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ADOLESCENT HIGH RISK FACTORS FOR DRUG USE, AND DEVELOPMENT TOWARD A SCHOOL DRUG PREVENTION PROGRAM

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ADOLESCENT HIGH RISK FACTORS FOR DRUG USE, AND DEVELOPMENT TOWARD A SCHOOL DRUG PREVENTION PROGRAM

By

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ABSTRACT

ADOLESCENT HIGH RISK FACTORS FOR
DRUG USE, AND DEVELOPMENT TOWARD
A SCHOOL DRUG PREVENTION PROGRAM

By

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The purpose of this study was to test a theoretical framework on how family rejection, peer pressure, aggression, self-esteem, coping skills, and attitude toward school relate to youth drug use. Further, this study assessed youth opinions on various drug prevention program elements. Data was collected from sixty-one youths age eleven to fourteen. Results indicated that peer pressure had the highest relationship with youth drug use: $r = .93$, $P (.87 \leq Rho \leq .99) = .90$ CI. Aggression was also highly related with drug use: $r = .50$, $P (.21 \leq Rho \leq .78) = .90$ CI. Family rejection had the lowest relationship with drug use: $r = .01$, $P (-.21 \leq Rho \leq .24) = .90$ CI. However, family rejection was highly related with low self-esteem: $r = -.67$, $P (-.84 \leq Rho \leq -.49) = 90$ CI, poor coping skills: $r = .58$, $P (.24 \leq Rho \leq .93) = 90$ CI, and negative attitude toward school: $r = -.60$, $P (-.79 \leq Rho \leq -.41) = 90$ CI. The framework, in the form of a multivariate path analysis, indicated that the data fit the model adequately: Chi square = 9.42, 8 df, $P \leq .308$ respectively. Youths suggested the following: (1) individual counseling sessions may not be helpful; (2) the counselor should not be a school

staff member; (3) the program should not try to scare students away from drug use; and, (4) parents and teachers should not be given information about student drug use.

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INTRODUCTION

Non-medical (not doctor prescribed) drug abuse is widespread today among youth as well as adults. However drug abuse is not a contemporary problem; society has consistently been involved with mood and mind altering substances. Cohen (1969) noted that society has gone through cycles of intense periods of drug abuse. He stated that all classes of drugs have had their moments of popularity and decline. He made reference to the Bacchanalian orgies of Rome, the penny gin of the seventeenth century London, the widespread addiction that occurred during the opium wars, the extensive consumption of distilled spirits just following the Civil War, the drug cultures in Needle Park, New York and Height-Ashbury in San Francisco where LSD, amphetamines, barbiturates and marijuana were popular. All of these periods in the past, along with many other events (Einstein, 1980), reflect milestones of social history which sometimes repeat themselves. Drug use in this manuscript refers to use of the following drugs: marijuana, cocaine, methaqualone, tranquilizers, barbiturates, PCP, LSD, inhalants, heroin, stimulants, alcohol, and tobacco.

The purpose of this study was to: (1) obtain demographic data about student drug use; (2) assess perceived causes of drug use from the students themselves; (3) determine the amount of current drug use by students; and, (4) provide the opportunity for students to express their own ideas for a school drug prevention program. The present study also tested the outcome of previous research and theory (Babst, Deren, Schmeidler and Lipton, 1978; Bandura, 1986; Simons and Robertson, 1989) on how the following areas relate to student drug use: (1) parental rejection; (2) self-esteem; (3) coping skills; (4) aggression; (5) deviant peer group affiliation; and, (6) interest in school.

Background information on level of student drug use was also assessed in the present study. Information on the various levels of drug use, allowed assessment on whether students differ in their perceptions of what type of drug prevention program is needed at their school when compared.

All of the information in the present study was obtained by administering an interview/questionnaire.

To provide background information for the present study, it was necessary to review the literature on the following topics: (1) prevalence of drug use among youths; (2) age at first use; (3) the dangers of the most common drugs used by youths; (4) early school drug education; (5) effects of drug education; (6) past evaluation concepts and problems of drug education; (7) possible high risk

correlates to youth drug use. These topics will be discussed in the following sections of this manuscript.

Prevalence of Drug Use Among Youths

Today's drug situation is in many ways a continuation of history. Recreational drug use is widespread today among youths as well as adults, and there seems to be a general perception that this nonmedical or "social" drug use is more popular than in past years, but this is not true. Although an increase in nationwide drug use was found during the early to mid 1970s (Abelson and Fishburne, 1976; Blackford, 1977), the years 1978 and 1979 marked a decrease in marijuana use among American high school students (National Institute of Drug Abuse, 1981). It was also noted that between 1981 and 1982, nearly all classes of illicit drugs showed declines in current use (during the month preceding the interview) in a national survey report (National Institute on Drug Abuse, 1982). The study specifically found the greatest decline for marijuana, cocaine, stimulants, sedatives, tranquilizers, hallucinogens, and opiates other than heroin.

Since about 1970, police arrest records, hospital clinics, surveys, and the news media have all continued to show widespread drug use among the young. The increase of drug use in 1971 was so large, that the President proclaimed drug abuse as one of America's most urgent problems (Althoff, 1971).

It was believed that drug use in the United States was rapidly increasing, not only among college students, but also among younger adolescent youths and children.

According to the National Survey on Drug Abuse (1982) more than one-fourth (28.2 percent) of the youths aged twelve to seventeen reported that they tried marijuana at least once, and about one-sixth (16.1 percent) reported use of marijuana within a month of their survey response. These figures showed increases over the previous year in both prevalence (within a month of the interview) and current use of marijuana among youth (5.7 percent for prevalence and 3.7 percent for current use).

Another study that showed evidence of an increase in prevalence of use of psychotropic drugs was conducted by Abelson and Fishburne (1976). They conducted a nationwide study among youths and adults and found that only one-fifth of adults twenty-six years of age or older had reported ever using an illicit drug, but nearly one-third of youths aged twelve to seventeen and over half the young adults aged eighteen to twenty-five, had reported illicit drug experience. These findings indicated that compared to earlier generations, increased proportions of individuals in the generation of the early to mid 1970s were becoming more involved with drug use.

Blackford (1977) conducted a study in San Mateo County, California. In this study it was found that nearly twenty-three percent of males in the seventh grade had used alcohol

within the six months prior to their participation in the study, compared with only eleven percent who reported alcohol use in 1969. Abelson and Fishburne (1976) found that prevalent (within the last month) alcohol use in adolescents aged twelve to seventeen increased between 1972 and 1976. They also found the percentage of fourteen and fifteen-year-olds who reported themselves as current users (within the last month), rising from twenty-one percent in 1972 to thirty-one percent in 1975 to 1976. Among students aged sixteen to seventeen an increase in current drinking went from thirty-five to forty-seven percent.

Cigarette smoking had reportedly increased among adolescent youths in the 1970s. Abelson and Fishburne (1976) found that twenty-three percent of youths reported they were smokers in 1976, while only fifteen percent reported they were smokers in 1971.

The following drug trend information was obtained from the results found in the National Institute on Drug Abuse National Survey (Main Findings) report of 1982.

