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Evaluating alcohol education programming strategies within a university residence hall environment

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EVALUATING ALCOHOL EDUCATION PROGRAMMING STRATEGIES WITHIN
A UNIVERSITY RESIDENCE HALL ENVIRONMENT

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Evaluating alcohol education programming strategies
within a university residence hall environment

by

William J. Zeller

A Dissertation Submitted to the
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TABLE OF CONTENTS

CHAPTER ONE - INTRODUCTION	1
Statement of the Problem	2
Residence hall characteristics at ISU	4
Purpose of the Study	6
Research Hypotheses	7
Limitations	8
Definitions	10
CHAPTER TWO - REVIEW OF LITERATURE	12
Alcohol Use Within College Communities	12
Reasons for alcohol use and abuse	16
Environmental Impact	17
Influence of peers	17
Sub-cultural environmental factors	21
Residential environments and drinking behaviors	25
Demographic characteristics of drinkers	26
Environmental Assessment Strategies	29
Residence hall environments	33
Architectural factors	34
Organizational factors	35
Alcohol Education Program Evaluation	37
Summary	40
CHAPTER THREE - METHODOLOGY	42
Item Development	42
Survey development and layout	43

Research design and sample selection	44
Distribution of the survey	45
Alcohol Education Program	46
Data Preparation	47
Reliability and validity	47
Statistical preparation	48
CHAPTER FOUR - PRESENTATION OF THE DATA ANALYSIS	50
Sample	50
Non drinkers response	55
Drinkers response	56
Findings Related to the Hypotheses	62
Summary of Findings	78
CHAPTER FIVE - SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS	80
Findings	81
Conclusions	88
Implications	88
Recommendations for Further Study	90
LITERATURE UPDATE	92
REFERENCES	95
ACKNOWLEDGEMENTS	99
APPENDIX A. SURVEY INSTRUMENT	100
APPENDIX B. CORRESPONDENCE	114

LIST OF TABLES

	Page
Table 1: Sample size and distribution of respondents by residence hall complex	51
Table 2: Distribution of pre and post-test respondents by sex	52
Table 3: Distribution of pre and post-test respondents by academic classification	53
Table 4: Distribution of pre and post-test respondents by floor types	54
Table 5: Distribution of pre and post-test respondents who participated in alcohol education programs	55
Table 6: Pre and post-test distribution of reasons why non-drinkers chose not to drink	56
Table 7: Distribution of alcoholic beverages used most often by the pre and post-test respondents	57
Table 8: Pre-test distribution of year in school when respondent began drinking	59
Table 9: Cross tabulation of classification and year in college in which respondents reported beginning drinking	60
Table 10: Pre-test and post-test frequencies to correct responses in general knowledge section	61
Table 11: T-test of the differences between male and female mean drinking composite scores	63
Table 12: T-test of mean drinking composite score differences between high-rise and low-rise residence hall students	64
Table 13: T-test comparing mean drinking composite scores for co-ed and single sex living units	65
Table 14: Pearson Correlation Coefficient analysis of relationship between G.P.A. and student drinking behaviors	66

Table 15:	Analysis of variance between student classification and mean drinking composite scores	67
Table 16:	T-test of drinking composite score means and part time employment	68
Table 17:	T-test of pre and post-test mean drinking composite scores for students living in high-rise residence halls during the 1982-83 academic year	69
Table 18:	T-test of pre and post-test mean drinking composite scores for students residing in low-rise residence halls	70
Table 19:	T-test of pre and post-test mean drinking composite scores for students living in single-sex residence halls during the 1982-83 academic year	71
Table 20:	T-test of pre and post-test mean drinking composite scores for students living in co-ed residence halls during the 1982-83 academic year	72
Table 21:	Presentation of t-test results comparing pre and post-test URES mean scores for the treatment and control groups	73
Table 22:	Analysis of variance for the six URES environmental characteristics within the treatment control group	74
Table 23:	Analysis of variance of difference between pre and post-test drinking composite scores for treatment and control group members controlling for floor type	76
Table 24:	Mean cell differences between pre and post-test drinking composite scores	77

CHAPTER ONE - INTRODUCTION

The increasing consumption levels and abuse of alcoholic beverages on campuses across the country have become major concerns to college and university administrators. Not only is this problem affecting individual student behavior patterns, but it is also influencing the quality of the over-all campus environment. Several issues have been directly associated with abusive alcohol consumption including poor academic performance, destruction of university property, physical violence and increased sexual assault (Kraft, 1976).

Societal attitudes and regulations toward the use of alcohol have become progressively more tolerant in recent decades (Engs 1977). In the early 1970s legal drinking ages in many states were lowered. As state laws changed, so did university policies regarding the use of alcohol. The prevailing social and institutional value system surrounding the use of alcohol thus began to change, and student's attitudes and behaviors may have been influenced by these changing environmental characteristics.

Institutions have attempted to address abusive alcohol use through the development of comprehensive alcohol education programs (Gonzalez, 1980). These programs have frequently been designed to provide students with an opportunity to become better informed in making decisions about their use of alcohol. While many institutions developed programs, their impact on student alcohol use has not been extensively evaluated (Strange and Schmidt, 1979). Investigators generally have found that these programs have not been successful in changing behaviors or

drinking patterns (Strange and Schmidt 1979, Blane 1982, Gonzalez 1980). Blane reported that increased knowledge about alcohol does not affect student drinking behaviors. What does influence drinking behaviors and attitudes are the prevailing values within society and within the over-all environment of the institution.

The influence of the environment on human behavior has been the subject of numerous studies and subsequent behavioral theories (Barker 1968, Stern 1962, Walsh 1975). Environments influence and shape the behavior of the people who inhabit them (Barker 1968). According to Walsh's Subculture Concept (1975), consistent person-environment relationships tend to maintain and reinforce certain attitudes and behaviors. Thus, the environment can play a key role in the development and reinforcement of student behavior within the institution.

The campus environment is composed of a large number of sub-environments that can have considerable impact on student behaviors and attitudes. A very important sub-environment is the on-campus residential living area. Students living on-campus are continually exposed to influences from their residence hall environment. Chickering (1969) states that the residential living environment influences interpersonal learning and positive peer influence. In addition, normative behavior patterns are developed in the residence halls and are often a major source of identification for resident students.

Statement of the Problem

In order to more effectively address the problem of student alcohol abuse, residence hall administrators need to assess the specific

environmental characteristics that are influencing student drinking behaviors. Once these characteristics are determined, steps should be taken to develop a campus environment which would foster more positive student behavior regarding the use of alcohol. Although management of the environment can at times be viewed as manipulative, many professionals are assuming the position that administrators must function as agents of social change, seeking to improve any conditions that create problems for individuals (Miller and Prince 1977).

At Iowa State University (ISU) alcohol consumption by residence hall students is very common. A study by Krafft (1979) indicated that 89 percent of the students on campus consumed alcohol. The most common type of alcohol used was beer, and it was most often consumed at a bar or social function. Students are allowed to consume alcohol in the residence halls at ISU and subsequently social activities often have alcohol served as a part of the function. These activities are usually planned by student government organizations on each floor, and are a major part of the student lifestyle outside of the classroom.

The Alcohol Education Unit of the Office of Student Life has been providing alcohol education programming in university residence halls since 1977. These programs have focused primarily on alcohol awareness and the dissemination of information to students and staff. Initially, the number of programs conducted in the residence halls were minimal due to the limited number of staff and lack of student exposure to the programs.

In the Fall of 1981, a cooperative programming venture was

established between the Department of Residence at ISU and the Alcohol Education Unit. Four trained graduate assistants were added to the staff in order to increase the number of alcohol education programs presented in the university residence halls.

Although the goal of presenting a larger number of programs was achieved, no comprehensive evaluation effort has been conducted to determine what impact either the programs or the environment were having on student behaviors and attitudes toward alcohol consumption.

This study will attempt to evaluate the impact of a series of alcohol education programs on individual behavior patterns as well as assess the influence of the prevailing environment on student alcohol consumption within the residence halls at ISU.

Residence hall characteristics at ISU

The undergraduate residence halls at Iowa State are divided into three different facility complexes, the Towers Residence Association (TRA), the Union Drive Association (UDA) and the Richardson Court Association (RCA). Within the TRA and RCA there are high-rise 10-story buildings, and in the UDA and part of the RCA there are low-rise buildings of five stories or less. Each association has all-male floors, all-female floors, and co-ed floors with men and women living on the same floor.

Each residence hall floor or house at ISU maintains a student government organization which plans programs and activities and assists the hall staff in regulating the daily operation of the floor. In terms

of alcohol use, students living on each residence hall floor are allowed to establish their own policies for where and when alcohol may be consumed on the floor. These guidelines are established within certain parameters set by the Department of Residence staff. The Department staff assists floor members in enforcing their own policy and helps govern its implementation. The Department of Residence has established a policy of self governance in order to allow students to develop life skills and have a greater sense of responsibility for the operation of the floor.

The Iowa State residence hall system fosters the development of a strong sense of identity toward the house and the association. Since the early 1950s, each house has been assigned a separate name, and in many instances individual house characteristics and traditions are passed on from year to year to succeeding floor members. Some floors are more socially active than others and consequently have more social functions and parties involving the use of alcohol. There is a likelihood, therefore, that freshmen who are assigned to more socially active floors will be exposed to stronger environmental influences to consume alcohol than freshmen on other floors. Drinking patterns and individual alcohol use may be greater on certain floors with a more active social environment.

In his 1979(b) study, Moos found that the organizational structure of some floor living units may foster an environment which is conducive to the development of heavy drinking patterns. Therefore, a strong need exists at ISU to determine the influence of the social and physical

environment on student alcohol use, and assess whether the programming efforts of the alcohol education unit are having an effect on student drinking behaviors and attitudes.

Purpose of the Study

The purpose of this study will be to evaluate the impact of a comprehensive alcohol education program series on both individual student drinking behaviors and on the perceived floor environment in which the student resides. The results and findings will provide a better understanding of how environmental characteristics influence student drinking behaviors, and how alcohol education programs affect alcohol use and perceived environmental characteristics.

This study is designed to assess whether specific environmental characteristics influence student drinking patterns in the residence halls. The environmental characteristics to be investigated are: floor type (male, female, co-ed), building type (high-rise, low-rise) and the perceived environment within the sub-culture of the floor. The characteristics of the sub-cultural environment will be measured by utilizing selected questions from the University Residence Environment Scale (URES) developed by Moos (1979b). These characteristics are involvement, emotional support, independence, academic achievement, order and organization, student influence and traditional social orientation.

Another purpose of the study will be to determine the number of students who either began drinking or increased their drinking behaviors

during the 1982-83 academic year at ISU. These data will be utilized to determine if specific environmental characteristics provided a greater probability of having students begin or increase their drinking while living in a particular residential environment.

Research Hypotheses

The hypotheses for this study are as follows:

H-1: There will be no significant difference in the mean drinking composite scores between male and female students residing in university residence halls at Iowa State University.

H-2: There will be no significant difference in the mean drinking composite scores between students living in high-rise and low-rise residence halls.

H-3: There will be no significant difference in the mean drinking composite scores between students residing in single-sex living units and students residing in co-ed living units.

H-4: There will be no significant correlation between student grade point average and student drinking behaviors.

H-5: There will be no significant relationship between student classification (year in school) and student drinking patterns.

H-6: There will be no significant correlation between student employment and student drinking behaviors.

H-7: There will be no significant change in the mean drinking composite scores for students residing in high-rise residence halls during the 1982-83 academic year.

H-8: There will be no significant change in the mean drinking composite scores for students residing in low-rise residence halls during the 1982-83 academic year.

H-9: There will be no significant change in the mean drinking composite scores for students residing in single sex units during the 1982-83 academic year.

H-10: There will be no significant change in the mean drinking composite scores for students residing in co-ed residence halls during the 1982-83 academic year.

H-11: Participation in a comprehensive alcohol education program series sponsored by the Alcohol Education Unit at ISU will have no significant effect on the perceived environment as assessed by selected characteristics from the University Residence Environment Scale.

H-12: Participation in a comprehensive alcohol education program series at I.S.U. will have no significant effect on student drinking behaviors.

The results of this study will be used to provide the investigator with data to analyze the impact of the alcohol education program series on both the individual student and the perceived environment of the living unit. Based on the data collected, recommendations will be made to develop strategies for implementing future alcohol education programs as well as managing the environment within the residence halls.

Limitations

This study was limited to investigating the attitudes and characteristics of students residing in Iowa State University residence

halls during the 1982-83 academic year. No inferences are intended for any other population.

This study utilized a self-reporting method for measuring drinking behaviors and alcohol use. Although this method has been used extensively in other research, there are limitations to this approach. The major drawback to this method is that there is no actual measure of the students' drinking behavior, but only what they report on the questionnaire.

In addition to this limitation, a perceptual measurement approach was utilized to establish an assessment of the environmental characteristics on each floor. The primary weakness to this approach is related to extraneous influences which affect perceptions, and thus bring into question whether perceptions are true measures of the environment. The perceptual measurement approach assumes that extraneous influences are randomly distributed in the sample population-enough so that the perception which is attained is a fairly accurate representation of that aspect of the environment.

During the study period, there may have been events on the Iowa State University campus that influenced the outcome of this study. During this project the Department of Residence at I.S.U. conducted a separate alcohol use study in response to a need to investigate alcohol policies. The purpose of this study was to assess student attitudes toward the current alcohol policies on campus, as well as to determine if students perceived an alcohol use problem at I.S.U. This survey was met with apprehension and criticism by students in the residence halls.

This negative reaction was focused primarily on the motivation behind the survey, and a suspicion that the Residence Hall administration was attempting to obtain supportive information for changing the existing alcohol policy.

The Department of Residence survey was conducted between the pre and the post-test distribution of the questionnaire. This distribution may have had some external influence on the outcomes of the post-test results for this study. The level of apprehension could have created some resistance toward completing the alcohol questionnaire used in this study. If this resistance had an impact on the results, it may account for the lower response rate to the post-test (39% vs 54% in the pre-test). The lower return rate from the post-test sample should give cause for some caution when interpreting the results of the study.

Definitions

The following definition of terms were utilized for the purpose of the study:

1. Co-ed floor - A residence hall floor having both male and female residents. The floor is divided in half, with men living on one side of the floor and women on the other side.

2. High-Rise Residence Hall - A residence hall constructed with ten or more floors, usually housing 500 or more students. Access to floors is by an elevator and stairs.

3. House - Term used for a residence hall floor unit at Iowa State University. Each house has approximately 50 to 60 residents. The terms

floor and house are used synonymously.

4. Low-Rise Residence Halls - A residence hall constructed with five or fewer floors. Students have access to their floor by stairwells.

