and alcohol abuse....While the pleasures students derive from drinking and drugs are public, the pain has been privately suffered in lost days, lost selves and tragically, lost lives. Colleges long have been reluctant to take responsibility for these causalities of campus life.

The Collegiate Environment and Alcohol Use

College alcohol use and misuse is a complex function of both person and social environmental variables (Brennan, et al, 1986; Goodwin, 1989; Maney, 1990). The investigation of social influences within the collegiate environment (e.g. peer influence, modeling, norms, social context) and its affect on student alcohol use has become a major interest to researchers in both higher education and social psychology (Berkowitz and Perkins, 1986b; Goodwin, 1989; Jessor, 1981; Martin & Hoffman, 1993; Moos, 1979; Perkins, 1991; Prentice & Miller, 1983).

College campuses provide an environment in which peer interaction and socialization are intensive and drinking among college students is strongly influenced by peer norms (Baer et al. 1991; Perkins, 1991). Alcohol use is not only encouraged in the college social environment, but negative social sanctions are imposed upon those who do not drink (Cronin & Ballenger, 1991; Shore, 1983). Students' perception of the university as permissive along with inconsistent policies and double standards regarding alcohol use may contribute to increased consumption (Guyton 1989). In discussing the importance of the campus environment on student alcohol use, Robert DuPont (Rivinus, 1988, p. 41) states:

"If I were going to create an environment that encouraged

chemical dependence I could hardly improve on the contemporary American College."

One of the most frequent criticisms of the research in the area of college student alcohol use is the lack of consideration of multiple factors predicting alcohol misuse (Barnes, Welte, & Dintcheff, 1992) as well as the lack of theoretically based studies (Saltz & Elandt, 1986). Few studies have examined more than one or two variables at a time (Brennan, Walfish, & Aubuchon, 1986), and there is a continual call for studies to explore relationships among a variety of demographic, personality, environmental factors and multiple measures of college alcohol use and abuse to increase our understanding of the complex nature of student alcohol use (Brennan et al, 1986; Saltz & Elandt, 1986). In short, a good deal is known about how students abuse alcohol in the collegiate setting, but far less is known about the *institutionally induced* forms of exposure to alcohol misuse.

The Residence Hall Environment and Alcohol Use

One of the most intensive peer environments on campus is the residence hall. Many colleges and universities require students to live on campus for a portion of their college careers. Residency requirements are designed to assist students in integrating into the academic and social realms of the institution. On-campus residency has been found to exert a positive influence on persistence and academic achievement (Pascarella & Terenzini, 1991).

Residing on campus, however, may not only expose students to the positive aspects of institutional community and culture but to the negative aspects as well as

alcohol abuse. Several studies have established a relationship between alcohol use and living environment (Bachman et al, 1984; Barnes et al. 1992; Jones et al., 1992; Martin & Hoffman, 1993; Saltz & Elandt, 1986; Schall et al., 1992). Both residence hall context and type of housing have been identified as variables associated with drinking behavior among college students (Igra & Moos, 1979; Perkins & Berkowitz, 1986). Shore and Rivers (1985) found that an individual will be a drinker to the extent that the living arrangement he or she has entered can be characterized as having a strong social component. Igra and Moos (1979) found that the drinking context of the residence hall, informal social involvement in college and the lack of commitment to religious and academic values were all related to drinking. In a study of factors associated with alcohol use among university students, Schall et al., (1992, P. 134) states:

> Students living in a university environment where there is social pressure to drink, where heavy drinking is approved and where alcoholic beverages and the places to consume them are readily available will drink relatively heavily on the average...Dormitories and especially fraternities and sororities are living environments within a university fostering the above characteristics and therefore promoting relatively heavy drinking.

Martin and Hoffman (1993) conclude that it is difficult to examine college student alcohol use without examining the living environment.

There has been a limited amount of research on specific variables within the residence hall setting and their relationship with college student alcohol use. Past research on the effect of college residence on alcohol use has identified differences between fraternities but have ignored variations <u>among</u> dormitory living groups (Igra & Moos, 1979). Most research on college residence halls and alcohol use has categorized living

environment as a dichotomous variable, e.g. either a student lives in a dormitory or does not live in a dormitory, rather than examining specific variables <u>within</u> the environment of dormitory life.

An examination of social behavior in a social context, such as college student alcohol use in a university residence hall, requires the study of both the <u>person</u> and his or her <u>environment</u>. The investigation of the specific personal and interpersonal mechanisms that transmit and mediate the influence of the collegiate environment requires a theoretical framework which encompasses a broad spectrum of variables documented to be associated with problem drinking. The theory base that will be utilized in this study is Jessor and Jessor's Problem Behavior Theory which was developed to account for variation in adolescent and young adult involvement in a variety of problem behaviors including problem drinking.

Problem Behavior Theory

Problem Behavior Theory (Jessor & Jessor, 1977) represents a useful socialpsychological framework to study problem alcohol use among college students. The Jessors and their colleagues have presented impressive support for Problem Behavior Theory in cross-sectional and longitudinal studies of high school youth and college students (Costa, Jessor, & Donovan, 1989; Donovan, Jessor & Costa, 1988; 1991; Donovan & Jessor, 1985; Donovan, Jessor, & Jessor, 1983; Donovan, Jessor & Costa, 1991; Donovan, Jessor & Costa, 1988; Donovan & Jessor, 1985; Donovan, Jessor & Jessor, 1983; Jessor 1991; Jessor, Chase & Donovan, 1980; Jessor & Jessor, 1977; Jessor

& Jessor, 1975; Jessor et al, 1968; Sadava, 1984). The concepts and measures of Problem-Behavior Theory have been used in a large number of studies and the theory has been used to examine a variety of adolescent problem behaviors (Chassin, 1981; Chassin, Presson, & Sherman, 1984; DiTecco & Schlegal, 1982; Rooney & Wright, 1982; Sadava; 1985; Sadava & Forsyth, 1977; Smith, Canter & Room, 1989).

Problem behaviors are "behaviors that have been defined socially as a problem, as a source of concern or as undesirable by the norms of conventional society and their occurrence usually elicits some kind of social control response" (Donovan, et al, 1991). Problem Behavior Theory suggests that problem behavior among adolescents is the result of interaction of demographic, social-psychological, and behavioral factors (Robinson, 1987). The primary foci of Problem-Behavior Theory is three systems of psychosocial influence: 1) the Personality System which includes attitudes, values, beliefs, knowledge and expectations of adolescents regarding alcohol use, 2) the Perceived Environment System which includes the influence of parents and friends attitudes and behavior on adolescent use, and 3) the Behavior System which represents the degree of involvement in both problem behavior and conventional behavior by the adolescent. The variables within each of the three systems reflect both instigations for problem behavior and controls against it, and in combination suggest a state of *proneness* which is the likelihood of the occurrence of problem behavior; including problem drinking.

Of primary interest to this researcher was the Perceived Environment system and its applicability to exploring facets of the residence hall environment that are associated with alcohol misuse. Jessor (1981; 1973) maintains that a "logical analysis of the nature of

environmental influence on behavior makes clear that it is the perceived, or meaningful, or phenomenal environment with which behavior is most invariant." Within the Perceived Environment system, problem behavior is related to perceptions of low controls from significant others, and of approval for and models for engaging in problem behavior. Greater approval, pressure and models for alcohol use are variables in the perceived environment system that appear to increase the likelihood of problem drinking. Jessor utilizes both proximal and distal variables in analyses (Jessor, 1973). Proximal variables are directly associated with problem behavior while distal variables are linked to problem behavior only "indirectly and by way of theory (Jessor, 1991)". To measure specific attributes of the residence hall environment that may influence drinking, the author modified the variables to capture the salient social relationships of the residence hall. This modification is supported by Jessor's definition of the Perceived Environment as the one that "has the most invariant relation with the behavior since it is the environment of immediate meaning and the one to which the actor is responding" (Jessor, 1977). Therefore, the Distal Structure variables include controls through roommate, friends on the floor and their Resident Assistant. Within the Proximal Structure, the variables include approval for drinking by roommate, friends on floor and Resident Assistant; models for drinking by roommate and friends on floor, and pressure for drinking by roommate and friends on the floor.

PURPOSE OF THE STUDY

This study had three primary purposes:

- 1. To examine the drinking behavior of new full-time freshmen students who live on campus during their first six weeks at Michigan State University. The alcohol consumption variables were examined in relation to gender, type and size of residence hall, specialty housing option (i.e. alcohol free room and alcohol free floor residency) and enrollment in a residential academic program.
- 2. To investigate the relationship between factors within the perceived residence hall environment and drinking behavior among freshman students. More specifically, this study investigated the balance between instigations for and controls against problem alcohol use within both the distal and proximal structures of the perceived residence hall environment.
- 3. To test the usefulness of Problem Behavior Theory in accounting for variation in drinking behavior among students and across gender, size and type of residence hall, specialty housing options and residential academic program.

RESEARCH QUESTIONS

This study addressed the question of whether a relationship exists between

students' problem drinking and specific environmental factors within the residence hall.

This study attempted to answer the following questions:

- 1. Are there significant differences in the self-reported drinking behaviors of Michigan State University freshman when categorized by gender, size and type of residence hall, specialty housing option or residential academic program?
- 2. Are there significant differences in the perception of the perceived environment variables (approval of drinking, models of drinking, pressure for drinking, and controls) among Michigan State University Freshman when categorized by gender, size and type of residence hall, specialty housing option or residential academic program?
- 3. Are there significant differences between Non-drinkers, Non-problem drinkers, and Problem drinkers in their perception of the perceived environment variables of approval for drinking, models for drinking, pressure for drinking and controls

against drinking?

4. Do the perceived environment variables of controls, approval of drinking, models for drinking and pressure for drinking combine to predict drinking group membership?

METHODOLOGY

Collection of Data

To obtain the necessary data for the study, the Young Adult Follow Up Study 1981 Annual Questionnaire (Jessor, 1981) was administered to a random sample of new freshman students residing in a campus residence halls on the Michigan State Campus during the fall semester 1995. A random sample of 1800 students was generated from the MSU registrar office. The self-administered questionnaire was mailed directly to each individual, preceded by an invitation describing the study and inviting the student to participate in the study. A follow-up letter and second copy of the questionnaire was sent two weeks later to all non-respondents. Two weeks after the second letter, another letter and survey were sent asking the respondents to return the completed questionnaire. Subjects were asked to return a separate post card at the same time they returned their questionnaire. They were informed that the post card received by the deadline would be entered into a drawing for a gift certificate from the MSU bookstore.

Instrumentation

The questionnaire used in this study contained selected measures from the Young Adult Questionnaire (Jessor and Jessor, 1981), which consists of psychometrically developed measures designed to assess the personality, perceived environment and behavior system variables of Problem-Behavior Theory. The perceived environment system and behavior system sections of the questionnaire were used in this study. The perceived environment system consists of the distal structure and proximal structure. Three variables form the distal structure including: roommate, friends on floor and Resident Assistant controls. The proximal structure includes roommate, friends on floor, and Resident Assistant approval of drinking; roommate, and friends on floor models for drinking ; roommate and friends on floor pressure for drinking.

Many psychometric tests of validity and reliability have been conducted on the Young Adult Questionnaire. Several studies have supported its use as a valid and reliable research tool with college students (Donovan & Jessor, 1978; Jessor, 1987; Jessor, Donovan & Costa, 1991; Jessor & Jessor, 1978; Jessor & Jessor, 1973;; Robinson et al., 1987; Sadava, 1985).

Data Analysis

The research questions were investigated using an instrument developed by Jessor (1981) that explores the Perceived Environment System and Behavior System in relation to problem drinking. Survey responses were examined at the .05 level of significance, using analysis of variance (ANOVA), t-tests, multivariate analysis of variance (MANOVA), multiple regression and discriminant analysis.

SIGNIFICANCE OF THE STUDY

Higher education spends millions of dollars each year on alcohol-related costs in the areas of education, prevention and policy enforcement. Programs and policies must be

based upon a thorough understanding of factors associated with substance abuse to be effective. Studies such as this one may enable student affairs professionals to better identify the kinds of students who, because of their personal characteristics or the characteristics of the environments in which they live, are at risk for problem drinking. Additionally, programmatic efforts should target those factors that are amenable to change in a way that could result in a subsequent reduction in the incidence of substance abuse. In the case of this study, this may include hall, floor and/or room assignment, roommate assignment, specialty housing, support for student involvement programs, and staff training in the areas of education and policy enforcement.

Limitations

- 1. The instrument includes measures from only the perceived environment system and the behavior system. Personality measures were not included.
- The survey items used were modified from Jessor's Young Adult Questionnaire (1981). Respondents were asked to answer the questions in relation to specific relationships within the residence hall or to their experience at Michigan State University. The validity of the original items may have been affected by these modifications.
- 3. The population included only freshman students from Michigan State University and the results are generalizable only to this population.

Organization of the Study

The study is organized into five chapters in addition to the appendices. The

second chapter includes a review of the literature relevant to college student drinking

including the social-psychological framework of Problem Behavior Theory. The design

and methodology used in collecting and analyzing the data are presented in Chapter III. The fourth chapter contains an analysis of the data. The fifth chapter includes a summary of the study, findings, conclusions, implications for the practitioner in student affairs and recommendations for future research.

Chapter 2

REVIEW OF THE LITERATURE

Introduction

In this chapter, a review of the literature related to the following areas of college student alcohol use is presented: (1) college student drinking patterns, (2) the individual and personality correlates related to college student alcohol use, (3) the social and environmental correlates related to college student alcohol use, (4) the residence hall environment and its relationship to college student drinking patterns, (5) Problem Behavior Theory and the Perceived Environment System (Jessor, 1977) and (6) Perceived Environment Variables within the Residence Hall Environment.

The first section includes a review of the literature on the nature of college student drinking behavior with a description of the frequency and amount of consumption, the phenomenon of binge drinking, and the negative consequences frequently experienced by students who misuse alcohol. The second section focuses upon individual and personality correlates related to alcohol use among college students including attitudes, beliefs, and motivations, as well as demographic differences associated with alcohol use. Section three includes a review of research documenting the relationship between alcohol use and peer influence, peer modeling and the social context of drinking. The fourth section contains an examination of research that includes the residence hall environment as a contributing

factor to college student drinking. Section five is an overview of Jessor's Problem Behavior Theory as a social-psychological framework through which to examine the relationship between the residence hall environment and alcohol consumption. The last section provides a description of the factors within the Perceived Environment System of the residence hall that are of primary interest in this study.

College Student Drinking Patterns

The literature on alcohol use among college students is extensive. A substantial amount of the research has focused on documenting the frequency and pattern of college student drinking. Due to inconsistencies in the quality, nature and methodology of the research, however, many large-scale regional and national studies have produced widely variant results (Berg, 1970; Berkowitz & Perkins, 1986). The use of college students as convenient samples and different operational and theoretical definitions of drinking have resulted in reports of campus alcohol misuse ranging from 6% to 72% in various studies (Berkowitz & Perkins, 1986; Liljestrand, 1993; Meilman et al., 1990). In response to this criticism, several researchers have conducted studies using sophisticated sampling and analysis procedures and have found that the percentage of American college students who have consumed alcohol "in the last 12 months" has remained stable at approximately 90% (Johnson et al., 1989; Meilman, 1990), with rates of alcohol misuse averaging between 20 and 25% depending upon the criteria used (Barnes, et al, 1992).

There is little question that alcohol is the drug of choice on college campuses. Over 90% of students report at least occasional use of alcohol and this figure has remained constant over several decades (Blane & Hewitt, 1977; Hughes & Dodder, 1983;

Johnston, 1991; Wechsler & McFadden, 1979). Johnson et al., (1992) assert that ninetythree percent of college students report having consumed alcohol in their lifetime and 96% of these students drank in the last year and of these, four out of five drank in the last month. In a large scale study of over 7000 students at 34 New England colleges, Wechsler & McFadden (1977) found that 30% of the men and 13% of the women were "frequent-heavy" drinkers.

Binge Drinking

Binge drinking is defined as consuming more than five drinks in a row and is associated with unplanned and unsafe sexual activity, physical and sexual assault, unintentional injuries, criminal violations, interpersonal problems, physical or cognitive impairment and poor academic performance (Hanson & Engs, 1992; Johnson, 1993; Wechsler & Issac, 1992; Wechsler, et al., 1994). In a study of over 17,000 students at 140 schools, Wechsler (1994) found that almost half (44%) of college students were binge drinkers, including almost one fifth (19%) who were frequent binge drinkers. One fifth (22%) of all college students reported they had been binge drinkers in high school whereas another fifth (22%) became binge drinkers in college (Wechsler et al., 1994).

Utilizing the CORE Alcohol and Drug survey, the Department of Education has surveyed over 58,000 students at 78 institutions to gather baseline and trend data regarding alcohol use among college students. Data from this survey revealed binge drinking is related to age as 47% of students under 21 reported binge drinking as compared to 35% of legal drinkers over 21 (Presley et al., 1993).

Negative Consequences

The prevalence of students who engage in problem drinking ranges from 6% to 72%. Men and women report different types of negative consequences as a result of problem drinking. Men are almost ten times more likely to get into physical fights after drinking and three to four more times likely to have an automobile accident than women. One recent study that assessed a broad range of alcohol-related problems among undergraduates of one eastern university found somewhat greater incidences for men on several specific items, yet noted no significant gender difference in overall reporting of problems (O'Hare, 1990). Wechsler and Issac's (1991) recent study of first-year students at Massachusetts colleges found an almost three to one male/female ratio of frequent heavy drinkers and four to ten times greater incidences of first-year men than women getting into physical fights, trouble with police, or property damage after drinking. Less of a gender gap (1.5 of women to 1.0 men) was found for consequences such as a hangover, doing something regrettable, memory loss, missed classes, and getting behind academically.

Problems associated with alcohol use by college students appear to be increasing except in the area of drinking and driving. In a national study of college student drinking problems from 1982 to 1991, Engs and Hanson (1992) report that there was no significant change in the proportion of heavy drinkers (i.e. those who consumed more than five drinks on any one occasion at least once per week) across the nine years of research (1982-24.4%; 1985=24.6%; 1988=25.7%, 1991=26.8%). Increases in the frequency of the following ten problems were observed: hangovers, cutting classes, being criticized for their drinking by someone the person is dating, trouble with school administration,

damaged property, pulling a false fire alarm or other such behavior, vomiting, missing a class because of a hangover, legal trouble, fighting after drinking. Significant decreases in the frequency of the following problems were noted: coming to class after having several drinks, driving a car after having several drinks, driving a car when they knew they had drunk too much, and driving a car while drinking.

Pre-College Drinking Patterns

Several studies have focused on the nature of drinking patterns students bring with them to college. Between 41 and 61% of college students report that they had their first drink between the ages of 14 and 17 (Banks & Smith, 1980; Gonzalez, 1979). Banks and Smith (1980) report that a small percentage of college students (6%) had their first drink at 18 or older.

In review of several studies, Saltz and Elandt (1986) found that the research on change in drinking patterns from high school to college was mixed. Banks and Smith (1980) and Barnes and Welte (1983) both found that students are likely to decrease their alcohol use over the course of time from high school to their senior year in college. Three other studies (Brown & Gunn, 1977; Girdano & Girdano, 1979; Seay, 1984) found, however, that alcohol consumption increases linearly with the amount of time spent in college.

Demographic Differences in Alcohol Use

Gender

The literature on differences between male and female alcohol use among college students is mixed. Several studies have documented differences between men and women

undergraduates' alcohol consumption (Saltz & Elandt, 1986) whereas others have found none (Banks & Smith, 1980; Hill, 1979). The majority of research findings suggest that men consistently drink more frequently, drink greater amounts of alcohol and experience more negative consequences from drinking than women (Barnes & Welte, 1983; Engs, 1977a; Friend & Koushki, 1984). Saltz and Elandt (1986) reviewed 19 studies and found that the range for drinking among male college students was 81-91% with an average of 91%. For females, the range was 78-98% with an average of 88%. Recent research on gender differences in the area of college student drinking has indicated a possible convergence of gender differences in recent years (Engs & Hansen, 1990). Drinking rates among women have increased although men still tend to drink more frequently and to consume larger amounts of alcohol (Berkowitz & Perkins, 1986; Engs & Hansen, 1990; Maney, 1990) and are more likely to become problem drinkers from high school to college (Donovan, et al., 1983). Robinson et al. (1993) examined 472 female and male college students' knowledge, attitudes and personal and peer use behaviors regarding alcohol and other drugs. Both short-term and long-term alcohol use behaviors were measured and significant gender differences were found for both. Of the respondents, 73.0% of males and 67.1% of females reported short-term alcohol use (in the past 30 days). A significantly higher number of males (83.5%) than females (77.8%) reported long-term use (use over 6 months).

Brennan, et al. (1986) reviewed studies that included a multivariate analysis to identify relationships among a variety of demographic and personality factors. Most researchers agree that male college students drink more than females and may drink more

often than females (Engs, 1977; Kaplan, 1979; Orford et al, 1974, Wechsler & McFadden, 1979). Gross (1993) reported a significant interaction between age and gender. Men, whether of legal drinking age or not, consumed significantly more alcohol than did women, regardless of legal status. Women under the legal drinking age had higher rates of consumption than women of legal drinking age or older, whereas the opposite pattern was found for men. The findings suggest a pattern whereby the underage men appear to start drinking at a high level of risk and this level increases as they attain legal drinking age. Although underage women begin drinking at a higher level of risk, they decrease their consumption, so their risk decreases after they reach the legal drinking age (Gross, 1993). The results confirm that underage drinking by men and women occurs at a high rate.