Marijuana. It has been found (NIDA, 1982) that youths twelve to seventeen who report having ever tried marijuana in a national survey was twenty-seven percent. This represented the lowest use percentage rate since 1976 (twenty-two percent). The percentage of youths who stated that they had used marijuana within one month of survey participation was twelve percent in 1982. This twelve percent represented the lowest monthly use rate since 1974.

Yearly use rates among youths (age twelve to seventeen) in 1982 (twenty-one percent) was the lowest since 1976 (nineteen percent).

Hallucinogens. When students aged twelve to seventeen were asked, "How many occasions (if any) have you used psychedelics (LSD, mescaline, peyote, psilocybin, etc.) in the last year," a decrease in widespread use was shown. In 1979 evidence of use among students was 4.7 percent and in 1982 it was 3.6 percent (NIDA, 1982).

Cocaine. Cocaine prevalence (within one year of survey participation) among students age twelve to seventeen remained fairly consistent. In 1979 cocaine use among this age group was 4.2 percent and in 1982 widespread prevalent use was 4.1 percent (NIDA, 1982).

Heroin. Use of this drug among youths age twelve to seventeen has been less than 0.5 percent since 1972, with the exception of 1977 when widespread use for this age group was 0.6 percent (NIDA, 1982).

Stimulants. Use of these drugs among youths had increased between 1979 and 1982. In 1979 wide use of stimulants (within one year of survey participation) was three percent, but by 1982 use of stimulants was six percent among youths aged twelve to seventeen (NIDA, 1982).

Sedatives. Use of these drugs has been shown (NIDA, 1982) to increase among youths. In 1979, the percentage of prevalent (within one year of survey) use of sedatives was

two percent, but by 1982 popular nationwide use increased to four percent.

Tranquilizers. Use of these drugs among youths has also shown a slight increase (NIDA, 1982). In 1979, widespread use (use within one year of survey) among these drugs was 2.7 percent, but in 1982 the percentage of widespread use was 3.3 percent.

Alcohol. The trend of prevalent (use within one year of survey) use of alcohol has not been shown to be stable (NIDA, 1982). In 1977 prevalent use nationwide among youths was 47.5 percent, in 1979 use was 53.6 percent, and in 1982 it was back down to where it was in 1977, showing prevalent use at 47.3 percent.

Cigarettes. Prevalent (use within one year of the survey) use nationwide among youths in 1982 was twenty-five percent (NIDA, 1982). When youths (age twelve to seventeen) were asked if they had ever smoked in their life times, inconsistency seems to be the trend. In 1977 prevalent use nationally was 47.3 percent, in 1979 it was 54.1 percent and in 1982 prevalent use decreased to 49.5 percent.

In a recent survey report by the National Institute on Drug Abuse (1990), it was found that widespread drug use among youths continues to exist. The following is from the 1990 National Household Survey by the National Institute on Drug Abuse:

1. More than 4.5 million (22.7 percent) of young people aged twelve to seventeen have tried an illicit drug

at least once during their lives; 3.2 million (15.9 percent) have used within the past year; and over 1.6 million (8.1 percent) have used recently (within a month of survey response).

2. Approximately 2.4 million (23.4 percent) of males age twelve to seventeen and 2.1 million (22.0 percent) of females age twelve to seventeen used an illicit drug at least once during their lives.

3. Approximately three million (14.8 percent) young people have tried marijuana; 2.3 million (11.3 percent) have used it within the past year of the survey.

4. Among twelve to seventeen year olds marijuana use (within one month of survey response) by region ranged from 5.1 percent in the South, 5.9 percent in the Northeast, 5.3 percent in the North Central, and 4.4 percent in the West.

5. By race/ethnicity, use of marijuana (within the past month of survey response) was 3.4 percent for black youths, 4.3 for Hispanics, and 5.9 percent for Whites.

6. Over 500,000 (2.6 percent) of young people have tried cocaine; 2.2 percent used within a year of the survey; and 0.6 percent used cocaine within one month of the survey.

7. Almost one-half (48.0 percent) of young people age twelve to seventeen had tried alcohol at least once in their lifetimes. Of the 8.2 million youths who used alcohol within the past year, 4.9 million used at least once within one month of the survey, and one million used within one week to three weeks of the survey.

Age at First Use

The age group that tends to be affected most by initial drug use is unclear, but many of the studies and literature addressing the issue (Scott, 1972) suggested that the adolescent years (early to late teens) tend to be the period where drug experimentation and use begins. Scott (1972) found that often drug use in girls started at ages thirteen and fourteen. Scott further stated that the age of puberty seems to trigger a rebellion against parents and school. Young people (ages thirteen to sixteen) also seemed to be the most desirable group to address when it comes to drug use. Hardy and Cull (1975) stated that young people bring forward the problems which are more subtle in adults. They further stated that there are exceptions, but generally young people tend to reveal the "real" problems behind their drug abuse more openly than adults. Therefore, Scott (1972) stated that junior high school (seventh and eighth grade) is a critical time when preventive drug abuse measures should be implemented.

Sandoval (1988) stated that puberty represents a transition period, leaving the status of childhood for a new life stage. He further stated that transitions are crises in that they present the individual with a situation for which old techniques of adjustment and coping may not work. According to Douglas (1966), an individual in transition can be vulnerable, dangerous, and a threat to self and others. Sandoval (1988) stated that a person in a transition period

of puberty may also demonstrate a kind of "lawlessness" because the roles and ascriptions of their past status no longer apply, and new roles have not yet been acquired. Erikson (1959) suggested that the period of adolescence is one in which the individual struggles between identity and identity diffusion; thus promotes an identity crisis (Fitzgerald and Strommen, 1982).

Use of marijuana has been found to be concentrated in the teen-age years (NIDA, 1982). Among youths who smoke marijuana, three percent first started using marijuana at twelve and thirteen years of age, seven percent first used marijuana at ages sixteen and seventeen (NIDA, 1982).

The age that seemed to show the highest risk of first use of hallucinogens has been shown to be age sixteen to seventeen (NIDA, 1982).

It has also been found (NIDA, 1982) that four percent of all sixteen to seventeen year-old youths surveyed reported first using cocaine at the age of sixteen or seventeen (first use was within one year of survey participation).

For psychotherapeutic drugs (stimulants, sedatives, tranquilizers, and analgesics) used without a prescription by a doctor, first use age categories seemed about equal ranging from twelve to thirteen, fourteen to fifteen, and sixteen to seventeen--each obtaining two to three percent of first users (NIDA, 1982).

The Dangers of the Most Common Drugs Used by Youths

The three drugs used most by adolescents are alcohol, cigarettes, and marijuana (NIDA, 1982, 1983, 1984, 1990). The following will discuss the dangers of these drugs.

Alcohol

Human studies on alcohol consumption have shown that alcohol damages the liver (Galambos, 1972; Lischner, Alexander and Galambos, 1971).

Chronic brain damage has been associated with alcoholism (Parsons and Lieber, 1982). Parsons (1977) estimated that about ten percent of alcoholics who have sought treatment qualify as having chronic brain syndrome. Postmortem studies (Wilkinson and Carlen, 1981) have found that atrophy (loss of brain cells) is one of the major consequences of alcoholism. Beck, Dustman, Blusewicz, Schenkenberg, and Canon (1978) found that premature aging may also occur in alcoholics.

