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ABSTRACT

Alcohol use among urban youth has been regularly surveyed, but assessment of rural residents is rare. Information about factors associated with attitudes toward drinking could be especially useful to school counselors. This study used questionnaires to investigate the association of attitudes toward alcohol and alcohol use with the following independent variables: grade; gender; community; perceived peer attitude; perceived parental attitude; and knowledge of alcohol. Participating in the survey were 139 students at two high schools in rural Kansas. No significant relationships between alcohol habits and grade level, gender, or community were found. Results did indicate that perceived peer and parental attitudes significantly affect teenagers' attitude toward drinking and actual alcohol use; that there is also a relationship between knowledge of alcohol and attitude toward alcohol (with low knowledge of alcohol often indicating a more positive attitude); and between attitude toward drinking and alcohol use. The results seem to support the use of alcohol-awareness programs in rural high schools, and to encourage teachers and counselors to emphasize individuality and resistance to the influence of others. Includes 6 appendixes, 6 tables, and the survey instruments. Contains 23 references. (CC)

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FACTORS ASSOCIATED WITH ATTITUDE TOWARD  
ALCOHOL IN SMALL HIGH SCHOOLS

being

A Thesis Presented to the Graduate Faculty  
of the Fort Hays State University  
in Partial Fulfillment of the Requirements  
for Degree of Master of Science

by

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## Abstract

The purpose of the researcher was to investigate the attitudes toward drinking and alcohol use of students in small high schools. The six independent variables investigated were grade level, gender, community, Perceived Peer Attitude Toward Alcohol, Perceived Parental Attitude Toward Alcohol, and Knowledge of Alcohol. The dependent variables were scores from the Alcohol Use and Attitude Toward Drinking subscales of an alcohol questionnaire. Five composite null hypotheses and one null hypothesis were tested at the .05 level of significance. The sample consisted of 139 students in grades 9 - 12. For the five composite nulls, a status survey factorial design was employed using a three-way analysis of variance (general linear model), and the null hypothesis was tested employing a  $t$ -test for a correlation coefficient. A total of 41 comparisons were made, plus 30 recurring. Of the 41 comparisons 13 were for main effects and 28 for interactions. Of the 13 main effects 5 were statistically significant at the .05 level. Of the 28 interactions 2 were statistically significant at the .05 level.

The results of the present study appeared to support the following generalizations:

1. Perceived Peer Attitude Toward Alcohol is associated with Alcohol Use.
2. grade placement is not associated with Attitude Toward Drinking.

3. grade placement is not associated with Alcohol Use,
4. gender is not associated with Attitude Toward Drinking,
5. community is not associated with Attitude Toward Drinking.
6. community is not associated with Alcohol Use,
7. significant interactions for gender, Perceived Peer Attitude Toward Alcohol and Alcohol Use; and Knowledge of Alcohol, Perceived Parental Attitude Toward Alcohol and Attitude Toward Drinking, and
8. Attitude Toward Drinking is associate to Alcohol Use.

## Introduction

### Overview

The abuse of alcohol continues to be the biggest drug problem American youth are facing today (Gofen, 1990). In reports to Congress, the National Institute on Alcohol Abuse and Alcoholism (NIAAA) stated "that alcohol played a role in 10 percent of all deaths in the United States and is the *principal* cause of death through accidents among those aged fifteen to twenty-four" (Cahalan, 1987, p. 5). Although the United States raised the national drinking age to 21 years in 1984, statistics continue to indicate alcoholism to be a tremendous problem. Gofen (1990) reported that 25% of the 17 million Americans who suffered from alcoholism were teenagers and that alcohol was a factor in numerous problems of society including 30% of all suicides; 55% of all auto fatalities; 60% of all child abuse; 65% of all drownings; and 85% of all home violence. Even though buying or ordering alcohol by a teenager in the United States is illegal, results of studies show that teenagers drink anyway. The National Institute on Drug Abuse funded a study ("National Adolescent School Health") consisting of 11,000 students who were in 8th and 10th grades. Of the 10th graders surveyed, 89% indicated having tried an alcoholic beverage, 53% reported having an alcoholic beverage during the past month, 38% reported having five or

more drinks in the past two weeks, and 18% reported using a combination of both drugs and alcohol during the past month (Goodman, 1990).

Research results indicate that alcohol is consumed by both males and females of all ages and by those as young as 12--even though such usage is illegal (Truax, 1990). A study conducted by Gibbons, Wylie, Echterling and French (1986) found 57% of the students indicated that they had their first drink by age 12. A review of the literature indicated that alcohol use among urban youth was regularly surveyed but rural assessment was rare. One research effort, consisting of a sample of rural adolescent adults aged 12-20 with a mean age of 16 years, examined their alcohol use and related factors. This survey of 650 students (45% male, 55% female) in grades 7-12 from a small city of 25,000 targeted attitudes about the use of alcohol, factual knowledge about alcohol, students' own alcohol use, and alcohol use of the students' parents. The results indicated a significant difference in alcohol intake by sex classification. Of those who classified themselves as light drinkers, 43% were males and 63% were females; 46% of the males and 31% of the females considered themselves to be moderate drinkers while 11% of the males and 6% of the females considered themselves to be heavy drinkers. They also found that males tended to drink earlier, more frequently, and in greater amounts than females, and that male adolescents were at a higher risk for problem drinking (Gibbons, et al., 1986).

Kandel and Logan (1984) found results similar to those reported by Gibbons et al. (1986) but showed an earlier involvement with alcohol. The researchers based their study upon a follow-up sample of adolescents who were formally enrolled in grades 10 and 11 in public secondary schools in New York State in the fall of 1971. The sample consisted of 1,325 adults with a mean age of 24.7 years. The results of the interviews indicated that almost every member of the sample had used one of the following types of alcohol--beer, wine, or distilled spirits; however, distinctions were made between male and female consumption rates in their sample. Males' alcohol use consistently exceeded female alcohol use throughout the age range of 10 - 25. The results also indicated that the age in which the highest alcohol usage occurred was in the period between age 13 and age 18 (The legal drinking age in New York in 1984 was 18 years of age). By age 10 almost 20% of the sample reported using alcohol, 50% by age 14; however, at age 20 the alcohol usage declined sharply.

In a later study, Strecker (1991) investigated factors associated with the attitudes toward alcohol use of sixth and eighth graders. The sample consisted of 68 rural sixth graders (41 males, 27 females) and 60 rural eighth graders (31 males, 29 females). The instrument contained five sections: 1) Demographic, 2) Individual Attitude Inventory, 3) Parental Attitude Inventory, 4) Peer Attitude Inventory, and 5) Knowledge of Alcohol Inventory. Strecker studied the following

independent variables: grade placement, gender, perceived peer attitude, perceived parental attitude, community, and knowledge of alcohol with the dependent variable attitude toward alcohol. The data were tested employing a three-way analysis of variance. Perceived peer attitude ( $F = 17.94$ ,  $p = .0001$ ) and perceived parental attitude ( $F = 11.64$ ,  $p = .05$ ) were found to be statistically significant. However, Strecker did not find an association between attitude toward alcohol with grade placement ( $F = 0.20$ ,  $p = .6518$ ), gender ( $F = 1.77$ ,  $p = .1858$ ), and knowledge of alcohol ( $F = 1.34$ ,  $p = .2665$ ).

#### External Influences

In order to assess external pressures on youth, McLaughlin, Baer, Pokorny, Burnside and Fairlie (1984) administered a questionnaire consisting of 200 questions encompassing demographic and family characteristics, substance abuse, attitudes, deviant behavior, academic and social functioning, peer relations, and personality traits. The subjects consisted of 2,598 students (1,260 males, 1,338 females) from two groups: 7th - 8th grades and 10th - 11th grades with mean ages of 11.5 and 18 years in the two groups. The results indicated that the quantity of alcohol consumed per occasion and frequency for the previous month increased as the age increased for both males and females. They reported that boys consumed more alcohol than girls, ( $F(1, 2,569) = 29.7$ ,  $p < .001$ ), and the greatest increase in usage occurred between the ages of 14 and 15 years.



Another aspect of external pressure, parental influences, was studied by Selnow (1987) who conducted two studies comparing the relationship between adolescent usage and two features of home environment, youngsters in single- and two-parent homes (Family Status Groups), and of parent-child relationships. The first study consisted of 3,759 students (1,979 males, 1,780 females) ranging in age from 10 to 18. For the first study the instrument contained four main components: Parental Relations, Substance Usage Index (SUI), Family Status, and Demographic Data. The Parental Relations' component consisted of the respondent's general outlook toward the relationship(s) and the perceptions of intimacy with custodial parent(s). The SUI addressed the frequency of use for alcohol, tobacco, and illegal drugs. The results of the first study indicated that respondents involved in the weakest relationships had the highest substance usage. Also, there were differences among Family Status groups. The respondents from two-parent homes reported lower SUI scores than mother-only youngsters. The sample for the second study consisted of 3,517 adolescents (1,726 males, 1,791 females) between ages 10 and 18. The studies were identical except for the addition of a single item dealing with cocaine usage in the SUI.

An analysis of covariance was calculated on the SUI and resulted in significant main effects for parental relationships ( $F = 49.8, df = 2$ ) and family status ( $F = 11.7, df = 2$ ). Respondents who indicated the

weakest parental relationships reported the greatest substance usage. The following significant differences were found in each of the parental relationship categories: weak parental relationships achieved a higher SUI than the moderate parental relationships ( $t = 5.79$ ,  $df = 1970$ ,  $p < .001$ ), moderate parental relationships achieved a higher SUI than strong parental relationships ( $t = 7.11$ ,  $df = 2050$ ,  $p < .001$ ), and weak parental relationships achieved a higher SUI than the strong parental relationships ( $t = 13.14$ ,  $df = 1734$ ,  $p < .001$ ). There was significantly less substance usage among youth living in two-parent households than from respondents from mother-only households ( $t = 4.13$ ,  $df = 1058$ ,  $p < .001$ ) and from father-only households ( $t = 4.66$ ,  $df = 162$ ,  $p < .001$ ). Results from both studies concluded that the strength of the parental relationship may impact the substance usage levels more than family status.