Ethnicity

With regard to racial differences and alcohol use, white students drink more frequently and in greater amounts than non-white students (Presely et al. 1992). Nonwhite students are more likely to abstain, drink infrequently or be moderate drinkers (Barnes & Welte, 1983; Humphrey, 1983). One exception was the finding of Greenfield et al. (1980) of a modest correlation between ethnicity and alcohol consumption for average daily volume of alcohol consumed but not for frequency of intoxication. Overwhelmingly, white males drink more than any other group, averaging over 9 drinks per week. With respect to weekly drinking, Hispanic males average 5.8, white females 4.1, black males 3.6 and black females average 1 drink per week (Presley, et al., 1992). In a study of Native Americans, Hughes and Dodder (1984) found that the beer consumption

of whites and Native Americans was similar, but whites consumed more wine and liquor and reported fewer drinking problems (Saltz & Elandt, 1986).

Class standing

Class standing also appears to be associated with drinking levels as consumption of alcohol declines each year a student is in school. Students are more likely to drink and drink in greater quantities as freshmen than they are as seniors. In the senior year, seniors are likely to drink frequently but less per occasion (Presley et al., 1992; Saltz & Elandt, 1986). Hartford et al., (1983) found that students described their own drinking behavior as excessive during the freshman and sophomore years, decreasing their use over time as they developed a sense of maturity and responsibility. Friend and Koushki (1984) compared first and second semester drinking patterns of freshmen and found that the percentage of students who drank increased from 81.5% to 97.9% during the freshman year. They found no differences between second-semester freshmen and later classes. They concluded that 16% of entering college freshmen began to drink upon coming to college but their drinking stabilized over the course of the four college years.

Individual and Personality Correlates of College Student Alcohol Use

A variety of attitudinal and personality characteristics have been empirically associated with problem drinking (Berkowitz & Perkins, 1986). The diversity in individual characteristics that are associated with drinking suggests that students do not use alcohol for the same reasons (Brennan et al., 1986).

Attitudes, Beliefs and Motivation

Students list many reasons to drink, including tension reduction (Gonzalez, 1979),

boredom (Farber et al., 1980) and escapism (Beckman & Bardsley, 1981). The most frequently cited motivation for drinking among college students, however, is the desire increase sociability (Hanson, 1984; Looney, 1976; Shore et al., 1983).

A positive attitude toward drinking is associated with more frequent alcohol use (Saltz & Elandt, 1986). Individuals who hold tolerant or positive attitudes toward a substance are more likely to use it than individuals who hold negative attitudes toward it (Akers et al., 1979). In a study of the relationship between attitudinal measures and alcohol problems, Klein (1992) found a strong association between students' beliefs about drinking and the number of alcohol-related problems they experienced. Additionally, he found gender differences in alcohol-related attitudes in that females were more likely to advocate responsible drinking practices whereas the males were more apt to adhere to maladaptive and potentially damaging beliefs about drinking.

In a comparison of the attitudes and beliefs regarding alcohol use between heavy, moderate and light drinkers, McCarty et al. (1983) found that heavy drinkers believed more strongly that drinking resulted in enjoyable experiences and did not produce unpleasant experiences.

Personality Characteristics

Personality characteristics such as lowered impulse control, greater proneness to deviant behavior, lowered expectations for academic success and greater value placed on independence are also associated with problem drinking (Jessor, 1977; Moos et al., 1979).

Utilizing several cognitive and personality inventories, Schall found that the total amount of alcohol consumed during a four week period was significantly correlated with several personality measures including the following: disinhibition or lack of inhibitory control, boredom susceptibility, acceptance of heavy alcohol use, use of alcohol to solve personal problems, lack of responsibility as a guest where alcohol is served, expression of concern over one's own drinking. Extroversion, impulsivity, lack of social conformity and socialization are additional personality characteristics that were significantly correlated with total alcohol consumed.

In a study designed to identify personality variables that differentiated freshman college abstainers who became drinkers from abstainers who remained abstinent during the freshman year, Moos et al. (1977) found that drinking was associated with more extroverted behaviors and impulsive, rebellious personality characteristics.

Social/Environmental Correlates of College Student Alcohol Use

The influences of parents and peer modeling on adolescent and young adult alcohol use have been the focus of a substantial body of empirical research (Akers et al., 1979; Clayton & Lacy, 1982; Huba, Wingard & Bentler, 1980; Jessor & Jessor, 1978; Kandel, 1973; Kandel, Kessler, & Margulies, 1978; Needle, et al., 1986; Perkins, 1985). Social influence on adolescent drug use is attributed to two social learning processes: active social peer pressure and the modeling of behavior (Graham, Marks & Hansen, 1991).

Several cross-sectional and longitudinal studies have shown that peer drug use is predictive of an individual's drug use (Jessor & Jessor, 1978; Kandel, Kessler, & Margulies, 1978), and there is substantial evidence that an individual's friendship and peer
group environment is an important determinant of alcohol use in late adolescence (Kandel, 1980; Perkins, 1985). Several studies have shown that 1) adolescents with substance using peers are more likely to use substances and to use more frequently than adolescents with non-using peers; 2) adolescents from families in which one or more members use alcohol and other drugs are more likely to use substances than adolescents with family members who are non-users; and 3) parents have less influence than peers on adolescents' drug use (Kandel, Kessler, & Margulies, 1978; Needle, et al., 1986).

In a study designed to examine both social and psychological predictors of alcohol consumption, Goodwin (1990) surveyed a stratified random sample of 300 college students in the Northeast. Peer pressure positively predicted alcohol consumption and satisfaction on the item, "I attend parties to be with my friends." The results also indicated a negative relationship between alcohol consumption and feeling that the party was an obligation.

There is some evidence within the literature that best friends are more influential than other friends on drinking (Akers, Krohn, Lanza-Kaduce & Radosevich, 1979; Johnston, 1973; Kandel, 1973; 1978; Urberg, 1993). In a study that examined the role of parents, peers and religious traditions as determinants of alcohol and drug use among college students, Perkins (1985) surveyed the entire student body of a small, liberal arts college. Perkins found that the attitudes of friends and social fraternity membership are the most significant influences on alcohol consumption whereas parental attitudes have little influence on student behavior. Modeling

Modeling is another form of social influence that increases consumption. Modeling can be described as a passive form of social pressure (Graham et al., 1991) and involves the social modeling of substance use to one's peers and friends. According to Graham (1991, p. 292):

> The student may simply gain the information directly through undetected observation of behavior or indirectly through casual conversation with friends who use substances themselves, or through conversations with other friends regarding those who are users. Importantly, unlike active pressure, which calls for an immediate response, response to passive pressure may be delayed; experimentation may occur weeks after exposure to a model.

Several studies have found a positive correlation between adolescents' ratings (perceptions) of their friends' use of a substance and their own current and future use of that substance (Bergen & Olsen, 1963; Castro et al., 1987; Chassin et al., 1981; Chassin, Presson, Sherman, Corty & Olshavsky, 1984; Collins, et al., 1987; Elliott et al., 1985; Huba & Bentler, 1982; Stein, Newcomb & Bentler, 1987; Sussman, 1988). Age was a significant factor and by their mid-teens or later, adolescents were more influenced by their peers than their parents. The finding that peers have more influence than parents on adolescent drinking was confirmed by Jessor and Jessor (1975) and Biddle et al., (1980). Urberg (1993) found, however, that the influence from peers may be at its highest in early adolescence and peers may become less influential in later adolescence.

Caudill and Marlatt (1975) examined the effect of modeling of drinking on other drinkers. A member of the research team posed as a confederate college student and either drank heavily or moderately and also behaved in either a friendly or aloof manner. Male college students participated in a 15 minute wine tasting study either alone or with the experimental confederate who drank heavily (700 ml of wine) or lightly (100 ml of wine). Men who participated with the heavy drinking confederate drank significantly more wine (M=364.1 ml) than either men who did not have interact with a confederateM=180.8 ml) or men who drank with the light drinking confederate (M=141.9 ml.). The light drinking confederate and no confederate conditions did not differ significantly. The attempt to influence the strength of the modeling had no effect. They found that heavy drinkers help to define a situation as an appropriate setting for increased alcohol use. Caudill and Marlatt (1975) concluded that the confederate provided cues about appropriate behavior. Subsequent studies demonstrated the strength of the modeling effect in a variety of settings and investigated potential parameters. Another study (Cooper, 1978) suggested that both social setting and simultaneous drinking produce strong modeling effects. Studies indicate that neither the race (Watson & Sobell, 1982) nor the social status (Collins & Marlatt, 1981) of the model alters the modeling effect. Lied and Marlatt (1979) found a strong interaction between the drinker's sex and drinking habits. Men and women categorized as heavy drinkers drank similar amounts (45 drinks or more per month) and were more responsive to differential modeling than light drinkers (17 or less per month). The nature of the interaction between drinkers has a substantial impact on whether or not modeling alters drinking behavior. Modeling seems to be one mechanism that contributes to increased alcohol consumption among group drinkers. Strength of the influence is a function of the usual drinking level. Heavy drinkers exert

more modeling influence and are more easily influenced (McCarty, 1985). Lau et al. (1990) found support for both peer and parental modeling in a study of first year college students and their parents. Parental modeling was related to present use of alcohol while peer modeling was related to the future use of alcohol. Bank et al. (1985) reported that peer modeling was significant whereas parent modeling was not. They concluded that peers are more influential than parents and that peer influence occurs predominately through modeling, whereas parents have more influence through their attitudes and beliefs rather than their drinking behavior. (Ary, 1993).

Social Context

Research on college student drinking has recently begun to include the social context of peers, family and environment as potential factors in problem alcohol use (Goodwin, 1990; Berkowitz, 1986). Extensive research with pre-adolescents has consistently demonstrated that the "social context among youth is more powerful than personality correlates in predicting the initiation and involvement in problem drinking behavior patterns (Kandel, 1980 in Berkowitz, 1986)."

Social influence has a direct impact on initial use and experimentation with alcohol (Graham et al., 1991; Halevsky, 1987; Perkins, 1985) and is a central component of all models of adolescent substance use (Castro et al., 1987; Elliot, et al., 1985; Flay et al., 1983; Huba & Bentler, 1982; Huba et al., 1979; Leventhal & Cleary, 1980).

The Residence Hall Environment and College Student Drinking

The power of peer group influence on adolescent alcohol use is well established. Yet the social context of the residence hall environment as a primary source of peer group

influence on college student drinking has received limited attention even though some researchers view residence halls as a factor deserving of more research (Martin & Hoffman, 1992).

The association between residence hall living and campus substance abuse has been documented in several studies (Martin and Hoffman, 1993; Moos, 1979; Schall et al, 1992). Barnes et al. (1992) states "...there is something unique about living in a dorm situation with same age peers that contributes to alcohol misuse." Indeed, the social context of the residence hall contributes to the degree of exposure to drinking models (Igra & Moos, 1979; Jessor & Jessor, 1977), social pressure to drink (Schall et al., 1992), misperception of peer drinking norms (more excessive than they are) (Perkins & Berkowitz, 1986) and the increased availability of alcohol and opportunities to socialize (Barnes & Welte, 1992).

Drinking is primarily a social activity among college students (Barnes et al., 1992) and very few students report drinking alone (Harford, 1983). The social context of the residence hall provides students with increased opportunities for heavy social drinking although the drinking itself may not occur in the residence hall. Barnes et al. (1992) makes a distinction between "living in a residence hall" and "drinking in a residence hall". Residence halls may provide "more of a natural setting for parties, as reflected in higher frequencies of drinking in mixed-sex groups, than off campus dwellings." (Harford et al., 1983). Additionally, Harford et al. (1983) found that students with three or more roommates reported higher frequencies of drinking in mixed groups, night clubs and bars. An increased number of roommates is likely to represent an increase probability of exposure to a peer drinking group.

College students drink more than their non-college going peers and living on campus may be a factor in this pattern. In a study that compared the two groups, college attendance was not predictive of alcohol use. Living in a residence hall, however, predicted both heavy drinking and alcohol related problems after other predictor variables were controlled (age at onset of use regularly, biological father's drinking, father living in home) (Barnes et al., 1992).

Moos (1979), in Evaluating Educational Environments, conducted a longitudinal study of the drinking context of 59 residence hall living groups and found alcohol use to be moderately related to dorm drinking context, students' involvement in informal activities and to students' lack of commitment to conventional values. Students increased their average alcohol consumption from fall to spring of the freshman year. Demographic variables of gender and religion had independent effects on alcohol use. Females were more likely to drink at the time of the second measure (spring of freshman year) suggesting that females may be more influenced by their dorm peers to increase their alcohol consumption over the course of their freshman year than males students. The relationship between living unit and alcohol use was demonstrated in the model of college drinking developed by Martin and Hoffman (1993). The model examined the relationships among alcohol use, expectancies, living environment, peer influence and gender to drinking behavior. Hierarchical multiple regression analyses revealed that alcohol expectancy variables accounted for 36% of the variance in alcohol use, living unit accounted for an additional 8%, and peer influence, 5%. Alcohol use was significantly

higher among students living in fraternities, group houses or co-ed residence halls than among students who lived at home with their parents. In a longitudinal study of 17,000 young adults, Bachman and Johnston (1984) found that while senior year high school alcohol use was the most predictive of post-high school drug use, use of alcohol and other drugs was also predicted by post-high school living arrangements. Bachman and Johnston (1984) found that full time students, both men and women, reported the highest percentage increase in alcohol and other drug use. The authors (Bachman and Johnston, 1984) described this increase in alcohol consumption as "catching up" because those students who became full-time college students after graduation from high school reported relatively low drug use during high school. The authors also examined the role of student status versus employment status of young adults and found that the effects on alcohol consumption attributable to living arrangements were generally at least 3 time larger than those attributable to either students status or employment status.

The residence hall offers students an "intermediate level of autonomy...in which students are subject to fewer controls of adult authorities that inhibit unhealthy behaviors such as heavy alcohol use " (Jones, et al., 1992). One historical study of college life suggests that living on campus provides students an opportunity to become immersed in a "predominantly hedonistic culture" which promotes alcohol use (Horowitz, 1987). In comparison to students who commute to college, residential students are "much more likely [than commuters] to become less religious and more hedonistic, hedonistic referring to drinking, smoking, sexual activity..." (Astin (1985). Students living on campus drink significantly more alcohol than commuter students (Cooney & Nonnamaker, 1992).

Problem Behavior Theory and the Perceived Environment

Problem-Behavior Theory will be used as the theoretical framework for this study. Figure 2.1 presents the conceptual structure of the framework. The theory is designed to be a comprehensive social psychological framework and the framework is described by Jessor as "neither a grand nor overarching theory but as a network of concepts of modest scope oriented toward a delimited concern-problem behavior in youth" (Jessor, 1977, p. 21). This psychosocial model maintains that human behavior is the result of personenvironment interaction. The theory consists of three interdependent systems of variables: The personality system, the perceived environment system and the behavior system. The systems are considered to be causal or explanatory nature in that they are "presumed to be most directly influential to the occurrence or non-occurrence of any particular behavior" (Jessor, 1990, p. 18). In problem behavior theory, the variables from each system represent either instigations or controls that, in combination, generate "proneness," or the probability of resultant problem behavior. Although proneness can exist in one, two or all three of the systems, overall psychosocial proneness is the central concept of the theory and is used to predict and explain variation in problem behavior. Jessor also employs the concepts of "proximal" and "distal" variables. Proximal variables are those that are directly related to problem behavior while distal variables are related to behavior through theory. According to Jessor (1977), proximal variables may exhibit a stronger relationship with problem behavior but distal variables, as they are less obvious in their connection to problem behavior, may be more theoretically interesting.

The personality system includes such variables that are cognitive in nature such as



Figure 2.1 The Conceptual Structure of Problem Behavior Theory (Jessor, 1977)

values, expectations, beliefs, and attitudes. The personality systems combine to reflect "social meaning and social experience rather than deep-lying drives" (Jessor, 1990, p. 21). The 11 variables in the Personality System are organized into three structures which are considered as either instigations for problem behavior or controls against it. Personality system proneness to engage in problem behavior is characterized by low values on achievement, self-esteem, attitudinal intolerance of deviance, moral attitude and religiosity and high values on independence, social criticism, and external control.

The perceived environment system, which is of primary interest in this study, includes "perceived controls and instigations from significant others in the individual life, particularly parents and friends" (Jessor, 1977, p. 29). Jessor (1977) maintains that the perceived environment is the most meaningful to the individual and behavior is most closely connected to the individual's perceptions of their environment. The variables within the perceived environment system reflect the supports, influence, models of significant others in the environment. Proneness to problem behavior in the perceived environment system is characterized by lower amounts of controls against problem behavior.

The behavior system contains variables which meet Jessor's (1977) definition of problem behavior which is behavior that is "socially defined as a problem, as a source of concern, or as undesirable by the social and or legal norms of conventional society" and "usually elicits some form of social control response" (Jessor, 1990, p. 23). The variables within this system includes both conventional behavior as well as problem behavior. Conventional behavior is non-problem behavior such as church attendance. As in the

other systems, proneness to problem behavior is characterized by the balance between instigations and controls. Proneness within the behavior system is characterized by such behaviors as problem drinking or drug use and low involvement in conventional behaviors such as church attendance.

As noted earlier, Figure 2.1 presents a schematic drawing of the interrelated systems posited by Problem Behavior. Jessor (1990) emphasizes that while each of the systems is connected to all of the other systems through bi-directional arrows, there is nevertheless an "explanatory directionality" that is implied in the framework. The primary goal of the framework is to explain problem behavior and such an explanation relies upon the combination of all of the instigations and controls in the various systems operating theoretically in a prescribed direction, that is, to predict and explain problem behavior.

Perceived Environment Variables within the Residence Hall

Jessor's Problem-Behavior Theory, and in particular the Perceived Environment System, provides a theoretical framework to examine the perceived environment of the residence hall in relation to alcohol use. For the purpose of this research, Jessor's conceptualization of the Perceived Environment variables Controls, Approval of Drinking, Models for Drinking and Pressure for Drinking were used. The peer reference groups and agent of social controls, however, were adapted to reflect the social context of the residence hall environment.

Jessor used parents and friends as representatives of the major reference groups in the respondent's social environment. Within the residence hall environment, the primary

reference groups were defined as the student's roommate and friends on floor. Hays and Oxley (1986) examined the social networks of college freshman living in a residence hall and found that dorm students had networks with greater densities than students who did not live in a residence hall. Moos (1979) suggests that a measure of friend use or approval within the dormitory context is an important "mediating variable in a chain from dormitory context to alcohol use" (p. 123). In this research, the construct of roommate, was conceptualized as a source of influence but the relationship was not characterized as friendship in that a student's roommate could or could not be considered to be the student's friend.

The role of the Resident Assistant was conceptualized as the agent of social control within the residence hall environment who responds to problem drinking which is "socially defined as problematic, usually eliciting social control responses" (Jessor & Jessor, 1977, p. 31)." The role of residence hall staff as agents of social control is described in the following section.

Social Control within the Residence Hall Environment

Despite the rejection of the doctrine of *in loco parentis* by the courts in the 1960's, changes in federal laws impose upon institutions an obligation to regulate student drinking behavior. The passage of The National Minimum Drinking Age of 1984 made consumption of alcoholic beverages illegal for almost 75% of traditional-age college students and required institutions to formulate policies against underage drinking on campus (Califano, et al., 1994). Additionally, the 1989 Amendment to the Drug Free School and Communities Act, requires colleges and universities to establish and publicly

disseminate campus policies regarding substance abuse. This amendment requires institutions to prohibit the unlawful possession, use or distribution of drugs and alcohol and to impose sanctions on those who violate the regulations (Gehring, 1992). The overall effect of such legislation is to place universities in the role of "caretaker and regulator with increased liability" if campus rules are not fully enforced (Califano, et al, 1994).

Housing administrators are heavily involved in this process since many sanctions are imposed on residential students (Gehring, 1992). Concern over alcohol-related incidents, has led many institutions to enact strict alcohol policies. Several college and universities have banned beer kegs, alcoholic punches, and the delivery of alcohol to campus (Thomas, 1991). Some have banned alcohol completely from dormitories.

The primary agent of enforcement in campus residence halls is an undergraduate staff member or Resident Assistant. In conjunction with other university housing staff, the resident assistant participates in the "definition, interpretation, observance and enforcement of the college drinking rules" (Rubington, 1991, p. 375).

In a study of drinking sanctions in freshman residence halls, Rubington (1991) explored the impact of policy enforcement on the number of student alcohol violations. Utilizing the framework of "sanctions theory" (e.g. the greater the risk of apprehension, the lower the chances of deviant behavior), he found that alcohol violations were significantly reduced after fall term. He cautions, however, that strict enforcement of university alcohol policies may not result in students' drinking less but in their drinking in locations other than the residence hall. As many RAs noted in the interviews, once freshmen learn they cannot drink in the dorms, they either give up the idea of drinking, or much more likely, find places outside the residence hall where they can drink. Nonetheless, Rubington concludes that the marked drop in alcohol violations as reported by the RAs attests to the fairly efficient working of the system of formal control (Rubington, 1991).

Summary

In this chapter, an effort has been made to examine the nature of college student drinking within the collegiate environment. A review of the research documents and describes the drinking patterns of students including the phenomenon of binge drinking, negative consequences associated with drinking, pre-college drinking patterns and demographic differences in use. Alcohol consumption is also related to a variety of individual and environmental factors including attitudes, beliefs, and motivations; personality characteristics; peer group influence; social context.