Cognitive deficits have been found in alcoholics (Jenkins and Persons, 1980; Parker and Noble, 1980). Wernicke-Korsakoff Syndrome has also been found to occur in chronic alcoholics (Butters, 1982).

Alcohol related traffic accidents have been reported. Douglas (1982) stated that between forty-five and sixty percent of all fatal traffic accidents with a young driver are alcohol related. It has also been stated that no other cause of death is as predictably associated with youth

traffic accidents as beverage alcohol and a young driver's ability to control an automobile (Comptroller General of the United States, 1979). Waller (1972) indicated that teenagers were more likely than older drivers to have caused an automobile accident while having lower blood alcohol concentrations.

Marijuana

Biological and physiological studies involving THC (the active chemical in marijuana) and how this drug damages the lungs have been extensive (Rosenkrantz and Fleischman, 1979; Roy, Magnan-Lapointe, Huy and Boutet, 1976). Additional studies have shown that marijuana in some samples has been contaminated. Landrigan, Powell, James and Taylor (1983) found marijuana samples infected with salmonella muenchen. It was stated that those infected suffered from diarrhea, fever, and abdominal pain. Others have found that marijuana users also risk inhaling harmful fungi, lethal herbicides (paraquat), and other harmful bacteria (Kagan, 1981; Landrigan et al., 1983).

Marijuana has also been shown to affect the heart and increase blood pressure (Johnson and Domino, 1971).

It has been stated that most researchers have concluded that consumption of marijuana is a potential health risk (Jones and Lovinger, 1985).

Smoking Cigarettes

It has been stated (U.S. Department of Health, Education and Welfare, 1964) that cigarette smoking is the most significant cause of chronic bronchitis in the United States, and increases the risk of dying from chronic bronchitis and emphysema. It was further stated that the risk of developing cancer of the lung and larynx increases with duration of smoking and the number of cigarettes smoked per day, and the risk seems to diminish when cigarette smoking is discontinued.

The younger a person is when they start abusing drugs, the higher the risk of danger due to the potential increase in physical, social, and emotional damage from longer life experiences with drugs (National Institute on Drug Abuse, 1983).

It has been reported (Beschner and Friedman, 1979; Cohen, 1969; Platt and Labate, 1976) that many drugs can be taken in various ways. They can be injected directly into the blood stream, snorted through the nose, swallowed by pill or drank, etc., smoked, or inhaled by vapor. Although any of these methods can be dangerous depending on the amount taken or characteristics of the individuals taking them, etc., many studies (Smith, Smith, Besch, Smith and Asch, 1979; Beschner and Friedman, 1979; Platt and Labete, 1976; Smith et al., 1979) have shown that direct application of drugs to the blood vessels (via intravenous injections or snorting through the nose) can cause possible physical

damage (damaged veins, septicemia, hepatitis, nasal problems, etc.) along with more intense and rapid drug effects. Because of these possibilities, application of drugs by injection or snorting is considered to be the most hazardous in the present study.

It has been reported (Butters, 1982; Landesman-Dwyer, 1982) that oral consumption of drugs can contribute to many problems in humans and animals. Alcohol has been shown (National Institute on Drug Abuse, 1990) to be the most widely used drug among high school students and younger youth. Based on the potential dangers of alcohol combined with its widespread use among youth, oral application of drug use is considered second most hazardous in the present study.

Since cigarette smoking is second and marijuana smoking is third most widely used drugs among youths (NIDA, 1982, 1990), students smoking these drugs will be considered third most hazardous, due to the potential for health problems resulting from use of these drugs.

Early School Drug Education

As greater awareness of youthful drug involvement developed, the United States government began to encourage the development and implementation of a variety of programs aimed at preventing people from using prohibited substances (Goldberg and Meyers, 1980). Confusion exists about what constitutes an effective school drug program aimed at youth.

It seems that one of the major causes for this confusion has been the lack of interest in pursuing feedback from the student drug user's viewpoint, concerning how any particular drug program has affected his/her drug use. School drug programs that have included the student drug user's opinions and/or ideas in the development of a school drug program seem to be nonexistent.

Presently in schools located in the United States there seems to be basically only two ways in which the schools address drugs and use among students:

1. If a school does have a drug abuse program, it almost always will take the form of drug education or prevention aimed at the general student population.

2. Since there are no developed drug programs in schools for students caught using or in possession of drugs, administrators have no available option but to temporarily or permanently suspend these students, with very few further attempts to address the student's drug use.

Three questions seem apparent from this information: (1) what type of programs exist; (2) are present school drug prevention programs effective; and (3) what can be done to develop more effective school drug programs for student drug users.

Because drug education programs seem to be the most widely used form of drug prevention in schools today, these programs will be briefly discussed by reviewing a sample of some of the major drug education programs and by examining

the neglect of these programs in evaluating their effects on actual drug use among students.

As recognition of drug abuse as a nationwide problem began to emerge in the late sixties, the educational establishment began to perceive a need to address the problem. A combination of community pressure from concerned parents who demanded that the schools take a preventive action against drug abuse, along with constant mass-media attention to the drug problem produced an enormous need for the development of effective drug prevention programs throughout the country aimed at school aged youth (Wepner, 1979).

Initially schools responded with an abundance of bulletins, pamphlets, and teacher guides (Wepner, 1969). This type of information did promote teacher knowledge of drugs and pedagogical techniques useful in discouraging drug abuse.

By the end of the 1960s through the 1970s, many drug education programs were started, but it seems that the concerns and problems of the student drug users were not sought by program developers.

One of the first techniques started in a Baltimore public school (Drug Abuse Education, 1969). In the program, unit plans were developed for grades five, seven, and nine which outlined curricular content and learning activities. The objectives for grades five were to acquaint the student with harmful and beneficial drugs. Grade seven dealt with

the sociopsychological problems of drug use, as well as stressed interpersonal relationships in preventing drug abuse. By grade nine, the students studied the use and abuse of stimulants, depressants, narcotics, and hallucinogens; drug dependence; drug laws; rehabilitations and decision-making. Throughout the program the students were active participants and the stress was on sharing ideas, thinking logically, and arriving at valid decisions. Although it has been shown (Goodstadt, 1980) that some drug education studies render negative effects, and also could increase drug use, there was no attempt to evaluate the participant's subsequent drug use.

The Ann Arbor, Michigan School District has conducted a structured drug program since 1966. Units on drug abuse were included in Science, Social Studies, and Physical Education. In the elementary school, warnings were given against household drugs. In the junior high school, the effects of stimulants, depressants, and hallucinogens were discussed. In the high schools, drug abuse and social problems were explored. The entire program also involved an inservice course for teachers. There was no mention of any outcome evaluation in this program.

The Los Angeles school system had a program completely run by former addicts and did not require the presence of school personnel. They presented differing viewpoints which allowed students to weigh alternatives to drug abuse. During 1969, the program reached 150,000 students in Los

Angeles and 360,000 throughout Southern California (Wepner, 1969). No evaluative information or follow-up data concerning how the program affected students' drug use was mentioned.