5. Program - A presentation of a specialized subject area to members of a residence hall floor.

6. Single-Sex Floor - A residence hall floor consisting only of residents of the same sex.

CHAPTER TWO - REVIEW OF LITERATURE

This review of literature is designed to serve as a foundation for the research project. The review is divided into three sub-sections regarding the use of alcohol by students on college campuses. The sub-sections include: (1) alcohol use within college communities, (2) environmental impact and assessments in residence halls, and (3) and evaluation of the effectiveness of alcohol education programming on college campuses.

Alcohol Use Within College Communities

In a national study of 13 universities, Engs (1977) reported that 81 percent of the students surveyed identified themselves as at least occasional drinkers, and that hangovers, nausea and driving after drinking had been experienced by a majority of these students (Gonzalez and Kouba, 1979). This does not imply that the college population is composed of alcoholics and problem drinkers. It does mean, however, that there is a substantial number of young drinkers who give very little thought to what their alcohol use can mean in terms of alcohol-related disruptions and costs (National Clearinghouse for Alcohol Information, 1976).

A ten year longitudinal study at five universities (Arizona State, Penn State, Northern Colorado, SUNY-Geneseo and the University of Tennessee) indicated that alcohol consumption varied across institutions from 78 percent to 92 percent in 1970 to 79 percent to 97 percent in 1980 (Delzelsky, Toohey and Kush, 1981). Patterns over the ten year

period reveal that alcohol use generally increased (by as much as 13 percent) in 1973, decreased at four of the five institutions in 1976 and increased again in 1980 at four of the five institutions. The 1980 increase resulted in consumption percentages above the original 1970 consumption levels (from 1-15 percent). Delzelsky, Toohey and Kush report that alcohol was the drug of choice by most students throughout this study.

A national study of large American universities by the National Clearinghouse for Alcohol Information (1976) reported that between 87 and 97 percent of the students surveyed consumed some alcohol. Gallup (1977) stated that no other population in the United States has a larger proportion of drinkers than the college student population.

A close examination of college campus environments reveals that there are distinct differences in the drinking habits of certain subgroups within the campus environment. Significant differences between males and females emerge when quantity, frequency, type and situations surrounding alcohol use are examined. Men generally consume more alcohol than women and also report greater frequency of intoxication (Hill and Bugen, 1979; Hinrichs and Haskell, 1978). At Colorado State University, 20 percent more women than men limited drinks to one or two per week (Kuder and Madson, 1976). More of these men also reported feeling more pressure to drink, believed that drinking made campus life happier and said sometimes drinking interfered with school.

Among a sample of Greek organization members, men believed alcohol was more "important" than women did (Jensen, Poremba, Nelson and

Schwartz, 1980). Mills and McCarty (1983) found that members of fraternities and sororities are unlikely to be non-drinkers or light drinkers. Instead, almost half of the Greek affiliates they surveyed were heavy drinkers. Mills and McCarty also found that 76 percent of drinking occurred on week-ends. Heavy drinkers were more likely to live in fraternities than in residence halls.

Data on when, where and with whom college students drink alcohol describe a pattern of mainly social drinking. Generally, college students drink in large or small groups of the same sex or mixed. Most often consumption occurs at night, and usually on the week-ends. Students usually consume alcohol at private parties, local bars or college sponsored functions. A national survey of college students reveals that 82.7 percent drink on week-ends and at parties, while only 2 percent report daytime drinking (Delzelsky, Toohey and Kush, 1981). Mills and McCarty (1983) found that class standing had a significant effect on the locations where students chose to drink. Upperclassmen drank at off-campus locations more frequently and underclassmen drank more on campus, particularly at residence hall parties.

Some studies have also noted that drinking patterns vary according to different class levels. Findings of increased drinking from the freshman to the senior year has been taken as evidence that the development of a drinking pattern is part of the college experience (Girdano and Girdano, 1976). A sample of University of Maryland students reported that 78 percent of the freshmen, 78 percent of the sophomores, 86 percent of the juniors and 91 percent of the seniors

consumed alcohol (Girdano and Girdano, 1974).

Although most educators appear to sense that there has been a dramatic increase of drinking on college campuses, Engs (1977) found that the percentage of students who reported drinking now is similar to the percentage who reported drinking five and 25 years ago. The proportion of students who are heavy drinkers or are abstainers appear to be about the same as the proportion of students in the past. Engs found, however, that larger percentages of both black and white women were drinking more while there were fewer black men who were identified as heavy drinkers. In terms of behavioral problems related to drinking, there also appears to have been no increase in negative behaviors due to drinking during the past 25 years.

Despite these findings, college administrators and the mass media have perceived drinking and negative behaviors related to drinking to be a more serious problem now than in the past. Engs indicates three primary reasons for these perceptions.

1. Students may be drinking more openly than in the past because of changes in state laws which regulate the minimum age of drinking. Along with this, university regulations have become less strict, particularly in residence halls. As state laws reduced drinking ages, students of legal drinking age were allowed to consume alcohol on the premises in their living environment.

2. Students may be discussing drinking more openly with university personnel.

3. The lowering of state drinking ages around the country and the

subsequent liberalization of policies regulating drinking on college campuses have permitted drinking-related problems to surface.

When alcohol was found to be the "drug of choice" in many studies conducted during the early 1970s, university personnel may have become aware of drinking-related problems which had existed previously but had been ignored (Engs 1977).

Reasons for alcohol use and abuse

Another major issue facing educators regarding the use of alcohol has been to determine the reasons why students drink and the factors related to these stated reasons. Student lifestyles can bring changes in drinking patterns and consumption behavior. A sample of students surveyed by Hill and Bugen (1979), reported 49.2 percent either started or increased their use of alcohol since entering the university. The primary reasons given for drinking were relaxation or reduction of tension (68 percent), increased sociability (46 percent), and to "relate better to other people." Another study conducted by Hashway (1979) found that academic tension and social tension accounted for over 56 percent of the reasons for drinking.

Many students drink to reduce feelings of tension or anxiety. Although academic pressure is listed as a reason, studies have found that the higher a student's grade point average, the less the student tended to drink (Engs 1977). Hill and Bugen (1979) also reported that students with a grade point average of 2.0 - 2.9 (based on 4.0=A) consistently reported drinking more often, drinking greater amounts and

becoming intoxicated more frequently. Moos (1979a) also reported that heavy drinking men and women had lower educational aspirations than abstainers. Average or below average students may feel more academic pressures, and therefore seek a release through the use of alcohol more frequently.

Hill and Bugen (1979) found that sophomores reported drinking more often, consuming more alcohol, and becoming intoxicated more often than do any other class group. In addition, Moos (1979a), found that many students begin or increase their use of alcohol during their freshman year, and that moderate or heavy alcohol use is associated with poor academic or social functioning and may lead to problem behaviors. The freshman and sophomore years thus seem to be crucial in the development of drinking patterns and abusive drinking behaviors, and since a majority of these students live in residence halls, the literature supports the need for such a study.

Environmental Impact

Influence of peers

A primary reason for drinking and the development of particular drinking patterns is that college-age students are very susceptible to meeting perceived expectations of significant others within their immediate peer group. Many studies have demonstrated peer group effects on student alcohol use, both in terms of formally defined groups such as college fraternities (Gusfield 1961; Rodgers 1958) and in terms of the influence of friends (Alexander and Campbell 1968). Jessor and Jessor

(1975) note that the same pattern prevails among high school students: having friends who drink predicts the onset of drinking (Moos 1979a).

A study conducted by Britt and Campbell (1977) found that those who drank in high school were more likely to be involved with peers who drank and were more likely to have a normative structure (group behavioral standards) which is compatible with drinking. Those who did not drink were more likely to associate with others who do not drink and tended to believe that drinking is either morally wrong or socially worthless.

Britt and Campbell found that the drinking patterns and social relationships a student had in the spring semester of his/her senior year in high school had a considerable influence in determining the patterns of social relationships and drinking behaviors that the student had in college. This was especially true for the selection of best friends and drinking behaviors. As a result of their study, the investigators suggest that the social environment, normative structure and drinking behaviors are interrelated with each other.

Two strongly interrelated variables identified in the Britt and Campbell study were the normative structure and drinking behavior. The impact that each of these has on the other is substantial, and both exert strong independent effects on the social group with which one is affiliated. If causal priority is to be assigned, the individual seems to be the cause rather than the social environment since there appears to be more adjustment of the social environment to both normative structure and behavior than visa versa. Consonance among these elements

appears to be attributable to the activity of the individual in adjusting his/her drinking patterns and norms to one another and selecting social environments that are supportive of this adjustment.

What Britt and Campbell appeared to be witnessing in their data is the process by which alcohol becomes integrated into the everyday world of the individuals exposed to it. The matriculating student is constructing a social reality around alcohol. This reality consists of a set of norms which legitimate certain actions involving alcohol, and a set of individuals and groups who are compatible both with the extent of alcohol use and the constraints of his/her normative structure.

Students will seek out environments and social settings which are compatible with their existing normative structure. However, most new students are placed in residence hall environments on a random basis and remain in their original assignments. These students are therefore exposed to and are influenced by environmental characteristics they have not selected.

Mills (1981) found that within certain groups peer pressure can encourage alcohol abuse by individuals who did not abuse alcohol before coming to college and will not after leaving it. Another study (Jessor and Jessor 1975) found that the greater the peer approval and modeling of drinking the greater the likelihood that students will move from abstainer to drinker.

Although students seek out and choose their own peer groups and environments that are conducive to their normative drinking behaviors, it appears that students are still influenced enough by prevailing

immediate environments to change behaviors and begin to drink. These environmental influences may be so strong that students who do not drink will drink within the environment, and may or may not continue to drink, or drink as heavily once they have left the environment.

Studies of peer influence on alcohol use suggest that student living groups have considerable impact on the drinking practices of their members. Associations between peer context and youth drinking have been demonstrated in both cross-sectional and longitudinal studies. Alexander and Campbell (1968) found that male adolescents were more likely to be drinkers when their friends drank than when they did not drink. Also, the more drinking friends adolescents had, the more likely they were to drink frequently. The greater the number of drinking friends a non-drinker had, the more likely the non-drinker was to experience peer pressure to drink (Moos 1979a).

Mills (1981) found that many alcohol abusing groups do not see themselves as deviant at all, but rather as estimable organizations that should not be persecuted. This aspect of group cohesion is important because it indicates the strength of the normative and social criterion of the group. The normative structure of the group may become more dominant than the prevailing expectations of the rest of the society. What may be deviant drinking behavior for the larger society could be looked upon as normal behavior within specialized groups or living units.

Moos (1979a) found that when non-drinking students inadvertently select or are placed into a setting where other students drink heavily,

most students will conform to the press of the environment and increase their alcohol consumption. Moos also found qualities or drinking patterns a student brings to a living group will persist and become accentuated, provided they are shared by their peers in the unit.

Peer pressure plays a key role in the influencing student drinking behaviors. Knowledge of these pressures is essential if we are to understand the overall impact of the environment. Mills (1981) states that we must learn more about the conditions that influence abuse and find ways to alter those conditions in order to encourage more healthy drinking behavior.

Sub-cultural environmental factors

The previous section described specific peer group effects on student alcohol use. Within residence hall living groups, there are subcultural variations which may contribute to stronger or weaker influences from the environment. The focus on subcultural factors within living units will allow for the investigation of the role and extent of reference group effects.

The prevailing sub-cultural (human aggregate) environmental influences provide crucial contributions to understanding the overall impact that the residence hall environment has upon the residents of that environment. Feldman and Newcomb (1969) found that living groups affect both stability and change in students. The living groups help to stabilize students' congruent characteristics and change their deviant characteristics to conform to the norms of the setting. For

students in residence halls, there is strong pressure to conform to the prevailing normative behavioral and attitudinal expectations of the environment.

Living groups that exhibit high cohesion and integration of students into the social and interpersonal aspects of college life may have more influence on personal and academic development than other units (Moos 1979b). A 1984 study by Brand and Schrage at the University of Illinois found that living group norms regarding alcohol use contribute to differences in academic achievement among university living groups. In addition, negative drinking behaviors were found to be more prevalent within living groups that emphasize dating or student influence in decision making. When academic achievement is not valued, Brand and Schrage found that constraints against heavy drinking may be reduced. Living groups that stress high academic standards tend to drink less and have fewer behavioral problems related to alcohol. College-age students have a strong need to conform to the perceived behavioral expectations of their peers (Chickering 1969). This personal need to conform creates an extremely high susceptibility to the environmental influences that may be prevalent within a residence hall living unit.

Moos (1979b) found that the personal and environmental systems affect each other through mediating processes of cognitive appraisal and activation or arousal. These mediating factors are influenced both by personal characteristics and environmental characteristics. Students adapt to the environment by using a preferred set of coping skills.

These skills are determined in part by the personal system and the environmental system. A student's use of a coping skill may change both systems.

Moos also found that the evaluation of the sub-cultural environment is influenced by three converging lines of evidence:

1. Personality and other individual difference variables only partially account for variance in behavior.
2. Stable, long-term settings can have a powerful impact since the more intensive, committed, cohesive and integrated the settings, the greater the impact.
3. Social-ecological settings in which students function can affect their attitudes and moods, their behaviors and performance, and their self-concept and general sense of well-being.

Some sub-cultural environments will also be stronger than others and will have greater influence over people within the environment than will environments with less strong characteristics. Floor units in residence halls are meaningful and important to students. They are relatively homogeneous and cohesive and are likely to have a strong impact. Students tend to have more control of these settings than they have of the larger environment of the institutions (Moos 1979b).

The sub-cultural environments within residential settings thus play a significant part in the overall impact that the residence hall has on student attitudes and behaviors. Architectural influences, organization factors, and the human sub-cultural aggregate combine to form the

overall influences from the environment. The social climate is both a fourth domain of environmental variables and the major mediator of the influences of the other three (Moos 1979b).

Moos states that varied sets of individual characteristics can help explain people's responses to environmental contexts. Background and personal characteristics include age, sex, ability level, interests and values, ego strength and self-esteem. Preferences for such coping styles as active engagement in the environment, tension reduction, and exploration also influence responses to the environment. These factors help to determine what an environment means to an individual and what psychological and intellectual resources are available to adapt (cope) with the setting.

Personal and environmental factors influence each other, creating a process of cognitive appraisal. Cognitive appraisal is the individual perceiving the environment as being either potentially harmful, beneficial, or irrelevant (primary appraisal), and the perception of the range of available coping alternatives (secondary appraisal). One usually cannot relate an objective environmental variable directly to a dependent outcome. Although both the environmental system and the personal system can affect behavior directly, cognitive appraisal is an essential mediating factor in most issues related to student functioning. Cognitive appraisal prompts efforts at adaptation or coping which may change the environmental system or the coping system.

The interaction that a student has with the sub-cultural environment can be a mutual interplay of influences. Some individuals,

through their utilization of personal characteristics, will have more of an influence on the environment than others. Subsequently, some individuals will be influenced more by the environment than others.