Potvin and Lee (1980) investigated the effects of parental interactions on youth. They expanded their research to include parental support-affection, parental approval of friends, peer conformity versus institutional conformity, self-esteem and alienation on the frequency of drinking alcohol, and use of other drugs. They interviewed youngsters in their households with the sample consisting of 1,121 usable cases (536 males, 585 females). The ages of the students were distributed and consisted of 18% being 13 years; 19% being 14 years; 19% being 15 years; 17% being 16 years; 16% being 17 years; and 11% being 18 years. The

subjects were divided by age into the following three groups: 13 to 14 (early adolescence), 15 to 16 (middle adolescence), 17 to 18 (late adolescence).

Potvin and Lee (1980) reported a strong influence from parental support-affection and religious background during early adolescence (age 13 - 14), while in middle adolescence (age 15 - 16) the strongest influence shifted from parents to their peers. They found that a third influence occurred during late adolescence (age 17 - 18), which was a combination of peers and parents.

Consistent with other studies, Thompson (1989) examined the effect that adolescent relationships have on alcohol consumption, and whether socializing while drinking alcohol impairs adolescent relationships and self-esteem. The sample consisted of 839 students in 11th and 12th grades who had previously participated as 7th- and 8th-graders in the 1974 survey conducted by Research Triangle Institute for the National Institute on Alcohol Abuse and Alcoholism. They found that drinking had a negative association with both peer relations and on self-esteem. Thompson summarized the findings:

Drinking in early adolescence is likely to be sustained in later adolescence. Almost 90% of those who begin drinking in 7th - 8th grade continue a pattern of consumption four years later. However, those who continue to use alcohol are not more likely to experience positive changes in peer

relations or self-esteem than are those who persist in abstaining, give up drinking, or pick up drinking in mid-adolescence. (p. 842)

Researchers Alberts, Hecht, Miller-Rassulo and Krizek (1992) further investigated the amount of social pressure applied to an offer for either drugs or alcohol. They interviewed 69 high school students with an age range of 11 to 17 from a lower-middle-class high school in a metropolitan area. Of the 69 students, 35% were male and 65% female. Seventy-four percent classified themselves as Anglos; 12%, Hispanics; 6%, African-American; 6%, Asians; and "other" accounted for 2%. The subjects were asked to respond to five open-ended questions:

- 1) Would you tell me about a time when someone tried to persuade you to do something you did not want to do?
  - 2) Would you tell me about a time when someone offered you alcohol and you turned that offer down?
  - 3) Could you tell me about a time when someone offered you alcohol and you wanted to turn it down but didn't?
  - 4) Could you tell me about a time when someone offered you drugs and you turned that offer down?
  - 5) Could you tell me about a time when someone offered you drugs and you wanted to turn that offer down but didn't?
- (p. 207)

The researchers found that pressure was less likely to be applied if the incidence occurred within someone's home. Of these pressure

incidences, it was found that the majority of the offers were simple, and that most of the responses included some type of pressure to drink. In 28% of the cases no social pressure was involved in either the response or the offer. However, if pressure was applied, it typically was in response to a refusal of alcohol. Initial pressure was more likely to lead to continued pressure in most social situations.

Due to the shortage of studies targeting early adolescence, Shilts (1991) chose to analyze the relationship between extra-curricular activities and peer influences with attitudes toward drug and alcohol use. He administered the Alcohol and Drug Use Index to 237 middle school students (94 males, 143 females) in order to distinguish between drug/alcohol using, abusing, and nonusing. The nonuser category consisted of students who reported not using drugs or alcohol with the exception of wine for religious purposes. The user category included students who reported drinking 1-4 glasses of alcohol beverages, smoking marijuana, or using other drugs at least once a year, but not more than once a month. Adolescents considered to be abusers reported using drugs more frequently than those considered to be users. The researcher conducted a chi-square test of independence to determine the relationship between student's extracurricular activities, peer influence, personal attitudes, and group membership.

The results indicated that 28% of the users and 54% of the abusers used drugs to relieve pressure and stress at home. Nonusers reported

higher family involvement than did either the user or abuser group. Sixty-eight percent of the nonusers indicated spending free time with their families in comparison to 35% of the users and 18% of the abusers. This latter group also reported almost twice as much involvement with friends than did nonusers.

Perceived locus of control has also been found to have an effect on alcohol consumption. According to James (1990),

locus of control refers to a concept derived from theories of social learning and attribution, and provides an indication of the control an individual perceives he/she has over his/her environment. Individuals reflecting an internal locus of control tend to resist peer pressure and are generally self-determined, while individuals reflecting an external locus of control tend to be open to social influences and feel a loss of control over their environment. (p. 75)

This study consisted of 20 participants who were currently admitted to a free-standing hospital unit specializing in chemical dependency and was based on the theory that improving adolescents' internal locus of control would enable them to act upon their own value system rather than yielding to peer pressure and other social influences. The results indicated that lower recidivism rates were reflected in patients who possess a more internal locus of control at the time of discharge.

### Adolescent Use & Gender Differences

Some researchers have found an association between gender and alcohol use while others are in contradiction. Beck and Summons (1987) conducted a survey of 2,313 students (1,144 males and 1,169 females) studying the quantity and frequency measures of alcohol consumption for beer, wine, and liquor. The results from this study indicated that males and females differed in a number of characteristics: alcohol consumption, abuse, risk, beliefs, and sources for information. Using chi-square tests, they found that males consumed significantly more beer, ( $\chi^2 = 169$ ,  $df = 6$ ,  $p < .001$ ), wine ( $\chi^2 = 23.89$ ,  $df = 6$ ,  $p < .001$ ), and liquor ( $\chi^2 = 52.24$ ,  $df = 6$ ,  $p < .001$ ) than did females. Tortu, Bettis, Baker, and Botvin (1988) found from a sample of 1,465 seventh graders (53% male, 47% female) a positive association with gender differences and substance use. On the other hand, Donovan and Jessor (1985) conducted a three-part study analyzing the effects of problem behavior, which included problem drinking, illicit drug use, delinquent type behavior, and precocious sexual intercourse. In the category of problem drinking, they found no significant correlation between problem drinking and gender.

### Effects of Peer and Parental Attitudes on Usage

The association between attitude, both from self and peers, toward alcohol use has been researched. Hubbard, Brownlee, and Anderson (1988) specifically studied the relationship between peers' attitudes and alcohol usage. They asked a total of 7,562 youths in grades six, seven,

and eight to complete a drug and alcohol questionnaire and found that, of the sixth graders, 13% indicated they had never had more than two drinks at a time and only 4% reported that they had been drunk. In the seventh grade the results doubled, and in the eight grade the results doubled again. Of the eighth graders surveyed, 38% indicated at least one episode of drinking two or more drinks, and 29% said that they had been drunk at least once. Behaviors indicating risks of abuse were also present in the eighth grade: 7% reported having problems with their families because of their alcohol use during the past year; 12% indicated drinking until they became drunk in the past month, and 9% said that they had gone to school while either drunk or high in the past month. The authors also indicated that one of the significant risk factors was associated with an increase in drug and alcohol use and friends who did not disapprove of this behavior ( $\chi^2 = 118.62$ ,  $df = 2$ ,  $p < .001$ ).

Research has been conducted to determine the association between adolescent attitudes and alcohol usage. Torabi and Seffrin (1985) found that college students who consumed the greatest amount of alcohol exhibited a more positive attitude toward alcohol, indicating the students possessed a greater acceptance toward the usage of alcohol. They administered the Torabi-Veenker Alcohol Attitude Scale to 200 U.S. undergraduate students at a major midwestern university and 200 comparable students attending a major Egyptian university. The Torabi-Veenker Alcohol Attitude Scale, which is a Likert-type rating scale



developed to measure university students' attitudes toward use and abuse of alcohol, contains three subscales: Feeling, Belief, and Intention to Act.

The sample consisting of students between the ages of 19 and 22, contained 198 U.S. students (57% male, 43% female) and 177 Egyptian students (56% male, 36% female, with the remaining 8% not indicating gender). The majority of students in both nationalities indicated they were moderately religious. In the U.S. sample, 92% responded positively to the question "Do you drink alcoholic beverages?"; whereas, more than 90% of the Egyptian students responded negatively, 3% responded positively, and 7% did not respond to the same question. In terms of the frequency of drinking among American students, about 14% indicated drinking once a month or less; 26% drank once a week; more than 40% drank 2 or 3 times a week; 10% drank 4 or 5 times a week; and approximately 2% drank daily. The results indicated that U.S. students held a much more positive attitude toward alcohol use than did Egyptian students.

Later, Torabi and Veenker (1986) conducted a study of 700 students in grades 9 - 12 using the modified Torabi-Veenker scale for high school students. Out of the 700 students, 688 returned completed instruments; of these, 54% were male and 46% were female whose ages ranged from 13 - 19 years. Approximately 37% reported attending church regularly once a week while about 18% attended church once or

twice a month, and about 15% attended church only a few times a year or not at all. Seventy-two percent responded positively when questioned if they drank alcoholic beverages. Of those who reported positively to drinking, 42% drank alcohol once a month or less; 18% drank once a week; 13% drank 2 or 3 times a week; 2% drank 4 or 5 times a week; and 2% drank daily. Of those who reported having consumed alcohol, 26% had 1 or 2 drinks, 20% had 3 or 4 drinks, and 29% had 5 or more drinks on a drinking occasion. Total Scale  $t$ -values of 5.37 were obtained and found significant beyond the .0001 level in all items--Feeling ( $t = 6.06$ ,  $p < .0001$ ), Belief ( $t = 3.55$ ,  $p < .0001$ ), and Intention to Act ( $t = 5.18$ ,  $p < .0001$ ), supporting the hypothesis that each item discriminated between subjects whose scale scores were high and whose scale scores were low. As with the previous study Torabi and Veenker found that students who possessed a more positive attitude toward alcohol use were students who consumed a greater amount of alcohol.