Winston (1969) described a unique program in the South San Francisco Unified School District. The program was created to deal with students who had violated narcotics laws. These secondary school students were not considered hard-core users or sellers. Drug counseling workshops using a number of techniques (not described) were provided two hours per week for four weeks. The sessions involved the students and their parents. If either student or parent refused to attend, the student was expelled from school. Although in this program the session leader was a psychologist or "qualified staff member," there was no mention of the student violator's ideas or concerns being part of the program development process.

Effects of Drug Education

Formal research on the effects of drug education is sparse involving pre-post evaluation, but there is evidence that shows that some drug education programs have been counterproductive. Goodstadt (1980) reviewed studies reporting "negative" effects of drug education programs, and found the following:

1. Studies sometimes asked respondents about the effectiveness of drug education programs. These studies

have shown that drug education has had little effect on "stopping the use of drugs" or in "affecting use" and also have shown mixed effects.

2. Little data exist from survey studies to show that drug education has increased use; more commonly it has been found that exposure to drug education does not decrease drug use.

3. Few studies in the area have been free from experimental design problems.

Sawyer (1978) also discussed the fact that numerous drug education programs produce little or no apparent change in student's attitudes toward drugs. Many drug education programs exist, but in most cases it is unknown what effect the programs have made on students; due to the lack of relevant outcome information. Research dealing specifically with the effectiveness of drug education programs on student drug use is very sparse.

Past Evaluation Concepts and Problems of Drug Education

The following examples show some evaluations of outcomes resulting from some drug education programs.

Sehwan (1981) designed a study to measure the outcome of a drug program. The drug program was at the time of evaluation, being disseminated nationwide since its approval evaluation found the following:

1. At the conclusion of the program a significantly larger proportion of students (total N = 185) in the

treatment group had more favorable attitudes toward their regular school teachers (e.g., treatment group 69.9 percent) than those in the control group (e.g., control group 40.5 percent).

2. A significantly larger proportion of students in the treatment group (e.g., 92.8 percent), reported more favorable attitudes toward the program instructors than the control group (e.g., 39.1 percent).

3. The program was more comprehensive among students whose regular classroom teachers had program training (e.g., 90 percent), than those whose teachers did not have such training (e.g., 88.7 percent).

4. The program was more comprehensive among elementary (e.g., $r = .80$), than junior high school students (e.g., $r = .23$).

In this evaluation it can clearly be seen that knowledge of the programs impact on student attitudes toward drugs and/or actual drug use behavior was not mentioned.

Kreutter, Gewirtz, Davenny, and Love (1991) evaluated a drug and alcohol prevention program aimed at sixth graders. One hundred fifty-two students participated in a program that presented Botvin's (1981) life skills training curriculum. Results indicated that the program had a significant positive impact on students in the areas of knowledge about drugs ($t = 11.15$, $p \leq .001$), self-esteem ($t = 8.44$, $p \leq .001$), and assertive skills ($t = 3.89$, $p \leq$

.001). No information was given on this program's impact on the students actual.

Chng (1981) stated that drug education in the schools today has "failed." He continued by stating that after more than a decade of intensive efforts, these programs have made no significant impact on the "drug problem" (no statistical information reported).

Monsmith et al. (1981) examined the opinion of 3,100 seventh to twelfth-grade students, regarding the perceived effectiveness of various components of both pro-smoking and anti-smoking messages. They found that nonsmokers reported anti-smoking messages to be interesting (e.g., non-smokers 77 percent and smokers 63.8 percent) and they wanted to know more about smoking (e.g., non-smokers 51.6 percent and smokers 40.8 percent), while smokers often found anti-smoking messages to be boring (e.g., smokers 37.1 percent and non-smokers 25.5 percent) and useless (smokers 36.4 percent and non-smokers 13.7 percent).

Shaps et al. (1982) evaluated a drug education program taught to seventh and eighth graders. The evaluation involved random assignment from nine matched pairs of social studies classes, to experimental and control conditions. Pre- and post-test covered: (1) drug knowledge; (2) general attitudes toward drugs; (3) perceived benefits and cost of substance abuse; (4) perceived peer attitudes toward, and use of, various substances; and (5) intentions to use current drug use and lifetime drug use of various

substances. They found that for seventh grade females, the course increased drug knowledge ($r = .811$, $p \leq .01$), decreased perceptions of favorable attitudes towards peer drug use ($r = .804$, $p \leq .01$), and decreased personal involvement (self-reported) in alcohol ($r = .802$, $p \leq .01$) and marijuana use ($r = .760$, $p \leq .01$). They found very few significant effects for seventh-grade males, eighth-grade males and females and controls.

Sehwan (1982) suggested a systematic approach toward remedy of current stagnation in program monitoring and program evaluation, with emphasis in the field of drug abuse prevention and intervention. A Uniform Progress and Evaluation Reporting System (UPERS) was introduced, which would render comparative judgment across various agency performances. Some of the comparative inquiries made through the UPERS were: (1) the degree to which theoretical involvement justified one's program; (2) the degree to which the program is fully developed to accommodate consistent replications of the program; and (3) the degree to which evaluation is implemented by the program agency toward an enhancement of one's existing program, or toward development of a more valid and useful program in the future.

The UPERS approach to program research and evaluation seems to present a more positive and productive evaluation system, that may lead to more meaningful and useful program results. The present researcher believes that a program

evaluation should enhance one's existing program, or work toward the development of a more valid and useful program.

Possible High Risk Correlates to Youth Drug Use

This section will discuss some of the many possible high risk correlates associated with youth drug use.

Ahlgren et al. (1982) assessed six hundred fifth and sixth grade students regarding previous and current smoking activity, parent's smoking, four dimensions of self-esteem, and a variety of attitudes toward school. Results showed that students were more likely to begin smoking if they had parents providing a smoking model (Chi Square = 12.6, $p \leq .01$, df = 2, N = 625), had low self-esteem ($p = .134 \leq eta \leq .225 = .95$) (particularly with respect to family and school contexts), and disliked school ($p = (.198 \leq eta \leq .340) = .95$).

Ullman and Orenstein (1994) conducted a recent literature review on families of alcoholics. They suggested that children and adolescents are more likely to emulate and identify with an alcoholic parent, if they control major resources. No statistics reported.

Hill (1992) suggested that as adolescents strive for autonomy, conflict often occurs as the family tries to adjust to this new behavior. Further, rebellion against supervision during early adolescents, may lead to antisocial activities and risk-taking behaviors within peer groups. No statistics presented.

Patterson and Dishion (1985) hypothesized that poor parent monitoring, deviant peer affiliation, poor social skills and low levels of academic skills contribute directly to delinquent behavior among adolescents. A sample of 136 seventh and tenth grade male adolescents were tested by using the structural modeling approach in the LISREL IV program (Joreskog & Sorbom, 1978). They found that the data fit the model adequately (X_2 (51) = 73.638, $p \leq .11$ respectively). Although t-values were significant (-1.274) and deviant peer affiliation (t = 1.568), it was suggested that further investigation on the causal effects of this model be pursued.