Residential environments and drinking behaviors

In an effort to determine if specific residence hall environments were conducive to excessive or abusive drinking behaviors, Moos (1979b) conducted a study of 1196 students residing in residence halls at two western universities. The study investigated primary differences between single-sex living units and co-ed living units. Findings revealed that men and women in single-sex units were more likely to drink on dates and at parties, whereas students in co-ed living units drank more at meals and in informal social gatherings.

The factors which influence student drinking behaviors varied between single-sex floors and co-ed floors. The men's and women's units where alcohol use was greater had high scores in the area of relationships and traditional social orientation and low scores on independence. In contrast, co-ed social environments associated with drinking had relatively high scores on independence and intellectuality and low scores for academic achievement and traditional social orientation. Those single-sex living units identified as having heavy drinking patterns had social environments similar to those which traditionally characterize fraternities and sororities (involvement and cohesion, dating, and partying and clear rules and regulations).

The floor environment that is most conducive to heavy alcohol

consumption in co-ed units is characterized by relative non-conformity, i.e., independence, indifference toward dating and studying and greater concern for creativity, personal feelings and extra-curricular activities. In addition, these findings indicate that the more homogeneous environments (such as living groups comprised mostly of high drinking students) have more uniform and consistent influences on alcohol use with fewer conflicting pressures that are more likely to affect changes in behavior. The pressure on abstainers or very light drinkers in homogeneous high drinking settings is particularly strong, and as a result many of them conform to the majority and begin or increase their drinking.

Demographic characteristics of drinkers

In order to investigate drinking patterns and drinking behaviors of college students, it is important to investigate who is more prone to establish drinking behaviors, and who is more susceptible to be influenced by factors impacting student drinking behaviors.

Socio-demographic factors show moderate correlation with teen-age drinking. Social class has been found to be a factor as higher socio-economic class adolescents tend to drink more than other teenagers. Religion is also a factor with Catholics consuming more than those of other religions. The sex of a student is also a variable, with males drinking more than females. Parental drinking patterns were influential in that adolescents often assume the drinking pattern of their parents (Moos 1979a).

College-age male problem drinkers have been identified as relatively independent, aggressive, impulsive, anxious and depressed (Williams 1970). Jones (1971) concluded that male problem drinkers are less self-controlled, more hostile, expressive, assertive and gregarious. Female problem drinkers tend to be more unstable, hostile and impulsive than moderate drinkers or abstainers. Jones also reported that male abstainers are more over-controlled, emotionally bland, introspective and moralistic than drinkers.

In his study of men and women abstainers, Moos (1979a) found they reported higher religious concern than moderate and heavy drinkers. Heavy drinkers engaged in more social activities and dating than moderate drinkers, and moderate drinkers dated and socialized more than non-drinkers. Heavy drinkers rated themselves as more dominant, rebellious, and outgoing and less cautious than non-drinkers. Heavy drinking men and women had lower educational aspirations than abstainers.

Female heavy drinkers were found to be more non-conformist in some respects than the male heavy drinker. The female heavy drinker may be more likely to drink for escapist or rebellious reasons. Cahalan, Cisin and Crossley (1969) found that 64 percent of female heavy drinkers and 48 percent of male heavy drinkers drank to escape worries and depression. Sanford (1967) suggested that women who drink frequently may do so to conform to the situation---such as drinking on dates. Men, however, are more likely to want to drink frequently because it is more sex-role appropriate. Drinking by men thus may be attributed more to

dispositional factors, whereas, drinking by women may be more influenced by situational factors.

In a longitudinal study of high school and college men and women Jessor and Jessor (1975) found the onset of drinking to be related to the following set of personal and behavioral attributes: lower value on academic achievement, greater tolerance of deviant behavior, less religiosity, less involvement with parents and with friends whose ideologies are similar to those of their parents, more friends who drink and who approve of drinking, and less involvement with church and grades. These conditions of readiness are more likely to make the student more susceptible to environmental factors.

In addition to these conditions of readiness, there are some students who are more influenced by the environment than others. Feldman and Newcomb (1969) found that the impact of the college environment is greatest on those students who are open to change, concerned about social acceptance, and are sensitive and responsive to the normative pressures of the college peer group. Findings suggest that women are more subject to environmental influences than men (Moos 1979). Women who resist environmental influences on alcohol consumption seem to exhibit some stress related consequences. He also noted that the overall influence of the social climate in a living unit was stronger on women than on men.

Women also show greater increases in alcohol consumption during their first year in college, thus suggesting the college environment has more influence on women than on men (Moos 1979b). In terms of college

classes, sophomores reported drinking more often, consuming more alcohol, and becoming intoxicated more often than do any other group (Hill and Bugen 1979). Studies have reported that the drinking pattern differences between men and women, and between freshmen and seniors are becoming more alike. This would support the findings of women increasing their drinking patterns during their freshman year.

Moos (1979a) summarized his results by reporting that three sets of personal characteristics are associated with student drinking patterns:

1. Alcohol use is related to a set of variables indicating a lack of commitment to conventional values, i.e., lower religious concerns, lower aspiration levels, less interest in academic achievement, and greater likelihood of engaging in impulsive behavior.

2. Alcohol use takes place during such informal social activities as dating and partying. Students who describe themselves as more sociable, extroverted, and dominant and who participate in those activities are more likely to begin drinking and drink more heavily.

3. Students who drink more are less well integrated into the academic aspects of college life, are more likely to encounter stressful situations, and are more prone to experience the effects of stress such as alienation, physical symptoms, and medication use.

Environmental Assessment Strategies

The impact of college and university environments on students has become an issue of increasing interest and concern in recent years. This interest stems from an acknowledgement that student behaviors and

attitudes are directly affected by the prevailing environmental characteristics of the campus. The college-age years are critical years for the development of attitudes and behavior patterns which will prevail throughout their lives. Normal maturation brings changes irrespective of the environment, but growth is unlikely to proceed in a positive direction if damaging influences are present (Miller and Prince 1977).

According to Barker's Behavior Setting Theory (1968) environments select and shape the behavior of people who inhabit them. Within the subculture concept, consistent person-environment relationships tend to stimulate satisfying human association as well as maintain and reinforce certain attitudes and behavior. Similarly, Holland's research (1970) indicates that congruent interactions between the individual and the environment are associated with personal and vocational stability and satisfaction. Stern (1962) believes that a relatively congruent person-environment relationship (combination of "needs and press") produces a sense of fulfillment, while a relatively dissonant relationship (unstable needs-press combination) produces stress (Miller and Prince 1977).

In 1973, the Western Interstate Commission for Higher Education (WICHE) developed an "Ecosystem Model for Designing Campus Environments." This model was established to help campus administrators better understand the impact that the environment was having on students. From this understanding, strategies could be established for educators to more effectively manage their campus environment.

The WICHE Commission described the campus community as a series of transactions among various environments which are managed by members of the community in order to insure congruency with the overall mission of the institution. A college campus should be designed to accommodate a variety of student lifestyles. Campus design is an attempt to create a campus environment that will foster student growth and development. The intent is to reduce individual student problems, through the treatment of the environmental factors which shape student behavior.

The WICHE Commission stated that several philosophical assumptions were important for the establishment of their model. Among these assumptions were basic tenets necessary for understanding environmental impact and assessment. These tenets included:

1. The campus environment consists of all stimuli impinging upon the students' sensory modalities and include physical, chemical, biological, and social stimuli.
2. A transactional relationship exists between college students and their campus environment, i.e., the students shape the environment and are shaped by it.
3. Every student possesses the capacity for a wide spectrum of possible behaviors. A given campus environment may facilitate or inhibit any one or more of these behaviors.
4. Students will attempt to cope with any educational environment in which they are placed. If the environment is not compatible with the students, the

students may react negatively or fail to develop desirable qualities.

5. There are wide-range of individual differences among students, and fitting the campus environment to the student requires the creation of a variety of campus sub-environments. There must be an attempt to design an environment for a wide-range of individual characteristics found among students (WICHE, 1972).

Miller and Prince (1977) found that the ideal environment for student development is characterized by certain principles. First, the various elements of the environment must serve common institutional goals. Second, there must be a purposeful relationship between formal learning and the student's growth outside of the classroom. Third, a reasonable degree of compatibility between an individual and college is necessary to promote maximum growth. Fourth, there must be a true relationship between what happens on the campus and what happens in the "real world." The fifth and perhaps single most important principle is that an effective environment responds to the developmental needs of its inhabitants.

The impact of the campus environment is thus a product of the total influences of the institutions's sub-environments. One significant out-of-classroom sub-environment is the living area in which the students reside. As much as 70 percent of a student's time is spent in the residential environment (Valins and Baum 1973). Thus, the impact of the residential environment can be significant.

Residence hall environments

College residence halls represent a well-defined yet diverse environment in which three different levels of variables co-mingle. On the psychological level, a residence hall is composed of individuals who interact within an environment that has varying impact on their interpersonal behavior and attitudes. Secondly, a residence hall is a semi-independent social system with mores, normative behavior patterns, and rules for acceptable behavior and prescribed conduct. The system is bound physically but maintains varying linkages to the larger college social system.

On a third level, a residence hall is a physical space in which architectural characteristics interact with and impose restraints on the social system. Traffic flow, group size, social accessibility, and perceptions of physical aesthetics influence social variables (Gerst and Sweetwood 1973).

Institutional choice faces all students who wish to obtain post-secondary education. Astin (1978) found that students on different campuses will encounter quite varied settings, and that such settings will influence their experience and behavior. Studies have found that architectural, organizational, and human aggregate variables influence the social environment (Moos 1979a). It is thus important to include these three domains when evaluating residence hall environments. Feldman (1971) suggested that certain characteristics of the environment may conceptually and empirically precede others. That is, some aspects of environments may be causally dependent on others.

Architectural characteristics are important because they affect perceptions, attitudes and values which in turn influence behavior. Physical and architectural variables can affect social climates directly (i.e., more cohesive climates may develop in living groups with a high proportion of double rooms), and indirectly through their organizational functioning. Small settings facilitate student interaction and the development of common interests and activities.

The social and sub-cultural environments are thus strongly influenced by the impact of architectural and organizational factors. The two sections that follow will review the literature specifically pertaining to these two aspects of the residence hall environment.

Architectural factors

During the enrollment growth of the 1960s colleges and universities constructed additional housing facilities because of the increasing numbers of students. This new construction period brought a variety of architectural styles to residence facilities. Although some campuses continued to build low-rise (four or five-story) buildings which were in the mode of existing facilities, many universities built high-rise (ten or more story) buildings in an effort to save needed space and funds. While large sums of money were spent on the design and construction of student housing, only sporadic attempts were made to assess the impact of these environments on the residents of the buildings.

Since the construction of these facilities, numerous studies have been conducted to determine if there are differences in behaviors and

attitudes within high-rise and low-rise residence halls. Studies have shown that students living in high-rise residence halls behaved in a less socially responsible fashion and perceived their fellow residents as being less friendly and gregarious than students living in low-rise buildings (Valins, Baum 1973).

Another study (Wilcox and Holohan 1976) found that the differences in high-rise and low-rise environments significantly affected the degree of commitment students felt for one another, their patterns of interaction and emotional support, and the level of involvement in organizational functioning. Residents of high-rise buildings rated their environment lower in the areas of involvement, support, order, organization and student participation than did students in low-rise residence halls.

In areas such as intellectual productivity, satisfaction with college life, emotional development, and inter-personal relationship skills, the physical living environment may have a significant impact on students.

Organizational factors

Organizational variables within residence hall environments may play a significant role in influencing student behaviors and attitudes. Residence hall systems across the country are organized differently, with different floor characteristics and staffing patterns. These differences can impact the types of experiences a student has, as well as influence the nature and quality of development that takes place.

Specific organizational characteristics which may influence behavior and attitudes are the type of floor unit, such as single sex compared with co-ed; suite arrangements on a floor; and room options, such as single room, double room only, and/or triple room assignments (Valins and Baum 1973). Some residence hall systems also have developed special-option living arrangements which are designed to better meet the specific interests and needs of students residing in those units. Some of these options include special quiet units, academic major units, athletic units, and hobby interest units. Other systems have all-freshmen living arrangements.

Another organizational variable which has been found to influence environments is the residence hall staffing patterns within the unit. The student/staff ratio, as well as the expectations and job descriptions of staff can play a significant role in the types of interaction and experiences students have with the staff (Zirke and Hudson 1975).

These preceding studies support the notion that residence hall environmental characteristics can influence drinking behaviors, drinking patterns, and attitudes toward the use of alcohol. The findings will be utilized as the basis for this study which will investigate architectural, organizational, and sub-cultural influences of the environment and attempt to determine whether these influences do affect drinking behaviors.

Alcohol Education Program Evaluation

University administrators have addressed the problem of alcohol abuse and related behaviors with a wide array of programs centered around alcohol awareness, alcohol education, counseling strategies and training and development for staff. The impact of these programs on the student population has not been evaluated on many campuses. On those campuses where there have been evaluations of alcohol education programs, inconclusive results have been found.

Strange and Schmidt (1979) found that a number of alcohol programs have been misdirected and their effectiveness has been questioned due to a lack of data regarding their success in changing behaviors and drinking patterns of students. Blane (1982) concluded that most college efforts designed to influence student drinking behaviors and reduce alcohol-related problems do not work. According to Blane, drinking among college students is strongly influenced by social values, and psychological factors such as personality differences played limited roles in influencing drinking patterns.

In general, programs adopted by colleges to address the student drinking problem focus on two areas; student's knowledge of alcohol and their attitudes. The interest in these two areas is predicated on the assumption that if students know about the physical and psychological effects of alcohol they will be more predisposed to change their attitudes and behavior. According to Blane (1982), this model is becoming outdated.

Findings suggest that knowledge about a subject can be readily

changed. Changing attitudes is difficult, but it can be accomplished. However, behavior change is the most difficult and cannot be done by current programming methods (Blane 1982). Some evidence suggests that standard alcohol education programs have little, if any, impact on the drinking behavior of college students.

A 1980 study by Gonzalez investigated the effects of a four-hour alcohol education module on college students attitudes, knowledge and behavior related to alcohol use. The specific characteristics of students which were studied included the degree of responsibility in attitudes toward alcohol use, the level of knowledge about alcohol and the incidences of negative behavior surrounding alcohol use. Results of the study indicated that the alcohol education module favorably affected the degree of responsibility in attitudes toward alcohol as well as the level of knowledge about alcohol. The changes produced by the module were still indicated in a post test three months after the module was presented.

There was, however, no significant difference between the experimental and control groups on the incidence of negative behavior. Gonzalez concluded that either attitudes toward alcohol can be modified without a corresponding change in behavior or that attitude change could be the first step toward behavioral change.