#### Knowledge of Alcohol as a Factor on Usage

Beck et al. (1987) and Berdiansky (1991) conducted research studying the relationship between a student's knowledge about the dangers of alcohol and his/her usage of alcohol. Beck et al. found that those students who used drugs reported that they considered their friends, other users, and their personal experiences to be credible and trustworthy sources of information about drugs. Conversely, they found that non-users were more likely to seek information about drugs and

alcohol from mass media or health professionals. Berdiansky conducted a study surveying 3,502 students in grades sixth through eighth who lived in or near the city of Raleigh. He found that the results of his study supported the theory that beliefs about the dangers and health risks of specific substances resulted in lower usage rates for specific drugs. Currently, drug education programs are emphasizing abstinence from drugs and alcohol; however, this researcher did not find a statistically significant correlational coefficient between this type of program and the reduction of alcohol use for adolescents.

### Summary

Research results demonstrated that a variety of factors are associated with alcohol consumption during adolescent years. A review of the literature consistently found a high association between the influence of parents and peers on adolescents' alcohol use and on their attitude toward alcohol; however, this association was not substantiated by the relationship to knowledge. Studies have also indicated that as grade level increases alcohol consumption rises. Research has been inconsistent in finding an association between gender and attitude toward alcohol and alcohol use. These variables formed the basis for the present research.

### Statement of the Problem

The purpose of the researcher was to investigate attitudes toward

drinking and alcohol use of students in small high schools.

#### Rationale and Importance of the Study

Studies have consistently shown that alcohol abuse is common among high school students and that this problem continues throughout the collegiate years. The probability that school counselors will encounter students who have problems with alcohol use is high. By reducing the alcohol abuse in high school students, it is perceivable that alcohol abuse among college students would also decline. Information regarding the factors associated with attitudes toward drinking and alcohol use would be beneficial to counselors. By gaining a better understanding of these factors, educators can also establish a foundation for choosing the most appropriate education, prevention, and program changes.

The results of the present study will provide teachers, counselors, and others who work directly with adolescents information regarding attitude toward drinking, use of alcohol, and the following variables: grade placement, gender, community, perceived peer attitude, perceived parental attitude, and knowledge of alcohol. The information from the present research can be used to gain a better understanding of adolescent behaviors pertaining to alcohol and to provide a foundation for additional research.

The results from the present study provided information

pertaining to the following questions:

1. Is there an association between grade placement and alcohol questionnaire scores?
2. Is there an association between gender and alcohol questionnaire scores?
3. Is there an association between the community and alcohol questionnaire scores?
4. Is there an association between perceived peer attitude and alcohol questionnaire scores?
5. Is there an association between perceived parental attitude and alcohol questionnaire scores?
6. Is there an association between knowledge of alcohol and alcohol questionnaire scores?

#### Composite Null Hypotheses

All hypotheses were tested at the .05 level.

1. The differences among mean alcohol questionnaire scores for students in grades 9 - 12 according to perceived peer attitude toward alcohol, perceived parental attitude toward alcohol, and gender will not be statistically significant.
2. The differences among mean alcohol questionnaire scores for students in grades 9 - 12 according to perceived parental attitude toward alcohol, gender and knowledge of alcohol will not be

statistically significant.

3. The differences among mean alcohol questionnaire scores for students in grades 9 - 12 according to gender, knowledge of alcohol, and perceived peer attitude toward alcohol will not be statistically significant.
4. The differences among mean alcohol questionnaire scores for students in grades 9 - 12 according to knowledge of alcohol, perceived peer attitude toward alcohol, and perceived parental attitude toward alcohol will not be statistically significant.
5. The differences among mean alcohol questionnaire scores for students in grades 9 - 12 according to grade placement, community, and perceived peer attitude toward alcohol will not be statistically significant.

#### Null Hypothesis

The difference between the calculated correlation coefficient for attitudes toward drinking and alcohol usage scores among students in grades 9 - 12 and zero will not be statistically significant.

#### Independent Variables and Rationale

The following independent variables were investigated: gender, grade level, perceived peer attitude toward alcohol, perceived parental attitude toward alcohol, and knowledge of alcohol. The independent variables were investigated for the following reasons:

1. the results found in the literature were inconclusive, and
2. limited information was found.

### Definition of Variables

#### Independent Variables

All independent variables were obtained by a self-reporting instrument. The following independent variables were investigated:

1. grade placement -- four levels,
  - level 1, 9th grade,
  - level 2, 10th grade,
  - level 3, 11th grade, and
  - level 4, 12th grade;
2. gender -- two levels,
  - level 1, male, and
  - level 2, female;
3. community -- two levels,
  - level 1, School A, and
  - level 2, School B;
4. perceived peer attitude toward alcohol -- three levels determined post hoc (Appendix G),
  - level 1, high (scores of 30 to 40),
  - level 2, intermediate (scores of 20 to 29), and
  - level 3, low (scores of 10 to 19);

5. perceived parental attitude toward alcohol -- levels determined post hoc (Appendix G),  
level 1, high (scores of 25 to 40),  
level 2, intermediate (scores of 16 to 24), and  
level 3, low (scores of 10 to 15);
6. knowledge of alcohol -- levels determined post hoc (Appendix G),  
level 1, high (scores of 11 to 12),  
level 2, intermediate (scores of 9 to 10), and  
level 3, low (scores of 6 to 8).

#### Dependent Variables

Scores from the following subscales of an alcohol questionnaire were employed as the dependent variables:

1. alcohol use - 3 items (possible scores 0 to 55), and
2. Attitude Toward Drinking - 10 items (possible scores 10 to 40).

#### Limitations

The following might have affected the results of the present study:

1. subjects were not selected randomly,
2. respondents were limited to two high schools in southwestern Kansas, and
3. data were self-reported.



## Methodology

### Setting

The researcher selected two rural communities located in southwestern Kansas. The first community had a population of 571 with a high school containing 49 students in grades 9 - 12. The primary source of income is directly related to agriculture. Other businesses are service orientated to the agricultural industry. The second community had a population of 1,526, with a high school containing 128 students in grades 9 - 12. Like the first community, the primary source of income for the second community is agriculture and related services. (Helyar, 1992).

### Subjects

Classes were chosen from the two schools in order to access the entire student body and were the following:

- School A -- Algebra I (freshmen),  
English II (sophomores),  
English III (juniors), and  
United States Government (seniors);
- School B -- English I (freshmen),  
English II (sophomores),  
United States History (juniors), and  
United States Government (seniors).

A total of 40 usable copies of the questionnaire and 1 unusable copy were collected from School A, and 99 usable copies of the questionnaire and 2 unusable copies were collected from School B. The total sample consisted of 139 or 79% of the potential sample (total enrollment). The sample contained 67 males and 72 females. The sample consisted of 50 students from the 9th grade class, 38 students from the 10th grade, 31 students from the 11th grade, and 20 students from the 12th grade.

#### Instrumentation.

Strecker (1991) created a questionnaire for sixth and eighth grades to assess attitudes, knowledge, and perceptions related to alcohol. The Alcohol Attitude Questionnaire (AAQ) was comprised of five parts (Appendix C):

1. Section 1 -- demographics (age, gender, grade classification),
2. Section 2 consisted of 10 questions pertaining to attitudes toward alcohol with Likert-type rating,
3. Section 3 consisted of 9 dichotomized questions pertaining to perceived parental attitude toward alcohol,
4. Section 4 consisted of 9 dichotomized questions pertaining to perceived attitude toward alcohol, and
5. Section 5 consisted of 10 questions pertaining to knowledge of alcohol.

Strecker (1991) conducted reliability and validity studies for the

AAQ. The following Cronbach Alpha reliability coefficients were cited by Strecker:

Section 2, Individual Attitude -- .80,

Section 3, Parental Attitude -- .72,

Section 4, Peer Attitude -- .83, and

Section 5, Knowledge of Alcohol -- .49.

Strecker cited the following correlation coefficients for items with total scores:

Section 2, Individual Attitude -- high (.74) and low (.42)

Section 3, Parental Attitude -- high (.71) and low (.44)

Section 4, Peer Attitude -- high (.75) and low (.56), and

Section 5, Knowledge of Alcohol -- high (.66) and low (.32).

The present researcher and Kae Lee Pflingsten, a graduate student at Fort Hays State University, edited the AAQ to make it more grade level appropriate. The new questionnaire (Appendix G) consisted of five parts:

1. Demographic Sheet,
2. Attitude Toward Drinking,
3. Parental Attitude,
4. Peer Attitude, and
5. Knowledge of Alcohol.

The Demographic Sheet contained two independent variables, gender and grade level, and one dependent variable, alcohol use

(consisting of three questions). Attitude Toward Drinking contained 10 questions categorized as either positive or negative and employed a Likert-type rating. The Parental Attitude section contained 10 questions concerning perceived parental attitude toward alcohol and employed a Likert-type rating. Peer Attitude included 10 Likert-type questions rating the respondents' perceived peer attitude toward alcohol. The final section, Knowledge of Alcohol, consisted of 12 true-false questions.

The dependent variable, alcohol use, was the result of three questions. The first question was scored as follows: never = 0, once a month or less = 5, once a week = 10, two or three times a week = 15, four or five times a week = 20, and daily = 25. (If the respondent indicated "never," the instructions indicated to omit the next two questions.) The second question was scored as followed: beer = 5, wine or wine coolers = 10, and hard liquor = 15. If more than one response was made, the highest value was employed. The third question was scored as follows: a response of 1 -- 2 drinks = 5, a response 3 -- 4 drinks = 10, and 5 or more drinks = 15. The possible alcohol use scores were 0 to 55.

Scoring for Attitude Toward Drinking, Parental Attitude, and Peer sections consisted of adding the points for each question which resulted in total possible scores of 10 to 40. For the Attitude Toward Drinking section, each positive alcohol attitude question (questions 1, 2, 3, 6, 8, 9, and 10) was scored as follows: strongly disagree = 1, disagree = 2, agree = 3, strongly agree = 4, with inverse scoring for negative attitude toward

alcohol questions (questions 4, 5, and 7). For the next section, Parental Attitude, each positive alcohol question (questions 1, 2, 3, 5, 6, 8, 9, and 10) was scored as follows: strongly disagree = 1, disagree = 2, agree = 3, strongly agree = 4, with inverse scoring for negative attitude toward alcohol questions (questions 4 and 7). The Peer Attitude section was scored so each positive alcohol question (questions 1, 2, 3, 5, 8, 9, and 10) received the following: strongly disagree = 1, disagree = 2, agree = 3, strongly agree = 4, with inverse scoring for negative attitude toward alcohol questions (questions 4, 6, and 7). The Knowledge of Alcohol section was scored by giving 1 point for each correct answer for a minimum possible score of 0 and a maximum possible score of 12.