Social and environmental factors have been supported. Dembo et al. (1982) found an interactive relationship between perceived neighborhood setting, and reasons for youth drug involvement. They compared "neighborhood toughness" with youth drug involvement. Results indicated the following: Low neighborhood toughness = ($r = .316 \pm .054$ se, $p \leq .001$), Medium neighborhood toughness = ($r = .342 \pm .055$ se, $p \leq .001$), High neighborhood toughness = ($r = .427 \pm .050$ se, $p \leq .001$). They state that the results imply that the processes by which youths become involved with drugs should be the focus of future research, to enhance and improve drug abuse prevention programs.

Students' attitudes toward their families have been found to be related to drug use. Babst, Deren, Schmeidler, and Lipton (1978) found that the less closeness in a family,

the more favorable students (seventh through twelfth grade) viewed drugs (N = 8060, low closeness = 69.6 percent, moderate closeness = 43.2 percent, high closeness = 25.1 percent).

They also found that family closeness was positively correlated with other life areas which were: (1) interest in school (N = 8291, low closeness = 51.9 percent, moderate closeness = 63.9 percent, high closeness = 73.1 percent), and (2) being able to honestly discuss their problems and concerns (N = 8060, low closeness = 23.9 percent, moderate closeness = 51.1 percent, high closeness = 81.7 percent).

Wright and Moore (1982) found that male (N = 259) drug abuse problems were significantly related to perceived maternal emotional problems ($r = .11$, $.01 \leq Rho \leq .21$), parental rejection ($r = .20$, $.10 \leq Rho \leq .30$), angry parents ($r = .21$, $.11 \leq Rho \leq .31$), conflicts with parents ($r = .20$, $.10 \leq Rho \leq .30$), reported physical abuse by a parent ($r = .10$, $.00 \leq Rho \leq .20$), suicidal thoughts ($r = .23$, $.15 \leq Rho \leq .31$), delinquency ($r = .20$, $.10 \leq Rho \leq .30$), feelings of being bored ($r = .13$, $.03 \leq Rho \leq .23$), unappreciated ($r = .22$, $.14 \leq Rho \leq .30$), unrecognized ($r = .10$, $.00 \leq Rho \leq .20$), dependent ($r = .12$, $.02 \leq Rho \leq .22$), unstable ($r = .11$, $.01 \leq Rho \leq .21$), and dissatisfied ($r = .13$, $.03 \leq Rho \leq .23$).

Female (N = 359) drug abuse problems were significantly found to be related to perceived parental emotional problems ($r = .10$, $.02 \leq Rho \leq .18$), paternal drinking problems ($r =$

.10, .02 ≤ Rho ≤ .18), parental depression (r = .20, .12 ≤ Rho ≤ .28), parental anger (r = .20, .12 ≤ Rho ≤ .28), and parental rejection (r = .20, .12 ≤ Rho ≤ .28), poor relationship with father (r = .12, .04 ≤ Rho ≤ .20), reported physical abuse by a parent (r = .20, .12 ≤ Rho ≤ .28), conflicts with and between parents (r = .20, .12 ≤ Rho ≤ .28) (r = .10, .02 ≤ Rho ≤ .18), unhappy childhood (r = .20, .12 ≤ Rho .28), delinquency (r = .20, .12 ≤ Rho ≤ .28) unrecognized (r = .11, .03 ≤ Rho ≤ .19), troubled (r = .20, .12 ≤ Rho ≤ .28), unstable (r = .10, .02 ≤ Rho ≤ .18), and dissatisfied (r = .20, .12 ≤ Rho ≤ .28).

Hill (1992) suggested that adolescents tend to transition outward from their families into peer groups which may be promoted by family conflict, associated with the youth's need for autonomy. The peer group is used for support while striving for autonomy.

Clark (1992) suggested that youths that tend to get involved in street gangs share the following background characteristics: dysfunctional family system, low self-esteem, poor academic performance, and poor vocational training. She further stated, many youths that have been in deviant subcultures reported drug abuse, and sexual promiscuity. No statistics were reported.

Downs and Rose (1991) studied the relationship between positive and negative peer groups and how they relate to psychosocial problems. They found that the highly negative peer group used more drugs, reported more delinquent

behavior, had a more positive attitude toward drug use, were more depressed, had lower self-esteem, and was less positive toward school, than the highly positive peer group.

It seems clear that many possible high risk correlates exist in the area of youth drug use. However, the primary areas associated with adolescent drug use seem to be: (1) dysfunctional family relations; (2) low self-esteem; (3) poor coping skills; and (4) affiliation with peers that use drugs.

Present Study Theoretical Framework

The foundation of the present study's theoretical framework was based on Social Cognitive Theory described by Bandura (1986). His description of self-efficacy in relation to a person's environment, was the primary theory supporting the elements in the present study model. The actual model used in the present study, was a modified version of the social learning model of adolescent substance use presented by Simons and Robertson (1989). The following will briefly discuss some of the theoretical views of social learning self-efficacy suggested by Bandura (1986). Further, the Simons and Robertson (1989) model will be discussed along with the present study's modified version of this model.

Social Learning and Self-Efficacy

Bandura (1986) suggested that efficacy involves a generative capability in which cognitive, social, and

behavioral subskills are coordinated into a course of action. He further stated that success is often attained only after generating and testing alternative forms of behavior and strategies, which requires perseverance. Individuals with poor confidence or self-esteem will tend to quit a task sooner than those higher in these areas.

Self-esteem, avoid-coping and self-efficacy. According to Bandura (1986), a person's judgment of their capabilities also influence their thought patterns and emotional reactions, during actual and anticipated transactions with their environment. Self-knowledge about a person's efficacy is based on four principal source of information: performance attainments; vicarious experiences of observing the performances of others; verbal persuasion and allied types of social influences that suggest that a person possesses certain capabilities; and physiological states from which people partly judge their abilities, strength, and vulnerability to dysfunction. In forming their efficacy judgments, individuals must not only cope with different configurations of efficacy related to a given modality, but they must also weigh and integrate efficacy information from these various sources. The types of efficacy information may vary across different domains of activity.

Family and self-efficacy. Bandura (1986) suggested that self-referent thought is initially derived from action and from observing the experiences of others. Children must

gain self-knowledge of their capabilities in broad areas of functioning. They must develop, appraise, and test their physical capabilities, social competencies, linguistic, and cognitive skills for comprehending and managing situations they encounter daily. Parents who are responsive, communicate, and provide an enriched environment for their children, often produce children with accelerated social and cognitive development.

Peer affiliation and self-efficacy. Bandura (1986) stated that peers serve many important efficacy functions. The individuals within a peer group that are more experienced and competent (whether good or bad behavior) provide models of efficacious styles of behavior for others in the group. Peers of the same age provide the most informative points of reference for comparative efficacy appraisal and verification. He further stated that youths tend to be especially sensitive to their relative standing among peers that affiliate in activities that determine prestige and popularity.

School experience and self-efficacy. According to Bandura (1986) school functions as the primary setting for the cultivation and social validation of cognitive efficacy. He stated that school is the place where youths develop their cognitive competencies, and acquire the knowledge and problem solving skills essential for participating effectively in society. Classroom structures affect

perceptions of cognitive capabilities, by the emphasis they place on social comparative versus self-comparative appraisal.