At Iowa State University (ISU), there have been two studies which may be of importance to this study. In 1977 and 1979, studies were conducted by the Office of Student Life which surveyed ISU students to determine knowledge, behaviors and attitudes regarding alcohol. In

1977, a comprehensive alcohol education program was implemented to provide students with learning experiences on a variety of alcohol/drug related topics. The 1979 study was utilized to assess the impact of the programs on the drinking attitudes, behavior and knowledge of students at ISU.

The most dramatic change from 1977-1979 was the increase in student knowledge about alcohol. Thirteen of the 27 survey questions pertaining to knowledge about alcohol exhibited significant increases. However, reported drinking behaviors indicated very little change. The number of students drinking remained at about 89 percent. The majority of students preferred beer to other beverages, they tended to drink in night clubs and bars, and consumed an average of one to three drinks per sitting.

When surveyed regarding consequences of their drinking, some small changes had occurred between 1977 and 1979. In 1979, fewer students reported driving a car after they knew that they had had too much to drink. Fewer students in 1979 reported having come to class after several drinks, and fewer students reported getting nauseated and sick from drinking.

In 1982, Charles Cyochosz of the ISU Physical Education Department participated in a study with researchers from the University of Florida and the University of Wisconsin - La-Crosse to assess the effectiveness of voluntary educational activities in changing drinking behaviors/attitudes of college students. Specifically, the study investigated the differences in students' drinking attitudes and

behaviors before and after a voluntary alcohol education series. Results of the study indicated that the program impact on student drinking behaviors were more consistent and beneficial than the impact on drinking attitudes. Among the significant behavioral differences for the post-programs participating population were: less driving while under the influence of alcohol and less heavy drinking and related decreases in the negative consequences of drinking behaviors.

Summary

The information cited in the review of literature was utilized to provide a basis for the development of the research model presented in the following chapter. The review was divided into three subsections citing literature and other research findings in the areas of student alcohol use, environmental assessment and alcohol education programming.

Studies cited in the area of student alcohol use indicated that alcohol consumption is very prevalent on college campuses, and that rates of consumption varied across sub-groups within campus environments. Peer pressure played a significant part in influencing student alcohol use, and consequently student living groups had considerable impact on the drinking behaviors of residents. Different types of living groups had different effects on residents.

In the area of environmental assessment, the research cited indicated that the impact of the campus environment is a product of the combined influence of the various sub-environments within the institution. Residence halls are a major sub-environment in that a

large part of students out-of-classroom time is spent there. Residence hall environments are composed of three different levels of variables - psychosocial, social and architectural.

In reviewing the area of alcohol education, studies have shown that behavioral changes do not necessarily occur through participation in alcohol education programs, although attitudes and knowledge are affected. The review of literature was used by the investigator to assimilate the basic criteria for developing and implementing the research model presented in Chapter Three.

CHAPTER THREE - METHODOLOGY

This chapter describes the specific procedures used to develop the survey instrument, to select the sample and to distribute and collect the questionnaire. In addition, the content and implementation strategy of the alcohol education programs will also be presented.

Item Development

The survey instrument used in this study was designed to assess alcohol use by students, their knowledge of the effects of alcohol and their perceptions of the existing living environment. The specific items used in the survey instrument were derived from previously utilized alcohol surveys and questionnaires. These resource survey instruments were from: The University of Georgia, the University of Florida, Iowa State University, and the "College Experience Questionnaire". The instrument was developed using five sub-sections: demographic information, an assessment of non-drinkers and why they do not drink, an assessment of drinkers and their drinking patterns, an assessment of student perceptions of their floor environment, and a survey of student knowledge of alcohol and its effects. A copy of the instrument is in Appendix A. The items in the subsection which assessed student perceptions of their living environment were derived from selected questions of the University Residence Environment Scale (URES), Moos (1979b).

The URES instrument measures the perceived psycho-social climate of the student living area. The rationale used for the development of the

URES was basically derived from the theoretical contributions of Murray (1938) and his conceptualization of the environmental press. The logic of the approach is that the consensus of individuals characterizing their environmental climate exerts a directional influence on behavior.

The URES instrument focuses on the measurement and description of student relationships and the type of informal organizational structure of the living group. In order to accomplish this, the instrument measures ten different characteristics of the living unit. These characteristics are: involvement, emotional support, independence, competition, academic achievement, intellectuality, order and organization, student influence, innovation and traditional social orientation. These characteristics will be measured on each floor in this study, and will be correlated with student drinking patterns to determine any relationship implications. Approval for using the selected questions from the URES instrument was obtained from Consulting Psychologists Press, Palo Alto, California.

Survey development and layout

Once the items were developed for the five subsections of the survey instrument, the survey was developed. The order of the items within each section was randomly determined. The order of the sections was determined by a combination of factors - importance of topic, readability and ease of answering.

Research design and sample selection

As indicated in Chapter I, this study was designed to measure the impact of an alcohol education program series on both individual student drinking behaviors and the perceived floor environment in which the student resides. In addition, this study assessed whether specific environmental characteristics (i.e. floor type and building type) affect student drinking behaviors.

In order to establish a research design that would allow for the measurement of all of these variables, 12 different residence hall floors were selected from the three single-sex residence hall complexes at I.S.U. The residence hall complexes are groups of four to seven residence halls housing 2600 to 3200 students. These complexes are separately organizational housing areas which are composed of individual student government bodies and residence hall staff. The names of these complexes are: The Towers Residence Association (TRA), the Union Drive Association (UDA) and the Richardson Court Association (RCA).

The floors that participated in the research project were selected at random from a list provided by the Department of Residence staff. The resident advisor and student government leaders from each floor were contacted early in the Fall semester by the investigator to discuss their participation in the project.

All of the student leaders agreed to participate in the project. The treatment and control groups were selected after the initial meeting. The floors were selected according to the following distribution:

1. TRA (High-rise buildings)
 - Two male floors
 - Two co-ed floors
2. UDA (low-rise buildings)
 - Two male floors
 - Two co-ed floors
3. RCA
 - Two female floors (low rise)
 - Two female floors (high rise).

One floor from each of the six pairs of floors was selected to participate in the alcohol education program series. One floor from each pair was selected as the control floor. The control floor was not provided with any alcohol education programs on the floor during the academic year.

Distribution of the survey

The surveys were distributed twice during the academic year following a pre-test post-test control group research design. The instrument was distributed initially in October 1982 to the residents of the 12 selected floors. An approximate 6-week time period was allowed between the beginning of the school year and the distribution of the survey in order to allow residents to obtain an established perception of their environment.

The post-test distribution was conducted near the end of the academic year (April, 1983). The surveys were distributed and collected

by Resident Assistants (RAs) and student government members living on each floor. The investigator met with each group prior to the distribution of the survey and carefully explained the procedures for distribution.

Student names were not obtained on the instrument, however social security numbers were utilized to allow the investigator to compare changes in individual behavior from the pre-test to the post-test.

Approval for the project was obtained from the I.S.U. Human Subjects Committee.

Alcohol Education Programs

Two comprehensive alcohol education programs were presented to the six selected floors between the pre-test and the post-test. The first program was presented in October and November and the second was presented in January and February.

Student participation in the programs was voluntary. However, staff and student government leaders on each floor publicized the programs and encouraged students to attend. The attendance at the programs varied from floor to floor, however, there was no observable difference between the attendance at these programs and other alcohol education programs presented in the residence halls during the year.

Although the presenters of the programs were different, the content of the programs was the same for each floor to insure continuity in the program. The programs were presented by the Alcohol Education Programming team which is comprised of four graduate assistants working

for the Alcohol Education Office.

The program content was determined by Steve McDonnell, Coordinator of the Alcohol Education Office at ISU and the investigator. The material dealt with the physical effects of alcohol, alcohol and the problem drinker, sexuality and alcohol, and alcohol and relationships (See Appendix B).

Data Preparation

The returned surveys were coded and keypunched by the Computer Center at Southeast Missouri State University. After each survey distribution, the data were stored in the computer for future analysis.

The pre-test instrument responses were completed by students on the survey instrument itself. The responses on the post-test were completed on computerized scan sheets in order to facilitate tabulation of the responses. For the pre-test responses, the answers were converted to key-punch cards by a key-punch operator at Southeast Missouri State University.

Reliability and validity

Time restrictions and sample size did not allow for statistical reliability tests to be run on the survey instrument used in this study. The items in the survey were primarily drawn from other alcohol surveys and questionnaires. Therefore, the instrument should have a high standard of reliability.

A high commonality of survey questions from the selected

questionnaires were found on all of the instruments used. A review of the questions associated with the instruments by professional staff provided face validity. The validity of all the questions are difficult to determine. As cited earlier, the URES instrument was developed from Murray's needs-press theory, but there are no existing measures to compare with the URES results. However, the URES instrument has been used extensively by residence hall administrators in assessing perceptions of residential environments. Recognizing this limitation, this instrument appeared to have high face validity, based on its grounding in the common environmental variables found in the literature on assessment, and on the background of the other instruments used in the survey.

Statistical preparation

The data were analyzed by the following procedures:

1. Frequencies and means.
2. Pearson Correlation Coefficient
3. 2 x 3 factorial analysis of variance.
4. Analysis of Variance.
5. Cross Tabulation between independent variables.
6. T-Tests

Individual and floor drinking patterns were measured through the development of a mean drinking composite score. This composite was determined by assigning a response value to the answers from questions 15 to 23 in the research instrument. A mean score was then calculated

from the total response tabulation.

The information presented in this chapter described the methodology and procedures that were utilized to implement the research project. Specifically, the information was used to plan and design the survey instrument, select the sample and distribute the questionnaire. The results of the research will be presented in the following chapter.

CHAPTER FOUR - PRESENTATION OF THE DATA ANALYSIS

This chapter will present the findings and statistical analysis of the data obtained from this research project. The instrument was designed to measure the drinking behaviors, environmental perceptions and the general knowledge of the effects of alcohol among the occupants of twelve residence hall floors at Iowa State University during the 1982-83 academic year.

The purpose of this study was to evaluate the impact of a comprehensive alcohol education program series on both individual drinking patterns and on the perceptions students have of their living environment. The pre and post-test survey data were analyzed using the Statistical Package for the Social Sciences (SPSS) with the assistance of the Research Institute for Studies in Education (RISE) at Iowa State University and the computer center at Southeast Missouri State University.

Information is included in this chapter on the sample, item frequencies, factor analysis and the statistical testing of each of the hypotheses.

Sample

The sampling procedure developed for this project generated a pre-test sample of 799 students and a post-test sample of 713 students. The discrepancy between the pre and post test sample size presented in Table I was caused by the normal attrition and vacancies on the residence hall floors at the end of the year. There was no follow-up

with pre-test respondents who moved off of the floor during the year. Due to a lack of involvement in the programming these students' responses would not have contributed to the purpose of this study.

The pre and post test sample size and the rates of return by residence hall complex are displayed in Table 1.

Table 1: Sample size and distribution of respondents by residence hall complex

	Pre-Test				Post-Test			
	Sample		Return		Sample		Return	
	N	%	N	%	N	%	N	%
UDA	276	34.5	116	27.4	248	35.0	67	24.2
RCA	263	32.9	154	36.4	233	32.6	117	42.4
TRA	260	32.6	148	35.0	232	32.4	50	18.0
NO RESPONSE			5	1.2			42	15.4
TOTAL	799	100.0	423	100.0	713	100.0	276	100.0

The return rate from the pre-test sample was 54 percent, and for the post-test 39 percent. In the pre-test 141 respondents (33.5 percent). In the post-test, 31 (15.6 percent) of the sample were under 19. The legal drinking age in Iowa is 19.

The distribution of the sample population by sex is presented in Table 2 for the pre and post test populations.

Table 2: Distribution of pre and post-test respondents by sex

	Pre-Test		Post-Test	
	N	%	N	%
Male	213	50.4	111	40.2
Female	208	49.2	161	58.3
No Response	2	0.4	4	1.5
TOTAL	423	100.0	276	100.0

A majority (67 percent) of the respondents in both the pre and post-test sample were underclassmen (freshmen and sophomores). Although this may not be representative of the I.S.U. student population, it is representative of the residence hall population at I.S.U. The distribution of the pre and post test samples by classification is presented in Table 3.

Table 3: Distribution of pre and post-test respondents by academic classification

	Pre-Test		Post-Test	
	N	%	N	%
Freshmen	176	41.6	103	37.3
Sophomore	111	26.2	84	30.4
Junior	82	19.4	50	18.2
Senior	48	11.3	35	12.7
Graduate	2	0.5	0	0
No Response	4	1.0	4	1.4
TOTAL	423	100.0	276	100.0

The distribution of the respondents by floor type was even in the pre-test sample. In the post-test, however, the percentage of respondents from female floors was much higher than the percentage from co-ed and male floors. The 42 non-respondents may have skewed the distribution of the floor types in the post-test and some variation may have occurred due to changes in classification at the semester. Table 4 presents a breakdown of respondents by residence hall floor type.

Table 4: Distribution of pre and post-test respondents by floor types

	Pre-Test		Post-Test	
	N	%	N	%
Male	133	31.4	57	20.6
Female	155	36.6	117	42.7
Co-ed	132	31.3	60	21.7
No Response	3	0.7	42	15.0
TOTAL	423	100.0	276	100.0

The percentage of students who reported participating in the alcohol education programs nearly tripled from the pre-test to the post-test from 13.9 percent to 38 percent. Table 5 presents the distribution of respondents who reported that they had participated in the programs. Because the students on the control floors were not exposed to the programs, it can be assumed that nearly all of the increase can be attributed to participation by members in the treatment group.

Table 5: Distribution of pre and post-test respondents who participated in alcohol education programs

	Pre-Test		Post-Test	
	N	%	N	%
Yes	56	13.2	105	38.5
No	365	86.3	166	60.1
No Response	2	0.5	5	1.4
TOTAL	423	100.0	276	100.0

Non drinkers response

In both the pre-test and the post-test samples approximately 88 percent of the population reported themselves as drinkers, with 12 percent of the respondents reporting themselves as non-drinkers. The non-drinkers reported a variety of reasons for choosing not to drink. Table 6 shows the distribution of non-drinkers reasons for not drinking in the pre-test and post-test samples. The majority of respondents indicated they chose not to drink because they do not enjoy the taste, while religious reasons were listed the least often among both groups.

Table 6: Pre and post-test distributions of reasons why non-drinkers chose not to drink

	Pre-Test		Post-Test	
	N	%	N	%
Do Not Enjoy Taste	31	64.2	24	68.0
Negative Physical Effects	9	19.2	7	20.0
Religious Reasons	4	8.3	3	9.0
Other	4	8.3	1	3.0
TOTAL	48	100.0	35	100.0

In both the pre and post-test samples, a majority of the respondents (63.7 and 71 percent) indicated that they felt some degree of pressure from other floor members to drink. The majority (64.5 percent) felt that there were adequate alternatives to drinking at ISU.