### Design

A status survey factorial design was employed. The following independent variables were investigated: grade level, gender, community, perceived peer attitude toward alcohol, perceived parental attitude toward alcohol, and knowledge of alcohol. The dependent variables were scores from the alcohol use and Attitude Toward Drinking subscales of an alcohol questionnaire. The sample consisted of 139 subjects. Five composite null hypotheses were tested at the .05 level using a three-way analysis of variance (general linear model); one hypothesis was tested employing a  $t$ -test for a correlation coefficient. The following designs were utilized:

Composite Null Hypothesis number one, a  $3 \times 3 \times 2$ ;

Composite Null Hypothesis number two, a  $3 \times 2 \times 3$ ;

Composite Null Hypothesis number three, a  $2 \times 3 \times 3$ ;

Composite Null Hypothesis number four, a  $3 \times 3 \times 3$ ;

Composite Null Hypothesis number five, a  $4 \times 2 \times 3$ ; and the

Null Hypothesis, a  $t$ -test for a correlation coefficient.

Ten threats to internal validity were cited by McMillan and Schumacher (1989). The 10 threats to internal validity were dealt with in the following ways:

1. history - did not pertain because the present study was a status survey;
2. selection - the sample of the students was not random;
3. statistical regression - did not pertain because the sample contained no extreme subjects;
4. testing - did not pertain because the present study was a status survey;
5. instrumentation - did not pertain because the present study was a status survey;
6. mortality - all subjects who completed usable questionnaires were included in the present study;
7. maturation - did not pertain because the present study was a status survey;
8. diffusion of treatment - did not pertain because the present study was a status survey;

9. experimenter bias - standard procedures were used for collecting data (by individuals other than the researcher) and there was no treatment;
10. statistical conclusion - two mathematical assumptions of the analysis of variance were violated (random sampling and equal numbers of subjects in cells). A general linear model was used to correct for the lack of equal numbers in cells, and the researcher did not project beyond the statistical procedures employed.

Two threats to the external validity were cited by McMillan and Schumacher (1989). The two threats to external validity were dealt with in the following ways:

1. population external validity - the sample was one of convenience, so generalizations should be confined to similar settings; and
2. ecological external validity - the data were collected by standard procedures, and no treatment was employed.

#### Data Collection Procedures

The superintendent and principal of each school district were contacted, informed of the purpose of the research, and asked permission to collect data from students (Appendix D). Permission was granted from the two schools selected (Appendix E). The following classes were chosen because of enrollment patterns:

School A -- Algebra I (freshmen),  
English II (sophomores),  
English III (juniors), and  
United States Government (seniors);

School B -- English I (freshmen),  
English II (sophomores),  
United States History (juniors), and  
United States Government (seniors).

Students were assured anonymity and confidentiality of individual responses. Specific instructions in regard to completing the instrument were distributed to each participating instructor (Appendix F). Copies of the questionnaire were distributed to the students, and the instructions were read verbatim to the students (Appendix F). The students completed the instrument and returned it to the instructor. The researcher then collected the copies of the questionnaire from the instructors, examined, scored, and coded the data. The computing center at Fort Hays State University analyzed the data.

#### Research Procedures

The following steps were implemented:

1. chose the research topic;
2. conducted search for related literature using SIRS, ERIC, PsycLit, and Kansas Library Catalog;
3. collected and reviewed the related literature;



4. selected the instrument;
5. requested permission from the author to use and revise the instrument;
6. revised the instrument;
7. composed the review of the literature;
8. determined the population to be sampled;
9. requested permission from the two schools to collect data;
10. received permission from the two schools;
11. collected data;
12. wrote a proposal;
13. defended the proposal;
14. tabulated and analyzed the data;
15. wrote and defended a final report; and
16. edited the final document.

#### Data Analysis

The following were compiled:

1. appropriate descriptive statistics,
2. three-way analysis of variance (general linear model),
3.  $t$ -test for a correlation coefficient,
4. Bonferroni (Dunn)  $t$ -test for means, and
5. Duncan's multiple range test for means.

## Results

The purpose of the researcher was to investigate attitudes toward drinking and alcohol use of students in small high schools. The following independent variables were investigated: grade level, gender, community, Perceived Peer Attitude Toward Alcohol, Perceived Parental Attitude Toward Alcohol, and Knowledge of Alcohol. The dependent variables were scores from the Alcohol Use and Attitude Toward Drinking subscales of an alcohol questionnaire. The sample consisted of 139 students. Five composite null hypotheses and one null hypothesis were tested at the .05 level. A status survey factorial design was employed using a three-way analysis of variance (general linear model). One hypothesis was tested employing a  $t$ -test for a correlation coefficient. The following designs were utilized:

Composite Null Hypothesis number one, a  $3 \times 3 \times 2$ ;

Composite Null Hypothesis number two, a  $3 \times 2 \times 3$ ;

Composite Null Hypothesis number three, a  $2 \times 3 \times 3$ ;

Composite Null Hypothesis number four, a  $3 \times 3 \times 3$ ;

Composite Null Hypothesis number five, a  $4 \times 2 \times 3$ ; and the

Null Hypothesis, a  $t$ -test for a correlation coefficient.

The results section was organized according to composite null hypotheses for ease of reference. Information pertaining to each composite hypothesis was presented in a common format for ease of comparison.

It was hypothesized in composite null hypothesis number 1 that the differences among mean alcohol questionnaire scores for students in grades 9th - 12th according to Peer Attitude Toward Alcohol, Parental Attitude Toward Alcohol, and gender would not be statistically significant. Information pertaining to this composite null hypothesis was presented in Table 1. The following information was cited in Table 1: variables, group sizes, means, standard deviations, F values, and p levels.

Table 1: A Comparison of Mean Alcohol Questionnaire Scores for 9th - 12th Grade Students According to Perceived Peer Attitude Toward Alcohol, Perceived Parental Attitude Toward Alcohol, and Gender Employing a Three-way Analysis of Variance (General Linear Model)

Variable	<u>n</u>	<u>M</u> *	<u>s</u>	<u>F</u> value	<u>p</u> level
<u>Attitude Toward Drinking***</u>					
<u>Perceived Peer Attitude Toward Alcohol (A)</u>					
High	29	24.6 a	6.17		
Intermediate	80	21.0 b	5.30	17.18	.0001
Low	30	13.2 c	3.18		
<u>Perceived Parental Attitude Toward Alcohol (B)</u>					
High	33	24.9 a	4.74		
Intermediate	69	20.1 b	5.51	6.28	.0025
Low	37	15.7 c	6.19		
<u>Gender (C)</u>					
Males	64	21.9	6.58		
Females	75	18.6	5.87	2.67	.1051
<u>Interactions</u>					
		A x B		0.31	.8201
		A x C		0.08	.9213
		B x C		0.84	.4347
		A x B x C		1.09	.3549

(continued)

Table 1: (continued)

Variable	n	M**	s	F value	p level
<u>Alcohol Use***</u>					
<u>Perceived Peer Attitude Toward Alcohol (A)</u>					
High	29	19.8 <sup>a</sup>	14.67		
Intermediate	80	14.4 <sup>a</sup>	13.51	9.19	.0002
Low	30	0.0 <sup>b</sup>	0.00		
<u>Perceived Parental Attitude Toward Alcohol (B)</u>					
High	33	24.7 <sup>a</sup>	9.76		
Intermediate	69	11.4 <sup>b</sup>	14.09	12.52	.0001
Low	37	3.4 <sup>c</sup>	8.08		
<u>Gender (C)</u>					
Males	64	14.7	13.4		
Females	75	10.5	13.98	0.52	.4132
<u>Interactions</u>					
		A x B		0.55	.6498
		A x C		2.63	.0764
		B x C		0.48	.6173
		A x B x C		0.81	.4931

\* The larger the value the more positive the Attitude Toward Drinking.

\*\* The larger the value the more consumed.

\*\*\* The possible scores and theoretical mean for Attitude Toward Drinking were (10-40, 25), and the possible scores for Alcohol Use were (0-55) with 55 students reporting no alcohol use.

<sup>abc</sup> Means with different alphabetical symbols statistically significant at .05 level according to Bonferroni (Dunn) *t*-tests for means.

Four of the 14  $p$  values were statistically significant at the .05 level; therefore, the null hypotheses for these comparisons were rejected. The four significant comparisons were for main effects. The following main effects were statistically significant:

1. the independent variable Perceived Peer Attitude Toward Alcohol for the dependent variable Attitude Toward Drinking.
2. the independent variable Perceived Parental Attitude Toward Alcohol for the dependent variable Attitude Toward Drinking.
3. the independent variable Perceived Peer Attitude Toward Alcohol for the dependent variable Alcohol Use.
4. the independent variable Perceived Parental Attitude Toward Alcohol for the dependent variable for Alcohol Use.

The results cited in Table 1 indicated the following for main effects:

1. students with high Perceived Peer Attitude Toward Alcohol had a significantly higher mean (more positive) Attitude Toward Drinking score than students with intermediate Perceived Peer Attitude Toward Alcohol; these students (intermediate Perceived Peer Attitude Toward Alcohol) also had a significantly higher mean (more positive) Attitude Toward Drinking score than students with low Perceived Peer Attitude Toward Alcohol.
2. students with high Perceived Parental Attitude Toward Alcohol had a significantly higher mean (more positive) Attitude

Toward Drinking score than students with intermediate Perceived Parental Attitude Toward Alcohol; these students (intermediate Perceived Peer Attitude Toward Alcohol) also had a significantly higher mean (more positive) Attitude Toward Drinking score than students with low Perceived Peer Attitude Toward Alcohol.