Aggression and social learning. Aggression and how it related to self-efficacy was not directly discussed by Bandura (1986), however aggression and social learning has been addressed (Bandura & Walters, 1959). Since aggression is considered an important element in the present study model, some suggestions made by Bandura (1959) concerning the development of aggression will be discussed. Bandura (1959) stated that if parents are completely rejecting and extremely punitive, a child may develop an aggressive antisocial pattern of behavior. He further suggested that another condition that may contribute to both the failure of socialization and to the development of hostility and resentment is the occurrence of inconsistency in parenting disciplinary practices.

The Simons and Robertson (1989) study. Simons and Robertson (1989) studied the impact of parental rejection, self-esteem, avoidant coping style, deviant peer groups, and aggressive behavior on predicting adolescent drug use (age thirteen to seventeen) (see Table 1). They found the following results between these variables and drug use:

1. The more parental rejection, the more drug use.

2. The more parental rejection, the more aggression; the more aggression, the more drug use.

TABLE 1

SIMONS AND ROBERTSON (1989) PREDICTIONS

	Parental Rejection	Self Esteem	Avoid Coping	Aggressive Behavior	Deviant Peers	Substance Use
Parental (+) Rejection	NA					
Self (+) Esteem	—	NA				
Avoid (+) Coping	+	—	NA			
Aggressive (+) Behavior	+	NA	NA	NA		
Deviant (+) Peers	+	NA	NA	+	NA	
Substance (+) Use	+	—	+	+	+	NA

NA = Not Applicable

3. The more parental rejection, the less self-esteem; the less self-esteem, the more drug use.

4. The more parental rejection, the more avoid-coping responses; the more avoid-coping responses, the more drug use.

5. The more parental rejection, the more likely the student would be involved in a deviant peer group; the more deviant peer involvement, the more drug use.

6. The more aggression, the more deviant peer affiliation.

7. The more self-esteem, the less avoid-coping responses (see figure 1).

They suggested that treatment of adolescent drug use should utilize both individual counseling, focusing on social/coping skills, and family therapy. The outcome of the Simons and Robertson (1989) study supports theoretical suggestions associated with social learning and self-efficacy described by Bandura (1986). A person that has experienced family rejection may increase deviant activity, become more aggressive, have lower self-esteem, poorer coping skills, and higher deviant peer involvement, which according to Bandura (1986) may indicate less positive self-efficacy.

The Simons and Robertson (1989) study was particularly interesting to the present researcher, because it investigated a variety of high risk variables related to

FIGURE 1

SIMONS AND ROBERTSON MODEL

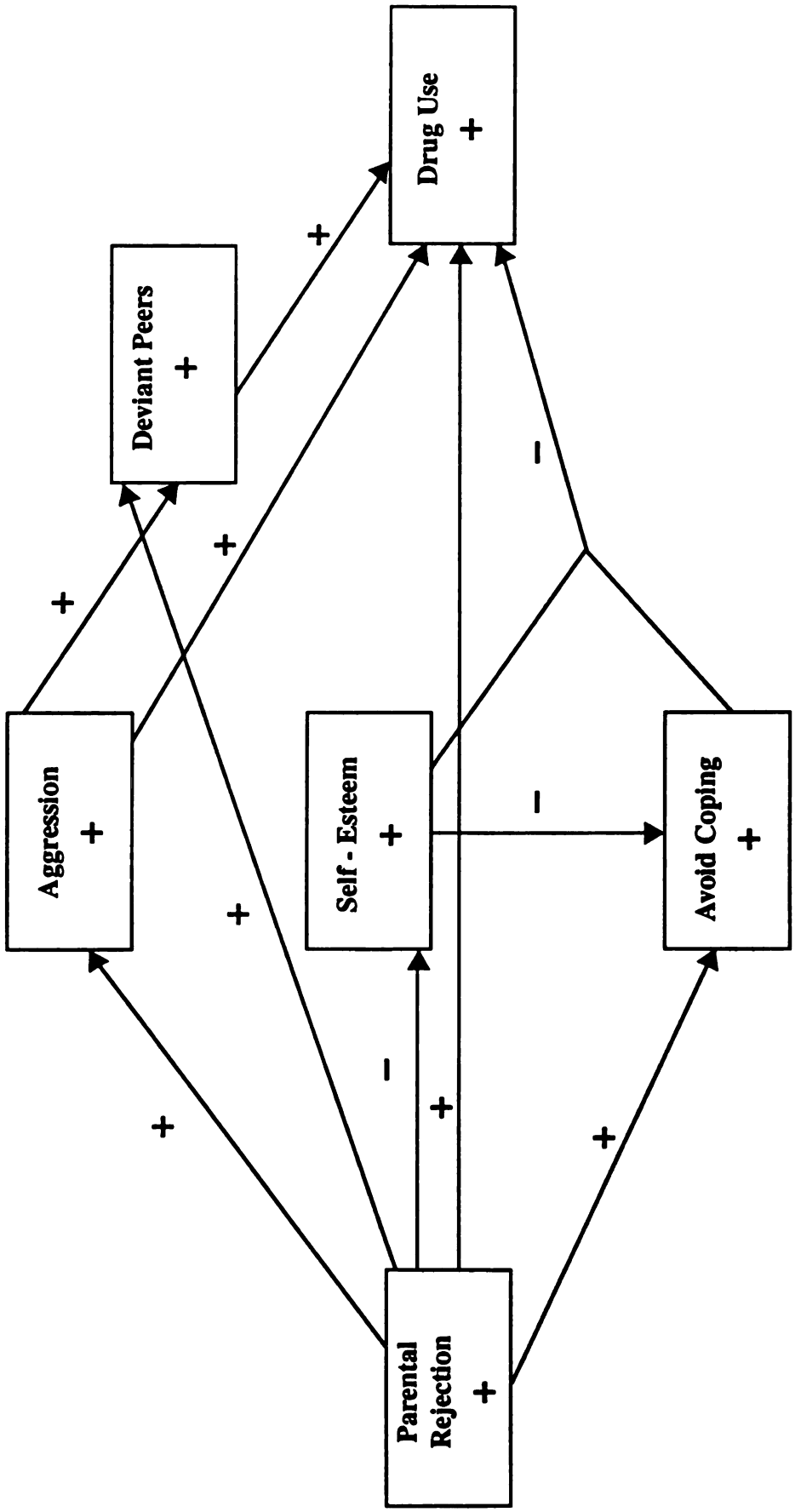
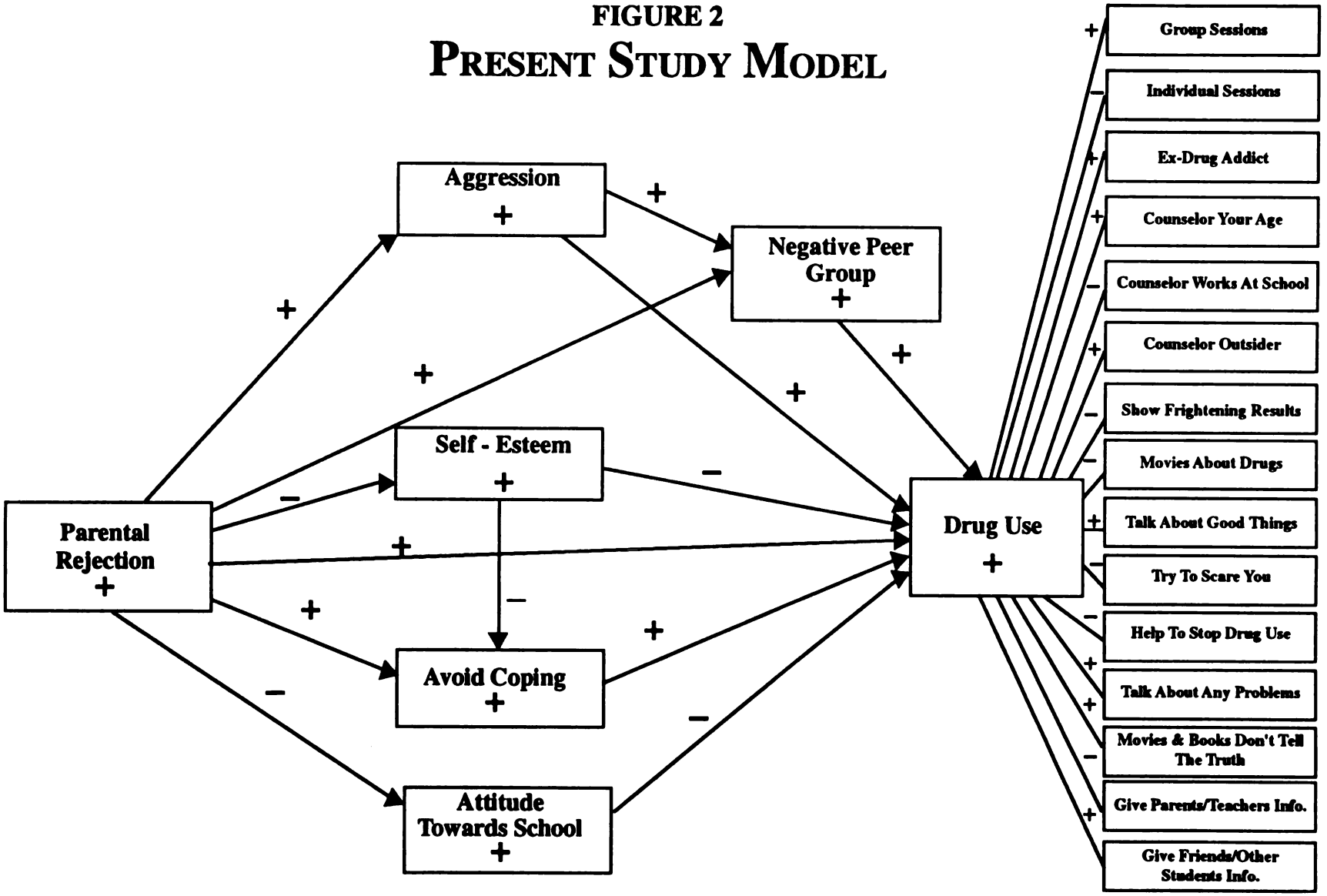