Drinkers response

Among the drinking respondents, beer was by far the drink of choice, being used more frequently and consumed in greater quantities than wine or liquor. These results support the findings of similar studies in this area and are representative of college-age populations. Table 7 indicates the alcoholic beverages used most often for the pre-test and post-test samples.

Table 7: Distribution of alcoholic beverages used most often by the pre and post-test respondents

	Pre-Test		Post-Test	
	N	%	N	%
Beer	278	73.5	163	67.0
Wine	20	5.2	27	10.3
Liquor	81	21.3	56	22.7
Total	379	100.0	246	100.0

Within the pre-test sample the majority of respondents (55.3 percent) indicated they drank beer at least once a week, with 6.4 percent stating they drank beer once a day. Among the post-test respondents, 47.9 percent stated they consumed beer at least once a week while 2.2 percent indicated that they drank it at least once a day.

In both the pre and post-test, the majority (56 percent and 51.4 percent indicated they drank more than three beers at a time with 13.7 percent in the pre-test and 5.8 percent in the post-test consuming more than six at a time.

The predominant reason for using alcohol appears to be for social reasons. In the pre and post-tests, little difference occurred (67.6

versus 67.1 percent) in the rate of respondents who indicated they occasionally drank to be sociable. Approximately the same percentage indicated they frequently or occasionally drank in large mixed groups. In the pre-test, 37.4 percent of the respondents indicated that 3-5 times per month they attended a party at which alcohol was served. In served. In the post-test 33 percent said they followed a similar pattern.

To the question "How often do you drink to get drunk" 32.8 percent in the pre-test and 34.8 percent in the post-test indicated that they frequently or occasionally did.

In both the pre and post-test samples, the majority of respondents (49.2 percent and 59.4 percent) indicated "Present Lifestyle" as the major factor influencing their current use of alcohol which indicates that the college lifestyle and experience may be influential in determining the type of drinking behaviors and alcohol use a student exhibits.

Table 8 indicates the distribution of the responses to the question "When did you begin drinking in high school or college?". The responses are fairly evenly distributed with no classification being significant as a key year to begin drinking.

Table 8: Pre-test distribution of year in school when respondent began drinking

	High School		College	
	N	%	N	%
Freshmen	73	26.2	47	27.0
Sophomore	82	29.3	36	20.6
Junior	68	24.3	42	24.2
Senior	56	20.2	49	28.2
Total	279	100.0	174	100.0

It appears that a larger percentage of respondents began using alcohol in high school with more students beginning in their freshman and sophomore years. In college, the distribution was a little more even with slightly more respondents beginning their use of alcohol in the freshmen and sophomore years.

The post-test responses to the question appeared to be somewhat skewed. For the post-test questionnaire, the format of the question was broken into two parts in order to make the question more compatible with the computer scan sheet. In the post-test, 123 (44 percent) of the respondents indicated they began drinking in their freshman year of

college. The question may have been interpreted to mean "when was the first year you drank in college?"

In an effort to determine how many freshmen indicated they began drinking in their freshman year, a cross-tabulation was run for current classification and the year the respondent stated they began drinking. Table 9 indicates the results of the test.

Table 9: Cross tabulation of classification and year in college in which respondents reported beginning drinking

	FR YR	SO YR	JR YR	SR YR
FR	56	0	0	0
SO	40	6	0	0
JR	16	5	2	0
SR	11	5	5	3

The number of post-test respondents who reported an increase in their drinking behavior during the year of the study was 77 (28 percent). Seventy-nine (28.7 percent) indicated a decrease in their drinking behaviors and 89 (32.4 percent) indicated their drinking behaviors had remained the same.

The responses to the general knowledge section of the questionnaire in the pre and post-tests showed no major increases in the understanding of the effects of alcohol from the pre-test to the post-test. Table 10 indicates the distribution of responses to the correct answers in the pre and post-test.

Table 10: Pre-test and post-test frequencies to correct responses in the general knowledge section

	Pre-Test Correct Response		Post-Test Correct Response	
	N	%	N	%
Milk Slows Absorption	143	33.8	96	34.8
Alcohol Can't Cause Weight Gain	385	91.0	249	90.27
Alcohol is a Stimulant	341	80.6	222	80.4
Alcohol is a Drug	377	89.1	250	90.6
Blood Count of .1% is Illegal	272	64.3	192	69.6
Can't be Alcoholic With Beer	395	93.4	259	93.8
Moderate Drinking Not Harmful	191	45.2	139	50.4
Takes as Many Hours as Drink to burn up Alcohol	209	49.4	157	56.9
Beer Contains 2-6% Alcohol	323	76.4	207	75.0
Eating Doesn't Slow Absorption	344	81.3	239	86.6
Coffee or Cold Shower Helps Sober Up	333	78.7	226	81.9

There thus seems to be little difference between the pre and post-test correct response rate.

Findings Related to the Hypotheses

The statistical procedures for testing the hypotheses and the findings are discussed in this section. The .05 level of significance was the standard for the rejection level of all of the hypotheses. Hypotheses 1 thru 6 utilized the pre-test population for determining significance. The pre-test population was chosen because this population was most representative of the normal student population at ISU, and had not been influenced by the alcohol education program series. Hypotheses 7 thru 10 analyzed differences between the pre and post test populations. Hypotheses 11 and 12 utilized a matched pair analysis for testing the level of significance. The results of these tests are discussed below.

H1: There will be no significant difference in the mean drinking composite scores between male and female students residing in University Residence Halls at Iowa State University.

A T-Test statistical analysis was used to test this hypothesis. The drinking composite scores for all male and female pre-test respondents were used. In all, 411 respondents (207 male and 204 female) were used. The mean composite scores were 21.85 for males and 19.98 for females. This score reflects the combined mean response tabulation from questions 15 to 23 in the survey instrument. Table 11 presents the results of the analysis.

Table 11: T-test of the differences between male and female mean drinking composite scores

Variable	Number of			T
	Cases	Mean	S.D.	Value
Group I Male	207	21.85	8.955	2.21*
Group II Female	204	19.98	8.173	

*Significant at .05 level

The T-Value of 2.21 indicates a significant difference in the reported drinking behaviors between males and females, with males drinking more. The null hypothesis was therefore rejected. This supports other research which also indicates significant differences in the drinking patterns of males and females.

H2: There will be no significant difference in the mean drinking composite scores between students living in high-rise and low-rise residence halls.

The T-Test statistical procedure was chosen to analyze the differences between the pre-test mean drinking composite scores for the high-rise and low-rise student sample. Table 12 shows the results of the T-Tests comparing the mean drinking composite scores for high-rise and low-rise students.

Table 12: T-test of mean drinking composite score differences between high-rise and low-rise residence hall students

Variable	Comp Score			T
	N	Mean	S.D.	Value
High Rise	197	21.436	8.3	1.26
Low Rise	213	20.366	8.9	

The T-Test revealed no significant difference ($T=.210$) between the mean composite scores for the two groups. This may indicate that the architectural differences between high rise and low rise buildings have no impact on alcohol consumption. These findings conflict with those of Valins and Baum (1973), although none of their studies specifically addressed alcohol-related behaviors. However, the results of the analysis of Hypothesis eight indicates that residents in low-rise buildings experienced significant reduction in alcohol use over the test period. Thus indicating that architectural factors may have prolonged influences on alcohol use. The initial differences at the beginning of the year between high-rise and low-rise responses were not significant and therefore Hypothesis two was not rejected.

H3: There will be no significant difference in the mean drinking composite scores between students residing in single-sex living units and students residing in co-ed living units.

A T-Test statistical analysis was used to compare the mean drinking composite scores of students living in single sex living units and students living in co-ed living units. Table 13 presents the results of this analysis.

Table 13: T-test comparing mean drinking composite scores for co-ed and single sex living units

Variable	N	Mean	S.D.	T Value
Co-ed	128	25.16	7.57	
Single Sex	282	19.84	8.901	3.66**

**Significant at .01 level

The results revealed a significant difference between the mean pre-test scores for single sex and co-ed living units. Students living in co-ed units reported heavier drinking patterns than students living in single sex units. Therefore, the hypothesis was rejected.

The distribution of the response sample indicates a rate similar to the co-ed, single sex rates in the over-all sample. Co-ed living environments thus seem to foster heavier alcohol use among the residents of these floors.

H4: There will be no significant correlation between student grade point average and student drinking behaviors.

A Pearson Correlation Coefficient statistical analysis was used to test the relationship between the reported pre-test student grade point average and student drinking behaviors. Table 14 presents the results of this analysis.

Table 14: Pearson Correlation Coefficient analysis of relationship between G.P.A. and student drinking behaviors

Variable	Cases	M	S.D.	Correlation
G.P.A.	255	3.074	1.049	-.0974
Comp Score	413	20.93	8.65	p=.060

The correlation between G.P.A. and drinking behaviors was $-.0974$ with a p value for the 255 matched cases of $.060$. There was not a significant relationship indicated between G.P.A, and drinking behaviors. The hypothesis is therefore not rejected.

H5: There will be no significant relationship between student classification (year in school) and student drinking behaviors.

An analysis of variance procedure was used to test this hypothesis. Table 15 shows the results of this test. The test was run using the mean pre-test composite score for each classification. These mean scores were tested using the analysis of variance procedure.

Table 15: Analysis of variance between student classification and mean drinking composite scores

Source of Variation	SS	DF	M.S.	Significance	
				F	of F
Main Effects	368.857	4	92.214	1.258	.286
Classification	368.857	4	92.214	1.258	.286
Explained	368.859	4	92.215	1.258	.286
Residual	29620.008	404	73.317		
Total	29988.867	408	73.502		

The F value of .286 does not fall into the .05 rejection range. Therefore the hypothesis was not rejected. This indicates that there are no significant differences in drinking behaviors between freshmen, sophomores, juniors and seniors. This would support the findings that the drinking patterns between freshmen and seniors are converging. This may also be influenced by the 19 year old drinking age in Iowa, which would make alcohol more accessible to all classifications.

H6: There will be no significant correlation between student employment and student drinking behaviors.

A T-Test statistical analysis was used to compare the mean pre-test drinking composite scores between students who held part-time jobs and those who did not. Table 16 presents the results of the analysis. The

The p-value of .231 would indicate that there is no significant difference in the drinking behaviors, and therefore the hypothesis was not rejected.

Table 16: T-test of drinking composite score means and part-time employment

Variable	Comp Score			T-Value
	N	Mean	S.D.	
Employed	114	20.09	8.8	1.20
Not Employed	296	21.23	8.5	

The aspect of holding a part-time job while attending college does not appear to have a significant impact on the type of drinking behaviors a student adopts.

H7: There will be no significant change in the mean drinking composite scores for students residing in high-rise residence halls during the 1982-83 academic year.

A T-Test statistical analysis was used to compare the mean pre and post test drinking composite scores for students who resided in high-rise residence halls. Only those students who completed both the pre and post test survey were utilized in the study. Table 17 shows the results of the T-Test.

Table 17: T-test of pre and post-test mean drinking composite scores for students living in high-rise residence halls during the 1982-83 academic year.

Variable	N	M	S.D.	T-Value
Pre-Test		22.33	4.127	
	48			.60
Post-Test		22.08	4.399	

Although there was a reduction in the mean drinking composite score (22.33 to 22.08), the change was not significant. Therefore, the hypothesis was not rejected.

H8: There will be no significant change in the mean drinking composite scores for students residing in low-rise residence halls during the 1982-83 academic year.

A T-Test analysis was utilized to test the hypothesis. The mean pre and post-test composite scores were compared for those students who resided in low-rise residence halls and completed both surveys. Table 18 displays the results of this analysis.

Table 18: T-test of pre and post-test mean drinking composite scores for students residing in low-rise residence halls

Variable	N	M	S.D.	T-Value
Pre-Test		22.80	4.70	
	63			2.41*
Post Test		21.68	4.69	

*Significant at .05 level

The 2.41 T-value thus indicates a significant change in the mean scores from the pre-test to the post-test. As in the high-rise scores, the mean scores were lower in the post test. However, the results to this test were significant, so therefore the hypothesis was rejected.

The environmental differences between high rise and low rise residence halls may thus have been contributing factors in the greater mean score change from the pre-test to the post-test.

H9: There will be no significant change in the mean drinking composite scores for students residing in single sex units during the 1982-83 academic year.

A T-Test analysis was used to test this hypothesis. The mean pre and post test composite scores were compared for those students who resided in single sex units and completed both the pre and post test survey. Table 19 indicates the results of this analysis.

Table 19: T-test of pre and post-test mean drinking composite scores for students living in single sex residence halls during the 1982-83 academic year

Variable	N	M	S.D.	T-Value
Pre-Test		21.96	4.37	
	82			.78
Post-Test		21.69	4.73	

The results indicate that there was not a significant change in the mean drinking composite score from the pre-test to the post-test. Therefore, the hypothesis was not rejected.

H10: There will be no significant change in the mean drinking composite score for students residing in co-ed residence halls during the 1982-83 academic year.

A T-Test analysis was used to test this hypothesis. The mean pre and post-test composite scores for those students who resided in co-ed living units were compared. Only those students who completed both surveys were used in the analysis. Table 20 shows the results of this analysis.

Table 20: T-test of pre and post-test mean drinking composite scores for students living in co-ed residence halls during the 1982-83 academic year.

Variable	N	M	S.D.	T-Value
Pre-Test		24.413	4.23	
	29			2.98*
Post-Test		22.31	4.05	

*Significant at .05 level

The results indicate a significant reduction (24.413 to 22.31) in the mean composite scores for students living in co-ed halls during the 82-83 academic year. Therefore, the hypothesis was rejected. Some caution however should be taken when interpreting these results due to the low response rate.

H11: Participation in a comprehensive alcohol education program series sponsored by the alcohol education office at I.S.U. will have no significant effect on student perceptions of the six environmental characteristics chosen from the University Residence Environment Scale.

A paired-t statistical analysis was utilized to test this hypothesis. The pre and post-test mean scores for the six environmental characteristics chosen from the URES instrument were tested for both the treatment and control groups. Table 21 presents the results of this analysis.

Table 21: Presentation of t-test results comparing pre and post test URES mean scores for the treatment and control groups

	Treatment				Control			
	N	Mean	S.D.	T	N	Mean	S.D.	T
	Pre	9.1210	1.926			8.98	1.72	
Involvement	41			2.22*	56			2.36*
	Post	9.8780	2.052			9.48	1.68	
	Pre	5.43	1.32			5.32	1.19	
Support	41			2.68*	64			0.38
	Post	6.0	1.44			5.39	1.29	
	Pre	10.23	1.93			9.52	1.68	
Aca Achv	42			0.08	59			0.00
	Post	10.26	2.11			9.52	1.71	
	Pre	7.14	1.35			7.33	1.53	
Ord Org	41			2.42*	63			0.21
	Post	7.70	1.80			7.28	1.56	
	Pre	4.93	.889			4.77	.851	
Competn	45			1.76	63			0.23
	Post	4.68	1.019			4.74	.861	
	Pre	2.86	.734			2.94	.711	
TSO	44			0.17	58			0.45
	Post	2.84	.713			2.89	.718	

*Significant at .05 level

As indicated in the table, the treatment group had three environmental characteristics (involvement ($t=2.22$), support ($t=2.68$) and order and organization ($t=2.42$)) which had significant changes in the mean scores from the pre test to the post test. The control group had one characteristic, (involvement ($t=2.36$)) which had changed significantly.