In reviewing the literature, however, it is evident that college student alcohol use is a complex issue which requires the consideration of multiple factors. The role of the residential living environment is a promising area of research. A better understanding of the role of the peer group within the residence hall environment and its association with problem drinking is potentially useful for both the institution and students. Many researchers on the college environment and alcohol advocate a theoretical approach to further research. The inclusion of a theoretical framework, Problem-Behavior Theory, serves as a comprehensive approach to further our understanding of the nature of interaction between the college environment and the student.

Chapter 3

METHODOLOGY

This study examined the relationship between perceived residence hall environment variables and problem drinking. Selected measures from The Young Adult Survey Questionnaire (Jessor & Jessor, 1981) were used to measure the variables. It was hypothesized that the subscales of the Young Adult Survey would provide data appropriate for statistical testing of the hypotheses. For the purpose of this study, measures from two of the three Problem Behavior Theory systems were be employed: (1) Perceived Environment System and (2) Behavior System (Problem Drinking Measure). The primary focus of this study was the relationship between the Perceived Environment System and the Problem Drinking Measure.

This chapter describes the methodology and procedures used in the study. The subject pool is described, along with the data collection procedure and study design. The research hypotheses are stated and the analysis of the data described.

The Population and Sample

This study was limited to a sample of the population which consists of first time freshmen enrolled at Michigan State University for the 1995 fall semester and who live in a campus residence hall. To estimate the size of the population, data from the Michigan

State University Registrar and Student Life Department data were reviewed to determine the number of male and female freshman students living on campus during fall term or semester for the past five years. It was determined that 97% of freshman live on campus each fall semester. The MSU Registrar's office provided data for the freshman class on the 18th day of the fall term or semester for the past five years. The number of students in the freshman class was estimated to be approximately 6,000 with 55% females and 44% males.

According to the drinking definition to be utilized in this study (Jessor, 1977), it was estimated that the percentages of students in each drinking classification for both men and women would be approximately 20% Problem Drinkers, 70% Non-Problem Drinkers, and 10% Non-drinkers. To conduct meaningful statistical comparisons, Balian (1988) recommends at least 30 cases for each group classification studied. To obtain this number of cases per classification the researcher determined that a sample size of at least of 600 students; 300 men and 300 women was necessary. This sample return would provide the minimum of 30 cases for both males and females per drinking classification needed for meaningful statistical comparisons (Balian, 1988). Balian (1988) recommends increasing the sample size 70-300% when using mailed surveys to compensate for attrition. respondent refusal to participate or other circumstances depending upon the follow up measures to be employed (Balian, 1988). The researcher predicted a low return rate due to 1) the length of the survey at eight pages, and 2) the questions about alcohol use may be considered by some respondents as intrusive. Additionally, some responses may feel reluctant to answer questions that may indicate that they have violated university

regulations or state and federal laws. The researcher estimated a 30 percent return rate and set the sample size at 1800 students or 30% of the freshman class as the necessary sample size to reach a return rate of 600 respondents.

The freshman subjects in this study may or may not be randomly assigned to a particular housing unit. Freshmen are generally assigned to a particular residence hall only if they indicated such a preference at the time of application for housing. If no preference was indicated, each student was then randomly assigned to a residence hall where vacancies exist.

Each student was assigned to a two or four person suite on a floor section containing 47 other students and an undergraduate staff member. The number of freshmen or upperclassmen living on each floor section varied with some floors being mostly freshmen and others being mostly upperclassmen.

Data Collection

Freshman students were encouraged by the university to arrive on campus on August 23, 1995. A letter informing respondents of the study and inviting their participation was mailed to the random sample of freshman students living on campus at Michigan State University on September 18, 1995. On September 25, 1995, a letter introducing the study was sent to each respondent. On October 2, 1995, a cover letter plus a copy of the Young Adult Survey was mailed to each respondent. The return date for the questionnaire was October 9, 1995. Each respondent received a stamped post card to be returned to the researcher to indicate the return of their survey. Return envelopes were designed to be returned to the researcher via the Michigan State University campus mail system. Each respondent was offered a copy of the results of the study.

To increase the return rate, incentives were offered by the researcher. A drawing was held from the postcards returned by October 9, 1995 for a \$100.00 gift certificate to the MSU bookstore.

A follow-up transmittal, a copy of the questionnaire with a return date of October 23, 1995, a pre-addressed return envelope and a results-requested envelope was sent to non-respondents via campus mail on October 16, 1995. A second drawing for a \$50.00 gift certificate to the MSU bookstore was held for those who returned their questionnaire by October 23, 1995.

Timing of Data Collection

The data collection for this study occurred at the end of the first six weeks of the academic school year. The timing of the data collection served as a control measure by surveying students in the living environments to which they had been assigned by the university. The researcher wanted to avoid the phenomenon of "self-selection" (Kandel, 1980) whereby individuals select a peer group based upon their drinking preferences. Additionally, the researcher was interested in examining students' perceptions of their original living environments created by random assignment by the university. Data regarding students' perceptions of university-created living environments that are created by the random assignment process.

The researcher estimated that six weeks was adequate time for the new student to experience the most proximal aspects of the college environment including their

roommate, other residents on the floor, and the Resident Assistant.

Instrumentation

The Young Adult Survey (Jessor, 1981) was selected as the instrument for this study to measure the environmental variables and their relationship to problem drinking among college students. The Young Adult Survey, in its original form, is a 450 item, paper and pencil instrument, which includes several subscales. Psychometric investigations have supported the utilization of the instrument as a valid and reliable research tool. It contains a subset of the variables from the larger framework of problembehavior theory as well as items designed to specifically measure variables within the residence hall environment. The Young Adult Survey is comprised of items which pertain to three systems: Personality System, Perceived Environment System and the Behavior System. For the purposes of this research, selected items from the Perceived Environment System and Behavior System were used. The survey items were modified for use in this study. The Perceived Environment questions were modified to focus on peer relationships in the residence hall. For example, a question that was originally worded "Do you have any friends who do not drink at all?" was changed to "Do you have any friends on the floor who do not drink at all." The questions were repeated for roommates and Resident Assistant when appropriate. According to Light, Singer and Willet (1990), validity in an instrument describes how well a measure actually assesses what it is intended to assess. The items within the Young Adult Ouestionnaire were modified only in terms of specificity of relationship and not in any other way. The Behavior system items were modified in only that respondents were asked to answer the question in terms of the time

they had spent at MSU. Otherwise the content of the items were identical to the Jessor's Young Adult Questionnaire.

The majority of these variables were measured by single and multiple item scales derived from problem behavior theory and abbreviated from an early version developed to test the theory in a longitudinal study of adolescent psychosocial development (Jessor, 1977; 1991). Jessor (1977) describes the Young Adult Survey as a "theoretical instrument, comprised of multi-item scales, formulated from a construct validity perspective about test construction and psychometrically developed."

Each of the summative, multiple-item measures of the Perceived Environment System were evaluated for its psychometric adequacy by calculating two difference

	Number	Seele	Men (N=84	Men <u>(N=84)</u>		Women (N=100)	
1981 Measures	of items	range	<u>Alpha</u>	HR	<u>Alpha</u>	<u>ı Hr</u>	
Perceived Environment System Distal Structure Parental Controls Friends Controls	1 2	1-4 2-8	 .73	 .59	 .68	.53	
Proximal Structure Friends' Approval of Problem Behavior Friends Models for Problem Behavior	3 3	-9 to +9 -9 to +9	.26 .52	.11 .27	.43 .53	.20 .28	

 Table 3.1
 Scale Properties for the Perceived Environment System Measures

indexes: Cronbach's (1951) alpha, an estimate of reliability based on the interim consistency of responses; and Scott's (1960, 1968) Homogeneity Ratio (HR), a measure of the weighted-average inter-item correlation of each scale. These scale properties are presented in Table 3.1 for each of the Perceived Environment System measures and for the 1981 College Study subsample. Jessor (1977) describes the homogeneities of the scales as "quite adequate but, as expected for such short scales, their alpha reliabilities are low."

Table 3.2 presents the number of items, scoring, and Cronbach's alpha of the perceived environment measures that were used in this study. Several items are combined into subscales or can be examined as single item measures. The first measure, Residence Hall Modeling is a four-item measure assessing the amount of drinking models a student perceives in the overall residence hall environment. The Approval for Drinking measure is a three-item subscale that includes Friends' on Floor, Roommate, and Resident Assistant Approval for drinking. The Modeling variables assess the frequency with which the respondents had been encouraged or influenced by their friends or roommate to engage in drinking. Higher scores reflect higher than average degrees of modeling for drinking.

Table 3.2 Perceived Residence Hall Environment Measu
--

Residence Hall Perceived	# of	Scale	Cronbach
Environment Measures	Items	Range	alpha
Distal Structure			
Residence hall Models for Drinking	4	16-0	.81
Resident Assistant Control	2	8-1	.71
Proximal Structure			
Approval for Drinking	3	9-3	
Models for Drinking	4	13-3	.78
Friends	2	9-2	.71
Roommate	2	4-1	.68
Pressure for Drinking	2	8-2	.63
Controls Against Problem Behavior	4	16-1	.78
Friend	2	8-1	.65
Roommate	2	8-1	.77

Pressure for drinking by either the respondent's roommate or friends on floor includes a measure asking about the frequency with which their roommate or friends on the floor put pressure on them to drink. The Controls variables consist of multiple items asking respondents if their friends on the floor, roommate or Resident Assistant would try to influence their behavior if the respondent "were going to do something illegal or that most people would think of as wrong." Responses options range from "definitely would not" to 'definitely would." Higher scores indicate a greater perceived amount of disapproval by the roommate, Resident Assistant or Friends on the floor for socially disapproved behavior.

Problem drinking proneness in the perceived residence hall environment involves greater roommate and friends on floor approval of drinking, greater pressure and models for drinking and less perceived controls against problem behavior within the environment.

With regard to the Behavior System, Jessor (1977; 1991) utilizes a concept of "problem" drinking that focuses on alcohol consumption to the point of drunkenness and on the negative social and interpersonal consequences associated with drinking. Respondents were classified as problem drinkers if they reported being drunk four or more in the first six weeks of school or if they reported more than four (out of ten) negative consequences due to their drinking. The possible negative consequences included being criticized by friends for drinking, missing class, being in trouble with the police, getting into a fight, damaging public property, engaging in loud or disorderly conduct, experiencing roommate conflicts over drinking, having an accident on campus or off campus, driving after drinking, and having resident assistant roommate, friends expressing

concern over the respondent's drinking since arriving at school.

Demographic variables were placed at the end of the questionnaire as recommended by Babbie (1991). The demographic variables included gender, size and type of residence hall, specialty housing option, and residential academic program.

<u>Anonymity</u>

The respondents were assured of complete anonymity. Each respondent was instructed to return their completed survey separately from their return postcard. The return postcards were only used to remove respondents' names from the mailing list so they were not sent a second or third survey and to select the recipients of the gift certificates. No coding system for identification was used on any of the questionnaires. <u>Self-reports of alcohol use</u>

The accuracy of self-reports of alcohol use is well documented. Self reports have been found to be satisfactory with respect to reliability and validity as long as the researcher assures the respondents that their responses will be confidential (Dielman, 1991).

Statistical Analysis

The majority of questions on the survey are considered continuous, interval data. Various statistical analyses were used to interpret the data including one-way ANOVA, one-way MANOVA, t-tests, post hoc multiple comparisons tests and discriminant analysis. The .05 alpha level of significance was used. The hypotheses were stated in Chapter 1. They are restated here as operational, directional hypotheses:

Hypotheses

- 1. There will be no significant differences in the self-reported drinking behaviors of Michigan State University freshmen when categorized by gender, size and type of residence hall, specialty housing option or residential academic program.
- 2. There will be no significant differences in the scores on perceived environment variables (Approval for drinking, Models for drinking, Pressure for Drinking and Controls) among Michigan State University freshmen when categorized by gender, size and type of residence hall, specialty housing option or residential academic program.
- 3. Problem drinkers will perceive more Roommate, Friends' and Resident Assistant Approval for Drinking than Non-drinkers or Non-problem drinkers.
- 4. Problem drinkers will perceive more Roommate and Friends' Modeling for drinking than Non-drinkers and Non-problem drinkers.
- 5. Problem drinkers will perceive more Roommate and Friends' Pressure for Drinking than Non-drinkers and Non-problem drinkers.
- 6. Problem Drinkers will perceive less Roommate, Friends' and Resident Assistant Controls than Non-drinkers and Non-Problem Drinkers.
- 7. The perceived environment variables of Approval for Drinking, Modeling of Drinking, and Pressure for Drinking and Controls will combine to predict drinking group membership.

Definition of Terms

In this dissertation research, several terms will be used that require definition: <u>Non-drinker</u>. A person who reports never having consumed alcoholic beverages. <u>Alcohol Free Floor</u>. A housing option chosen by students in which each floor resident signs an agreement stating that he or she will not possess or consume alcoholic beverages within the confines of the floor.

<u>Alcohol Free Room</u>. A housing option chosen by students in which each resident of a residence hall room signs an agreement stating that he or she will not possess or consume alcoholic beverages within the confines of the room.

<u>Approval for Drinking.</u> The perception that engaging in drinking can be a means of gaining approval from and establishing connectedness with either a roommate, friends on the floor or the Resident Assistant.

<u>Controls.</u> The perception that others hold relatively strict standards for behavior and would exercise sanctions against behavior of which they disapprove.

<u>Freshman student</u>. A male or female full-time undergraduate student who is attending college for the first time and is living in a campus residence hall at Michigan State University.

<u>Models for Drinking.</u> The perception that roommate or friends on floor engage in drinking and potentially provide an opportunity to learn how to engage in drinking; access to what may be needed to engage in drinking; evidence that drinking can be accomplished and is not completely unthinkable and the social controls against drinking are not very effective or are not implemented.

<u>Negative Consequences Scale</u>. A scale created by summing the frequency of negative consequences experienced in ten different life areas including being criticized by friends for drinking, missing class, experiencing roommate difficulties, having been told alcohol was creating problems at school, experiencing trouble with the police or being arrested, having an accident, driving a car while under the influence of alcohol, or having friends, roommate, or Resident Assistant express concern regarding drinking.

<u>Non-Problem Drinker.</u> Person who consumes alcohol but has been drunk less than four times since coming to MSU and scoring less than 5 on the Negative Consequences Scale. <u>Pressure for Drinking.</u> The perception that roommate or friends on the floor exert pressure to encourage the consumption of alcohol when the consumption of alcohol is undesired.

<u>Problem Drinker</u>. Person who has been drunk four or more times since coming to MSU and scored 5 or more on the Negative Consequences Scale.

<u>Resident Assistant</u>. A male or female upper class undergraduate student who is employed by Michigan State University on a half-time basis as a live in staff member on the residence hall floor.

<u>Residence hall</u>. A building of eight to twenty-four floors totaling 500-1200 students on the campus of Michigan State University. Male and female residents may live on the same floor in the residence hall or separately on adjoining floors in the residence hall. <u>Residence hall floor</u>. A group of approximately 50 students living on a wing of a residence hall. <u>Residence Hall Modeling</u>. The perception that other students living in the residence hall engage in drinking. Other students are defined as students living in the same hall, students living on the same floor, students with whom the respondent spends some time and close friends of the respondent.

Size of Residence Hall. Residence halls categorized as either small, medium or large; housing approximately 400, 800 and 1100 students respectively.

<u>Type of Residence Hall</u>. Residence halls categorized as Freshman Intensive, Core, or Upper Class. Freshmen Intensive halls house almost 75% freshmen, a Core hall houses a mix of all student classes but predominately freshmen and sophomores, and Upper Class halls house mostly upper class students with a small percentage of freshmen.

Chapter 4 FINDINGS

Introduction

The purpose of this study was to examine the relationships between perceived environmental variables within the residence hall environment and college student drinking behavior. Three primary research questions with corresponding research and statistical hypotheses were identified. The data analysis and interpretation for the research questions are presented in this chapter. The chapter is divided into three sections: 1) description of the sample and establishment of drinking classification, 2) research questions with statistical hypotheses and 3) a summary of the findings.

Description of the Sample

Research instruments were mailed to 1800 new freshman students at Michigan State University who were residing in campus residence halls and who had not requested their name and address be restricted. A total of 1222 total surveys were returned; representing a 68% response rate. Of those 1222 surveys, 1197 were complete and used in the statistical analysis.

Seventy-nine percent of the respondents were 18 years of age and only .6 % were 21 years of age or over; 87 % reported that they consume alcohol. Approximately 13% of the respondents were classified as Non-drinkers, 57% as Non-problem drinkers, and 30% at Problem drinkers. Thus, this sample had 10% more Problem drinkers than originally estimated. Almost 33% of the respondents indicated that their drinking had increased since coming to MSU, 11% said it had decreased and 56% said it had stayed the same.

Table 4.1 presents the frequency data for the demographic variables of gender, size of residence halls, type of residence hall, specialty housing option and residential academic program. The male/female ratio of respondents, 42% males and 58% females closely parallels the male/female ratio of the freshman class at Michigan State University of 44% males and 56% females. The majority of respondents or 61% reside primarily in large halls with 17% residing in medium size halls and 19% residing in small halls. Sixty percent of the respondents were living in CORE halls while 26.1% were living in Freshman Intensive Halls and 11.3% percent were living in Upper class halls.

Establishment of Drinking Classification

Donovan and Jessor (1978) utilize a combination of frequency of drunkenness and negative consequences experienced to classify respondents into the categories of Nondrinker, Non-problem drinker and Problem drinker. Donovan and Jessor (1978) define problem drinking in a variety of ways using either frequency of drunkenness or negative consequences experienced over a specified length of time. The authors state that the use of different definitions of problem drinking "... provide a sense of the robustness of the explanatory framework and of its generality across criteria of different stringency" (pp. 1512). One definition of problem drinking used by Donovan and Jessor (1978) used was drunkenness two or more times in one month or two or more than two negative consequences in any of at least three areas (equal to a score of six or higher on the Negative Consequences Scale).

For the purposes of this study, Respondents were divided into the categories of Non-Drinker, Non-problem drinker and Problem drinker based upon the same two criteria, frequency of drunkenness (four or more times) during the first six weeks of school at MSU and a score of five or more on the Negative Consequences Scale. The frequency of drunkenness was set at four since the respondent's were asked about their behavior over six weeks to two months depending upon when they returned their questionnaire. To be classified as a Problem drinker in this study, a respondent had to report five or more negative experiences on the Negative Consequences Scale during the time period of six weeks. The Negative Consequences Scale was created by summing each respondent's scores for the frequency of which he or she experienced negative consequences in ten different life areas. These life areas include having being criticized by friends for drinking, missing class, experiencing roommate difficulties, being told alcohol was creating problems at school, getting into trouble with the police or being arrested, having an accident, driving a car under the influence, or having friends, roommate, or Resident Assistant express concern regarding drinking. Responses to each life area item ranged from 0 to 4 with values of 0 for never, 1 for once, 2 for 2 or 3 times, 3 for 4 or 5 times and 4 for 6 or more times and were added across all ten items, yielding a score range of 0 to 40. Thus, any single area, even if it is an area of chronic problems, can contribute only 4 points to the total. A cutoff point of 5 or more is used to define the problem drinking

group, and such scores automatically indicated alcohol-related negative consequences in more than a single area.

Non-Drinkers were defined as respondents who have never consumed alcohol or had not consumed alcohol while enrolled as a student at Michigan State University. The

Table 4.1 - Frequency Distribution of Demographic Variables

Demographic Variable	f	%
Gender		
Male	499	41.6
Female	693	57.8
Missing	5	.4
Total	1197	100.0
Size of Residence Hall		
Small	226	18.9
Medium	201	16.7
Large	736	61.4
Missing	34	2.8
Total	1197	100.0
Type of Residence Hall		
Freshman Intensive	312	26.1
Core	716	59.8
Upper Class	133	11.1
Missing	36	3 .0
Total	1197	100.0
Specialty Housing Option		
Alcohol Free Floor	102	8.5
Alcohol Free Room	250	21.0
Non-Option	833	69.5
Missing	12	1.0
Total	1197	100.0
Residential Academic		
Option		
None	1013	84.6
James Madison College	49	4.1
Lyman Briggs School	77	6.4
RISE	11	.9
ROSES	29	2.4
STAR	18	1.5
Total	1197	100.0

Non-problem Drinker category includes respondents who reported having been drunk less than four times while enrolled at MSU and scoring less than five on the Negative Consequences Scale. Table 4.2 shows the frequency distribution for the drinking classification.

4.2 Frequency Distribution of Drinking Classifications

Drinking Status	$\int f$	%
Non-Drinker	154	12.8
Non-problem drinker	676	56.4
Problem Drinker	367	30.6
Total	1197	100.0

Drinking Classification and Demographic Variables

Descriptive and inferential statistical data will be presented for each combination of drinking classification and demographic variable. Chi-square measures of association and eta were used to test the research hypothesis at the .05 level to determine if significant differences existed in self-reported alcohol consumption of Michigan State University freshman in relationship to the selected demographic variables of gender, type and size of residence hall, specialty housing option and residential academic program. Eta squared can be interpreted as the proportion of variance in the dependent variable explained by the difference between groups. For clarification, research question 1 is restated here:

Research Question 1:

Are there significant differences in the self reported drinking behaviors of Michigan State University freshmen when categorized by gender, type and size of residence hall, specialty housing option, and residential academic program? For the purpose of analysis, each variable within research question one was tested separately and statistical hypotheses were specified for the variables gender, type and size of residence hall, specialty housing option and residential academic program.