FIGURE 2

PRESENT STUDY MODEL



social learning theory and youth drug use (see previous discussion on possible high risk correlates).

In the present study, questions will be asked to obtain information on family closeness, aggression, self-esteem, coping style, and deviant peer group affiliation. These questions are included to test for similar outcomes between the Simons and Robertson (1989) study (mentioned above), and the present study on these variables. Also family closeness and lack of interest in school have been associated with drug use (Babst et al., 1978). Questions asking students their opinions on how much they like various aspects of school, will also be included in the present study. These particular variables were chosen because among the correlates of drug use among adolescents, these variables are the most relevant for the present study. Furthermore, the present study collected information from youths about the type of drug prevention program they felt would be helpful, and compared the youths' levels of drug use with type of program desired (see figure 2).

Beyond High Risk Correlates Toward Program Development

The following will discuss some suggestions toward possibly improving the effectiveness of drug education.

Bedworth (1972) stressed that the goal of drug education should not be to eliminate use, but to provide individuals with the ability to make a choice regarding such use. It seems that young people draw their own conclusions,

to a considerable extent, from the information provided by friends and their own personal experience (no statistics reported).

Olsen and Baffi (1982) stated that it is important for educators to initiate programs which will enhance student self-esteem and decision making skills; to facilitate a decrease in students' substance use (no statistics reported).

Eck (1982) stated that teaching styles is of primary importance for alcohol education. He further stated that the key characteristics we should look for is style, which enables the student to have the freedom to make an informed decision (no statistics reported).

Family therapy and other systematic techniques have also been found to be necessary. Baither (1980) in a review of the literature concerning the current status of family therapy in the treatment of drug abusing adolescents, suggested that by studying the family life of the young drug abuser, a better understanding of the problem could be rendered to help direct treatment goals.

There are a wide variety of drug education and prevention programs that have been in operation, but none of them seem to take into account the concerns and interest of the student drug users themselves, during the planning stage of program development. This lack of information may have contributed to the inefficient development of youth drug prevention programs.

It has been reported (Graham and Cross, 1975; Blum, 1969) that there is a lack of reliable research information about illegal drug usage at the junior and high school levels.

Barter and Werme (1970) have reported that although the dangers of illegal drug use lie in social and psychological patterns of use, there is virtually no reliable data on the psychological factors underlying the use of drugs, in the adolescent age range.

Graham and Cross (1975) have stated:

> . . . we know so little about the underlying factors motivating adolescent drug users, yet have spent millions of dollars on drug education and rehabilitation efforts which may have been largely meaningless.

Boe (1971) stated that meaningful drug education programs must deal with the morals, values, and ethics involved in using drugs. Keniston (1966) stated:

> . . . Student drug users as a group are extremely knowledgeable about the possible bad effects of drug use; they can usually teach their counselors, deans, and advisors a good deal about the potential bad side effects of drugs.

Boe (1971) supported the necessity to understand the attitudes and values of adolescent drug users, by stating that it is imperative to know and understand the attitudes and values of drug users, because these attitudes influence decisions to use drugs. King (1984) studied young people twelve and fifteen years old. A survey was given asking health knowledge questions, to find out whether students were learning about health issues. Included in the survey

were questions about alcohol and other drugs. They found that for every grade level tested, knowledge scores on drugs were lower than any other health issue. This result was found even though these students were given drug education from the time they first entered school.

Sheppard et al. (1985) conducted a follow-up investigation on the King (1984) study, investigating why students, who reported being involved with a drug education program, knew very little about drugs. They studied five thousand students attending junior high and high schools, by issuing a questionnaire asking students specific questions about the nature of their drug education. The questionnaire also asked students what they would like most to learn about drugs and alcohol, and how would they most like to learn about drugs and alcohol. Results indicated that students were mainly exposed to drug education that consisted of classes and movies, which talked only about the negative effects of drugs. The drug education classes were teacher led discussions or lectures. When students were asked how would they most like to learn about drugs, the majority of students indicated that they would prefer having an "expert" (doctor, pharmacist, drug abuse therapist, nurse, etc.) tell them about drugs. Most of the students were found to also prefer drug education classes that cover a variety of topics, which discuss both the good and bad effects of drugs,legal issues, alternatives, and why people use drugs.