In order to determine if participation in the program series influenced perceived environmental factors, an analysis of variance was conducted to examine treatment control differences within each of the six environmental categories. Of the six categories, only "support" was significantly influenced by the program series. Table 22 reveals the results of the analysis conducted for each of the six environmental categories.

Table 22: Analysis of variance for the six URES environmental characteristics within the treatment and control group

	DF	F
Involvement	1	2.05
Support	1	6.68(*)
Academic Achievement	1	0.41
Order Organization	1	4.20
Competition	1	0.21
Trad. Social Orientation	1	0.02

*Significant at .05 level

It thus appears that the program series had only limited effect on the environmental characteristics that were chosen for the study. Therefore, the hypothesis was rejected only for the "support" category. For the other environmental characteristics, the null hypothesis was not rejected.

H12: Participation in a comprehensive alcohol education program series at I.S.U. will have no significant effect on student drinking behaviors.

To test this hypothesis, a 2 x 3 factorial design was used. The dependent variable was derived by calculating the difference between the students' alcohol consumption levels at the beginning and at the end of the experiment.

The two levels of factor A, the independent variable, represented either participation or non participation in the programs. The three levels of the moderating variable, factor B, represented the floor type—male, female or co-ed. Factor B was included because earlier results indicated differences in the consumption levels between males and females.

The results indicate that neither program participation nor floor type had a significant effect on drinking behaviors. However, the interaction between these two variables created a highly significant effect on student drinking patterns.

Table 23 presents the results of the analysis of variance procedure that was conducted to test this hypothesis.

Table 23: Analysis of variance of difference between pre and post-test drinking composite scores for treatment and control group members controlling for floor type.

Source of Variation	Sum Of Square	DF	Mean Square	F
Mean Effects	38.831	3	12.94	1.33
Participation	0.52	1	0.56	.06
Floor Type	37.96	2	18.97	1.95
2-Way Interaction	188.97	2	94.48	9.72**
Part.-floor type	188.97	2	94.48	9.72**
Explained	227.80	5	45.56	4.69
Residual	271.95	28	9.71	
Total	499.76	33	15.14	

**Significant at .01 level

The analysis of variance procedure thus revealed a statistically significant interaction within the independent and control variables as they affect the dependent variable composite scores. In order to further analyze this relationship, the following table displays the composite score pre and post test mean cell differences for each category.

Table 24: Mean cell differences between the pre and post-test drinking composite scores

	M	F	Co-ed	
TRT	-2.83	-1.00	-0.40	-1.53
Control	4.50	-0.57	-8.00	-1.21
	-1.00	-0.67	-3.25	-1.35
T-Value	-2.88**	-0.24	3.34**	

**Significant at .01 level

In order to determine the significance of the differences between the treatment and control group mean composite scores, a T-Statistic was calculated. Test results indicate highly significant differences between the treatment and control group scores for male ($t=2.88$) and co-ed floors ($t=3.34$). Participation in the program on female floors did not produce significant results ($t=0.24$).

As interpreted in Table 24 male program participants reported a decrease in drinking behaviors, whereas non-participants reflected a marked increase. For co-ed floor members, program participants reported a slight decrease in drinking behaviors. Whereas non-participants exhibited a marked decrease. There was no difference in the treatment and control groups for the female floor ($t=0.24$).

There thus appears to have been an significant influence on and treatment/control variables. Therefore, the hypothesis was rejected.

Summary of Findings

The purpose of this study was to determine the impact of an alcohol education program series on student drinking behaviors. Certain environmental characteristics were also examined in order to assess their impact on alcohol use.

The investigation revealed significant differences in the student drinking patterns between male and female floors and between single sex and co-ed floors. Male and co-ed floors both reported heavier drinking patterns. The mean drinking composite scores within low-rise buildings exhibited a significant reduction from the pre-test to the post-test. Co-ed residents also reported a significant reduction during the test period.

Although there were no significant differences in the consumption levels between high-rise and low-rise buildings, there were significant reductions in alcohol use by students within low-rise buildings during the test period. This could be an indication that certain architectural variables may have an effect on student alcohol use.

Other variables that were tested produced no significant results. There were no significant differences in consumption levels according to classification (year in school). Although other studies have found a classification difference, the lower drinking age in Iowa (19) may have contributed to a converging of behavior patterns between classifications. Student grade point average also did not prove to be a significant factor in determining consumption level differences.

The analysis indicated that the interaction between the floor environment and participation in the alcohol education program produced some significant influence on student drinking behaviors. Independently, neither of the two variables had a significant effect. This may indicate that the possibility exist to be able to influence alcohol consumption through planned programming intervention strategies which address environmental characteristics.

T-test results between the treatment groups indicated that three perceived environmental characteristics from the URES scale displayed significant changes in the mean scores from the pre-test to the post-test. These characteristics were involvement, support and order and organization. The control group had only one characteristic (involvement) which changed significantly. The analysis of variance conducted within the treatment and control groups indicated that only the support characteristic appeared to be influenced by the program series.

The results of this study may be limited and the data should be interpreted with caution. However, the results indicate that the interaction between alcohol education programming efforts and certain environmental characteristics may have an impact on student drinking behaviors. There also appears to be significant differences between the drinking behaviors on co-ed floors and single-sex floors, and between male and female floors.

CHAPTER FIVE - SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The university environment is composed of a variety of sub-environments that have considerable impact on students. One influential sub-environment is the residence hall area where students spend a large portion of their non-classroom time. Investigators have found that residence hall living environments play a significant roll in the development of the social networks and peer influences that affect student behavior including alcohol abuse.

As the consumption level of alcoholic beverages has increased on college campuses across the country, university administrators have attempted to address this problem by presenting information-related programs to students. The purpose of these programs has been to increase student understanding of the effects of alcohol and certain abusive behavior patterns. Evaluations of these programs generally have concluded that the programs have not been successful in altering student drinking behaviors. Research studies, cited in the review of literature, have reported that knowledge of alcohol does not affect student drinking behaviors. Variables that do influence alcohol consumption levels are the prevailing environmental values and characteristics within society and the institution.

Previous studies measuring programmatic impact generally have assessed single presentation programs. For the purpose of this study a more comprehensive "package" program was designed in an effort to have greater influence on the prevailing floor environment. The alcohol education program series was developed in cooperation with the Alcohol

Education Unit at Iowa State University. The program series provided students with comprehensive information about alcohol and its effects on behavior. The specific programs focused on the physical effects of alcohol, alcohol and the problem drinker, sexuality and alcohol, and alcohol and interpersonal relationships.

The intent of this study was to examine the impact of this program series on residence hall student drinking behaviors at Iowa State University. In addition, selected environmental characteristics were assessed to determine their impact on resident consumption levels. The data were analyzed and were statistically treated using pre-test, post-test and matched-pairs variables to determine the significance of the hypotheses. The programs were presented to a treatment group of six residence hall floors following a pre-test assessment of the twelve floors chosen for this study. The treatment and control groups each consisted of a male, female and co-ed floor from a high-rise and low-rise building. At the end of the programming sessions, a post-test was conducted on the sample. The participants in this study were selected from the residence hall student population during the 1982-83 academic year.

Findings

The study was designed to measure the impact of the program series on both individual student drinking behaviors and on each of the perceived floor environmental characteristics. Despite the limitations of the study as described in Chapter I, there were significant patterns

which emerged from the tests of the hypotheses. Of the twelve major hypotheses that were tested, six were significant at the .05 level. The results derived from the statistical tests of the hypotheses are listed below:

1. Hypothesis 1 tested the difference between the alcohol consumption levels for men and women in the pre-test sample. There was a statistically significant difference between the reported alcohol use for men and women. Results indicated that men consumed alcohol more often and in greater quantities than women. These findings were supportive of other research in this area, therefore Hypothesis 1 was rejected.
2. Hypothesis 2 tested the difference between the consumption levels for high-rise and low-rise residence hall students in the pre-test sample. There was not a statistically significant difference between the drinking patterns of students living in high-rise and low-rise residence halls. Hypothesis 2 was therefore not rejected. Although previous studies have indicated certain behavioral and attitudinal differences between high-rise and low-rise residence halls, no study has specifically addressed alcohol use so it is difficult to make a comparison of results.
3. Hypothesis 3 assessed the difference between the drinking patterns of students on single-sex and co-ed residence halls within the pre-test sample. There was a statistically significant difference between the drinking patterns within these areas. The results revealed a much higher consumption rate among residents of

co-ed floors. Therefore, the Hypothesis was rejected.

4. Hypothesis 4 tested the relationship between student grade point average and alcohol use within the pre-test sample. There was no significant relationship between student grade point average and drinking patterns. Therefore, Hypothesis 4 was not rejected.
5. Hypothesis 5 assessed the relationship between student class level (year in school) and alcohol use within the pre-test sample. There was no significant relationship between these two variables. therefore, Hypothesis 5 was not rejected. This finding does not support the results of Hill and Bugen (1979) who found that sophomores had the highest consumption levels of all classifications. However, this could be an indication, as others have found, that age and classification drinking levels are converging.
6. Hypothesis 6 tested the relationship between part-time employment and alcohol use within the pre-test sample. There was not a significant relationship between alcohol use and employment. therefore, Hypothesis 6 was not rejected. This may indicate that students who have less free time and have a more regimented schedule portray similar drinking patterns to those students who are not employed.
7. Hypothesis 7 analyzed the difference in the pre and post test drinking behaviors for high rise students. There was not a significant change in the drinking behaviors among high-rise

residents during the test period. Therefore, Hypothesis 7 was not rejected.

8. Hypothesis 8 tested the difference in the drinking patterns for low rise students in the pre and post test sample. There was a significant change in the consumption levels of students who resided in low-rise residence halls during the test period. Results indicated a drop in the mean alcohol composite score for low-rise residents. Therefore, Hypothesis 8 was rejected. This may be an indication that the different environmental characteristics which affected student attitudes in previous high-rise, low-rise studies had an impact on the low-rise population during the test period.
9. Hypothesis 9 analyzed the change in drinking behavior among single sex floor residents in the pre and post-test sample. There was not a significant change in the drinking behaviors among students who resided on these floors during the test period. The mean composite scores from the pre-test to the post-test exhibited little change (21.96 to 21.19). Therefore, Hypothesis 9 was not rejected. Drinking patterns within single-sex units thus appeared to be stable and remained constant throughout the year.
10. Hypothesis 10 tested the differences in drinking behaviors among co-ed residents in the pre and post-test sample. There was a significant change in the drinking composite scores among those students who resided on co-ed floors during the test period. Results indicated a marked drop in the reported drinking patterns of co-ed residents (from 24.41 to 22.31). Therefore, Hypothesis 10 was

rejected. The environmental influence on the co-ed floors may have reduced the drinking patterns among the residents of these floors. This may be an indication that students who originally have a propensity for heavier drinking patterns are attracted to a co-ed environment. In addition, women who have been found to be more influenced by the environment, may have been affected by the males on the floor. This may have caused the higher original composite mean score.

11. Hypothesis 11 assessed the impact of the alcohol education program series on the treatment group. The matched-pairs analysis within the treatment and control group revealed a significant effect on only one of the six environmental characteristics within the treatment group during the test period. The variable "support" exhibited a significant difference within the treatment and control groups. The other five variables (involvement, academic achievement, order and organization, competition and traditional social orientation) exhibited no significant differences. Within the treatment group, three variables (involvement, support and order and organization) showed significant differences from the pre-test to the post-test. In the control group, only the involvement category showed a significant change during the test period, Hypothesis 11 was rejected for only the support category. For the other environmental characteristics, the null hypotheses were not rejected. It appears that the program series had only limited affect on the perceived environmental characteristics that were

selected for the study.

12. Hypothesis 12 tested whether participation in the alcohol education program series had an effect on student drinking behaviors. The matched-pairs analysis indicated that the interaction between the two variables created a highly significant effect on student drinking patterns. Independently, however, neither the program series nor the floor type had an effect. Findings revealed that there were significant differences in the mean composite scores between the treatment and control groups for male and co-ed floors. The male floors showed a reduction in drinking behaviors within the treatment group, whereas there was an increase in the control group. Among the co-ed sample, there was a reduction in both the treatment and control groups, with a much greater reduction within the control group. These co-ed floor results may be reflecting a biased response based upon the reaction to the Department of Residence questionnaire. Co-ed residents may have a greater sensitivity to perceived administrative influence, and therefore could have reacted more strongly to the questionnaire. The results still indicated a significant interaction between the alcohol program and the floor type. Therefore, Hypothesis 12 was rejected.

In summary, these findings indicate that although neither the program series nor the environment had a significant affect on student alcohol use, interaction between the two variables created a significant effect on drinking patterns. The combined impact of the

programs and the environment thus appeared to have an influence on student alcohol use. Among the males, there was a significant difference in the pre and post-test mean drinking composite scores with the treatment group exhibiting a decrease in drinking behaviors and the control group exhibiting an increase.

In the co-ed sample, there was a decline in the consumption level of both groups. Although it is difficult to explain the fact that the control group decreased more than the treatment group, it is gratifying to note a decline in both scores.

The pre-test results also revealed a significant difference between the alcohol use levels on male and female floors with males having a higher rate of consumption. There was also a significant difference in the drinking levels between co-ed floors and single-sex floors, with students living on co-ed floors reporting higher rates of use.

Based on these data, it appears that the interaction which takes place between the alcohol education programs and the environment may have some influence on student alcohol consumption. In addition, significant differences were noted between the drinking patterns on male and female floors, and between co-ed and single sex floors. This information should be of assistance to program planners and administrators in making decisions about student alcohol use.

Conclusions

Based on these data, several conclusions may be drawn from the results of this study. They are as follows:

1. Differences exist in the student drinking patterns between male and female floors, and between single sex and co-ed floors. Men reported having heavier drinking patterns than women, and co-ed floors reported having higher alcohol consumption rates than single-sex floors.
2. Although there were no significant differences in the drinking behaviors between high-rise and low-rise residents, students in low-rise living areas reported a significant decrease in drinking behaviors during the time frame of the study.
3. The interaction between the effects of the alcohol education programs and certain floor environmental characteristics may have an influence on student alcohol use. Neither of these variables proved to be significantly influential by themselves. However, interaction of these two variables appears to have had some influence on student drinking behaviors.