Gender

The following statistical hypothesis was identified to answer research question 1 and is presented in the null form:

Statistical Hypothesis 1:

There are no significant differences in the self-reported drinking behavior of Michigan State University freshmen when categorized by gender.

Table 4.3 presents the frequency distribution for drinking classification by gender.

Similar percentages of males and females, 86% of males and 88% of females, report

drinking while at MSU. The percentage of non-drinking females is almost equal

 Table 4.3 Frequency Distribution of Drinking Classification by Gender

Drinking Classification	Male <i>n=499</i>		Fen n=0	male 693
	f	%	f	%
Non-drinker	68	14	86	12
Non-problem drinker	254	51	419	61
Problem drinker	175	35	187	27
Total	497	100.0	692	100.0

<u>Note</u>. Eight cases missing. X^2 (2, n=1189) = 11.27, p < .01. Eta² = .002

to the percentage of non-drinking males. Proportionally, there are more female nonproblem drinkers (61%) than males (51%) but more male problem drinkers (35%) than female problem drinkers (27%). A chi-square measure of association indicates that drinking classification is independent of gender ($X^2 = 11.27$, p < .01). Therefore, statistical hypothesis was rejected. It must be noted, however, that eta = .053 indicating that the less than 1 % of the variance between the drinking classifications two groups is explained by the differences between males and females.

Size of Residence Hall

The following statistical hypothesis was identified to answer Research Question 1 and is presented in the null form:

Statistical Hypothesis 2:

There are no significant differences in the self-reported drinking behaviors of Michigan State University freshmen when categorized by size of residence hall.

The first of two residence hall variables that were examined was size of residence

hall. MSU residence halls can be divided into three categories by size, small, medium and

large with each housing approximately 400, 800, and 1100 students, respectively.

Table 4.4 Frequency Distribution	of Drinking C	Classification by	Size of	f Residence	Hall
----------------------------------	---------------	-------------------	---------	-------------	------

Drinking	Small		Medium		Large	
Classification	n=226		n=202		n=739	
	ſ	%	f	%	f	%
Non-Drinker	34	15	30	15	89	12
Non-Problem Drinker	135	60	114	56	412	56
Problem Drinker	57	25	58	29	238	32
Total	226	100.0	202	100.0	739	100.0

Note. Thirty cases missing. X^2 (4, 1167) = 5.22, p > .05. Eta² = .004

According to this classification, there are 5 small halls, 7 medium halls and 10 large halls on campus. Of the respondents, 226 or 19% live in small halls, 202 or 17% live in medium halls and 739 or 62 % live in large halls with 31 missing cases. Table 4.4 presents the frequency distribution of drinking classification by size of residence hall. A chi-square test of association revealed no statistically significant measure of association between drinking classification and size of residence hall. Therefore, Hypothesis 2 was not rejected.

Type of Residence Hall

Statistical Hypothesis 3:

There are no significant differences in the self-reported drinking behavior of Michigan State University freshmen when categorized by type of residence hall.

The second residence hall variable examined was type of residence hall. At MSU, each residence hall houses different percentages of freshmen, sophomores, junior and senior students. To describe the different student population of each hall, the residence hall is classified as either Freshman Intensive, Core or Upper Class. A Freshman Intensive building houses at least 75% freshman students, a Core building houses all classes of students but predominately freshmen and sophomores, and Upper Class halls house mostly upper class students with a small percentage of freshmen students. The frequency distribution of drinking classification by type of residence hall is presented in Table 4.5. Similar percentages of respondents within each drinking classification were represented in each type of residence hall. A chi-square measure of association revealed no significant measure of association between drinking classification and type of residence hall. Therefore, Hypothesis 3 was not rejected.

Drinking Classification	Freshman Intensive n=312		Core n=719		Upper Class n=136	
	f	%	f	%	f	%
Non-Drinker	46	14	86	12	21	15
Non-problem Drinker	186	60	396	55	79	58
Problem Drinker	80	26	237	33	36	27
Total	312	100.0	719	100.0	136	100.0

Table 4.5 Frequency Distribution of Drinking Classification by Type of Residence Hall

<u>Note</u>. Thirty cases missing. X^2 (4, 1167) =7.3, p > .05. Eta² = .005

Specialty Housing Option - Alcohol Free Room

Statistical Hypothesis 4:

There are no significant differences in the self-reported drinking behavior of Michigan State University freshmen when categorized by alcohol free room residency.

The relationship between alcohol consumption and two specialty housing options,

Alcohol Free Rooms and Alcohol Free Floors, were examined. Table 4.6 presents the

frequency distribution of drinking classification by Alcohol Free Room designation. As

 Table 4.6
 Frequency Distribution of Drinking Classification by Alcohol Free Room
 Residency

Drinking Classification	Alcohol Free Room $n=252$		Non Alco Roc n=8	ohol Free oms 833
	f	%	ſ	%
Non-Drinker	81	32	54	7
Non-problem drinker	147	58	468	56
Problem Drinker	24	10	311	37
Total	252	100.0	833	100.0
NY	F1 F1		1 1 4 100	

Note. Ten cases missing. Alcohol Free Floor respondents not included (n=102). $\overline{X^2}(2, 1085) = 151.0, p < .001.Eta^2 = .127$

shown in the table, 32% of the Alcohol Free Room respondents are Non-drinkers versus
only 7% of those respondents living in Non-alcohol Free Rooms. Only 10% of Alcohol Free Room respondents are Problem drinkers compared with 37% of the Non-alcohol Free Room respondents. As shown in Table 4.6, there is a significant association between drinking classification and the alcohol free room option. Hypothesis 4 was rejected.

Specialty Housing Option - Alcohol Free Floor

The relationship between alcohol free floor residence and drinking classification was examined and the results are presented in Table 4.7. The statistical hypothesis is restated here:

Statistical Hypothesis 5:

There are no significant differences in the self-reported drinking behavior of Michigan State University freshmen when categorized by alcohol free floor.

Table 4.7 Percentage of Non-Drinkers and Drinkers Residing on Alcohol Free Floor

Drinking Classification	Alcohol F n=	Free Floor 102	Non-alco Floor	hol Free Option 833
	f	%	f	%
Non-Drinker	17	17	54	6
Non-problem drinker	55	54	468	56
Problem Drinker	30	29	311	37
Total	102	100.0	833	100.0

Note. Ten cases missing. Alcohol Free Room respondents not included (n=252). X^2 (2, 935) =14.0 p < .001. Eta² = .008

As shown in Table 4.7, seventeen percent of respondents living on Alcohol Free Floors are Non-drinkers compared to 6% living on Non-alcohol free floors. Twenty-nine percent of Alcohol Free Floor respondents are Problem drinkers as compared to 37% of respondents living on Non-alcohol Free Floors. A chi-square test revealed that the association between drinking classification and residency on an Alcohol Free Floor is significant at the .001 level. Therefore, Hypothesis 5 was rejected.

Residential Academic Program

Statistical Hypothesis 6:

There are no significant differences in the self-reported drinking behavior of Michigan State University freshmen when categorized by residential academic program.

There are five residential academic programs at Michigan State University. The frequency distribution of respondents per program is presented in Table 4.8. For data analysis, the number of respondents per program were aggregated into one total sum for participants in Residential Academic Programs. Table 4.8 presents the frequency distribution of drinking classification by residential academic program. There was a higher percentage of Non-drinkers and a lower percentage of Problem drinkers enrolled in residential academic program.

A chi-square test was significant at the p < .05 level of significance. Eta squared indicates, however, that less than 1 % of the variance in drinking classification is explained by the differences between enrollment in a residential academic program and not being enrolled in such a program. Therefore, Hypothesis 6 was rejected.

Drinking Classification	Residential Prog n=1	Academic gram 84	Non Re Academic n=1	sidential Program 013
	f	%	f	%
Non-Drinker	32	18	122	12
Non-problem drinker	111	60	565	56
Problem Drinker	41	22	326	32
Total	184	100.0	1013	100.0
Note $Y^2(2, 1107) = 0.0 n < 0.1$	$Ete^2 = 0.07$			

Table 4.8 Frequency Distribution of Drinking Classification by Residential Academic Program

<u>Note.</u> $X^{2}(2, 1197) = 9.0, p < .01$. Eta² = .007

Perceived Environment Variables and Demographic Variables

The purpose of the second research question is to examine the relationship between the perceived environment variables and the demographic variables of gender, size and type of residence hall, specialty housing option and residential academic program. The perceived environment variables include two distal measures, Residence Hall Models for Drinking and Resident Assistant Control and four proximal measures including Approval for Drinking, Models for Drinking, Pressure for Drinking and Control. The means and standard deviations, multivariate analysis of variance (MANOVA), t-tests, oneway analysis of variance (ANOVA) and multiple comparison statistics will be utilized for the data analysis for this research question. For clarification, Research Question 2 and Research Hypothesis 2 are restated here:

Research Question 2:

To investigate the relationship between factors within the perceived residence hall environment and drinking behavior among freshmen students. More specifically, this study will investigate the balance between instigations for and controls against problem alcohol use within both the distal and proximal structures of the residence hall environment.

Research Hypotheses 2:

There will be no significant differences in the scores on the perceived environment variables of Approval for Drinking, Models for Drinking, Pressure for Drinking and Controls among MSU freshmen when categorized by gender, type of residence hall, size of residence hall, specialty housing option or residential academic program.

The first statistical hypothesis set forth in response to Research Question 2 is

stated below:

Statistical Hypothesis 7:

There are no significant differences among MSU freshmen scores on perceived environmental variables when categorized by gender, type of residence hall, size of residence hall, alcohol free room, alcohol free floor and residential academic program.

Table 4.9 presents the results of the one-way MANOVA of the perceived

environment variables when categorized by gender, type of residence hall, size of

residence hall, alcohol free room, alcohol free floor and residential academic program.

An analysis of the table indicates that there were significant differences in the scores on the

perceived environmental variables with respect to all of the six categorization variables.

To provide information regarding which variables contributed to the differences between

the categorical groupings, the univariate F-tests for each perceived environmental variable

are also presented in the table.

Each categorization variable will be discussed separately. A t-test or a one-way ANOVA was conducted on each subscale item of the variable that contributed significantly within the multivariate analysis to provide some insight into where the differences may exist. The univariate statistics are not adjusted for the fact that several comparisons were made and thus should be used with a certain amount of caution (Norusis, 1994). To avoid reporting significant results in the presence of mild violations of homogeneity of covariance matrices or multivariate normality, Pillais' Trace was used for the multivariate criterion as it offers the most in terms of power and robustness (Norusis, 1994).

Table 4.9 One-way MANOVA and Univariate F-tests for Perceived Environment Variables by Gender, Type of Residence Hall, Size of Residence Hall, Specialty Housing Option and Residential Academic Program

				Pil	lais' Tr	ace		F Statisti	S	Sig	mificance	e Level
	MAN	IOVA:							1	1		
Gender					.1194			25.58			100	
Type of Re	sidence	Hall			.0307			2.98			100	
Size of Res	idence I	Hall			.0318			3.13			00.	
Alcohol Fre	ee Roon	e			.1865			41.2			100	
Alcohol Fre	ee Floor				.0292			4.66			00.	
Residential	Acaden	nic Program			.0113			2.27			.034	
		Gender		Type		Size	AF	Room	AF	Floor		RAP
	<u>ل</u>	sig.	í۲.	sig.	<u>لد</u>	sig.	(I.,	Sig.	ند ا	sig.	لت ـ	Sig
RHM	4.8	.028*	3.97	•010*	2.63	.072	215.1	***000	11.95		2.14	.143
RA	18.0	***000	2.98	.051	4.26	.014*	.410	.522	.205	.651	.080	LLL.
Control												
Control	90.7	***000	.332	.071	2.06	.127	24.4	***000"	3.33	.068	.436	509
Approval	4.91	.027*	2.19	.112	2.87	.057	114.5	***000	2.05	.152	2.45	.117
Modeling	38.2	***000	6.25	.002**	4.16	.016	165.4	***000	14.1	***000	9.96	.002
Pressure	47.7	***000	6.69	***000	8.02	*** 000 [°]	5.39	.020	13.4	***000	3.73	.053

*<u>p</u><.05. **p<.01. ***p<.001

Gender

The multivariate tests of significance for the gender variable are shown in Table All six criteria indicate that there are significant differences between men and women on the perceived environment variables. To understand where the differences between men and women's scores occur, the univariate tests for the individual variables were examined. The means and standard deviations for each variable are presented in Table 4.10. The mean scores of the Pressure for drinking variables must be interpreted cautiously. This variable is a one-item measure with scores ranging from 4-1 with a score of 4 an indication of strong pressure for drinking and a score of 1 as experiencing no pressure for drinking from either a friend or roommate. The range of mean scores for the Pressure variables across all demographic groups was 1.06 to 1.42; indicating that the amount of pressure reported is extremely small. The results of T-test and analysis of variance are also presented in Table 4.10.

A t-test of the perceived environment variables and gender revealed significant differences for all of the variables except Roommate Approval for Drinking. Male respondents perceive more Residence Hall Modeling, Friends' Approval for Drinking,

Table 4.10 T-tests of Means of Perceived Environment Variables by Gender

Perceived Environment Variables	Item Scoring	Ma n=-	nles 497	Fem n=0	ales 692		
		x	sd	x	sd	t	prob.
Distal Structure							
Residence Hall Models for							
Drinking	16-0	11.3	3.02	10.9	3.14	2.21	.028*
RA Control	8-0	6.46	1.61	6.83	1.37	-4.13	.000***
Proximal Structure							
Approval for Drinking	9-3						
Friends	3-1	2.38	.572	2.30	.592	2.49	.014*

Table 4.10 (cont'd).

Roommate	3-1	1.62	.713	1.67	.725	-1.14	.257
Resident Assistant	3-1	2.50	1.28	2.81	1.30	-4.09	.000***
Models for Drinking	13-3						
Friends	9-2	6.45	1.76	5.75	1.73	6.80	.000***
Roommate	4-1	3.94	1.77	3.40	1.37	5.72	.000***
Pressure for Drinking	8-2						
Friends	4-1	1.53	.837	1.28	.594	5.82	.000***
Roommate	4-1	1.29	.737	1.10	.433	5.15	.000***
Control	16-1						
Friend	8-1	4.38	1.55	5.22	1.63	-8.92	.000***
Roommate	8-1	4.85	1.93	5.72	1.93	-7.81	.000***

Note. A higher mean on each variable indicates that respondent perceives more residence hall modeling, RA control, approval for drinking, models for drinking, pressure for drinking and controls than respondents with lower means.

Friends' Modeling for Drinking, Roommate Modeling for Drinking, Friends' Pressure for Drinking, Roommate Pressure for Drinking than female respondents. Females, however perceive more Control within the environment from all sources including Resident Assistant, Roommate, and Friends. Female respondents also perceive more Resident Assistant Approval for Drinking. Therefore, statistical hypothesis 7 was rejected.

Size of Residence Hall

Statistical Hypothesis 8:

There are no significant differences on the scores of perceived environment variables of Michigan State University freshmen when categorized by size of residence hall.

Table 4.11 presents the mean perceived environment scores by residence hall size

as well as the results of a one-way analysis of variance analysis (ANOVA). Post hoc

multiple comparisons between groups were conducted if the one-way ANOVA resulted in

a significant F-statistic for the three groups. The Scheffe' significance level protects

against making a Type I error (Glass and Hopkins, 1984).

For every statistically significant F value, a Scheffe' multiple comparison test was conducted to determine which pairs of hall sizes differed and the results are discussed below. With regard to RA Control, respondents living in medium size halls perceive more RA control than do respondents living in large halls. Respondents living in large halls perceive more Roommate Modeling for Drinking and Roommate Pressure for drinking than do respondents living in small halls and they also perceive more Friends'

 Table 4.11 Analysis of Variance of Perceived Environment Variables by Size of Residence

 Hall

Perceived Environment	Item Scoring	Sm n=2	all 226	Med n=.	lium 202	La n=	rge 7 <i>39</i>		
Measures									
		x	sd	x	sd	x	sd	ſ	prob.
Distal Structure									
RA Control	8-0	6.74	1.53	6.92	1.41	6.59	1.50	4.17	.015*
Proximal Structure									
Models for Drinking	13-2								
Friends	9-2	5.93	1.88	5.81	1.76	6.13	1.75	3.08	.046*
Roommate	4-1	3.27	1.47	3.54	1.60	3.74	1.58	8.11	.000***
Pressure for Drinking	8-2								
Friends	4-1	1.33	.653	1.27	.615	1.42	.749	4.3	.013*
Roommate	4-1	1.04	.407	1.12	.540	1.23	.621	10.1	.000***

Note. A higher mean on each variable indicates that respondent perceives more residence hall modeling, approval for drinking, models for drinking, control against drinking, Resident Assistant Enforcement and pressure for drinking than respondents with lower means. *p < .05. **p < .01. ***p < .001.

Pressure for Drinking than respondents living in medium size halls. There were

statistically significant differences between perceived environment measures and size of

residence hall. Therefore, Hypothesis 8 was rejected.

Type of Residence Hall.

Statistical Hypothesis 9:

There are no significant differences on the scores of the perceived

environment variables of Michigan State University freshmen when categorized by type of residence hall.

Perceived	Item	Fresh	nman	C	ore	Up	per		
Environment	Scoring	Inter	nsive	n=.	720	Cl	ass		
Measures		n=.	313			n=	136		
		x	sd	x	sd	x	sd	F	prob.
Distal Structure									
Residence Hall									
Models for Drinking	16-0	10.8	3.02	11.3	3.11	10.7	3.07	4.08	.017*
Proximal Structure									
Models for Drinking	13-3								
Friends	9-2	5.88	1.77	6.16	1.75	5.75	1.83	4.50	.010*
Roommate	4-1	3.2	1.44	3.76	1.57	3.65	1.74	11.2	.000***
Pressure for Drinking	8-2								
Friends	4-1	1.29	.616	1.42	.743	1.37	.729	3.74	.023*
Roommate	4-1	1.03	382	1.23	624	1 21	625	13.9	000***

 Table 4.12
 Analysis of Variance of Perceived Environment Variables by Type of Residence Hall

Note. A higher mean on each variable indicates that respondent perceives more residence hall modeling, approval for drinking, models for drinking, control against drinking, Resident Assistant Enforcement and pressure for drinking than respondents with lower means. *p < .05. *p < .01. **p < .001.

The analysis of variance revealed significant differences between several of the perceived environment variables and type of residence hall. The Scheffe' multiple comparison test revealed that respondents living in Core buildings perceive more Friends' and Roommate Pressure for drinking as well as Roommate Modeling for Drinking than respondents living in Freshman Intensive halls. Respondents living in Upper class halls also perceived more Roommate Pressure for drinking than respondents living in Freshman Intensive halls. Significant differences were found between respondents living in different type of residence halls and their scores on the perceived environment variables; therefore statistical hypothesis 9 was rejected.

Specialty Housing Option - Alcohol Free Room

Statistical Hypothesis 10:

There are no significant differences on the scores of the perceived environment variables of Michigan State University freshmen when categorized by alcohol free room residency.

Table 4.13 presents the means of the scores for the perceived environment

variables and results of the analysis of variance tests for respondents living by Alcohol

Free Room. Significant critical t values were found for all of the Modeling and Approval,

variables as well as Roommate Pressure for drinking and Friends' and Roommate Control

Table 4.13	T-tests of Means	of Perceived	Residence Hall	Variables by	Alcohol Free
Room					

Perceived Environment Measures	Item Scoring	Alca Fr Ro n=2	ohol ee om 252	No Spec Hou Opt	on ialty sing ion		
		x	sd	x^{n-1}	sd	t	prob.
Distal Structure							
Residence Hall Models							
for Drinking	16-0	8.87	3.35	11.8	2.6	-12.8	.000***
Proximal Structure							
Approval For Drinking	9-3						
Friends	3-1	2.13	.623	2.41	.531	-6.58	.000***
Roommate	3-1	1.94	.772	2.42	.632	-8.91	.000***
Resident Assistant	3-1	2.92	1.29	2.57	1.31	4.10	.000***
Models for Drinking	13-3						
Friends	9-2	4.12	1.92	5.38	1.57	-9.49	.000***
Roommate	4-1	3.17	1.67	4.46	1.58	-10.9	.000***
Pressure for Drinking	8-2						
Friends	4-1	1.33	.698	1.42	.744	-1.74	.082
Roommate	4-1	1.12	.517	1.22	.617	-2.60	.010*

Table 4.13 (cont'd)

Control against Drinking	16-1						
Friend	8-1	5.2	1.77	4.7	1.58	3.92	.000***
Roommate	8-0	5.86	2.01	5.23	1.88	4.45	.000***

Note. A higher mean on each variable indicates that respondent perceives more residence hall modeling, approval for drinking, models for drinking, control against drinking, Resident Assistant Enforcement and pressure for drinking than respondents with lower means. N= 1085 with 10 missing cases and 102 Alcohol Free Floor respondents non included. *p < .05. *p < .01.

against drinking. As shown in Table 4.13, respondents living in Alcohol Free Rooms perceive less Modeling for drinking, less Approval for drinking from their friends and roommate, less Pressure for drinking and more Controls within the environment. These respondents also, perceived more Resident Assistant Approval for drinking than respondents living in Non-alcohol free rooms. As there were statistically significant between respondents living in Alcohol Free Rooms and those who do not, statistical hypothesis 10 was rejected.