3. students with high Perceived Peer Attitude Toward Alcohol had a significantly higher mean (more positive) Alcohol Use score than students with intermediate Perceived Peer Attitude Toward Alcohol; these students (intermediate Perceived Peer Attitude Toward Alcohol) also had a significantly higher mean (more positive) than students with low Perceived Peer Attitude Toward Alcohol.
4. students with high Perceived Parental Attitude Toward Alcohol score had a significantly higher mean (more positive) Alcohol Use than students with intermediate Perceived Parental Attitude Toward Alcohol; these students (intermediate Perceived Peer Attitude Toward Alcohol) also had a significantly higher mean (more positive) Alcohol Use score than students with low Perceived Parental Attitude Toward Alcohol.

It was hypothesized in null hypothesis number 2 that the differences among mean alcohol questionnaire scores for students in grades 9th - 12th according to Perceived Parental Attitude Toward Alcohol, gender and Knowledge of Alcohol would not be statistically significant. Information pertaining to this composite null hypothesis was presented in Table 2. The following information was cited in Table 2: variables, group sizes, means, standard deviations,  $F$  values, and  $p$  levels.



Table 2: A Comparison of Mean Alcohol Questionnaire Scores for 9th - 12th Grade Students According to Perceived Parental Attitude Toward Alcohol, Gender, and Knowledge of Alcohol Employing a Three-way Analysis of Variance (General Linear Model)

Variable	<u>n</u>	<u>M</u> *	<u>s</u>	<u>F</u> value	<u>p</u> level
<u>Attitude Toward Drinking</u> ***					
<u>Perceived Parental Attitude Toward Alcohol (B)</u>					
High	33	24.9 a	4.74		
Intermediate	69	20.1 b	5.51	15.62	.0001
Low	37	15.7 c	6.19		
<u>Gender (C)</u>					
Males	64	21.9	6.58		
Females	75	18.6	5.87	2.25	.1361
<u>Knowledge of Alcohol (D)</u>					
High	54	18.8 a	6.66		
Intermediate	68	20.3	5.76	3.23	.0431
Low	17	23.4 b	7.05		
<u>Interactions</u>					
				B x C	1.28 .2831
				B x D	0.40 .8077
				C x D	0.70 .4958
				B x C x D	0.21 .9350

(continued)

Table 2: (continued)

Variable	n	M**	s	F value	p level
<u>Alcohol Use***</u>					
<u>Perceived Parental Attitude Toward Alcohol (B)</u>					
High	33	24.7 a	9.76		
Intermediate	69	11.4 b	14.09	19.14	.0001
Low	37	3.4 c	8.08		
<u>Gender (C)</u>					
Males	64	14.7	13.74		
Females	75	10.5	13.98	0.02	.8786
<u>Knowledge of Alcohol (D)</u>					
High	54	13.1	14.35		
Intermediate	68	11.5	14.01	1.40	.2506
Low	17	14.1	13.14		
<u>Interactions</u>					
				B x C	0.13 .8772
				B x D	0.73 .5739
				C x D	0.14 .8685
				B x C x D	0.67 .6126

\* The larger the value the more positive the Attitude Toward Drinking.

\*\* The larger the value the more consumed.

\*\*\* The possible scores and theoretical mean for Attitude Toward Drinking were (10-40, 25), and the possible scores for Alcohol Use were (0-55) with 55 students reporting no alcohol use.

abc Means with different alphabetical symbols statistically significant at .05 level according to Bonferroni (Dunn) t-tests for means.

Three of the 14  $p$  values were statistically significant at the .05 level; therefore, the null hypotheses for these comparisons were rejected. The three significant comparisons were for main effects. The following main effects were statistically significant:

1. the independent variable Perceived Parental Attitude Toward Alcohol for the dependent variable Attitude Toward Drinking (recurring, Table 1),
2. the independent variable Knowledge of Alcohol for the dependent variable Attitude Toward Drinking,
3. the independent variable Perceived Peer Attitude Toward Alcohol for the dependent variable Alcohol Use (recurring, Table 1).

The results cited in Table 2 indicated the following for main effects: students with low Knowledge of Alcohol had a significantly higher mean (more positive) Attitude Toward Drinking score than students with high Knowledge of Alcohol.

It was hypothesized in composite null hypothesis number 3 that the differences among mean alcohol questionnaire scores for students in grades 9th - 12th according to gender, Knowledge of Alcohol, and Perceived Peer Attitude Toward Alcohol would not be statistically significant. Information pertaining to this composite null hypothesis was presented in Table 3. The following information was cited in Table 3: variables, group sizes, means, standard deviations,  $F$  values, and  $p$  levels.

Table 3: A Comparison of Mean Alcohol Questionnaire Scores for 9th - 12th Grade Students According to Gender, Knowledge of Alcohol, and Perceived Peer Attitude Toward Alcohol Employing a Three-way Analysis of Variance (General Linear Model)

Variable	<u>n</u>	<u>M</u> *	<u>s</u>	<u>F</u> value	<u>p</u> level
<u>Attitude Toward Drinking***</u>					
<u>Gender (C)</u>					
Males	64	21.9	6.58	0.37	.5418
Females	75	18.6	5.87		
<u>Knowledge of Alcohol (D)</u>					
High	54	18.8	6.66	0.82	.4428
Intermediate	68	20.3	5.76		
Low	17	23.4	7.05		
<u>Perceived Peer Attitude Toward Alcohol (A)</u>					
High	29	24.6 a	6.17	21.67	.0001
Intermediate	80	21.0 b	5.30		
Low	30	13.2 c	3.18		
<u>Interactions</u>					
		C x D		0.11	.8929
		C x A		0.89	.4144
		D x A		0.52	.7221
		C x D x A		0.38	.8255

(continued)

Table 3: (continued)

Variable	n	M**	s	F value	p level
<u>Alcohol Use***</u>					
<u>Gender (C)</u>					
Males	64	14.7	13.74	0.44	.5075
Females	75	10.5	13.98		
<u>Knowledge of Alcohol (D)</u>					
High	54	13.1	14.35	0.84	.4329
Intermediate	68	11.5	14.01		
Low	17	14.1	13.14		
<u>Perceived Peer Attitude Toward Alcohol (A)</u>					
High	29	19.8 <sup>a</sup>	14.67	11.93	.0001
Intermediate	80	14.4 <sup>a</sup>	13.51		
Low	30	0.0 <sup>b</sup>	0.00		
<u>Interactions</u>					
				0.27	.7650
				3.21	.0438
				0.61	.6547
				0.08	.9892

\* The larger the value the more positive the Attitude Toward Drinking.

\*\* The larger the value the more consumed.

\*\*\* The possible scores and theoretical mean for Attitude Toward Drinking were (10-40, 25), and the possible scores for Alcohol Use were (0-55) with 55 students reporting no alcohol use.

<sup>abc</sup> Means with different alphabetical symbols statistically significant at .05 level according to Bonferroni (Dunn) t-tests for means.

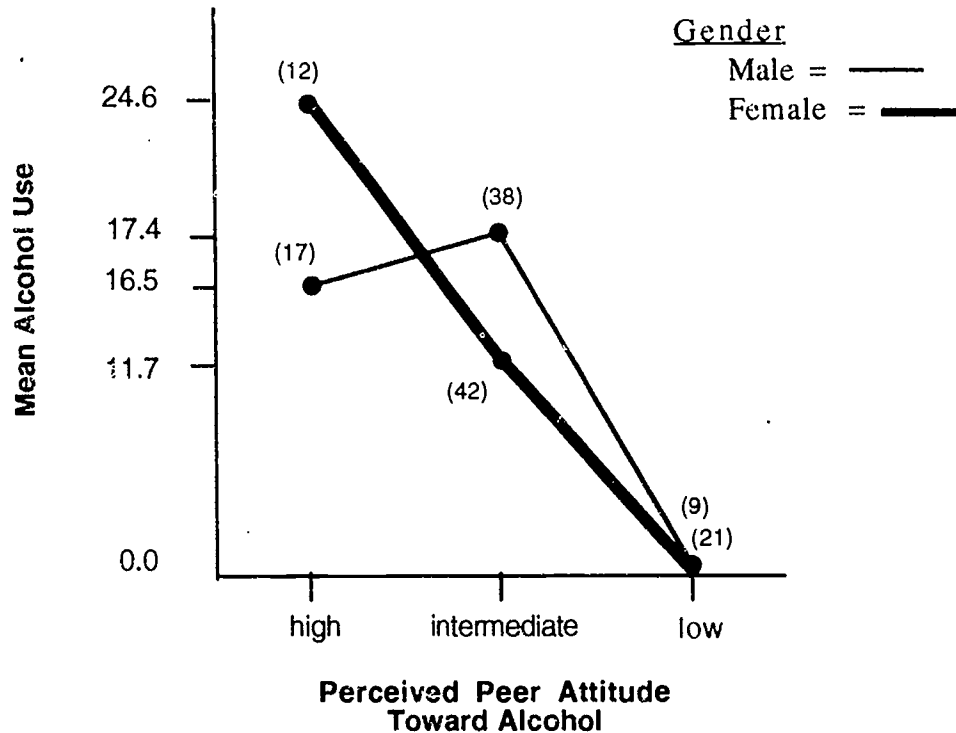
Three of the 14  $p$  values were statistically significant at the .05 level; therefore, the null hypotheses for these comparisons were rejected. Two of the three significant comparisons were for main effects. The following main effects were statistically significant:

1. the independent variable Perceived Peer Attitude Toward Alcohol for the dependent variable Attitude Toward Drinking (recurring, Table 1),
2. the independent variable Perceived Peer Attitude Toward Alcohol for the dependent variable Alcohol Use (recurring, Table 1).

The results cited in Table 3 indicated no additional information pertaining to main effects.

One of the three statistically significant comparisons was for an interaction. The statistically significant interaction was between the independent variables gender and Perceived Peer Attitude Toward Alcohol for the dependent variable Alcohol Use. This interaction was depicted in a profile plot. Figure 1 contains mean Alcohol Use scores and curves for gender.