Implications

The results of this study should be of assistance to university administrators in considering program planning and development that focuses on student alcohol use. Significantly different consumption levels were noted between some of the student sub-groups. The interaction between the environmental variables and the alcohol

education programs may have had an effect in changing student alcohol consumption. Taking this into consideration, program planners may benefit by addressing some of their efforts toward specific environmental and sub-group differences which may influence student alcohol use. The data suggest that programs can be designed to address the specific needs of residents within a particular environment or sub-group.

Residence hall administrators may use this information to plan programs which address influential characteristics within the environment. Different alcohol education programs should be designed for all-male floors and co-ed floors which had higher consumption levels in the study. Residents of high-rise buildings appeared to maintain higher drinking levels throughout the year and this should possibly be addressed as well.

In general, the results of this study indicate that there are specific differences within residence hall environments which affect student alcohol use. Effective alcohol education programming should address these differences in order to have a greater impact on student drinking behaviors. It is important that residence hall staff continually assess the environment within the residence halls and the effectiveness of their programming efforts in order to best address the needs of the students.

The results of this study are intended to be of assistance to residence hall administrators and alcohol education program planners in their efforts to solve the problem of student alcohol abuse. The

findings should provide an addition to the existing body of knowledge regarding the impact that residential living environments have on student drinking behaviors, and provide an impetus for incorporating alcohol education programming into environmental planning strategies.

Recommendations for Further Study

The results of the study suggest a need for further research in the following areas:

1. Institutions where policies prohibit the use of alcohol in student residence halls may exhibit differences in drinking behaviors and influences from the environment. Comparison of the results of these two studies would provide an indication of the effects of these policies and how they help or hinder responsible drinking behaviors.
2. Programs designed to address specific sub-group differences (e.g., male, female, co-ed) need to be developed and studied.
3. Non-alcohol floor options should also be studied and compared. It would be of interest to assess and compare differences in the consumption levels, behavior patterns and environmental characteristics of students living on these floors.
4. Residence hall staff training programs often incorporate alcohol education information programs into the training of their staff. It would be of interest to study the affect that this type of training has on both staff drinking behaviors, and on the staff's ability to deal with alcohol-related problems.

5. Fraternity, sorority and off-campus drinking behavior should also be studied and comparisons made. It would be of interest to investigate the drinking pattern differences between residence hall students, fraternity and sorority group members and off-campus students.

LITERATURE UPDATE

The primary review of literature was conducted in 1982 prior to investigating the research questions addressed in the dissertation. Since the data analysis occurred over a three year period, the investigator reviewed the literature again to determine if any additional studies had been completed since 1982.

While there has been a considerable amount of popular literature relating to student alcohol abuse, there have been a limited number of substantive studies. Most of the research has focused on student consumption levels and drinking patterns. In comparison with the original review findings consumption levels appear to have remained stable. Hughes and Dodder (1983) conducted a study in Oklahoma, Texas and New England. They reported that alcohol consumption among students varied from 86.5 to 96 percent, with New England exhibiting a higher usage rate. The study also noted that males continued to drink more frequently and in greater quantities than females. Grade point average seemed to be associated with drinking behavior in all samples. In both Oklahoma and Texas, abstainers reported a higher grade point average than did drinkers, and the average decreased as drinking quantity and frequency increased.

Another study by Eddy (1983) found that 90 percent of the students sampled consumed alcohol with 35 percent indicating moderate or heavy drinking patterns. Eighty-two percent of the sample indicated that they did not experience pressure from their peers to drink.

The recent review of literature indicates that those involved in

planning alcohol education programs are shifting the focus and nature of their efforts to incorporate selected environmental variables. Howard Blane (1984) continues to indicate that all available evidence suggests that information-related programming is not effective in changing attitudes, knowledge or behavior. Blane recommends three approaches for more successful programming efforts:

1. Eliminate the "broad brush" approaches that focus on entire student bodies. Programmers need to concentrate resources on student groups who are most likely to have severe alcohol-related problems. He also advised that needs of students classified as "heavy drinkers" should be addressed. This includes about 20 percent of the student population.

2. Define more specific goals and procedures that are appropriate to the targeted population.

3. Programs reflecting the needs and values of the individual college environment should be developed.

In addressing student drinking problems, Conyne (1984) incorporated both environmental and programmatic variables into specifically designed programs for the alcohol abuser. In Conyne's sample, 92 percent of the population drank and 21 percent were classified as heavy drinkers. Beer was the alcoholic beverage used most often by the respondents. The heaviest beer drinkers tended to be single white males who were Greek or hall residents and who did not have a job.

Males reported experiencing greater drinking-related problems than females on 16 of the 17 areas addressed. Heavier drinking students

reported significantly more alcohol-related problems than did moderate or light alcoholic consumers. Half of the respondents reported feeling that there was strong pressure to drink on campus.

Conyne developed environmental strategies through a multi-level mass media campaign, multi-session educational programming and the implementation of a new alcohol policy. Pre-test/post-test data revealed little if any change in drinking behaviors within the treatment group when compared to the control group. Positive but small mean score differences were demonstrated on such variables as beer consumption and the acceptance of drinking only one or two drinks at a fraternity party. Virtually no differences were exhibited between the groups on most of the house environmental questions on the survey. These findings are supportive of the results of the investigator's study.

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APPENDIX A

Iowa State University of Science and Technology



Ames, Iowa 50010

Dear Residence Hall Student:

Welcome to the Fall Semester at Iowa State. I am an I.S.U. graduate student conducting an independent research project in conjunction with the Alcohol Education Program on how residence hall environments affect student drinking patterns and behaviors. I am asking for your assistance by completing the enclosed questionnaire.

The questionnaire is divided into four sections, plus a cover sheet asking for demographic information necessary for the study. The first section should be completed only if you do not currently drink alcoholic beverages. The second section should be completed only if you do drink alcoholic beverages. Section three, which everyone should complete, pertains to your perceptions of your residence hall environment and section four (everyone) asks questions about your current knowledge of certain facts about alcohol and its use.

The knowledge gained from this questionnaire depends entirely on your willingness to be thoughtful and honest in your answers. I would like to assure you that all information will be kept in confidence. I will not know your name, nor will I be able to associate your data with you. However, your responses now will be matched to your responses in another survey to be given later in the year. In order to do this, I will use the last four digits of your Social Security number, as indicated on this questionnaire.

There are no right or wrong answers, but we do need to know which response best describes your perceptions and behaviors.

Your participation in the project is voluntary. However, I hope that you will be able to complete the survey and return it to your R.A. Your cooperation is appreciated.

Should you have any questions regarding the survey, you may contact me in writing care of the Alcohol Education Program in the Office of Student Life.

Sincerely,

Bill Zeller
I.S.U. Graduate Student

Enclosure

Iowa State University *of Science and Technology* Ames, Iowa 50010



Dear Residence Hall Student:

Last fall your house participated in the first phase of a research project designed to investigate student drinking attitudes and behaviors at Iowa State University. We are entering the final phase of our project and we are asking you to complete this questionnaire. Your responses will be used to determine how student activities and behaviors on your floor have changed since last fall.

I would appreciate your taking a few minutes to complete the enclosed questionnaire. If you did not complete the questionnaire last fall, your response now is still important in order to help assess the drinking pattern and environment on your floor. Please use the computer answer sheet provided. You will need to use a number 2 pencil to record your responses.

The last four digits of your Social Security number needs to be included on both your questionnaire and your answer sheet in the "space for student number" section.

I would like to reassure you that all information will be kept confidential. I will not know your name nor will I associate your responses with you. This research project is an independent study for my doctoral thesis and is not associated with the Department of Residence alcohol survey conducted in January.

Your participation in this project is greatly appreciated. After completing the survey, please return it and your answer sheet to your R.A.

Should you have any questions regarding the survey, you may contact me in writing through the Office of Student Life.

Sincerely,

Bill Zeller

Bill Zeller
I.S.U. Graduate Student

Enclosures

Demographic Information

Please write your responses in the space provided for questions A - F. The last four digits of your Social Security Number should also be included in the "Spaces for Student Number" section of the answer sheet.

- A. Last four digits of your social security number _____
- B. Your College _____
- C. Your Residence Hall complex: UDA _____ RCA _____ TRA _____
- D. House _____
- E. Hall _____
- F. Age: 17 or under _____ 18 _____ 19 _____ 20 _____ 21 _____ 22 _____
23 through 26 _____ 27 or over _____

For the remaining questions, use the computer scan sheet provided. Begin with question #1.

1. Sex: (A) Male (B) Female
2. Class level: (A) Fresh. (B) Soph. (C) Jr. (D) Sr. (E) Grad.
3. Grade Point Average: (A) below 2.0 (B) 2.0-2.49 (C) 2.5-2.99
(D) 3.0-3.49 (E) 3.5-4.0
4. Do you have a part-time job? (A) Yes (B) No
5. How many occupants are there in your room? (A) one (B) two (C) three
(D) more than three
6. Are you receiving any type of financial aid? (A) Yes (B) No
7. Have you ever participated in one of the I.S.U. alcohol education program workshops or presentations? (A) Yes (B) No
8. Have you ever participated in any other workshops or presentations on alcohol education? (A) Yes (B) No

Section I

If you drink alcoholic beverages, please go to section II.

If you do not presently drink alcoholic beverages, please answer the following questions.

9. For what reasons do you choose not to drink? (You may select more than one.)
 - A. do not enjoy the taste
 - B. negative physical effects
 - C. negative mental effects
 - D. religious
 - E. other (please list)
10. Do you feel pressure to drink from people living in your house?
 - A. never
 - B. seldom
 - C. occasionally
 - D. often
11. Do you feel a need to explain to others why you are not drinking?
 - A. never
 - B. seldom
 - C. occasionally
 - D. often
12. Do you believe people who do drink tend to have a lower opinion of those who don't drink?
 - A. yes
 - B. no
 - C. don't know
13. Do you think there are adequate, healthy alternatives to drinking at I.S.U.?
 - A. yes
 - B. no
 - C. don't know

Please turn to Section III.

Section II

The following questions refer to your use of alcohol. Please respond honestly and accurately to each question.

14. What kind of alcoholic beverages do you drink most frequently?
- A. beer
 - B. wine
 - C. liquor or spirits (whiskey, gin, vodka, etc.)
15. How often, on the average, do you usually have a beer?
- A. every day
 - B. at least once a week but not every day
 - C. at least once a month but less than once a week
 - D. more than once a year but less than once a month
 - E. once a year or less
16. When you drink beer, how many cans or glasses, on the average, do you usually drink at any one time?
- A. less than 1
 - B. 1-2
 - C. 3-4
 - D. 5-6
 - E. over 6
17. How often, on the average, do you usually have wine?
- A. every day
 - B. at least once a week but not every day
 - C. at least once a month but less than once a week
 - D. more than once a year, but less than once a month
 - E. once a year or less
18. When you drink wine, how many glasses, on the average, do you usually drink at any one time?
- A. less than one
 - B. 1-2
 - C. 3-4
 - D. 5-6
 - E. over 6
19. How often, on the average, do you usually drink liquor or spirits (whiskey, gin, vodka, etc.)?
- A. every day
 - B. at least once a week but not every day
 - C. at least once a month but less than once a week
 - D. more than once a year but less than once a month
 - E. once a year or less

20. When you drink liquor, how many drinks (or 1 oz. shots) do you usually drink at any one time?
- A. less than 1
 - B. 1-2
 - C. 3-4
 - D. 5-6
 - E. over 6

Over the past month, estimate the number of times you drank the following:

- | | <u>none</u> | <u>1-4</u> | <u>5-15</u> | <u>16-40</u> | <u>over 40</u> |
|--------------------------------|-------------|------------|-------------|--------------|----------------|
| 21. 12 oz. cans of beer | A | B | C | D | E |
| 22. 6 oz. glasses of wine | A | B | C | D | E |
| 23. mixed drinks (1 oz. shots) | A | B | C | D | E |
24. On the average, how many times per month do you attend parties where alcoholic beverages are consumed?
- A. 0
 - B. 1
 - C. 2
 - D. 3-5
 - E. over 5
25. Do you feel pressure to drink at parties and other social occasions where others are drinking?
- A. yes, always
 - B. yes, sometimes
 - C. yes, but seldom
 - D. no
26. Do you ever feel pressure from members of your house to drink alcoholic beverages?
- A. yes
 - B. no
27. Do members of your house often drink prior to a party or social function?
- A. yes
 - B. no

The following are common results of drinking alcohol that other students have reported. If you currently drink or have drunk in the past, select the category corresponding to the frequency of occurrences during the past three months.

	<u>Never</u>	<u>1-3</u>	<u>4-8</u>	<u>9-16</u>	<u>More</u>
	A	B	C	D	E
28. Have had a hangover	A	B	C	D	E
29. Have gotten nauseated and vomited from drinking	A	B	C	D	E
30. Have driven a car after several drinks	A	B	C	D	E
31. Have gone to class after having several drinks	A	B	C	D	E
32. Have missed a class because of a hangover	A	B	C	D	E
33. Have had trouble with the law because of drinking	A	B	C	D	E
34. Have gotten into trouble with school administration because of behavior resulting from drinking too much	A	B	C	D	E
35. Damaged property or other such behavior after drinking	A	B	C	D	E
36. Did not remember what happened while drinking	A	B	C	D	E

Please indicate the frequency with which you drink in the residence halls when accompanied by each of the following groups.

	<u>Frequently</u>	<u>Occasionally</u>	<u>Seldom</u>	<u>Never</u>
	A	B	C	D
37. One person, same sex	A	B	C	D
38. One person, opposite sex	A	B	C	D
39. Small groups, same sex	A	B	C	D
40. Small mixed groups	A	B	C	D
41. Large groups, same sex	A	B	C	D
42. Large mixed groups	A	B	C	D
43. Alone	A	B	C	D

How often do you drink for the following reasons?

	<u>Frequently</u>	<u>Occasionally</u>	<u>Seldom</u>	<u>Never</u>
44. To facilitate study	A	B	C	D
45. To get along better on dates	A	B	C	D
46. To relieve fatigue or tension	A	B	C	D
47. Sociability	A	B	C	D
48. For aches and pains	A	B	C	D
49. Enjoyment of taste	A	B	C	D
50. In order not to be shy	A	B	C	D
51. For a sense of well being	A	B	C	D
52. To escape disappointments	A	B	C	D
53. To get high	A	B	C	D
54. To get drunk	A	B	C	D

55. What factors have most influenced your current pattern of alcohol use?

- A. your parents' example
- B. pressure from your peers
- C. your present lifestyle
- D. the availability of alcohol
- E. the financial situation

56. If you first began to use alcohol with regularity in high school, when did you start?

- A. freshman year
- B. sophomore year
- C. junior year
- D. senior year
- E. I did not drink in high school

57. If you began using alcohol with regularity in college, when did you start?

- A. freshman year
- B. sophomore year
- C. junior year
- D. senior year

58. During this academic year, has your alcohol consumption:

- A. increased
- B. decreased
- C. remained the same

Section III

We would like to know some of your perceptions about the residence hall in which you live. Please read each statement carefully and decide which statements describe your house and which do not. Although some responses may not clearly describe your house, please pick the most predominant pattern.