Specialty Housing Option - Alcohol Free Floor

Statistical Hypothesis 11

There are no significant differences on the scores of the perceived environment variables of Michigan State University freshmen when categorized by alcohol free floor residency.

Table 4.14 presents the means, standard deviations, and t-test values for the

perceived environment variables by alcohol free floor. As can be seen in Table 4.14, there were significant differences on the perceived environment variables between respondents

living on Alcohol Free Floors and those who do not. Respondents who live on an Alcohol

Free Floor perceive less Residence Hall Modeling for drinking, Friends' and Roommate

Modeling for Drinking as well as Friends' and Roommate's Pressure for Drinking than

those who live do not live on an Alcohol Free Floors. Therefore, statistical hypothesis 11 was rejected.

Perceived Environment Measures	Item Scoring	Alcoh Fi n=	nol Free loor = 102	Non S Ho Oj <i>n</i> =	pecialty using ption =833		
		x	sd	x	sd	t	prob.
Distal Structure							
Residence Hall Models for	16-0	10.8	3.29	11.8	2.62	2.89	.005**
Drinking	1						
Proximal Structure				[
Models for Drinking	13-3						
Friends	9-2	5.69	1.91	6.38	1.57	-3.49	.001***
Roommate	4-1	3.41	1.46	3.88	1.54	-3.06	.003**
Pressure for Drinking	8-2						
Friends	4-1	1.18	.391	1.42	.744	-5.15	.000***
Roommate	4-1	1.02	.409	1.22	.621	-4.16	.000***

Table 4.14 T-tests of Means of Perceived Residence Hall Variables by Alcohol Free Floor

Note. A higher mean on each variable indicates that respondent perceives more residence hall modeling, approval for drinking, models for drinking, control against drinking, Resident Assistant Enforcement and pressure for drinking than respondents with lower means. N=935 with 10 cases missing and 252 Alcohol Free Room respondents not included. *p < .05. **p < .01. ***p < .001.

Residential Academic Program

Statistical Hypothesis 12:

There are no significant differences on the scores on the perceived environment variables of Michigan State University freshmen when categorized by residential academic program.

Table 4.15 presents the means, standard deviations and t-test values for

respondents enrolled in Residential Academic Programs. Only one of the variables,

Models for Drinking was significant. Respondents who were enrolled in a Residential

Academic Program perceived more Friends' and Roommate Models for drinking than

respondents not enrolled in such a program. Therefore, statistical hypothesis 12 was

rejected.

Perceived Environment Measures	Item Scoring	Enro Resid Aca Pro <i>n</i> = x	lled in dential demic gram 184 sd	Non E in Res Aca pro n= x	Enrolled sidential demic gram 1016 sd	t	prob.
Models for Drinking	3-13						
Friends	2-9	5.68	1.72	6.11	1.77	-3.13	.002**
Roommate	1-4	3.35	1.49	3.66	1.60	-2.60	.010**

Table 4.15 T-tests of Means of Perceived Environment Variables by Residential Academic Program Enrollment

Note. A higher mean on each variable indicates that respondent perceives more residence hall modeling, approval for drinking, models for drinking, control against drinking, Resident Assistant Enforcement and pressure for drinking than respondents with lower means. * $\underline{p} < .05$. ** $\underline{p} < .01$. *** $\underline{p} < .001$.

Perceived Environment Variables and Drinking Classification

This section will present the finding for Research Hypothesis 2 and the

corresponding statistical hypotheses. Research Hypothesis 2 is restated here for

clarification:

Research Hypothesis 2:

There will be no significant differences in the perception of perceived environment variables (Approval for Drinking, Models of Drinking, Pressure for Drinking and Controls Against Drinking) among MSU freshmen when categorized by drinking classification.

Statistical Hypothesis 13-16:

- 13. Problem drinkers will perceive *more* Roommate, Friends' and Resident Assistant Approval for Drinking than Non-drinkers and Non-problem drinkers.
- 14. Problem drinkers will perceive *more* Roommate, Friends' Modeling for Drinking than Non-drinkers and Non-problem drinkers.
- 15. Problem drinkers will perceive *more* Roommate and Friends' Pressure for Drinking than Non-drinkers and Non-problem drinkers.
- 16. Problem drinkers will perceive less Roommate, Friends and Resident

Assistant Controls than Non-drinkers and Non-problem drinkers.

Table 4.16 presents the results of the one-way MANOVA of the Perceived Environment Measures according to respondent drinking classification. To provide information regarding which variables contributed to the differences between the categorical groupings, the univariate F-tests for each perceived environmental variable are also presented in the table. A one-way ANOVA was conducted on each subscale item of the variable that contributed significantly within the multivariate analysis to provide some

Table 4.16 One-way MANOVA for Drinking Classification and Perceived Environment Variables

MANOVA	Pillais'	F	Sig.
	Trace	statistic	Level
Drinking Classification	.3044	35.6	.000
Residence Hall Modeling		193.6	.000***
RA Control		.658	.518
Controls		16.1	.000***
Approval		91.0	.000***
Modeling		177.4	.000***
Pressure		5.50	.004**

*<u>p</u><.05. **<u>p</u><.01. ***<u>p</u><.001.

insight into where there are differences.

Table 4.17 presents the means, standard deviations and F values for the perceived environment variables. As revealed in Table 4.17, there are significant differences between the drinking groups with regard to several of the perceived environment variables. Two variables, Friends' Pressure for Drinking and Resident Assistant Control were not significant. Scheffe' multiple comparison tests (p < .05) indicate that:

- 1. Problem drinkers perceive more Residence Hall, Friends' and Roommate Modeling for drinking; Friends' and Roommate's Approval for drinking; and Roommate Pressure for drinking than either non-problem drinkers or non-drinkers. Problem drinkers perceive less Roommate and Friends' Control than either non-drinkers or non-problem drinkers.
- 2. Non-problem drinkers perceive more Residence Hall, Friends' and Roommate Modeling for drinking; and Friends' and Roommate's Approval for drinking than non-drinkers. Non-problem drinkers perceive more Friends' Control than problem drinkers but not more than non-drinkers.
- 3. Non-drinkers perceive more Friends' and Roommate's Control than either nonproblem drinkers or problem drinkers. Non-drinkers also perceive more Resident Assistant Approval for drinking than Problem drinkers.

Therefore, statistical hypotheses 13-16 were accepted.

Perceived Environment Variables	Item Scoring	No Drin n=	on- ikers 154	No prob Drin n=0	on- olem ikers 676	Prot Drin n=.	olem Ikers 367		
		x	sd	x	sd	x	sd	F	prob.
Distal Structure									
Residence Hall Models For	16-0	8.03	3.05	10.8	2.97	12.9	1.87	193.6	.000***
Drinking									
RA Control	8-0	6.59	1.49	6.66	1.50	6.74	1.44	.659	.517
Proximal Structure									
Approval for Drinking	9-3								
Friends	3-1	2.10	.680	2.28	.535	2.57	.506	50.1	.000***
Roommate	3-1	1.82	.772	2.29	.662	2.58	.598	72.3	.000***
Resident Assistant	3-1	1.90	1.29	1.71	1.29	1.54	1.29	4.64	.009**
Models for Drinking	13-3								
Friends	9-2	3.84	1.97	4.70	1.59	6.21	1.27	164.1	.000***
Roommate	4-1	3.02	1.66	3.98	1.64	4.95	1.43	89.3	.000***
Pressure for Drinking	8-2								
Friends	4-1	1.40	.746	1.35	.659	1.42	.795	1.09	.335
Roommate	4-1	1.13	.560	1.13	.475	1.30	.741	11.0	.000***
Controls Against Drinking	16-1								
Friend	4-0	5.32	1.73	4.96	1.62	4.50	1.61	16.3	.000***
Roommate	4-0	5.78	1.97	5.43	1.96	5.03	1.83	9.35	.000***

Table 4.17 Mean Scores of Perceived Environment Measures for Non-drinkers, Nonproblem Drinkers and Problem Drinkers

Note. A higher mean on each variable indicates that respondent perceives more residence hall modeling, approval for drinking, models for drinking, control against drinking, Resident Assistant Enforcement and pressure for drinking than respondents with lower means. *p < .05. *p < .01. **p < .001.

Prediction of Drinking Classification Membership

It was hypothesized that the perceived environment variables of approval, modeling, pressure and control would combine to predict problem drinking among MSU freshman students. For clarification, research question 3 is restated here:

Research Question 3:

To test the usefulness of Problem Behavior Theory in using the perceived environment variables within a residence hall setting to predict problem drinking.

Discriminant analysis was employed to predict membership in the three drinking classifications, Non-drinker, Non-problem drinker and Problem Drinker using the definition of problem drinking defined earlier in this chapter. To further test the applicability of the explanatory framework, three alternative definitions of problem drinking were tested. For two of these analyses, however, only two groups were used. The definition of problem drinking is a critical factor in the application of Problem Behavior Theory. Jessor (1978) tests the usefulness of the theory utilizing different definitions of problem drinking and a similar analysis will be done here. Analysis I uses the same criteria used to differentiate the Nondrinkers, Non-problem drinkers and the Problem drinkers as in the previous analyses. It is based upon two criteria; frequency of drunkenness and the frequency of alcohol-related negative consequences. For Analysis II and Analysis III only two groups were used. In Analysis II the non-drinkers were combined with the Non-problem drinkers. Respondents were classified as either a Nonproblem drinker or a Problem drinker. The rationale for this decision was two fold 1) to categorize respondents upon the similarities of drinking related behavior (i.e. low frequency of drunkenness and negative consequences experienced) as opposed to their level of alcohol consumption, and 2) to test a more parsimonious prediction of problem drinking group membership based upon the differences in alcohol-related behavior between the two drinking groups. Analysis III is conducted with the two extremes groups, Non-drinkers and Problem Drinkers to test the predictive ability of the discriminant functions with regard to the most distinct differences. The three different the analyses will provide some sense of the robustness of the explanatory framework and its generality across criteria of different stringency.

<u>Analysis 1: Prediction of Non-Drinker, Non-Problem Drinker, and Problem Drinker</u> <u>Classification.</u>

The perceived environment variables of approval, modeling, pressure and control were used to predict drinking group membership. Table 4.18 presents the two discriminant functions calculated from the discriminant analysis. Of the two discriminant functions derived, both were statistically significant; $X^2 = (12, N=1197) = 423.7$., p < .001 Table 4.18 Discriminant Functions for Predicting Non-drinker, Non-problem drinker and Problem Drinker Classifications

						Percent
			Canonical		Wilks'	of
	X ²	p	Correlation	Eigenvalue	Lambda	Variance
Function 1	423.47	.000	.534	.400	.700	95.4
Function 2	22.4	.000	.136	.019	.981	4.54

for Function 1 and $X^2 = 22.4$, p < .001 for Function 2. The canonical correlation of .534 indicates that the first function accounts for almost 29% of the variance. The second discriminant function, although the group centroids differ significantly, the eigenvalue of .019 marks a poor function and the canonical correlation of .136 reveals that the second function only accounts for 1.8 % of the variance.

If the overall functions are statistically significant, then the contributions of the individual variables to the differentiation of the groups can be evaluated for significance. Table 4.19 presents the standardized coefficients for each of the variables entering the equation for the one significant function.

It may be noted from the group centroids that the first and largest function separated Non-drinkers (-1.18) from Non-problem drinkers (-.168) and Problem

Table 4.19 Discriminant Analysis of Non-drinkers, Non-problem drinkers, and Problem Drinkers

Group	Group			
	Centroids			
	Function 1			
Non-drinkers	-1.18			
Non-problem drinkers	168			
Problem drinkers	.809			
	Standardized			
	discriminant			
	function	Wilks'	F(2,	
Predictor Variables	coefficient	Lambda	1194)	sig.
Residence Hall Models	.5860	.7551	193.6	.000***
RA Control	.0557	.9989	.6590	.5176
Approval for Drinking	.0963	.8677	91.0	.004**
Modeling for Drinking	.4649	.770	16.1	.000***
Pressure For Drinking	1361	.9908	5.50	.000***
Control Against Drinking	1136	.9737	16.1	.517

* <u>p</u><.05, ** <u>p</u><.01, ***<u>p</u><.001

drinkers (.809). Figure 4.1 presents the territorial map for the three groups on the two functions. The mean of each group is indicated by the asterisk (*). The classification of cases into the three groups are indicated by the numbered boundaries or columns. For example, values for cases that are within the region bordered by threes are classified into the third group. The chart illustrates the differences in the group centroids while also revealing the large number of cases misclassified.

The variables with the highest loading factors are Residence Hall Models, and Models for Drinking, with higher scores characteristic for Non-problem drinkers and Problem Drinkers. Two variables, Resident Assistant Control and Approval for Drinking did not contribute significantly to the discriminant function. Table 4.20 presents the classification results for the three groups. As noted in the table, 779 or 65% of all of the respondents were correctly classified. Twenty-six percent of the non-drinkers, 81.4% of the non-problem drinkers, and 51.5% of the problem drinkers were correctly classified.

To test the significance of the classification, two methods of determining the percentage of correct predictions on the basis of chance, proportional chance criterion or the maximum chance criterion may be used (Betz, 1987). If group sizes are unequal, as in unequal, as in this case, the maximum chance criterion is preferred (Huberty, 1984). The maximum chance criterion compares the classification rate against the chance of assigning all subjects to largest group. In this instance, if all subjects were assigned to the Non-problem drinking group, the classification accuracy would be 56% by chance alone. The classification rate of 65% is statistically significant (z = 6.00, p < .001) and it can be



Figure 4.1 Territorial Map for Discriminant Analysis of Non-drinkers, Non-problem drinkers and Problem drinkers.

Actual Group	No. of	Predicted	Group Membership		
	Cases	1	2	3	
Non-drinker	154	40	108	6	
		26.0%	70.1%	3.9%	
Non-problem drinker	676	32 4.7%	550 81.4%	94 13.9%	
Problem drinker	367	1 .3%	177 48.2%	189 51.5%	

Table 4.20 Classification Results for Non-drinkers, Non-problem drinkers and Problem drinkers

concluded that the classification rate is better than chance. With respect to this research project, however, it is of particular interest to examine the classification rate for problem drinkers. To do so, separate-group accuracy (Huberty, 1984) was tested and the classification rates were statistically significant for the Non-drinkers (z = 4.86, p < .001), Non-problem drinkers (z = 13.0, p < .001) and for the Problem Drinkers (z = 8.64, p < .001).

Analysis II: Predicting Non-problem drinker and Problem drinker

In this analysis, the perceived environment variables were used to predict two drinking groups, non-problem drinker and problem drinker by combining Non-problem drinkers with non-drinkers. Table 4.21 presents the discriminant function values. The discriminant function was statistically significant ($X^2 = (12, 1200) 312.5, p < .001$). The canonical correlation of .461 reveals that the function accounts for 21% of the

			- <u></u>			Percent of
			Canonical		Wilks'	Variance
	X ²	p	Correlation	Eigenvalue	Lambda	
Function 1	284.9	.000	.461	.270	.787	100.0

Table 4.21 Discriminant Functions for Non-problem drinkers and Problem Drinkers

variance between groups. Figure 4.2 presents the all group stacked histogram. This chart indicates how much the two groups overlap and is useful in examining the distribution of discriminant scores. One numerical symbol represents four cases. On the average, respondents who were Non-problem drinkers had smaller discriminant functions than the respondents classified as Problem drinkers. The average value for Non-problem drinkers is -.344 and .779 for Problem drinkers. The chart also illustrates the number of cases incorrectly classified.



Figure 4.2 All-group stacked histogram for canonical discriminant function for Nonproblem drinkers and Problem drinkers.

Table 4.22 presents the group centroids for the discriminant function and the standardized function coefficients. The variables with the highest loading for the function were Modeling for Drinking and Residence Hall Modeling with higher scores characteristic for the problem drinkers. Only RA Control did not enter the function.

Group	Group Centroids			
Non-problem drinkers	345			
Problem drinkers	.780			
	Standardized			
	discriminant function			
	coefficient	Wilks'	F(2,	
Predictor Variables		Lambda	1192)	sig.
Residence Hall Models	.423	.839	229.2	.000***
RA Control	.058	.999	1.042	.3075
Approval for Drinking	.020	.904	126.8	.000***
Modeling for Drinking	.653	.809	280.6	.000***
Pressure for Drinking	067	.991	10.7	.001***
Control Against Drinking	106	.979	25.5	.000***

Table 4.22 Discriminant Analysis of Non-problem drinkers and Problem drinkers

The classification results are presented in Table 4.23. Classification accuracy of this analysis was 76.9% with 89.8% of the non-problem drinkers and 48.0% of the problem drinkers correctly classified. This represents an improvement in classification accuracy for the non-problem drinking group but a slight decrease in classification accuracy for the problem drinkers. Using the maximum chance criterion, however, the classification rate is statistically significant (z = 5.6, p < .001) and the rate is better than the 62% accuracy rate of chance alone that would result by assigning all respondents to the largest group, Non-problem drinkers.

Actual Group	No. of Cases	Predicted Group Membership 1 2	
Non-problem drinkers	830	745 89.8%	85 10.2%
Problem drinkers	367	191 52.0%	176 48.0%

Table 4.23 Classification Results for Non-problem drinkers and Problem drinkers

Analysis III: Predicting Non-drinkers and Problem drinkers

Table 4.24 presents the discriminant function values for the third analysis of predicting problem drinking. As revealed in the table, the discriminant function is

Table 4.24 Discriminant Function for Non-drinkers and Problem drinkers

						Percent
			Canonical		Wilks'	of
	X ²	p	Correlation	Eigenvalue	Lambda	Variance
Function 1	384.5	.000	.725	1.11	.473	100.0

statistically significant ($X^2 = (12, 1197) = 384.5$, p < .001). The canonical correlation indicates that the function accounts for almost 52.5% of the variance. Figure 4.3 presents the all-group stacked histogram for this analysis. On the average, respondents who were Non-problem drinkers had smaller discriminant functions than the respondents classified as Problem drinkers. The average value for Non-problem drinkers is -1.628 and .679 for Problem drinkers. This chart illustrates the distinct separation between the two groups.



Figure 4.3 All-group stacked histogram of Non-drinkers and Problem Drinkers.

Table 4.25 presents the group centroids and the standardized discriminant function coefficients. It is evident from the size of the discriminant function coefficients that while Approval for Drinking and Controls against problem behavior contributed to the discriminant function, the modeling variables contribute the most.

Table 4.25 Discriminant Analysis of Non-drinkers and Problem drinkers

Group	Group Centroids			
Non-drinkers	-1.62			
Problem drinkers	.679			
	Standardized			
	discriminant function			
	coefficient	Wilks'	F(2,	
Predictor Variables		Lambda	1192)	sig.
Residence Hall Modeling	.745	.501	514.8	.000***
RA Control	0080	.9982	.9317	.134

Table 4.25 (cont'd)

Approval for Drinking	.128	.752	170.4	.000***
Modeling for Drinking	.299	.604	338.6	.000***
Pressure for Drinking	129	.995	2.24	.134
Controls Against Drinking	012	.948	28.2	.000***
# = < 05 ## = < 01 ###= < 001				

Table 4.26 present the results of the classification analysis. rate of 88.8 which is a statistically significant (z = 17.8, p < .001) improvement over the 70% accuracy rate that would result if the classification rate was based upon the maximum chance

 Table 4.26 Classification Results for Non-drinker and Problem Drinkers

Actual Group	No. of Cases	Predicted Group Membership	
Non-drinkers	153	112 73.2%	41 26.8%
Problem drinkers	367	17 4.6%	350 95.4%

Note. 677 ungrouped cases.

created by summing the number of times each respondent indicated he or she had experienced a negative consequence during the first six weeks of school. The Times Drunk measure was a single item measure which asked respondents how many times they had been drunk during the first six weeks of school. Table 4.27 reveals the results of the multiple regression analysis in predicting negative consequences.

Multiple R	.5825	Analysis of Variance						
R Square	.3394							
Adjusted R Square	.3337		DF	Sum of	m of Squares Mean Se		an Square	
Standard Error	1.869	Regression	10	2093.0	2093.66 2		09.36	
		Residual	1166	4074.3	8	3.49		
		F = 59.9	Significant $F = .0000$					
Perceived Environment		Regression	Standard					
Variables		Coefficients	Error		Т		Significant T	
Distal Structure								
Residence Hall Models for								
Drinking		.1703		.0255	6.6	557	.000***	
Proximal Structure								
Models for Drinking								
Friends		.4209		.0466	9.0)29	.000***	
Roommate		.1492		.1070	2.9	940	.003**	
Pressure for Drinking								
Friends		3254		.0890	-3	.65	.000***	

 Table 4.27 Multiple Regression Analysis Predicting Frequency of Negative Consequences

* p < .05, ** p < .01, ***p < .001

Four of the perceived environment variables were significant in the predicting the number of consequences a respondent had experienced. The value of R squared indicates that the model accounts for almost 33% of the variability in the frequency of respondents' negative consequences by examining the variables of Residence Hall Modeling, Friends Modeling for Drinking, Roommate Modeling for Drinking and Friends' Pressure for Drinking.