Figure 1: The Interaction Between Gender and Perceived Peer Attitude Toward Alcohol for the Dependent Variable Alcohol Use.



The interaction between gender and Perceived Peer Attitude Toward Alcohol for the dependent variable Alcohol Use was disordinal. The results cited in Figure 1 indicated the following:

1. female students with high Perceived Peer Attitude Toward Alcohol had numerically the highest mean Alcohol Use of any subgroup,
2. male and female students with low Perceived Peer Attitude Toward Alcohol had numerically the lowest mean Alcohol Use of any subgroup,
3. male students with intermediate Perceived Peer Attitude



Toward Alcohol had numerically higher mean Alcohol Use scores than females with intermediate Perceived Peer Attitude Toward Alcohol scores.

It was hypothesized in composite null hypothesis number 4 that the differences among mean alcohol questionnaire scores for students in grades 9th - 12th according to Knowledge of Alcohol, Perceived Peer Attitude Toward Alcohol, and Perceived Parental Attitude Toward Alcohol would not be statistically significant. Information pertaining to this composite null hypothesis was presented in Table 4. The following information was cited in Table 4: variables, group sizes, means, standard deviations, F values, and p levels.

Table 4: A Comparison of Mean Alcohol Questionnaire Scores for 9th - 12th Grade Students According to Knowledge of Alcohol, Perceived Peer Attitude Toward Alcohol, and Perceived Parental Attitude Toward Alcohol Employing a Three-way Analysis of Variance (General Linear Model)

Variable	<u>n</u>	<u>M</u> *	<u>s</u>	<u>F</u> value	<u>p</u> level
<u>Attitude Toward Drinking***</u>					
<u>Knowledge of Alcohol (D)</u>					
High	54	18.8	6.66		
Intermediate	68	20.3	5.76	1.37	.2582
Low	17	23.4	7.05		
<u>Perceived Peer Attitude Toward Alcohol (A)</u>					
High	29	24.6 a	6.17		
Intermediate	80	21.0 b	5.30	16.57	.0001
Low	30	13.2 c	3.18		
<u>Perceived Parental Attitude Toward Alcohol (B)</u>					
High	33	24.9 a	4.74		
Intermediate	69	20.1 b	5.51	7.67	.0007
Low	37	15.7 c	6.19		
<u>Interactions</u>					
		D x A		1.41	.2345
		D x B		0.50	.7359
		A x B		0.85	.4709
		D x A x B		2.94	.0104

(continued)

Table 4: (continued)

Variable	<u>n</u>	<u>M</u> **	<u>s</u>	<u>F</u> value	<u>p</u> level
<u>Alcohol Use***</u>					
<u>Knowledge of Alcohol (D)</u>					
High	54	13.1	14.35		
Intermediate	68	11.5	14.01	0.46	.6305
Low	17	14.1	13.14		
<u>Perceived Peer Attitude Toward Alcohol (A)</u>					
High	29	19.8 <sup>a</sup>	14.67		
Intermediate	80	14.4 <sup>a</sup>	13.51	4.90	.0091
Low	30	0.0 <sup>b</sup>	0.00		
<u>Perceived Parental Attitude Toward Alcohol (B)</u>					
High	33	24.7 <sup>a</sup>	9.76		
Intermediate	69	11.4 <sup>b</sup>	14.09	11.39	.0001
Low	37	3.4 <sup>c</sup>	8.08		
<u>Interactions</u>					
				D x A	0.11 .9783
				D x B	0.66 .6210
				A x B	0.40 .7512
				D x A x B	0.82 .5577

\* The larger the value the more positive the Attitude Toward Drinking.

\*\* The larger the value the more consumed.

\*\*\* The possible scores and theoretical mean for Attitude Toward Drinking were (10-40, 25), and the possible scores for Alcohol Use were (0-55) with 55 students reporting no alcohol use.

<sup>abc</sup> Means with different alphabetical symbols statistically significant at .05 level according to Bonferroni (Dunn) t-tests for means.

Five of the 14  $p$  values were statistically significant at the .05 level; therefore, the null hypotheses for these comparisons were rejected. Four of the five significant comparisons were for main effects. The following main effects were statistically significant:

1. the independent variable Perceived Peer Attitude Toward Alcohol for the dependent variable Attitude Toward Drinking (recurring, Table 1),
2. the independent variable Perceived Parental Attitude Toward Alcohol for the dependent variable Attitude Toward Drinking (recurring, Table 1),
3. the independent variable Perceived Peer Attitude Toward Alcohol for the dependent variable Alcohol Use (recurring, Table 1),
4. the independent variable Perceived Parental Attitude Toward Alcohol for the dependent variable Alcohol Use (recurring, Table 1).

The results cited in Table 4 indicated no additional information pertaining to main effects.

One of the five statistically significant comparisons was for an interaction. The statistically significant interaction was among the independent variables Knowledge of Alcohol, Perceived Peer Attitude Toward Alcohol, and Perceived Parental Attitude Toward Alcohol for the dependent variable Attitude Toward Drinking. This interaction was not

presented in a profile plot due to the sample size and nature of the data.

It was hypothesized in composite null hypothesis number 5 that the differences among mean alcohol questionnaire scores for students in grades 9th - 12th according to grade placement, community, and Perceived Peer Attitude Toward Alcohol will not be statistically significant. Information pertaining to this composite null hypothesis was presented in Table 5. The following information was cited in Table 5: variables, group sizes, means, standard deviations,  $F$  values, and  $p$  levels.

Table 5: A Comparison of Mean Alcohol Questionnaire Scores for 9th - 12th Grade Students According to Grade Placement, Community, and Perceived Peer Attitude Toward Alcohol Employing a Three-way Analysis of Variance (General Linear Model)

Variable	<u>n</u>	<u>M</u> *	<u>s</u>	<u>F</u> value	<u>p</u> level
<u>Attitude Toward Drinking</u> ***					
<u>Grade Placement (E)</u>					
9th	50	19.2	6.17		
10th	38	18.1	6.38		
11th	31	20.3	5.98	1.21	.3093
12th	20	24.3	5.72		
<u>Community (F)</u>					
School A	40	22.0	6.04		
School B	99	19.3	6.41	0.00	.9530
<u>Perceived Peer Attitude Toward Alcohol (A)</u>					
High	29	24.6 <sup>a</sup>	6.17		
Intermediate	80	21.0 <sup>b</sup>	5.30	10.55	.0001
Low	30	13.2 <sup>c</sup>	3.18		
<u>Interactions</u>					
		E x F		1.18	.3199
		E x A		1.40	.2212
		F x A		1.86	.1600
		E x F x A		0.97	.3815

(continued)

Table 5: (continued)

Variable	<u>n</u>	<u>M</u> **	<u>s</u>	<u>F</u> value	<u>p</u> level
<u>Alcohol Use</u> ***					
<u>Grade Placement (E)</u>					
9th	50	9.6	13.66		
10th	38	8.9	12.69	0.79	.5023
11th	31	16.0	13.50		
12th	20	20.5	14.23		
<u>Community (F)</u>					
School A	40	13.6	13.44	0.88	.3493
School B	99	11.9	14.23		
<u>Perceived Peer Attitude Toward Alcohol (A)</u>					
High	29	19.8 <sup>a</sup>	14.67		
Intermediate	80	14.4 <sup>a</sup>	13.51	5.81	.0039
Low	30	0.0 <sup>b</sup>	0.00		
<u>Interactions</u>					
				E x F	0.61 .6075
				E x A	0.11 .9948
				F x A	2.88 .0599
				E x F x A	0.87 .4227

\* The larger the value the more positive the Attitude Toward Drinking.

\*\* The larger the value the more consumed.

\*\*\* The possible scores and theoretical mean for Attitude Toward Drinking were (10-40, 25), and the possible scores for Alcohol Use were (0-55) with 55 students reporting no alcohol use.

abc Means with different alphabetical symbols statistically significant at .05 level according to Bonferroni (Dunn) t-tests for means.

Two of the 14  $p$  values were statistically significant at the .05 level; therefore, the null hypotheses for these comparisons were rejected. The two significant comparisons were for main effects. The following main effects were statistically significant:

1. the independent variable Perceived Peer Attitude Toward Alcohol for the dependent variable Attitude Toward Drinking (recurring, Table 1),
2. the independent variable Perceived Peer Attitude Toward Alcohol for the dependent variable Alcohol Use (recurring, Table 1).

The results cited in Table 5 indicated no additional information pertaining to main effects.



It was hypothesized in null hypothesis number 6 that the difference between the calculated correlation coefficient for attitudes toward drinking and alcohol usage scores among students in grades 9 - 12 and zero will not be statistically significant. Information pertaining to this null hypothesis was presented in Table 6. The following information was cited in Table 6: variables, group sizes, means, standard deviations, and correlation coefficient.

Table 6: A Comparison of the Calculated Correlational Coefficient for Attitude Toward Drinking, Alcohol Use, and Zero for 9th - 12th Grade Students Employing a  $t$ -test for Single Mean.

Variable	<u>n</u>	<u>M</u>	<u>s</u>	<u>r</u>
Attitude Toward Drinking	139	20.1	6.40	
				.69*
Alcohol Use	139	12.4	13.98	

\* Statistically significant at the .01 level.

The calculated correlational coefficient of .69 was statistically significant at the .05 level; therefore, the null hypothesis for this comparison was rejected. The results cited in Table 6 indicated that the correlational coefficient was statistically greater than zero.