	<u>Yes</u>	<u>No</u>
	A	B
59. There is a feeling of unity and cohesion here.	A	B
60. People here are concerned with helping and supporting one another.	A	B
61. People here tend to check on whether their behavior is acceptable to others in the house.	A	B
62. People around here hardly ever seem to be studying.	A	B
63. The house officers function in a somewhat haphazard manner.	A	B
64. People don't try to impress each other here.	A	B
65. Around here studies are secondary to most activities.	A	B
66. The jobs of house officers are not clearly defined.	A	B
67. In this house there is a strong feeling of belongingness.	A	B
68. Trying to understand the feelings of others is considered important by most people in this house.	A	B
69. People here consider other types of social activities to be more important than dating.	A	B
70. People here work hard to get top grades.	A	B
71. House procedures here are well established.	A	B
72. People here try to make others feel secure.	A	B
73. House activities are pretty carefully planned here.	A	B
74. Most of the people in this house know each other very well	A	B
75. The people here are often critical of others in the house.	A	B

	<u>Yes</u>	<u>No</u>
76. In this house people don't try to be more "cool" than others.	A	B
77. People around here tend to study long hours at a stretch.	A	B
78. Meetings and activities follow a pretty regular schedule in the house.	A	B
79. Students enforce house rules here.	A	B
80. This is a rather apathetic house.	A	B
81. Most people plan activities other than studying for weekends.	A	B
82. Around here there is a minimum of planning and a maximum of action.	A	B
83. People in the house often do something together on weekends.	A	B
84. Around here people try to act in ways that will gain the approval of others in the house.	A	B
85. Having exchanges and parties is a high priority activity in this house.	A	B
86. People in the house who have lots of dates tend to let others in the house know.	A	B
87. Around here people don't let studies interfere with the rest of their lives.	A	B
88. There are a lot of spontaneous social activities here.	A	B
89. People in this house tend to fit in with the way other people do things on the floor.	A	B
90. Very few people participate in house activities.	A	B
91. In the evening, many people in the house begin to study right after dinner.	A	B
92. This is a pretty disorderly house.	A	B

Section III

We would like to know some of your perceptions about the residence hall in which you live. Please read each statement carefully and decide which statements describe your house and which do not. Although some responses may not clearly describe your house, please pick the most predominant pattern.

	<u>Yes</u>	<u>No</u>
	A	B
59. There is a feeling of unity and cohesion here.	A	B
60. People here are concerned with helping and supporting one another.	A	B
61. People here tend to check on whether their behavior is acceptable to others in the house.	A	B
62. People around here hardly ever seem to be studying.	A	B
63. The house officers function in a somewhat haphazard manner.	A	B
64. People don't try to impress each other here.	A	B
65. Around here studies are secondary to most activities.	A	B
66. The jobs of house officers are not clearly defined.	A	B
67. In this house there is a strong feeling of belongingness.	A	B
68. Trying to understand the feelings of others is considered important by most people in this house.	A	B
69. People here consider other types of social activities to be more important than dating.	A	B
70. People here work hard to get top grades.	A	B
71. House procedures here are well established.	A	B
72. People here try to make others feel secure.	A	B
73. House activities are pretty carefully planned here.	A	B
74. Most of the people in this house know each other very well	A	B
75. The people here are often critical of others in the house.	A	B

	<u>Yes</u>	<u>No</u>
76. In this house people don't try to be more "cool" than others.	A	B
77. People around here tend to study long hours at a stretch.	A	B
78. Meetings and activities follow a pretty regular schedule in the house.	A	B
79. Students enforce house rules here.	A	B
80. This is a rather apathetic house.	A	B
81. Most people plan activities other than studying for weekends.	A	B
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87. Around here people don't let studies interfere with the rest of their lives.	A	B
88. There are a lot of spontaneous social activities here.	A	B
89. People in this house tend to fit in with the way other people do things on the floor.	A	B
90. Very few people participate in house activities.	A	B
91. In the evening, many people in the house begin to study right after dinner.	A	B
92. This is a pretty disorderly house.	A	B

Section IV

Please respond to the following statements about alcohol. Do not guess.

	<u>True</u>	<u>False</u>	<u>Unsure</u>
93. Drinking milk before drinking an alcoholic beverage will slow down the absorption of alcohol into the body.	A	B	C
94. Alcoholic beverages do not provide weight increasing calories.	A	B	C
95. Alcohol is usually classified as a stimulant.	A	B	C
96. Alcohol is not a drug.	A	B	C
97. A blood alcohol concentration of .10% is the legal definition of alcohol intoxication in most states in regard to driving.	A	B	C
98. A person cannot become an alcoholic by just drinking beer.	A	B	C
99. Moderate consumption of alcoholic beverages is generally <u>not</u> harmful to the body.	A	B	C
100. It takes about as many hours as the number of drinks consumed to completely burn up the alcohol ingested.	A	B	C
101. Beer usually contains 2-6% alcohol by volume.	A	B	C
102. Eating while drinking will have no affect on slowing down the absorption of alcohol into the body.	A	B	C
103. Drinking strong black coffee or taking a cold shower can be an effective way of sobering up.	A	B	C

Please return to your R.A. with your answer sheet inserted in your questionnaire.

APPENDIX B

11 Rivercrest Drive
Apartment 209
Cape Girardeau, MO 63701
July 22, 1982

Ms. Peggy Farris
Consulting Psychologists Press, Inc.
577 College Avenue
Palo Alto, California 94306

Dear Ms. Farris,

I am a doctoral candidate in Higher Education Administration at Iowa State University. I am currently developing my dissertation instrument, and would like to request authorization to use some questions from the University Residence Environment Scale for my research.

My research will be investigating the environmental impact of residence hall living environments on alcohol use and drinking patterns. I feel the URES instrument has been effective in assessing student perceptions of their living environments. Although I do not need to utilize the entire instrument, I feel two or three questions from each subscale would allow me to obtain the information I need for my research.

I will combine these questions with questions regarding student drinking behavior, attitudes and knowledge to determine the types of perceived environments which might be conducive to increased or high alcohol use.

The instrument will be distributed in the Fall to 750 students residing in university housing at Iowa State University. A post test will be conducted sometime during the Spring semester of 1983.

If you have any questions, please contact me. Thank you for your consideration.

Sincerely,

William J. Zeller

11 Rivercrest Drive
 Apartment 209
 Cape Girardeau, MO 63701
 July 21, 1982

Ms. Peggy Farris
 Consulting Psychologists Press, Inc.
 577 College Avenue
 Palo Alto, California 94306

Dear Ms. Farris,

I am a doctoral candidate in Higher Education Administration at Iowa State University. I am currently developing my dissertation instrument, and would like to request authorization to use some questions from the University Residence Environment Scale for my research.

My research will be investigating the environmental impact of residence hall living environments on alcohol use and drinking patterns. I feel the URES instrument has been effective in assessing student perceptions of their living environments. Although I do not need to utilize the entire instrument, I feel two or three questions from each subscale would allow me to obtain the information I need for my research.

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The instrument will be distributed in the Fall to 750 students residing in university housing at Iowa State University. A post test will be conducted sometime during the Spring semester of 1983.

If you have any questions, please contact me. Thank you for your consideration.

Sincerely,

William J. Zeller
 William J. Zeller

Dear Mr. Zeller: I must know exactly which questions you intend to use before I can grant your request. Since you are making 1000 copies of your instrument, there will be a slight fee depending on the situation.

Sincerely,

Barry Lewis, Permissions Editor

11 Rivercrest Drive
Apartment 209
Cape Girardeau, MO 63701
August 26, 1982

Ms. Peggy Farris
Consulting Psychologists Press, Inc.
577 College Avenue
Palo Alto, California 94306

Dear Ms. Farris,

This letter is in response to our recent conversation regarding my use of various questions from the University Residence Environment Scale for my research for my Doctoral Dissertation.

As you requested, the specific questions from the URES instrument that I will use are: 1, 2, 3, 6, 8, 15, 16, 18, 21, 22, 24, 26, 28, 32, 38, 41, 42, 45, 46, 48, 49, 51, 56, 60, 61, 63, 64, 65, 66, 71, 73, 81, 86, 88 (34 questions total).

I hope this answers your question. I am looking forward to hearing from you soon.

Sincerely,

William J. Zeller

CONSULTING PSYCHOLOGISTS PRESS, INC.
577 COLLEGE AVENUE
PALO ALTO, CALIFORNIA 94306

Mr. William Zeller
11 Rivercrest Drive Apt 209
Cape Girardeau, MO 63701

In response to your request of August 26, 1982 permission is hereby granted you to reproduce 1500 copies of the 34 items (listed in your letter) from the URES to be combined in a questionnaire that you are preparing to gather data for your doctoral dissertation research.

subject to the following restrictions:

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CONSULTING PSYCHOLOGISTS PRESS, INC.

By Feggy Ferris
Permissions Editor
Feggy Ferris

Date Sept 27, 1982

11 Rivercrest Drive
Apartment 209
Cape Girardeau, MO 63701
July 22, 1982

Ms. Peggy Farris
Consulting Psychologists Press, Inc.
577 College Avenue
Palo Alto, California 94306

Dear Ms. Farris,

I am a doctoral candidate in Higher Education Administration at Iowa State University. I am currently developing my dissertation instrument, and would like to request authorization to use some questions from the University Residence Environment Scale for my research.

My research will be investigating the environmental impact of residence hall living environments on alcohol use and drinking patterns. I feel the URES instrument has been effective in assessing student perceptions of their living environments. Although I do not need to utilize the entire instrument, I feel two or three questions from each subscale would allow me to obtain the information I need for my research.

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If you have any questions, please contact me. Thank you for your consideration.

Sincerely,

William J. Zeller



STANFORD UNIVERSITY MEDICAL CENTER

STANFORD, CALIFORNIA 94305 • (415) 858-3996

STANFORD UNIVERSITY SCHOOL OF MEDICINE

Department of Psychiatry

Rudolf H. Moos, Ph.D., Professor

Director, Social Ecology Laboratory

June 2, 1982

Mr. Bill Zeller
C-1220 Wallace Wilson
Complex Office
Iowa State University
Ames, Iowa 50010

Dear Mr. Zeller:

Enclosed are copies of the College Experiences Questionnaire and our Health and Daily Living Form. Both contain measures of drinking behavior. I would also suggest you consult the following for additional ideas concerning measurement and conceptualization:

Cahalan, D. Problem Drinkers. San Francisco: Jossey-Bass, 1970

Donovan, J.E., & Jessor, R. Adolescent problem drinking: Psychosocial correlates in a national sample study. Journal of Studies on Alcohol, 1978, 39:1506-1524.

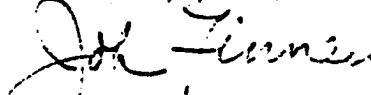
Jessor, R., & Jessor, S.L. Problem drinking in youth: Personality, social, and behavioral antecedents and correlates. In M.E. Chafetz (Ed.), Psychological and social factors in drinking: Proceedings, Second Annual Alcoholism Conference. NIAAA, Washington, D.C.: U.S. Government Printing Office, 1973.

Jessor, R., & Jessor, S.L. Problem behavior and psychosocial development: A longitudinal study of youth. New York: Academic Press, 1977.

I am also enclosing several reprints from the educational environment project at the Lab.

Best of luck with your research.

Sincerely yours,



John W. Finney, Ph.D.

JWF:sf
Encl.

INFORMATION ON THE USE OF HUMAN SUBJECTS IN RESEARCH
IOWA STATE UNIVERSITY

(Please follow the accompanying instructions for completing this form.)

1. Title of project (please type): The impact of residence hall living environment on student alcohol use and drinking patterns.

2. I agree to provide the proper surveillance of this project to insure that the rights and welfare of the human subjects are properly protected. Additions to or changes in procedures affecting the subjects after the project has been approved will be submitted to the committee for review.

William J. Zeller 9-24-82 [Signature]
Typed Name of Principal Investigator Date Signature of Principal Investigator
11 Rivercrest Drive, Apt. 209 314-651-4378
Campus-Address Campus Telephone

3. Signatures of others (if any) Date Relationship to Principal Investigator
[Signature] 9/24/82 Major Professor

4. ATTACH an additional page(s) (A) describing your proposed research and (B) the subjects to be used, (C) indicating any risks or discomforts to the subjects, and (D) covering any topics checked below. CHECK all boxes applicable.

- Medical clearance necessary before subjects can participate
- Samples (blood, tissue, etc.) from subjects
- Administration of substances (foods, drugs, etc.) to subjects
- Physical exercise or conditioning for subjects
- Deception of subjects
- Subjects under 14 years of age and(or) Subjects 14-17 years of age
- Subjects in institutions
- Research must be approved by another institution or agency

5. ATTACH an example of the material to be used to obtain informed consent and CHECK which type will be used.
 Signed informed consent will be obtained.
 Modified informed consent will be obtained.

6. Anticipated date on which subjects will be first contacted: 10 4 82
Anticipated date for last contact with subjects: 5 1 83

7. If Applicable: Anticipated date on which audio or visual tapes will be erased and(or) identifiers will be removed from completed survey instruments:
Month Day Year

8. Signature of Head or Chairperson Date Department or Administrative Unit

9. Decision of the University Committee on the Use of Human Subjects in Research:
 Project Approved Project not approved No action required
George G. Karas
Name of Committee Chairperson Date Signature of Committee Chairperson

I hope everything is going well with you. I'm sorry I missed getting up there in February, but the blizzard kept me down here in Missouri.

As you know, I am now preparing to distribute the post-test survey for the research I began on your floor last Fall. My original plan was to conduct two post-tests. However, we have decided not to do this because of the recent controversy on campus over the alcohol survey conducted by the University in February. We felt the student attitudes might bias our results if we were to also do one in February.

At this time, I am planning on re-distributing my questionnaire during the week of April 11. I will be coming to Ames sometime in the beginning of April to meet with you again. I'll let you know in a few weeks when that will be.

Because this is the only post-test I'll be conducting, student cooperation will be very important to make sure we have meaningful results. I would appreciate your letting your residents know in advance that I am planning on having them complete the survey again. Please also reinforce that this is not in any way associated with the survey conducted in February by Iowa State.

I am confident that this process will go smoothly. I'm looking forward to seeing you again in April. Thank you for your continued assistance.

Sincerely,

Bill Zeller