Table 4.28 presents the data for the multiple regression analysis of the perceived environment variables in predicting Times Drunk. The second multiple regression analysis utilizing the Times Drunk measure did not account for as much variability as the analysis using the Negative Consequences measure. The R square for this analysis was only .10 indicating that the perceived environment variables accounted for only 10 % of the

Multiple R	.3193	Analysis of Variance						
R Square	.1019							
Adjusted R Square	.0942		DF	Sum o	f Squares Mo	an Square		
Standard Error	3.243	Regression	10	1392.1	392.75 139.275			
		Residual	1166	12266	5.3	10.51		
		F = 13.23			Significant $F = .000$			
Perceived Environment		Regression	Star	ndard				
Variables		Coefficients	E	rror	Т	Significant T		
Distal Structure								
Residence Hall Models for								
Drinking		.1163		.0443	2.62	.008**		
Proximal Structure								
Approval for Drinking	g							
Friends		.3423		.1963	1.744	.08*		
Models for Drinking								
Friends		.2927		.0808	3.619	.000***		
Pressure for Drinking								
Roommate		.4860		.0807	2.454	.01**		

Table 4.28 Multiple Regression Analysis Predicting Frequency of Times Drunk

<u>p</u><.05, ** <u>p</u><.01, ***<u>p</u><.001

Roommate Pressure for Drinking, Friends' Models for Drinking.

Summary

Three primary research questions were addressed in this study. The purpose of the first question was to determine if 1) drinking behavior was associated with selected demographic variables, and if 2) perceived environment measures were associated with selected demographic variables. Sixteen statistical null hypotheses were formulated at the .05 level of significance to test the relationships between drinking classification and each demographic variable and the perceived environment variable measures for each demographic variable using the chi-square measure of association. The purpose of the second research question was to determine if there were differences between resondents' scored on the perceived environment measures when classified by drinking group using a

one-way MANOVA, t-tests, one-way ANOVAs and Scheffe' post hoc multiple

comparisons. The results are summarized below:

<u>Statistical Hypothesis 1</u>: There are no significant differences in the self-reported drinking behavior of Michigan State University Freshmen when categorized by gender. The null hypothesis was rejected at the .01 level of significance ($X^2 = (2, 1197) 11.27, p < .01$). Eta = .053 with less than 1% of the variance in drinking classification explained by differences between males and females.

<u>Statistical Hypothesis 2</u>: There are no significant differences in the self-reported drinking behavior of Michigan State University Freshmen when categorized by size of residence hall. The null hypotheses was not rejected ($X^2 = (4, 1197) 5.22, p > .05$).

<u>Statistical Hypothesis 3:</u> There are no significant differences in the self-reported drinking behavior of Michigan State University Freshmen when categorized by type of residence hall. The null hypothesis was not rejected ($X^2 = (4, 1197) 7.35, p > .05$).

<u>Statistical Hypothesis 4</u>: There are no significant differences in the self-reported drinking behavior of Michigan State University Freshmen when categorized by alcohol free room residency. The null hypothesis was rejected at the .001 level of significance ($X^2 = (2, 1197) 151.0, p < .001$). Eta = .357 with 12.7% of the variance in drinking classification explained by differences between alcohol free room residency and non-alcohol free room residency.

<u>Statistical Hypothesis 5:</u> There are no significant differences in the self-reported drinking behavior of Michigan State University Freshmen when categorized by alcohol free floor residency. The null hypothesis was rejected at the .001 level of significance ($X^2 = (2, 1197) 14.0, p < .001$). Eta = .094 with less than 1% of the variance in drinking classification explained by differences between alcohol free floor residency and non-alcohol free floor residency.

<u>Statistical Hypothesis 6:</u> There are no significant differences in the self-reported drinking behavior of Michigan State University Freshmen when categorized by enrollment in a residential academic program. The null hypothesis was rejected at the .05 level of significance ($X^2 = (2, 1197) 9.0, p < .05$). Eta = .086 with less than 1% of the variance in drinking classification explained by differences between enrollment in a residential academic program and non-enrollment in a residential academic program.

<u>Statistical Hypothesis 7:</u> There are no significant differences on the scores of perceived environment variables of Michigan State University freshmen when categorized by gender. The null hypothesis was rejected at the .05 level of significance. A one-way MANOVA revealed significant differences between males and females on the Modeling for drinking, Approval for drinking, Pressure for drinking and Control measures. <u>Statistical Hypothesis 8:</u> There are no significant differences on the scores of perceived environment variables of Michigan State University freshmen when categorized by size of residence hall. The null hypothesis was rejected at the .05 level of significance. A one-way MANOVA revealed significant differences between respondents on the Modeling for drinking, Approval for drinking, Pressure for drinking and Control measures when categorized by size of residence hall.

<u>Statistical Hypothesis 9:</u> There are no significant differences on the scores of perceived environment variables of Michigan State University freshmen when categorized by type of residence hall. The null hypothesis was rejected at the .05 level of significance. A one-way MANOVA revealed significant differences between respondents on the Modeling for drinking, and Pressure for drinking measures when categorized by type of residence hall.

<u>Statistical Hypothesis 10:</u> There are no significant differences on the scores of perceived environment variables of Michigan State University freshmen when categorized by alcohol free room residency. The null hypothesis was rejected at the .05 level of significance. A one-way MANOVA revealed significant differences between respondents on the Modeling for drinking, Approval for drinking, Pressure for drinking and Controls measures when categorized by alcohol free room residency.

<u>Statistical Hypothesis 11:</u> There are no significant differences on the scores of perceived environment variables of Michigan State University freshmen when categorized by alcohol free floor residency. The null hypothesis was rejected at the .05 level of significance. A one-way MANOVA revealed significant differences between respondents on the Modeling for drinking, Approval for drinking, Pressure for drinking and Controls measures when categorized by alcohol free room residency.

<u>Statistical Hypothesis 12:</u> There are no significant differences on the scores of perceived environment variables of Michigan State University freshmen when categorized by residential academic program. The null hypothesis was rejected at the .05 level of significance. A one-way MANOVA revealed significant differences between respondents on the Modeling for drinking measure when categorized by enrollment in a residential academic program.

Statistical Hypotheses 13-16:

- 13. Problem drinkers will perceive *more* Roommate, Friends' and Resident Assistant Approval for Drinking than Non-drinkers and Non-problem drinkers.
- 14. Problem drinkers will perceive *more* Roommate, Friends' Modeling for Drinking than Non-drinkers and Non-problem drinkers.

- 15. Problem drinkers will perceive *more* Roommate and Friends' Pressure for Drinking than Non-drinkers and Non-problem drinkers.
- 16. Problem drinkers will perceive *less* Roommate, Friends and Resident Assistant Controls than Non-drinkers and Non-problem drinkers.

Statistical hypotheses 13-16 were accepted at the .05 level of significance. A one-

way MANOVA and post hoc Scheffe' multiple comparison tests supported the

directional hypotheses.

The third question tested the usefulness of Problem Behavior Theory in predicting

Problem drinking behavior. Three analyses were conducted using discriminant analysis and

multiple regression techniques. Each analysis used a different combination of drinking

classification groupings. In each analysis, using the perceived environment measures

resulted in a statistically significant improvement of predicting drinking classification

accuracy over chance. The results are summarized below:

<u>Analysis 1:</u> Predicting Non-drinker, Non-problem drinker and Problem drinker status. The overall classification rate was 65%, which was a statistically significant (z=6.00, p < .001) improvement of the 56% accuracy rate predicted by chance alone. Fifty-one percent of Problem drinkers were accurately classified.

<u>Analysis 2:</u> Predicting Non-problem drinker and Problem drinkers status. Non-drinkers and Non-problem drinkers were combined into one group. The overall classification rate was 76%, a statistically significant (z = 5.6, p < .001) improvement over the 62% accuracy rate predicted by chance alone. Forty-eight percent of Problem drinkers were accurately classified.

<u>Analysis 3:</u> Predicting Non-drinker and Problem drinker. A test of the theory to discriminate between the groups with most extreme scores (high versus low) on the perceived environment measures. The overall classification rate was 88.8 %, a statistically significant (z=17.8, p < .001) improvement over the 70% accuracy rate predicted by chance alone. Ninety-five percent of Problem drinkers were accurately classified.

<u>Analysis 4</u>: Predicting Negative Consequences. A test of a multiple regression model to predict the continuous measure of Negative Consequences using the perceived environment measures. Four measures contributed significantly to the model (Residence

Hall Modeling, Friends' and Roommate Models for drinking and Friends' Pressure for drinking) and 33 % of the variance in negative consequences was accounted for using the model.

<u>Analysis 5</u>: Predicting Times Drunk. A test of the multiple regression model to predict the continuous measure of Times Drunk using the perceived environment measures. Four measures contributed significantly to the model (Friends' Pressure for Drinking, Friends' Models for Drinking, Residence Hall Modeling, and Roommate Modeling for Drinking) and 10 % of the variance in negative consequences was accounted for using the model.

Chapter 5

SUMMARY, FINDINGS, CONCLUSIONS AND RECOMMENDATIONS Summary

The problem of this study was to examine the relationship between the perceived residence hall environment and problem drinking behavior among Michigan State University freshmen. Participants for this study were randomly selected from the 1996 freshman class who lived on campus and had not requested their name and address be restricted. Given the length and nature of the questionnaire, the sample size was set at 1800 to ensure an adequate numbers of respondents within the each drinking classifications.

An introductory letter was sent to all respondents during the fourth week of school informing them of the study and encouraging their participation. The eight page survey was sent to each respondent with a cover letter, a return postcard, a pencil and return envelope. After the initial mailing, respondents who had not returned their postcard were sent a second survey and cover letter again requesting their participation. Two weeks after the second mailing, a third mailing was sent to those respondents who had not returned their post card. A total of 1222 surveys were returned, representing a 68% return rate. Of those 1222 surveys returned, 1197 were complete and used for statistical purposes, with the data analyzed using the SPSSX Statistical Package for the Social

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Sciences.

Three primary research questions were formulated with 16 corresponding statistical hypotheses which were tested at the .05 level of significance. Statistical analyses included both descriptive and inferential statistics, utilizing t-tests, one-way ANOVA, one-way MANOVA, Scheffe'' post hoc multiple comparison tests, and discriminant analysis. The findings presented for each research question will be summarized in this section.

Drinking Classification and Demographic Variables

The purpose of Research Question 1 was to investigate the relationship between drinking classification and the demographic variables of gender, size of residence hall, type of residence hall, specialty housing option and residential academic program.

Gender

With regard to gender, there was a statistically significant difference in the percentage of males and females when categorized by drinking classification. Upon further inspection of the data, however, it is clear that the differences are quite small. This finding is similar to many others mentioned in the review of the literature (Engs & Hansen, 1990) suggesting that high percentages of both male and female freshman undergraduates drink and that a significant percentage of both genders engage in problem drinking. <u>Size and Type of Residence Hall.</u>

No significant differences were found for either size of residence hall or type of residence when respondents were categorized by size or type of residence hall. This finding suggest that these two variables were not associated with the drinking behavior of

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the respondents.

Alcohol Free Room.

Thirty-two percent of the respondents living in Alcohol Free Rooms were classified as Non-drinkers and only 10% were classified as Problem drinkers. Ninety percent of the respondents living in the Alcohol Free Room option fall under the umbrella of either Non-drinker or Non-problem drinker. Clearly, students who select the Alcohol Free Room option are much more likely to be Non-problem drinkers and less likely to be Problem drinkers. This finding may be useful to housing staff in determining the percentage of rooms occupied by students within each drinking classification.

When viewed from the perspective of drinking classification, 60% of the Nondrinkers and 7% of Problem drinkers live in Alcohol Free Rooms. The majority of the Non-drinkers included in this study chose the Alcohol Free Room option. This finding provides substantial evidence of the appeal of the Alcohol Free Room option for freshman students who do not consume alcohol. In this regard, the Alcohol Free Room option is an important element in the residence hall environment as part of the alcohol and other drug prevention program.

Alcohol Free Floors.

With regard to Alcohol Free Floors, 17% of the respondents living on Alcohol Free Floors were Non-drinkers compared to only 6% of respondents identifying themselves as Non-drinkers on the Non-alcohol Free floors. Twenty-nine percent of the respondents living on Alcohol Free Floors were Problem Drinkers compared to the 37 % living on Non-Alcohol Free Floors. Seventy-one percent of the respondents living on

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Alcohol Free Floors fall within the category of Non-drinker or Non-problem drinker compared to 62% living on Non-alcohol free floors. The drinking behavior of the student population residing on Alcohol Free Floors differs significantly from the drinking behavior of students living on Non-alcohol free floors. A student living in on an Alcohol Free Floor is more likely to be living with Non-drinkers and Non-problem drinkers and less likely to be living with Problem drinkers than a student living on a regular residence hall floor.

The Alcohol Free Floor appears to be a less appealing choice for Non-drinkers than the Alcohol Free Room Option as only 11% of the Non-drinkers chose to live on an Alcohol Free Floor. Drinking behavior may be less a factor for a student who chooses an Alcohol Free Floor than the student who chooses an Alcohol Free Room. Alcohol Free Floors are reputed to be quieter and cleaner so the choice of this option may be due to increased housing satisfaction more than drinking behavior. Regardless if the option is chosen by students due to their own drinking preference or for a quieter, cleaner living environment, they will be less exposed to fewer problem drinking models on the floor. Residential Academic Program

Eighteen percent of the respondents enrolled in residential academic programs identified themselves as Non-drinkers compared to 12% of respondents who identified themselves as Non-drinkers and were not enrolled in such a program. Twenty-two percent of the respondents enrolled in residential academic programs identified themselves as Problem drinkers compared to 32% of respondents not enrolled in such a program.

There appears to be an association between drinking behavior and enrollment within a residential academic program albeit a minor one. All residential academic

programs at MSU have an admissions policy allowing any student admitted to MSU to enroll in the programs on a first come, first serve basis. Thus, the drinking behavior of students enrolled in residential programs might well reflect the same characteristics as students not enrolled in such programs. However, two of the programs, James Madison College and Lyman Briggs School, have historically attracted students with superior academic credentials. The higher number of Non-drinkers and the fewer number of Problem drinkers within residential academic programs is a finding that is consistent with Jessor's premise that students who place a higher value on academic achievement are less likely to engage in problem drinking. Enrollment in a residential academic program is a variable Jessor (1973) would describe as part of the distal social environment and lacks a substantial relationship with variation in drinking behavior.

Perceived Environment Variables and Demographic Variables

There were two primary research hypotheses addressed by Research Question 2. The first research hypothesis examined the relationship between the perceived environment variables, Approval for drinking, Modeling for drinking, Pressure for drinking and Controls, and the demographic variables, gender, size and type of residence hall, specialty housing option and residential academic program. A one-way MANOVA revealed that there are significant differences between the measures on the perceived environment variables when respondents were categorized according to each of the demographic variables. Univariate tests were conducted for each combination of perceived environmental variable and demographic category to further examine the differences between the demographic grouping variables.

Gender

With regard to gender, male respondents perceived more Residence Hall Modeling for drinking, Friends' Approval for drinking, Friends' and Roommate Models for drinking, Friends' and Roommate Pressure for drinking than female respondents. Female respondents, however, perceived more Resident Assistant Approval for drinking, and Resident Assistant, Friends' and Roommate Controls. There were no statistically significant differences between males and females with regard to Roommate Approval for drinking. This finding suggests that the majority of male perceive more support for drinking within their living units than female respondents. Male residence hall floors can be characterized as more supportive of drinking through more approval, modeling and pressure to drink and less controls within the environment against problem drinking. <u>Size of Residence Hall</u>.

Respondents living in large halls perceived more Roommate modeling and Roommate pressure for drinking than respondents living in small halls. Respondents living in medium size halls perceive more Resident Assistant Control than respondents living in large halls. No significant differences were found for Residence Hall Modeling, any of the Approval for Drinking variables or Friends' and Roommate Controls. The size of the residence hall seems to make little difference in students' overall perceptions of the residence hall environment. The size of the residence hall building may be too "distal" a variable in relation to the respondent to be of much practical significance with regard to either drinking behavior or perception of the environment. With regard to the differences in perception of Roommate Modeling and Pressure, the roommate relationship may be of

more importance to students living in the large halls.

Type of Residence Hall.

When respondents were categorized by type of residence hall, a one-way ANOVA revealed that freshman students perceive less modeling and less pressure for drinking within all freshman living units than freshman who are assigned with upper class students. No other differences were found on the other measures between the different types of halls. Thus, there does not seem to be much difference in the way students' perceive the residence hall environment within the different types of halls.

Alcohol Free Room.

Statistically significant differences were found between respondents living in Alcohol Free Rooms and Non-alcohol Free rooms on nine of the eleven perceived environment variables including all of the Modeling for drinking variables, Approval for drinking variables, Roommate Pressure for drinking and both Controls measures. This finding provides strong support that students residing in Alcohol Free Rooms perceive less approval, modeling, and pressure for drinking and more controls against problem behavior within their living unit. Respondents living in Alcohol Free Rooms also perceive less overall residence hall modeling for drinking suggesting that the drinking environment within a student's room may be linked to his or her perception of the total environment. <u>Alcohol Free Floor.</u>

Statistically significant differences were found on five of the eleven variables when respondents were categorized by Alcohol Free Floor residency. Again, there were significant differences between the two groups with regard to all of the Modeling and

Pressure variables. Respondents living on an Alcohol Free Floor perceived less overall residence hall modeling for drinking suggesting that floor drinking environment may also be linked to the perception of the drinking climate within the entire hall. There were no differences between the groups with regard to the Approval variables. This finding suggests that the floor environment is different from other residence hall floors in terms of the amounts of drinking models present on the floor and the amount of pressure for drinking exerted on the floor. The lack of significant differences on the Approval for drinking and the Controls variables between Alcohol Free Floor residents and those not living on such a floor do not differ in their attitudes towards drinking or their attitudes toward problem behavior. Many students may choose this option to avoid an environment in which there is more drinking and pressure for drinking and not because of their personal beliefs about alcohol use.

Residential Academic Program.

Significant differences were found between respondents enrolled in a residential academic program and those who were not enrolled in such a program on only one variable, Models for Drinking. This finding suggests that students enrolled in residential academic programs perceive fewer models for drinking within their floor environment. Perceived Environment Variables and Drinking Classification

The second research hypothesis explored the differences between the scores on the perceived environment variables when respondents were categorized by drinking classification of Non-drinker, Non-problem drinker and Problem drinker. The four corresponding statistical hypotheses were directional and postulated that Problem drinkers

would score higher than Non-problem drinkers and Non-drinkers on the Modeling, Approval, and Pressure variables and they would score less on the Controls variables. A one-way ANOVA supported all of the directional hypotheses except for Resident Assistant Approval for drinking with Problem drinkers perceiving less Resident Assistant Approval for drinking than either Non-drinker or Non-problem drinkers.

These results support the relationship between the perceived environment and drinking behavior postulated by Jessor in Problem Behavior Theory. The connection of the social environment- especially the social environment within the residence hall-with problem drinking among college students is supported. Jessor (1973) describes "environmental proneness" for problem drinking as an environment characterized by greater perceived approval for drinking, greater perceived modeling for drinking, greater perceived pressure for drinking and less perceived controls against problem behavior. The Problem drinkers included in this study clearly perceive their residence hall environment as possessing the attributes listed above.

There were no significant differences on two of the perceived environment variables tested, Resident Assistant Control and Friends' Pressure for drinking. No variation on scores was found on the perception of Resident Assistant Control for any of the analyses. The researcher hypothesizes that disapproval or discouragement of problem behavior from the RA is not perceived in the same manner as disapproval or discouragement of problem behavior from either friends or a roommate. Perhaps the opinion of the RA is not as meaningful to the perceiver and therefore does not serve as a control against problem behavior. The enforcement role of RAs may preclude the perceiver from attaching meaning to the RA's opinion in the same way they would to a friend or roommate. The lack of association between perception of RA control and drinking behavior within the residence hall suggests that drinking behavior is more associated with the social influence of friends on the floor and roommate than with the institutional relationship of staff to student. The timing of this study may be factor in this finding. Students' relationship with the Resident Assistant may change over time. It is possible that the relationship was not as well established within the first six weeks of school as the friends' on the floor chosen by the respondent. Additionally, within the first six weeks of school, disciplinary consequences for problem behavior may not be clear to students and the social control function of the RA not yet established. Friends' Pressure for drinking was also a variable for which no significant differences were found between drinking groups. The pressure variable must be interpreted cautiously. The mean scores on this variable are quite low indicating a very small amount of pressure was perceived. Overwhelmingly, students responded that they almost never or very infrequently experienced pressure to drink from friends or roommate. The researcher hypothesizes most students do not experience overt pressure for drinking; that is, no one forces them to drink.

Overall, these findings support the hypothesis that peer influence is associated with drinking behavior within the perceived residence hall environment. More specifically, two sources of peer influence in the residence hall environment can be more clearly identified; friends on the floor and roommate. Thus, the perception of friends on the floor and roommate approval, modeling, and pressure for drinking are significantly related to

drinking behavior.

The purpose of Research Question 3 was to test the usefulness of Problem Behavior Theory to predict drinking classification utilizing discriminant analysis. Three separate analyses were conducted using three different drinking classifications. The first analysis was conducted to predict membership in the three original drinking classifications of Non-drinker, Non-problem drinker and Problem drinker discussed at the beginning of this chapter. The classification rate of 65% for this analysis was significantly better than chance although only 51.5 % of Problem drinkers were accurately predicted. Using the second analysis, which combined Non-drinkers and Non-problem drinkers into one single group, the drinking classification accuracy was slightly reduced to 62% with 89.8% of Non-problem and 48% of Problem drinkers accurately classified. The third analysis tested the ability of the perceived environment variables to discriminate between the two extremes groups, Non-drinkers and Non-problem drinkers. The classification rate was significantly improved to a 88.8% with 95.4% of Problem drinkers accurately classified.