## Discussion

### Summary

The purpose of the researcher was to investigate the attitudes toward drinking and alcohol use of students in small high schools. The six independent variables investigated were grade level, gender, community, Perceived Peer Attitude Toward Alcohol, Perceived Parental Attitude Toward Alcohol, and Knowledge of Alcohol. The dependent variables were scores from the Alcohol Use and Attitude Toward Drinking subscales of an alcohol questionnaire. Five composite null hypotheses and one null hypothesis were tested at the .05 level of significance. The sample consisted of 139 students in grades 9 - 12. A status survey factorial design was employed using a three-way analysis of variance (general linear model), one hypothesis was tested employing a  $t$ -test for a correlation coefficient. A total of 41 comparisons were made with 30 recurring. Of the 41 comparisons 13 were for main effects and 28 for interactions. Of the 13 main effects 6 were statistically significant at the .05 level. The following main effects were statistically significant:

1. the independent variable Perceived Peer Attitude Toward Alcohol for the dependent variable Attitude Toward Drinking,
2. the independent variable Perceived Parental Attitude Toward Alcohol for the dependent variable Attitude Toward Drinking,
3. the independent variable Perceived Peer Attitude Toward Alcohol for the dependent variable Alcohol Use,

4. the independent variable Perceived Parental Attitude Toward Alcohol for the dependent variable Alcohol Use,
5. the independent variable Knowledge of Alcohol for the dependent variable Attitude Toward Drinking, and
6. the association between Attitude Toward Drinking and Alcohol Use.

Of the 28 interactions 2 were statistically significant at the .05 level.

The following interactions were statistically significant:

1. the independent variables gender and Perceived Peer Attitude Toward Alcohol for the dependent variable Alcohol Use.
2. the independent variables Knowledge of Alcohol, Perceived Peer Attitude Toward Alcohol, and Perceived Parental Attitude Toward Alcohol for the dependent variable Attitude Toward Drinking.

#### The Related Literature and Results of the Present Study

The results of the present study supported the following findings by Strecker (1991), who reported an association between Perceived Peer Attitude Toward Alcohol and Perceived Parental Attitude Toward Alcohol with Attitude Toward Drinking. Strecker did not find an association between Knowledge of Alcohol and Attitude Toward Drinking. The results of the present study indicate an association between Knowledge of Alcohol and Attitude Toward Drinking which failed to support Strecker's

results.

The variables Perceived Peer Attitude Toward Drinking and Perceived Parental Attitude Toward Drinking were found to be statistically associated with Alcohol Use in the present study. Alberts, Hecht, Miller-Rassulo, and Krizek (1992), and Hubbard, Brownlee, and Anderson (1988) found that peer influence was associated with alcohol consumption. The results of the present study supported the findings of Silnow (1987) and Shilts (1991) where an association between parental attitude toward alcohol and alcohol use was found.

The results of the present study did not appear to support the findings made by Gibbons, Wylie, Echterling and French (1986), Kandel and Logan (1984), Beck and Summons (1987) and McLaughlin, Baer, Pokorny, Burnside, and Fairlie (1984) who found an association between gender and use of alcohol. However, the present study did support the findings of Donovan and Jessor (1985) and Strecker (1991) that no association existed between gender and attitude toward alcohol.

Torabi and Veenker (1986) and Torabi and Seffrin (1985) found an association between Attitude Toward Alcohol and Alcohol Use for both high school and college students. The results of the present study indicated a statistical association between Attitude Toward Drinking and Alcohol Use for high school students, thus supporting their results.

### Generalizations

The results of the present study appear to support the following

generalizations:

1. Perceived Peer Attitude Toward Alcohol is associated with Alcohol Use,
2. grade placement is not associated with Attitude Toward Drinking,
3. grade placement is not associated with Alcohol Use,
4. gender is not associated with Attitude Toward Drinking,
5. community is not associated with Attitude Toward Drinking,
6. community is not associated with Alcohol Use,
7. significant interactions for gender, Perceived Peer Attitude Toward alcohol and Alcohol Use; and Knowledge of Alcohol, Perceived Parental Attitude Toward Alcohol and Attitude Toward Drinking, and
8. Attitude Toward Drinking is associated to Alcohol Use.

Implications

The results of the present study appear to support the following implications:

1. by providing a rationale for purchasing programs for the school system to reduce alcohol abuse among high school students,
2. by providing a guideline for purchasing programs for the school system to reduce alcohol abuse among high school students,

3. by encouraging teachers and counselors to emphasize greater individuality and more resistance toward the influence of others.

### Recommendations

Results of the present study appeared to support the following recommendations:

1. the study should be replicated with students in urban settings.
2. the study should be replicated using a more comprehensive and difficult Knowledge of Alcohol instrument.
3. the study should be replicated employing a large random sample.
4. the study should be replicated in a large number of small rural schools, and
5. the study should be replicated investigating community influences in a more comprehensive way.



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Appendix A  
Letter to Glen Strecker

March 20, 1994  
Box 379  
Minneola, KS 67865

Glen Strecker  
4002 Country Lane  
Hays, KS 67601

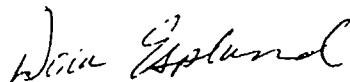
Dear Mr. Strecker:

I am a graduate student at Fort Hays University, Hays, Kansas, and am presently in the beginning stage of a thesis. As I was considering possible topics, I read your thesis regarding students' attitudes toward the use of alcohol. I am interested in investigating high school students' attitudes toward alcohol.

I am writing you for permission to use, modify, and include a copy in my thesis, the instrument you developed for your study. I would appreciate a response at your earliest convenience.

Thank you for your help and consideration.

Sincerely,



Dona Esplund

Appendix B

Note of Permission from Glen Strecker

March 20, 1994  
 Box 379  
 Minneola, KS 67865

Glen Strecker  
 4002 Country Lane  
 Hays, KS 67601

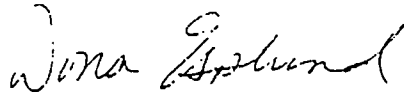
Dear Mr. Strecker:

I am a graduate student at Fort Hays University, Hays, Kansas, and am presently in the beginning stage of a thesis. As I was considering possible topics, I read your thesis regarding students' attitudes toward the use of alcohol. I am interested in investigating high school students' attitudes toward alcohol.

I am writing you for permission to use, modify, and include a copy in my thesis, the instrument you developed for your study. I would appreciate a response at your earliest convenience.

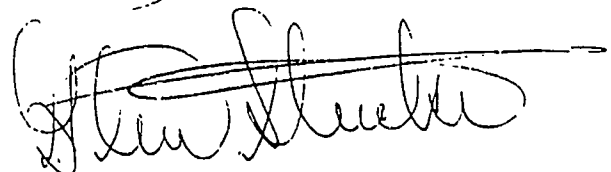
Thank you for your help and consideration.

Sincerely,



Dona Esplund

*You may use & modify  
 the instrument (AAQ).*



Appendix C

Copy of Questionnaire of Glen Strecker



## ALCOHOL ATTITUDE QUESTIONNAIRE

## Section 1.

SEX:  male  female

AGE: \_\_\_\_\_ CLASS: \_\_\_\_\_

## Section 2. Individual Attitude

1. Drinking is not healthy.  
 strongly disagree     disagree     agree     strongly agree
2. Parties and alcohol go together.  
 strongly disagree     disagree     agree     strongly agree
3. It is O. K. to get drunk.  
 strongly disagree     disagree     agree     strongly agree
4. It is wrong for minors to drink .  
 strongly disagree     disagree     agree     strongly agree
5. I hate being around people drinking.  
 strongly disagree     disagree     agree     strongly agree
6. I like to be around people who drink.  
 strongly disagree     disagree     agree     strongly agree
7. Drinking is O. K. if you don't get drunk.  
 strongly disagree     disagree     agree     strongly agree
8. Drinking is for fools.  
 strongly disagree     disagree     agree     strongly agree
9. Drinking makes people feel good.  
 strongly disagree     disagree     agree     strongly agree
10. I would like getting high on alcohol.  
 strongly disagree     disagree     agree     strongly agree

## Section 3. Parental Attitude

1. My parents have friends who drink a lot.  
 YES                       NO
2. My parents think it is all right to drink at parties.  
 YES                       NO
3. One or both of my parents drink.  
 YES                       NO
4. If I had a drink my parents would be upset.  
 YES                       NO
5. My parents usually keep some type of alcohol in our house.  
 YES                       NO
6. My parents think it is OK to drink.  
 YES                       NO
7. If I got drunk my parents would be upset.  
 YES                       NO
8. My parents will allow me to drink when I am in high school.  
 YES                       NO
9. My parents have given me a drink.  
 YES                       NO

## Section 4. Peer Attitude

1. Do your close friends think it is "cool" to drink?  
 YES                       NO
2. Do you have close friends who drink?  
 YES                       NO

3. Has any good friend ever gotten drunk?  
 YES                       NO
4. Would your best friend be mad at you if you drank?  
 YES                       NO
5. If a good friend offered a drink, would you take it?  
 YES                       NO
6. Would your best friend be mad at you if you got drunk?  
 YES                       NO
7. If you had a party would you allow a friend to bring alcohol?  
 YES                       NO
8. My friends drink once in a while.  
 YES                       NO
9. My friends will probably drink when they get in high school.  
 YES                       NO

#### Section 5. Knowledge of Alcohol

1. Do alcoholics dress and look different than most people?  
 YES                       NO
2. Is alcohol considered a drug?  
 YES                       NO
3. To legally drink alcohol in Kansas you must be at least \_\_\_ years old.  
 16                       18                       21
4. Is alcoholism considered a disease?  
 YES                       NO

5. A small amount of alcohol actually improves your reactions and thinking by relaxing you.  
 YES                       NO
6. Alcoholics are people who are drunk most of the time.  
 YES                       NO
7. A shot glass is a large mug that beer is served in.  
 YES                       NO
8. Which contains the most alcohol; an ounce of beer, an ounce of wine, or an ounce of whiskey.  
 beer                       wine                       whiskey
9. It would be easy for an alcoholic to stop drinking if they really wanted to.  
 YES                       NO
10. Alcohol is less harmful than other drugs, such as marijuana.  
 YES                       NO

f

Appendix D  
Letter to Prospective Schools

May 5, 1994

Dr. Lawrence Goslin  
Superintendent, USD #225  
Fowler, KS 67844

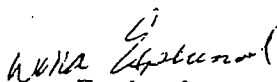
Box 379  
Minneola, KS 67865

Dear Dr. Goslin,

Enclosed is a copy of the Alcohol Attitude Questionnaire that you requested during our conversation on April 25, 1994. I am seeking your permission to use the Fowler High School students, grade 9 - 12, in my sample. If you have any questions or need to confirm any details, please contact me.

Thank you for reviewing this material.