For all three analyses, the Modeling variables made the most significant contribution to the prediction of problem drinking. Similarly, Jessor's identified Friends' Models for problem behavior as the most significant perceived environment variable for both college men and women in the prediction of problem drinking (Jessor, 1991). Modeling as a form of social influence that increases alcohol consumption is well supported by these findings. The perception that an individual's friends use alcohol is significantly related to current and future alcohol use (Bergen & Olsen, 1963, Castro, et al., 1987; Chassin et al., 1981). For college students, the perception of the overall number

of students using alcohol within the hall as well as both friends on the floor and roommate's use of alcohol is a factor in predicting alcohol use. The prevalence of models provides the opportunity to learn how to engage in the behavior, access to alcohol, evidence that the drinking can occur and that social control against the drinking is minimal.

One purpose of this study was to test the usefulness of Problem Behavior Theory in predicting problem drinking using perceived environment variables within the residence hall environment. The results of the predictive analyses confirmed the usefulness of utilizing the perceived environment measures within the residence hall context to predict drinking behavior. Modeling for drinking within the hall was the primary factor in discriminating between drinking groups. The variables of Approval for drinking, Pressure for drinking and Controls were also significant factors in discriminating between the drinking groups although to a lesser extent than the modeling variables. It may be concluded from these analyses that the more modeling for drinking a student perceives in his or her living environment the more likely he or she is to engage in problem drinking.

Controls against problem behavior, however, were also a significant factor within the environment. The perception that others, either friends on the floor or roommate, hold relatively strict standards for behavior and would disapprove of problem behavior, seems to mitigate against the engagement in problem behavior. As suggested by Jessor (1977), the perceived environment consists of "patterns" that are either more or less conducive to problem behavior. A student living on a residence hall floor characterized by high approval for drinking, frequent modeling of drinking, and less controls against problem behavior may be residing in an environment that provides greater proneness to problem behavior.

Two multiple regression analyses revealed that certain perceived environment variables useful in predicting two continuous measures of Negative Consequences and Times Drunk. The perceived environment variables of Residence Hall Modeling, Friends' and Roommate Modeling for drinking and Friends' Pressure for Drinking entered the regression model to predict Negative Consequences and accounted for almost 33% of the variance among students in the frequency of negative consequences they experienced. This is strong support that peer modeling within the residence hall environment is related to students' engaging in alcohol-related problem behavior. A second analysis was conducted to predict the number of times students' reported they had been drunk since the beginning of school. The model generated from this analysis revealed that the variables of Residence Hall Modeling, Friends' Approval and Modeling for drinking and Roommate Pressure drinking may be related to frequency of drunkenness. The model accounted, however, for only 10 % of the variance among students reported frequency for drunkenness. The researcher speculates that the Times Drunk measure was not as reliable a measure as the Negative Consequences Scale because it was generated from rank order data rather than continuous data thereby affecting the regression equation.

Implications for practice

The most important implication of this study is that students' perceptions of the residence hall environment appear to be related to their drinking behavior. The residence hall environment seems to present a source of social influence that affects drinking

behavior. Ideally, practitioners responsible for either housing programs or management of alcohol and other drug programs will find the findings of this study useful in their design of programmatic interventions. The vast majority of students included in this study consume alcohol on a regular basis. Thus, there exists strong evidence that the norms of this sample of college freshmen support at least some alcohol use. It is essential that administrators acknowledge the reality of alcohol use among freshman students entering the institution; the likelihood that many students will increase their drinking after arriving on campus and that student alcohol use is related to social influences within the collegiate living environment. Clearly, one of the most important interventions is the offering of both alcohol free room and alcohol free floor options for students. If these options continue to be chosen by future students in the same or increasing proportions, it is very probable students will perceive much less approval, modeling, and pressure for drinking in their immediate living environment.

The degree to which a student is located in a living context where problem behavior is prevalent and where there is social support for its occurrence will continue to present administrators with a complex challenge. According to Problem Behavior Theory, to offset a perceived environment supportive of problem alcohol use an individual would require strong "personality controls" or the perception of strong social controls within the environment. Given the findings of this study, it is difficult to say whether the Resident Assistant could be the source of strong social control.

Given the pervasive nature of student drinking, messages of abstinence ("Just Say No") may not be useful. Rather, students may benefit from a well-defined definition of

responsible drinking that focuses upon the avoidance of negative consequences. Framing alcohol use within the broader context of healthy behavior may be a promising approach. Martin and Hoffman (1993) promote the use of the Health Belief Model which includes five predictors of health protective behaviors including a). perceived susceptibility; b) perceived severity of consequences; c) perceived benefits of change; d) perceived barriers to change; and e) perceived self-efficacy. The Health Belief Model provides an explanation as to the reasons individuals engage in health-risking activities. Students may not be fully knowledgeable of the potential negative consequences of abusive drinking nor appreciate the benefits of responsible alcohol use; they may not understand their own motivations for abusing alcohol or realistically assess their ability to change their behavior. For students, peer influence and acceptance within the college culture may be very difficult barriers to changing drinking behavior. Utilizing the Health Belief Model, programmatic interventions could assist students in understanding the potential negative consequences of alcohol abuse as well as identifying ways to resist environmental pressures.

The lack of significance of the Resident Assistant in influencing drinking has implications for RA training in the area of alcohol education. The freshman students in this study were not significantly influenced by their RA's approval-disapproval of problem behavior with regard to their alcohol use. It is possible that the RA's approvaldisapproval of problem behavior is important in other ways such as in discouraging rule violations. Nevertheless, it clear that the RA does not serve as a control agent for students in terms of drinking behavior. In addressing student drinking behavior, the role of the RA will have to be conceptualized differently than as a source of disapproval

against problem drinking. Research into how normative behavior can be influenced by an external agent of control may be useful.

The role of the roommate upon drinking behavior must be considered. While it is neither feasible nor ethical to assign students based upon drinking classification, facilitating discussions about roommate alcohol use could occur with students upon their arrival to campus.

This study focused on the perceived environment and asked students to report their perceptions about the drinking behavior of their peers. It did not include external measures of the environment to check the accuracy of students' perceptions of their peers' behavior. Other researchers have attempted to measure students' peer environments more objectively (Kandel, et al., 1980). For example, a researcher can check the accuracy of a respondent's perceptions of his or her friends' alcohol use by gathering data directly from the respondent's friends and comparing it to the data provided by the respondent. Although these measures may provide a more reliable estimate of the actual amount of peer alcohol use to which the student is exposed, this objective reality may not be what the student experiences in their environment. Berkowitz (1990) states that it may be more important for practitioners to understand the nature of peer influence as witnessed through the eyes of the student. That is, what the student perceives to be true may be more important than the reality of peer norms.

In that a student's perceptions of peer alcohol use appear to be related to his or her own use, practitioners may seek ways in which to influence students' perceptions of peer alcohol use within the collegiate environment. Berkowitz (1990) suggests that

educational experiences can play an important role in affecting student's perceptions and that it may be possible to "resocialize" students through educational efforts to examine more closely the social contexts in which their peers talk about and use alcohol and other drugs.

The results of this research clearly indicate that peer modeling and approval of use are salient predictors of college student alcohol use. This finding confirms the need to continue to focus prevention efforts on not only the ways in which students' perceive their peers but also the ways to reduce conformity to peer norms of irresponsible alcohol use. <u>Limitations</u>

Problem Behavior Theory utilizes three systems: 1) personality system, 2) perceived environment system and 3) behavior system to explain problem behavior. The primary limitation of this research is that only the measures of the perceived environment system and behavior system measures from Problem Behavior were tested. A study employing the personality system as well as the other measures would account for more variation among the different drinking groups and perhaps offer an improved classification rate for problem drinkers. According to Jessor (1991, p. 601), an account of problem drinking must include "multiple explanatory domains as well as their interactions."

Jessor's 1981 Young Adult Survey had several limitations. Many of the measures were not continuous, and therefore, were difficult to use in the statistical analyses. Additionally, the inclusion of the pressure variable within the modeling scale actually decreased the reliability of the measure. It is the opinion of this researcher that modeling for drinking and pressure for drinking are two distinct concepts and should not be combined into an overall modeling measure. In addition, the negative consequences included in the survey could be more complete. While the list is quite inclusive, additional items more reflective of the consequences experienced by women (unwanted pregnancy or sexual assault) would make it more comprehensive. Additionally, the items used from the Young Adult Questionnaire were modified to ask specifically about relationships within the residence hall context. The researcher maintains that increasing specificity would not decrease the validity of the items because the questions may be more clearly understood by the respondent.

The study was conducted in the first six of weeks of the school year in order to control for students' self selection of living environments based upon drinking preferences. It is possible that at the beginning of the school year students are more likely to experiment with new behaviors to help them cope with feelings of anxiety, respond to pressure to fit in with new acquaintances, or to combat feelings of loneliness or isolation. Data collected at a different time of year may reveal a decrease in frequency of drunkenness or negative consequences as students learn to avoid either becoming intoxicated or experiencing negative consequences when they drink.

In using discriminant analysis, it is recommended to use an external analysis on a different sample to test the classification results generated in this study. This study was limited to an internal analysis in which the classification rule was derived from the same data used to generate the classification table. This may be problematic in that an internal analysis may rely on variations specific to the sample and may not be generalizable to other samples. According to Huberty et al. (1989, p. 161), "an internal analysis may be

acceptable if the total number of cases is large; large defined by the current authors as a data set in which the smallest group size is five times the number of predictor variables." With the use of six predictor variables, the minimum number of respondents per group needed was 30; which this sample clearly exceeded. Therefore, while an external analysis would provide additional information, the results of this internal analysis should be considered satisfactory.

Recommendations for future research

Further research utilizing the personality system as well as the perceived environment system is needed. Drinking behavior among college students is clearly a function of the complex interplay of both individual personality traits as well characteristics of the perceived residence hall environment. Additional research in this area would assist in identifying which personality variables are implicated in college student drinking and which personality and perceived environment variables combine to best predict college student problem drinking.

One of the few factors within the residence hall that can be controlled by the institution is the role of the undergraduate staff member. Resident Assistants spend an enormous amount of time enforcing alcohol policies on their floors. This finding provided minimal support for the role of the RA in affecting drinking behavior through either of the two RA variables; RA Approval for drinking or Control. Research specifically designed to determine the relationship between RA enforcement of alcohol policies with drinking behavior may be of interest.

While Jessor has used Problem Behavior Theory to examine cross-sectional data,

he recommends longitudinal studies to measure change in drinking patterns over time. Collecting data from students who remain in the same living units through out an academic year could provide valuable insight into how drinking behavior changes over time and as well as allow for comparisons across living units at different points in time.

Problem Behavior Theory was useful in not only predicting problem drinking but also in predicting Non-drinking and Non-problem drinking as well. Research might focus on the factors predicting these drinking classifications as opposed to problem drinking. The theory seemed most useful in predicting the extremes of drinking behavior, either non-drinking or problem drinking. The perceived environment variables were not as useful in predicting students who fall in the middle group of non-problem drinking. Future research is needed to more accurately understand the differences between all three groups. By incorporating additional variables from both the personality and behavioral system of Jessor's theory it may be possible to better predict the non-drinkers and non-problem drinkers. Both the personality system and behavior system contain measures that reflect controls against a student's engagement in problem behavior. Identifying these controls may be beneficial to administrators in understanding why some students engage in problem drinking while others do not.

APPENDIX A

APPENDIX A

RESIDENCE HALL SURVEY

IT ONLY TAKES 10 MINUTES TO COMPLETE!

After completing the survey, place it in the return envelope. Fill out the postcard. Take the survey and the postcard to your hall reception desk and ask them to place both in campus mail. Please return the survey right away so I can enter you into the drawing for the gift certificate to the MSU bookstore.

Thank you ver	ry much!
---------------	----------

A. YOUR RESIDENCE HALL

This section has to do with the students you know in your residence hall.

FILL IN THE CIRCLE		All of Them	Most of Them	Several	1-2	None
1.	About how many of the students you know in your residence hall drink alcohol at least sometimes?	ο	ο	ο	0	ο
2.	As far as you know, about how many students on YOUR floor drink alcohol at least sometimes?	ο	ο	ο	ο	ο
3.	About how many of the students you hang around with drink alcohol at least sometimes?	ο	ο	ο	ο	ο
4.	About how many of your close friends drink alcohol at least sometimes?	0	ο	ο	0	0

B. FRIENDS ON YOUR FLOOR

This section has to do with your FRIENDS who live on your residence hall floor.

5.	How do most of the peo	ople you are close to or	n your floor feel about dri	inking?
	O They Approve	O They Don'	L Care O 1	ihey Disapprove
6.	Do you have any friends	s on the floor who do n	ot drink at all?	
	O None O	One or Two O	Several O Most	O All
7.	Do you have any friends	s on the floor who drink	fairly regularly, once a w	reek or more?
	O None O C	Dine or Two O	Several O Most	O All
8.	How much do your frien	ids on your floor drink o	at a single sitting?	
	• They don't Drink	One or Two Drinks	• Three or Four Drinks	O Five or More Drinks
9.	Have any of your friends	s on your floor tried to	get you to drink or to dr	ink more than you really want to?
	O Never	O Once or Twice	O Several Times	O Very Often

	0	Definitely Would	0	Probably Would		 Probably Would Not 		0	Definitely Would No	ot	
11.	lf y flo	you actually do somet or?	hing ma	ost people would think	of as	wrong, what so	ort of	reaction	n do you	get from your friends on your	
	0	Show Strong Disapproval	ο	Show Moderate Disapproval	0	Show a Little Disapproval	O [)on't Re t All	eact (Show Some Approval	
). N	CUF	ROOMMATE									
íhis	sect	ion has to do with yo	ur room	imate. CIRCLE YOUR	ANSW	ER					
12.	Ho	w does your roomma	te feel o	bout drinking?							
	S/	he Approves		S/he Doesn't Care	!	S/	he Dis	approve	es		
13.	Do	es your roommate dr	nk?								
	Ye	s No									
4.	lf y	your roommate does	drink, al	cout how much does s	/he d	rink in a single	e sittin	g?			
	S/ Dri	He doesn't ink	One Dri	eorTwo nks	Thre Drin	e or Four ks	Five Drink	or more s	2		
5.	Ha	s your roommate trie	d to get	you to drink or to drin	nk mo	re than you re	ally wo	ont to?			
	Ne	ver		Once or Twice		Several Times	۷	ery Ofte	n		
16.	lf y no	you were going to do t to?	someth	ing illegal or that most	peop	le think of as t	wrong,	would	your roor	nmate try to influence you	
	De ₩o	finitely ould		Probably Would		Probably Would Not			C o	Definitely Juld Not	
7.	lf	you actually do some	hing ma	ost people would think	of as	wrong, what so	ort of	reaction	n do you	get from your roommate?	
	Sh Dis	ow Strong sapproval	Show M Disappro	oderate oval	Sho Disa	w a Little pproval	Don't at All	React			
). `	rouf	R RESIDENT ASSISTANT									

Definitely Would

Probably Would

Probably Would Not Definitely Would Not 19. If you actually do something most people would think of as wrong, what sort of reaction do you get from your Resident Assistant?

	Show Strong Disapproval	Show Moderate Disapproval	Show a Little Disapproval	Don't React at All	Show Some Approval			
20.	How does your Resider	nt Assistants feel about drinking	2					
	S/he Approves	S/he Doesn't Care S/	he Disapproves I					
21.	. Does your Resident Assistant enforce the alcohol policies on your floor?							
	Never	Some of the Time	All of the Time					
E. (RINKING							

This section is about alcohol use. CIRCLE YOU ANSWER

22. Have you ever had a drink of beer, wine, or liquor (not just a sip or a taste of someone else's drink)?

Yes

If "No", please go on to Question 50.

No

23. How long has it been since you last had a drink of beer, wine or liquor?

A Week or Less More Than a Week, Less Than a Month More than a Month, Less than 6 Months

No

More than 6 Months, but less than 2 years 2 Years or More

24. Have you had a drink of beer, wine, or liquor more than two or three times in your life? If no, please to to Question 50.

Yes

If you have not had a drink since you came to MSU, please go on to Question 50.

THE FOLLOWING QUESTIONS PERTAIN TO YOUR DRINKING AFTER ARRIVING AT MSU:

25. Have you had a drink of beer since you came to MSU this fall?

Yes No (If "No", go to Question 30).

26. On how many days have you had a drink of beer?

_____ Days

27. On how many of those days that you drank beer, did you drink beer at two or more different times during the day (for instance, in the afternoon, then again in the evening?)

_____ Days

 Think about those times you've drunk beer while at MSU. About how many cans or bottles of beer did you usually drink at any one sitting? (A regular can or bottle contains 11 or 12 ounces).

11 or More Cans or Bottles (about 2 Six Packs)	3 Cans or Bottles
8 to 10 Cans or Bottles (about 1 1/2 Six Packs)	2 Cans or Bottles
5 to 7 Cans or Bottles (about 1 Six Pack)	1 Can or Bottle
4 Cans or Bottles	Half a Can or Bottle

29. What is the greatest amount of beer that you've had at a single sitting since you came to MSU?

11 or More Cans or Bottles (about 2 Six Packs)	3 Cans or Bottles
8 to 10 Cans or Bottles (about 1/2 Six Packs)	2 Cans or Bottles
5 to 7 Cans or Bottles (about 1 Six Pack)	1 Can or Bottle
4 Cans or Bottles	Half a Can or Bottle

30. Have you had drink of wine since you came to MSU?

Yes No (If "No", go on to Question 35).

31. On how many days did you have a drink of wine?

_____ Days

32. On how many of those days that you drank wine, did you drink wine at two or more different times during the day (for instance, in the afternoon, then again in the evening?)

...... Days

33. If you think about those times that you've drunk wine, about how many glasses of wine did you usually drink at any one sitting? (Wine glasses are usually 3 or 4 ounces.)

9 or More Glasses	4 Glasses	1 Glass
6 to 8 Glasses	3 Glasses	Half a Glass
5 Glass es	2 Glasses	

34. What is the greatest amount of wine that you've had at a single sitting since you came to MSU?

9 or More Glasses	4 Glasses	1 Glass
6 to 8 Glasses	3 Glasses	Half a Glass
5 Glasses	2 Glasses	

35. Have you had drink of liquor (distilled spirits) since you came to MSU?

Yes No (If "No", go on to Question 40).

36. On how many days have you had a drink of liquor?

_____ Days

37. On how many of those days that you drank liquor, did you drink liquor at two or more different times during the day (for instance, in the afternoon, then again in the evening?)

_____ Days

38. If you think about those times you have drunk liquor, about how many drinks did you usually have at any one sitting? (A drink usually contains about 1/2 ounces of liquor, or one "shot").

8 or More Drinks	5 Drinks	2 Drinks
7 Drinks	4 Drinks	1 Drink
6 Drinks	3 Drinks	Half a Drink

39. What is the greatest amount of liquor that you've had at a single sitting since you came to MSU?

8 or More Drinks	5 Drinks	2 Drinks
7 Drinks	4 Drinks	1 Drink
6 Drinks	3 Drinks	Half a Drink

40. Since you came to MSU, about how many times have you: <u>Place a 🖌 next to your answer</u>.

		Never	1–2 Times	3-4 Times	5-6 Times	7-9 Times	10–14 Times	15–19 Times	20+ Times	
	 a. Had five or more drinks at a single sitting, either of beer, wine, liquor, or some combination of these? 									
	 Felt a little high or light headed after drinking? 									
	c. Gotten Drunk?	<u> </u>					<u></u>			
	d. Had a hangover (headache or nausea) morning after you had been drinking?									
	e. Had a drink first thing in the morning as you woke up?									
	f. Continued your drinking over a period of several days?						<u> </u>		<u> </u>	
	g. Had some difficulty in remembering what you had done while drinking the night before?									
41.	How much of your drinking takes place on Thursday evenings?									
	All of It Most of It	Half of It	5	Some of It	None of	t				
42.	How much of your drinking takes place from	How much of your drinking takes place from Friday evening through Sunday night?								
	All of It Most of It	Half of It	9	Some of It	None of	t				
43.	How much of your drinking do you do when	n you are alor	ne?							
	All of It Most of It	Half of It	S	Some of It	None of	t				

44. For each reason listed below, please check the column that shows how important that reason is for your own drinking:

-	Very Important	Pretty Important	Not Too Important	Not Important at All
a. Makes get-togethers more fun.				
 b. Helps me get my mind off my problems. 				
 Because you're expected to drink at most social gatherings. 				
d. Adds to the pleasure of a good meal.				
e. It makes me feel less tense in social situations.				
f. Just adds to the good feeling at a party.				
g. Helps me forget I'm not the kind of person I'd like to be.				
h. Because most people my age drink.	<u> </u>			
i. When there are too many pressures on me.				

45. Since you came to MSU, has your drinking:

Increased Decreased Stayed the Same

46. The next questions focus on things that might have happened in relation to your drinking since you came to MSU.

SINCE YOU CAME TO MSU:	Never	Once	2-3 Times	4-5 Times	6 or More Times
a. How many times have you been criticized by your friends because of your drinking?					
b. How many times have you missed class because of your drinking?					
c. How often have you had difficulties with your roommate because of your drinking?					
d. How often have people told you that your drinking was creating problems at school?					
e. How often have you gotten into trouble with the police or been arrested because of something having to do with your drinking?					

SI	NCE YOU CAME TO MSU:			Never	Once	2-3 Times	4-5 Times	6 or More Times
f.	Have you had any ac have been due to yo	cidents at scho ur drinking?	col that may					
g.	How many times hav good bit to drink?	e you driven wh	ien you've had a					
h.	How many times hav expressed concern a	e your friends, bout your drinki	roommate or RA ing?					
i.	How many times hav property that did not been drinking?	e you damaged : belong to you	public or private after you had					
j.	How often have you public place (includir had a good bit to dr	been loud or di 1g your residenc 1nk?	sorderly in a ce hall) after you					
k.	How many times hav match with a strange	e you started a er after you hac	fight or a shoving d a good bit to drink?					
١.	How often have you a member of the Re ("written up") becau: with your drinking?	gotten into trou sidence Life sta se of something	ible with ff or been documente j having to do	d				
lf	you think about your d	rinking since yo	u came to MSU, has	alcohol been a help	or a probl	em for you?		
11' 11' 11'	s Been a Great Help s Been Some Help s Been No Problem at	All	lt's Been a Mild Pr lt's Been a Moderc lt's Been a Serious	oblem te Problem ; Problem				
Ho ef	as your doctor ever suc fect on your health?	gested that you	u cut down on your d	inking or stop drinki	ng altoget	her because	it was havin	ig an adverse
No	o Yes							
	"Yes" what was he/sh	e concerned ah	iout?					

Yes No

If "Yes", what were your main reasons for stopping?__

APPENDIX B

APPENDIX B

INTRODUCTORY LETTER

UCRIMS APPROVAL FOR THIS project EXPIRES:

AUG 1 6 1996

and must be renewed within 11 months to continue.

September 25, 1995

Student Name Address City State

Dear Student:

I am a doctoral student working to complete my degree in Higher Adult and Lifelong Education. I am conducting a study to complete my dissertation and I would like to request your assistance. Your name was randomly selected from those Michigan State University 1995-96 freshmen who live in a campus residence hall to participate in my study.

In the past few years, there has been a lot of discussion about college student drinking on campus and I have chosen this topic for my study. I would like to ask you to complete the questionnaire when it arrives. It will take less than 10 minutes.

Students who have completed this questionnaire have found it to be enjoyable as it gave them an opportunity to reflect on their alcohol use and relationships with the other students on their residence hall floor. I am hopeful you will also find it an opportunity to gain additional insight into your freshmen year experience.

Within a week, you will receive a letter and questionnaire from me. Your response is extremely important since only a small but representative percentage of the freshmen class members have been selected to participate in this study.

I will greatly appreciate your completing the questionnaire and returning it promptly. Thank you.

Sincerely,

J. Ann Hower Graduate Student APPENDIX C

APPENDIX C

FIRST LETTER OF TRANSMITTAL

October 2, 1995

Student Name Student Address City State

Dear Student:

During the week of September 25th, you received a letter from me regarding a study I am conducting to complete my doctoral dissertation. You have been randomly selected from the MSU freshmen class 1995-96 to participate in this study I am conducting regarding the relationship between the residence hall living environment and alcohol consumption patterns of freshmen students at MSU. Your participation is very important as I will analyze the results and use the analysis as the basis of my doctoral dissertation. Students who have completed this questionnaire have found it to be enjoyable as it gave them an opportunity to reflect on their alcohol use and relationships with the other students on their residence hall floor. I am hopeful you will also find it an opportunity to gain additional insight into your freshmen year experience.

I know this is a very busy time in the semester, if you will take one 15 minute break to complete the enclosed survey and post card, it would be greatly appreciated!!!

In order that the results will truly represent the views and experiences of the freshmen student, it is important that you complete and return the questionnaire. Your input is especially valuable as the accuracy of the results increases with the number of individuals who respond.

You may be assured of complete anonymity. There is no way I can identify you from the questionnaire you return. Instead, I ask that you print your name and student number on the enclosed post card and mail it back separately so that I may remove your name from my mailing list. Only the questionnaire should be returned in the postage paid envelope. Mail the sealed envelope and post card by Friday, October 9, 1995.

If you return you survey by October 9, 1995, your return post card will be entered into a drawing for \$100.00 gift certificate at the MSU bookstore! The winner will be notified by mail by October 16, 1995.

You indicate your voluntary agreement to participate by completing and returning this questionnaire. Participation in the survey is voluntary and there will be no penalty for not responding. All results will be treated with strict confidence and all respondents will remain anonymous in any report of research findings. You may receive a copy of the results of this research (with these restrictions) "copy of the results" on the back of the return post card and printing your name and address below it.

I would be most happy to answer any questions you might have. The telephone number is 339-4768.

Thank you so much for your assistance.

J. Ann Hower Graduate Student APPENDIX D

APPENDIX D

SECOND LETTER OF TRANSMITTAL

October 16, 1995

Student Name Student Address City State

Dear Student:

A couple of weeks ago, I wrote to you seeking your assistance with a survey regarding college student drinking at MSU. If you have already returned your complete questionnaire, please disregard this letter. Thank you very much!

If you have not completed the questionnaire, may I urge you to do so? Your participation in the study is very important; every student has an unique insight to share.

I am writing to you again because each questionnaire is important to the study. In order for the results to be truly representative of freshmen students at MSU, it is essential that each person in the sample return the questionnaire. As I mentioned in my last letter, you may be assured of complete anonymity.

If you return your questionnaire by October 23, 1995, your return postcard will be entered into a drawing for \$50.00 gift certificate at the MSU bookstore! The winner will be notified by October 30, 1995.

You indicate your voluntary agreement to participate by completing and returning this questionnaire. Participation in the survey is voluntary and there will be no penalty for not responding. All results will be treated with strict confidence and all respondents will remain anonymous in any report of research findings. You may receive a copy of the results of this research (with these restrictions) "copy of the results" on the back of the return post card and printing your name and address below it.

In the event that your questionnaire was misplaced, a replacement is enclosed. Once again, please return the questionnaire in the postage paid envelope. Please return the postcard separately. If you have any questions about the purpose of the survey, please contact me 339-4768.

Please mail the complete questionnaire and postcard by October 23, 1995. Thank you very much.

Sincerely,

J. Ann Hower Graduate Student APPENDIX E

APPENDIX E

THIRD LETTER OF TRANSMITTAL

UCRIHS APPROVAL FOR THIS project EXPIRES:

AUG 1 6 1996

October 30, 1995

and must be renewed within 11 months to continue.

Dear name (hand written):

.

In the middle of September, I wrote to you about a study I am conducting to complete my dissertation on college student drinking at MSU. I need your questionnaire!

Enclosed is another questionnaire, postage paid post card and return envelope. Please complete the survey and mail it TODAY! Your assistance would be greatly appreciated.

Sincerely,

J. A. Hower Graduate Student APPENDIX F

.

APPENDIX F

RETURN POSTCARD

1

FRONT:

J.A. Hower 5967 Village Dr. Haslett, MI 48840 First Class Postage Stamp

Student Name Address City State Zip

Back:

October 25, 1995

It's not too late.....to return your questionnaire!

If you have already completed and returned you survey, please accept my sincere thanks! If not, please do so today. YOUR response is extremely important to the outcome of this study.

COMPLETE THIS SURVEY FOR A CHANCE TO WIN A \$25.00 GIFT CERTIFICATE TO THE MSU BOOKSTORE!!!!

You indicate your voluntary agreement to participate by completing and returning this questionnaire. Participation in the survey is voluntary and there will be no penalty for not responding. All results will be treated with strict confidence and all respondents will remain anonymous in any report of research findings. You may receive a copy of the results of this research (with these restrictions) "copy of the results" on the back of the return post card and printing your name and address below it.

If by some chance you did not receive a questionnaire, or it has been misplace, please call me at 339-4768 and I will gladly send you a new questionnaire today.

Sincerely,

J. Ann Hower Graduate Student
APPENDIX G

APPENDIX G

LETTER OF APPROVAL FOR STUDY

MICHIGAN STATE

UNIVERSIT

August 16, 1995

Julia A. Hower 5967 Village Dr. Haslett, MI 48840 TO:

IRB#: RE: TITLE:

A STUDY OF THE RELATIONSHIP BETWEEN COLLEGE STUDENT'S PERCEPTION OF SELECTED VARIABLES WITHIN THE RESIDENCE HALL ENVIRONMENT AND COLLEGE STUDENT DRINKING BEHAVIOR N/A 1-C **REVISION REQUESTED:** CATEGORY: APPROVAL DATE: 08/16/95

The University Committee on Research Involving Human Subjects'(UCRIHS) review of this project is complete. I am pleased to advise that the rights and welfare of the human subjects appear to be adequately protected and methods to obtain informed consent are appropriate. Therefore, the UCRIHS approved this project and any revisions listed above.

95-433

- UCRIHS approval is valid for one calendar year, beginning with the approval date shown above. Investigators planning to continue a project beyond one year must use the green renewal form (enclosed with the original approval letter or when a project is renewed) to seek updated certification. There is a maximum of four such expedited renewals possible. Investigators wishing to continue a project beyond that time need to submit it again for complete review. RENEWAL:
- **REVISIONS:** UCRIHS must review any changes in procedures involving human subjects, prior to initiation of the change. If this is done at the time of renewal, please use the green renewal form. To revise an approved protocol at any other time during the year, send your written request to the UCRIHS Chair, requesting revised approval and referencing the project's IRB # and title. Include in your request a description of the change and any revised instruments, consent forms or advertisements that are applicable.
- PROBLEMS/ CHANGES: Should either of the following arise during the course of the work, investigators must notify UCRIHS promptly: (1) problems (unexpected side effects, complaints, etc.) involving human subjects or (2) changes in the research environment or new information indicating greater risk to the human subjects than existed when the protocol was previously reviewed and approved.

If we can be of any future help, please do not hesitate to contact us at (517)355-2180 or FAX (517)432-1171.

Sincerely, Ś ~ . David E. Wright, Ph.D. UCRIHS Chair DEW:kaa/lcp

cc: Kathryn M. Moore

OFFICE OF RESEARCH AND GRADUATE **STUDIES**

University Committee on **Research Levelvine** Human Subjects (UCRIHS)

Michigan State University 232 Administration Building East Lansing, Michigan 48824-1046

> 517/355-2180 FAX: 517/432-1171

APPENDIX H

APPENDIX H

YOUNG ADULT SURVEY REQUEST

J. Ann Hower 6260 Gossard Avenue East Lansing, Michigan 48823 (517) 336-7435

July 20, 1994

Dr. Jessor, Director Institute of Behavioral Science Campus Box 483 University of Colorado, Boulder Boulder, Colorado 80309-0483

Dear Dr. Jessor,

I recently wrote to you requesting one of your instruments to be used in my doctoral research. I received a response from your office requesting another letter with the signature of the person supervising my research. I have asked my Dissertation Advisor, Dr. Kathryn Moore, to sign this letter.

As I wrote to you previously, I am currently working on my dissertation in higher education administration at Michigan State University. My research topic is college student alcohol use and I am considering using your Problem Behavior Theory as the theoretical framework.

I am interested in researching the impact, if any, of certain aspects of the university environment on student alcohol use and problem behavior, i.e. alcohol use of roommates, alcohol policies and enforcement of policies, educational programming, Resident Assistant alcohol use and attitudes towards use, etc. The role of the perceived university environment upon student alcohol use and behavior is of particular interest to me.

I am very interested in using one of your instruments in my research although I recognize that I may have to modify it to meet the needs of my particular study. While I have read a great deal about your theory I have not seen an actual instrument and I am unsure of how many instruments you may have or their titles. I am hoping that from my brief description of my research topic that you will know which, if any, of your instruments are appropriate. Any suggestions you can provide would be very much appreciated. I will, of course, pay for any costs associated with the instruments.

Sincerely.

J. Ann Hower Doctoral Student Michigan State University

Dr. Kathryn M. Moore Chairperson Department of Educational Administration Michigan State University

APPENDIX I

APPENDIX I

Questionnaire - Variable Codes

SURVEY	VARIABLE	ACRONYM	SCORING	SCALE	SCALE NAME
QUESTION	NAME			RANGE	
1	STUDENTS	STDR	5-1	16-0	RESIDENCE
	WHO DRINK				HALL
					MODELS FOR
					DRINKING
					SCALE- RHM
2	STUDENT ON	STFLDR	5-1		RHM
	FLOOR WHO		}		
	DRINK				
3	FRIEND HANG	FRHGDR	5-1		RHM
	DRINK				
4	CLOSE	CLFRDR	5-1		RHM
	FRIENDS DRINK				
5	FRIENDS	FRAPPDR	3-1		
	APPROVAL-				
	DISSAPROVAL				
	FOR DRINKING				
6	FRIENDS	FRMODAB	1-5		
	MODELS FOR				
	ABSTENTION				
7	FRIENDS	FRMODDR	5-1	9-2	SOCIAL
	MODELS FOR				SUPPORT FOR
	DRINKING				DRINKING
					SCALE
8	FRIENDS	FRMODQDR	1-4		13-3
	MODELS FOR				
	QUANTITY				
	DRUNK				
9	FRIENDS	FRPRDR	1-4		
	DRINKING				
	PRESSURE				
10	FRIENDS	FRCONT	4-1	8-1	FRIENDS
	CONTROL				CONTROL
11	FRIENDS	FRCONT	4-0	8-1	FRIENDS
	CONTROL				CONTROL
12	ROOMMATE	RMAPPDR	3-1	3-1	
	APPROVAL-				
	DISSAPPROVAL				
	FOR DRINKING				
13	ROOMMATE	RMMODAB	0=1 1=2	1-2	
	MODEL FOR				
	ABSTENTION				

QUESTION	VARIABLE	ACRONYM	SCORING	SCALE	SCALE NAME
#	NAME			RANGE	
14	ROOMMATE	RMMODQDR	1-4		RMSSDR
	MODEL				
	QUANTITY				
	DRUNK				
15	ROOMMATE	RMDRPR	4-1		
	DRINKING				
	PRESSURE				
16	ROOMMATE	RMCONT	4-1	8-2	RMCONT
17					
17	KOOMMATE	RMCONT	4-1		RMCONT
10		DACONT	4.1	0.0	DACONT
18		RACONT	4-1	8-2	RACONT
19			4-1	0-2	RACONI
20	RA APPRUVAL-	KAAPP DK	3-1	3-1	
	EOD DDINKING				
21		DAENE	3_1	3_1	
21	FNFORCEMENT	KALINI	5-1	5-1	
	ALCOHOL.				
	POLICY				
22	ABSTAINER-	ABDRST	0=1 1=2	1-2	ABDRST
	DRINKING				
	STATUS				
23	CURRENT	CURDRST	1-3	1-3	
	DRINKER				
	STATUS and		ł		
	RECENCY OF				
	LAST DRINK				
24	ABSTINER	CURDRST	1-3	1-3	ABDRST
	DRINKER				
	SIAIUS	DEED			
25	DEEK SINCE	BEEK	0=1 1=2		
24	INISU		VALUE	VALUE	EDDD
20	DRIVING	rkdk	VALUE	VALUE	FKDK
	BEER SINCE				
	MSU				
27	FREO	FRBR	VALUE	VALUE	FRBR
	DRINKING				
	BEER SINCE				
	MSU				
28	AVERAGE	QBR	11-0.5	11-0.5	
	INTAKE OF	-			
	BEER PER				
	SITTING				

QUESTION #	VAR NAME	ACRONYM	SCORING	SCALE RANGE	SCALE NAME
29	MAXIMUM INTAKE OF BEER PER SITTING	MAXBR	1-8	1-8	
30	WINE SINCE MSU	WINE	0=1 1=2		
31	FREQ DRINKING WINDE SINCE MSU	FRWI	VALUE	VALUE	FRWI
32	FREQ DRINKING WINE SINCE MSU	FRWI	VALUE	VALUE	FRWI
33	AVERAGE INTAKE OF WINE PER SITTING	QWI	1-8	1-8	
34	MAXIMUM INTAKE OF WINE PER SITTING	MAXWI	1-8	1-8	
35	LIQUOR SINCE MSU	LIQUOR	0=1 1=2		
36	FREQ DRINKING LIQUOR SINCE MSU	FRLQ	VALUE	VALUE	FRLQ
37	FREQ DRINKING LIQUOR SINCE MSU	FRLQ	VALUE	VALUE	FRLQ
38	AVERAGE INTAKE LIQUOR PER SITTING	QLQ	1-8	1-8	
39	MAXIMUM INTAKE OF LIQUOR PER SITING	MAXLQ	1-8	1-8	
40	FREQ DRANK 5+ DRINKS IN SITTING	FVDR	1-8 RECODE D SO THAT 1=0 2=1 3=2 4=3 5=4 6=5 7=6 8=7		

QUESTION	VARIABLE	ACRONYM	SCORING	SCALE	SCALE NAME
#	NAME			RANGE	
42	TIMES	TDRUNK	SAME		
	DRUNKW				
	SINCE MSU				
43	TIMES	HNGOVR	SAME		
	HUNGOVER				
	SINCE MSU		L		
44	TIMES DRANK	TDRMORN	SAME		
	FIRST THING IN				
	MORNING				
45	NUMBER OF	TBINGE	SAME		
				(
	BINGES SINCE			1	
A.C.	MINDED OF	TATEMOSS	SAME		
40	MEMORY		SAIVIE		
	I ADSES SINCE				
	MSU				
47	PROPORTION	THURS	5-1	5-1	
•/	OF DRINKING	monds	5-1	J-1	
	ON				
	THURSDAYS				
48	PROPORTION	WEEKENDS	5-1	5-1	1
	OF DRINKING			ļ	
	ON WEEKENDS				
49	PROPORTION	ALONE	5-1	5-1	
	OF DRINKING				
	ALONE				
50-58	TOTAL	4-1	9-36		NINE
	POSITIVE				COMPONENTS
	FUNCTIONS OF				
50 FT	DRINKING				
50, 55	FUSITIVE	4-1	2-8		
	FUNCTIONS OF				
<u>57</u>	DIEACIDE	DIENIDO	4 1	+	
	FNHANCING	FLFINDK	4-1	1	
	FINCTIONS				
	DRINKING				
52 57	CONFORMING	CONFSOC	4-1	2-8	
52, 57	SOCIAL		1		
	FUNCTIONS OF				
	DRINKING		1		
51, 54, 56.	COPING	COPFXNS	4-1	4-16	
58	FUNCTIONS OF				
	DRINKING				

QUESTION #	VAR NAME	ACRONYM	SCORING	SCALE RANGE	SCALE NAME
59	INCREASE - DECREASE IN DRINKING SINCE MSU	INCMSU	1-3	1-3	
60-71	TOTAL NEGATIVE CONSEQUENCE S OF DRINKING	TOTNEGCQ	1-5	8-40	TOTNEGCQ
60-71	NO. OF AREAS OF NEGATIVE DRINKING	NEGDRINK	RECODE 1=0 2,3,4,5=1	0-8	NEGDRINK
66	DRINKING UNDER INFLUENCE	DUI	1-5	1-5	
68,69,70	DISORDERLY BEHAVIOR WHILE DRINKING	DISORDER	1-5	3-15	
60	CRITICISM FOR DRINKING	CRITICISM	1-5	1-5	
61	MISSED CLASS DUE TO DRINKING	CLASS	1-5	1-5	
62	ROOMMATE DIFFICULTIES DUE TO DRINKING	RMDIFF	1-5	1-5	
63	FREQ PEOPLE HAVE SAID DRINKING WAS PROBLEM	FRTOLD	1-5	1-5	
64	FREQ OF TROUBLE WITH POLICE OR ARRESTED	FRPOLICE	1-5	1-5	
65	FREQ OF ACCIDENTS AT SCHOOL	FREQACC	1-5	1-5	
67	FREQ FRIENDS, RA, ROOMMATE EXPRESSED CONCERN OVER DRINKING	FRCONC	1-5	1-5	

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QUESTION #	VAR NAME	ACRONYM	SCORING	SCALE RANGE	SCALE NAME
68	FREQ DAMAGED PROPERTY	PROP	1-5	1-5	
69	FREQ LOUD OR DISORDERLY	LOUD	1-5	1-5	
70	FREQ FIGHT	FIGHT	1-5	1-5	
71	FREQ DOCUMENTED BY RES. LIFE	RESLIFE	1-5	1-5	
72	DRINKING AS SELF DEFINED	PROBLEM	1-6	1-6	
73	DOCTOR SUGGESTED DRINKING LESS	DOCTOR	0-1	0-1	
74	STOPPED DRINKING IN LAST TWO YEARS	STOPPED	0-1	0-1	
75	AGE NORM FOR MALE DRINKING	MALEAGE	99, 21-12		
76	AGE NORM FOR FEMALE DRINKING	FMLAGE	99, 21-12		
77	GENDER	GENDER	1= MALE 2=FEMAL E		
78	AGE	AGE	1-7	1-7	
79	ALCOHOL FREE FLOOR	AFF	1=YES 2=NO		
80	ALCOHOL FREE ROOM	AFR	1=YES 2=NO		
81	ATHLETE	ATHLETE	1=YES 2=NO		
82	ETHNICITY	ETHNICITY	1-6	1-6	
83	RESIDENTIAL PROGRAM	RESPROG	1-5	1-5	
84	RESHALL NAME	RESHALL	1-?		
85	SATISFACTION WITH MSU	SATISF	1-3		

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