Sincerely,

  
Dona Esplund

(316) 885 - 4516

May 5, 1994

Mr. Dave Easterday  
Superintendent, USD #226  
Meade, KS 67864

Box 379  
Minneola, KS 67865

Dear Mr. Easterday,

Enclosed is a copy of the Alcohol Attitude Questionnaire that you requested during our phone conversation on April 25, 1994. I am seeking your permission to use the Meade High School students, grade 9 - 12, in my sample. If you have any questions or need to confirm any details, please contact me.

Thank you for reviewing this material.

Sincerely,

*Dona Esplund*  
Dona Esplund

(316) 885 - 4516

Appendix E

Approval Letters from Schools





*Fowler Unified School District 225*

OFFICE OF SUPERINTENDENT  
FOWLER, KANSAS 67844

77

May 10, 1994

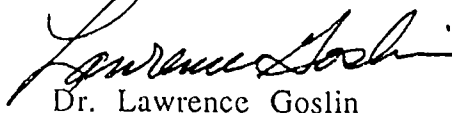
Dona Esplund  
Box 379  
Minneola, KS 67865

Dear Ms. Esplund,

I am giving you permission to use the sample of Fowler High School students to administer the Alcohol Attitude Questionnaire.

In addition, I would also like a copy of the results you obtained.

Sincerely,



Dr. Lawrence Goslin

2  
2  
6  
Meade Unified School District

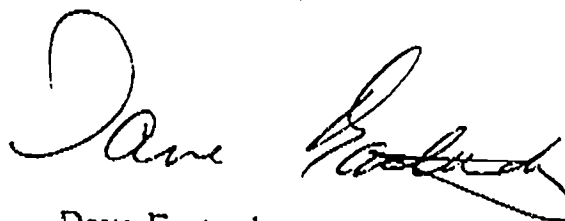
407 School Addition • P.O. Box 400 • Meade, KS 67864

Dona Esplund  
Fowler USD #225  
PO Box 170  
Fowler, KS 67864

Dear Mrs. Esplund:

This is to confirm that you have permission to give Meade High School students a questionnaire relative to your thesis project.

Sincerely,



Dave Easterday

Appendix F  
Instructions to Teachers

Instructors:

I would like you to distribute this survey to your \_\_\_\_ hour class. Please remind your students that each student should work individually. Individual responses will be kept confidential. The students do have the option of not participating. When all students have completed the instrument; please collect all copies and return them to me in the envelope provided. This research is central to my thesis, I appreciate the time you have taken out of your schedule.

Thank you for your cooperation.

**Please read the following out loud to your students.**

#### Instructions

This is a study conducted for a thesis in counseling at Fort Hays State University. Each of you have the option of not participating in the study. If you do not choose to participate, please return the copies of the questionnaires to your instructor immediately. All individual information will be kept confidential. Do not put your name on the questionnaires. If you choose to participate, please read each statement carefully. Record your immediate reaction to the statement by marking an "X" on the appropriate blank. Make only one response per item. Mark every item on each copy of the questionnaire.

For this survey, drink or drinking refers to consuming any type of alcoholic beverage such as beer, wine, whiskey, or other.

Appendix G  
Revised Instrument

## Instructions

This is a study conducted for a thesis in counseling at Fort Hays State University. Each of you have the option of not participating in the study. If you do not choose to participate, please return the copies of the questionnaires to your instructor immediately. All individual information will be kept confidential. Do not put your name on the questionnaires. If you choose to participate, please read each statement carefully. Record your immediate reaction to the statement by marking an "X" on the appropriate blank. Make only one response per item. Mark every item on each copy of the questionnaire.

For this survey, drink or drinking refers to consuming any type of alcoholic beverage such as beer, wine, whiskey, or other.

### Demographic Sheet

(Answer all questions and mark each question only once  
by placing an "X" in the appropriate blank.)

SEX:            \_\_\_\_\_ male            \_\_\_\_\_ female

GRADE:        \_\_\_\_\_ freshman  
                   \_\_\_\_\_ sophomore  
                   \_\_\_\_\_ junior  
                   \_\_\_\_\_ senior

USE:

1. How often do you drink alcoholic beverages.
  - a. \_\_\_\_\_ Never
  - b. \_\_\_\_\_ Once a month or less
  - c. \_\_\_\_\_ Once a week
  - d. \_\_\_\_\_ Two or three times a week
  - e. \_\_\_\_\_ Four or five times a week
  - f. \_\_\_\_\_ Daily

**\*\*If you marked the first question "never," please omit the second and third questions.**

2. Which of the following do you usually drink?  
(mark all that obtain)
  - a. \_\_\_\_\_ Beer
  - b. \_\_\_\_\_ Wine or wine coolers
  - c. \_\_\_\_\_ Hard liquor (Whiskey, Vodka, Schnapps, ect.)
  
3. How many drinks do you usually have each time?  
(Please mark only one.)
  - a. \_\_\_\_\_ 1 -- 2
  - b. \_\_\_\_\_ 3 -- 4
  - c. \_\_\_\_\_ 5 or more.

### Attitude Toward Drinking

(Answer all questions and mark each question only once  
by placing an "X" in the appropriate blank.)

1. Everyone has a right to drink as much as he/she wants.  

strongly			strongly
_____disagree	_____disagree	_____agree	_____agree
2. Parties and alcohol go together.  

strongly			strongly
_____disagree	_____disagree	_____agree	_____agree
3. It is all right to get drunk.  

strongly			strongly
_____disagree	_____disagree	_____agree	_____agree
4. Minors should not drink.  

strongly			strongly
_____disagree	_____disagree	_____agree	_____agree
5. Someone should never drink alcoholic beverages.  

strongly			strongly
_____disagree	_____disagree	_____agree	_____agree
6. I like being around people who drink.  

strongly			strongly
_____disagree	_____disagree	_____agree	_____agree
7. Getting drunk is not cool.  

strongly			strongly
_____disagree	_____disagree	_____agree	_____agree
8. Drinking makes people feel good.  

strongly			strongly
_____disagree	_____disagree	_____agree	_____agree
9. I would like to get a "buzz" on alcohol.  

strongly			strongly
_____disagree	_____disagree	_____agree	_____agree
10. Teenagers should be able to drink as much as they want.  

strongly			strongly
_____disagree	_____disagree	_____agree	_____agree



### Parental Attitude

(Answer all questions and mark each question only once  
by placing an "X" in the appropriate blank.)

1. My parents have many friends who drink a lot.  

strongly			strongly
_____disagree	_____disagree	_____agree	_____agree
  
2. My parents think it is all right for me to drink at parties.  

strongly			strongly
_____disagree	_____disagree	_____agree	_____agree
  
3. One or both of my parents drink a lot.  

strongly			strongly
_____disagree	_____disagree	_____agree	_____agree
  
4. If my parents knew I had a drink, they would be upset.  

strongly			strongly
_____disagree	_____disagree	_____agree	_____agree
  
5. My parents usually keep alcoholic beverages in our home.  

strongly			strongly
_____disagree	_____disagree	_____agree	_____agree
  
6. My parents think drinking is all right.  

strongly			strongly
_____disagree	_____disagree	_____agree	_____agree
  
7. My parents do not attend social functions where alcohol is served.  

strongly			strongly
_____disagree	_____disagree	_____agree	_____agree
  
8. My parents allow me to drink.  

strongly			strongly
_____disagree	_____disagree	_____agree	_____agree
  
9. On occasion, my parents have given me alcoholic beverages.  

strongly			strongly
_____disagree	_____disagree	_____agree	_____agree
  
10. I have drunk in the presence of my parents.  

strongly			strongly
_____disagree	_____disagree	_____agree	_____agree

## Peer Attitude

(Answer all questions and mark each question only once by placing an "X" in the appropriate blank.)

1. My close friends think it is "cool" to drink.  

strongly			strongly
_____disagree	_____disagree	_____agree	_____agree
2. I have close friends who drink.  

strongly			strongly
_____disagree	_____disagree	_____agree	_____agree
3. A good friend of mine has been drunk.  

strongly			strongly
_____disagree	_____disagree	_____agree	_____agree
4. My best friend would be mad at me if I drank.  

strongly			strongly
_____disagree	_____disagree	_____agree	_____agree
5. If a good friend offered me a drink, and I did not take it, he/she would be upset.  

strongly			strongly
_____disagree	_____disagree	_____agree	_____agree
6. My best friend would be mad at me if I got drunk.  

strongly			strongly
_____disagree	_____disagree	_____agree	_____agree
7. If my friend had a party, he/she would be mad if I brought alcohol.  

strongly			strongly
_____disagree	_____disagree	_____agree	_____agree
8. My friends drink once in a while.  

strongly			strongly
_____disagree	_____disagree	_____agree	_____agree
9. Most of my friends drink.  

strongly			strongly
_____disagree	_____disagree	_____agree	_____agree
10. My friends think it is cool to drink.  

strongly			strongly
_____disagree	_____disagree	_____agree	_____agree

### Knowledge of Alcohol

(Answer all questions and mark each question only once by placing an "X" in the appropriate blank.)

1. Alcoholics dress and look differently than most people.  
 YES                       NO
2. Alcohol is considered a drug.  
 YES                       NO
3. Heavy alcohol use is associated with liver damage.  
 YES                       NO
4. Alcoholism is considered a disease by many people?  
 YES                       NO
5. A small amount of alcohol actually improves your reactions and thinking by relaxing you.  
 YES                       NO
6. Alcoholics are people who get drunk most of the time.  
 YES                       NO
7. To be an alcoholic one must drink hard liquor.  
 YES                       NO
8. Which contains the most alcohol--an ounce of beer, an ounce of wine, or an ounce of whiskey?  
 beer                       wine                       whiskey
9. A smaller person will get drunk on less alcohol.  
 YES                       NO
10. A person will be able to tell if he/she is too drunk to drive.  
 YES                       NO
11. A person who frequently drinks a lot can drink more before his/her blood alcohol level increases enough to affect driving.  
 YES                       NO
12. Even though no alcohol is in a persons blood stream, a hangover can impair his/her driving ability by up to 20%.  
 YES                       NO