Bell (1980) discussed recommendations for drug education programs from the point of view of teenagers. Such information was obtained in a study that conducted 298 taped interviews with teenagers residing in East, Central, and West Harlem. Information obtained in this study was the following:

1. Respondents reported a lack of knowledge about drugs and drug abuse, before starting to use them.

2. Respondents mentioned a need to inform parents and teachers, although others insisted neither would understand why kids use drugs.

3. Respondents mentioned being disillusioned, when they found out that drug propaganda was over-exaggerated; this caused many to go on to harder drugs.

4. Respondents felt that youths themselves should operate drug education programs.

5. School drug programs should not involve teachers and parents, because they represent authority and distrust.

6. Some respondents felt that drugs represent a problem, which the community must face and accept as its own responsibility.

7. Programs should focus on the effects of drug use.

8. Programs should attempt to destroy the image of the "Hip Drug User" as a role model.

9. Programs in ghettos should appeal to ethnic pride.

10. A variety of media should be used to present information in an interesting and compelling manner, appropriate to the target age group.

In the present study, students were asked to rate how helpful they felt various drug program criteria would be in preventing drug use. Predictions were made toward how students would rate drug program criteria, based on the amount of student drug use.

It seems clear that there is much confusion concerning what constitutes an effective school drug prevention program. It seems that possibly the major reasons for this confusion is that past programs have failed in the following ways:

1. Detailed information from identified student drug users regarding the motivational factors that caused their drug use seems to have been overlooked as being relevant to school drug prevention program development.

2. Student opinions and suggestions for a school drug prevention program as a source of information in program development seems to be almost nonexistent.

Knowledge concerning student drug users and potential student drug users is vital for the improvement of school drug prevention programs. Lack of this knowledge has contributed to the confusion that presently exists concerning what directional goals school drug prevention programs should pursue. Sehwan (1982) concluded that confusion about the goals of prevention and treatment had

led some schools to define the nature of their drug abuse program in such a fashion that they cannot reasonably expect success. He continued by stating that new models for evaluating such programs' goals need to be developed.

In view of information concerning the noneffectiveness of present programs and the expressed need for effective programs that will meet the needs of student drug users and/or potential drug users, a confidential needs assessment interview with these students seems logical to gain relevant information toward developing a drug prevention program aimed at them.

Present Research Objectives

There were four primary objectives of the present research which were the following.

First, to partly replicate and expand on the Simons and Robertson (1989) model by obtaining student background information on: (1) drug use affiliation; (2) parental rejection; (3) self-esteem; (4) coping style; (5) aggressiveness; and (6) deviant peer affiliation.

The reason for partly replicating the Simons and Robertson (1989) study was because it has been shown (Hunter and Schmidt, 1990) that replication can help reduce error and bias in research findings. They further stated that replication helps to clarify complex relationships between and/or among variables, and can strengthen the internal dynamics of a theory.

The second objective of the present study was to obtain descriptive information from the students about why they use drugs. This information may identify reasons for student drug use not included in the Simons and Robertson (1989) study.

The third objective of the present study was to add to the Simons and Robertson (1989) model, by allowing students to express their own ideas for a school drug prevention program.

The fourth objective of the present study was to add to the Simons and Robertson (1989) model, by assessing whether there is a correlation between the level of student drug use and type of school drug prevention program the student indicated would help them most.

The following predictions were made in the present study:

1. The more parental rejection, the more drug use.

2. The more parental rejection, the less student self-esteem, and the more drug use.

3. The more parental rejection, the more the student would avoid coping, and the more drug use.

4. The more parental rejection, the more aggressive the student would be, and the more drug use.

5. The more parental rejection, the more likely the student would be involved with a deviant peer group (friends that use drugs), and the more drug use.

Babst et al. (1978) found that family closeness and student attitudes toward school were associated with student drug use. The following prediction was made based on this study: the more parental rejection, the more the student would dislike school criteria (with the exception of school friends), and the more drug use.

Finally predictions were made in each drug prevention program category (program structure, type of counselor, program intent, and confidentiality criteria) between level of student drug use and how the student rates drug prevention program criteria. The present study predictions were as follows:

Program structure. Studies have shown (Baker, 1978; Simons and Robertson, 1989; Swaim et al., 1989) that peer groups are related to drug use behavior and attitudes. Based on these studies, the following predictions were made:

1. The more drug use, the more the student would prefer Counseling sessions held in a group--peer group.

2. The more drug use, the less the student would prefer Private counseling sessions between just you and the counselor.

Type of counselor desired. Studies have described the type of drug counselor desired by adolescent youth (Baker, 1973; Bell, 1980; Sheppard, 1985). The following predictions are based on these studies:

1. The more drug use, the more the student would agree with Hearing an ex-drug addict talk about drugs and drug use.

2. The more drug use, the more the student would agree with Counseling sessions conducted by other students about their age.

3. The more drug use, the less the student would agree with Having a counselor who is someone who works at this school.

4. The more drug use, the more the student would agree with Having a counselor who is an "outsider," someone who does not teach or work (for payment) at their school.

Intent of program. Studies have shown (Ahlgren et al., 1982; baker, 1973; Bedworth, 1972; Bell, 1980; Sheppard et al., 1985; Simons and Robertson, 1989) many ideas that might improve the intent/purpose of a drug program. The following predictions were based on these studies:

1. The more drug use, the less the student would believe showing frightening results of drug use would help prevent drug use.

2. The more drug use, the less the student would believe that viewing movies and pictures about drugs and their effects would help prevent drug use.

3. The more drug use, the more the student would believe that being able to talk about the good things that are going on in their lives would help prevent drug use.

4. The more drug use, the less the student would believe that showing them a person's bad experience with drugs would help prevent drug use.

5. The more drug use, the less the student would agree that trying to scare students away from using drugs would help prevent drug use.

6. The more drug use, the less the student would agree that the counselor should try to help them to stop taking drugs.

7. The more drug use, the more the student would agree that the program should allow them to talk about any problem they have.

8. The more drug use, the more the student would agree that movies, video tapes, books, etc. don't usually tell the truth about drugs.

Confidentiality criterion. Studies have shown how adolescents feel about talking to parents, teachers, and friends about their drug use and/or involvement (Ahlgren et al., 1982; Babst et al., 1978; Bell, 1980; Simons and Robertson, 1989). The following prediction was based on these studies: the more drug use, the less the student would agree with giving their parents and teachers information about their drug use. However, the same student would be more agreeable to giving their friends and other students information about their drug use.

Method

Verbal administration approval for the present research was obtained from the principal of Otto Middle School, and was approved by the Lansing School District Research and Evaluation Committee. This school was chosen because of its representative quality to other Lansing, Michigan schools on dimensions of racial composition and income range, and because the administration and staff agreed to help facilitate implementation of the present study.

Setting/Participants. At the time of the present research, the student population at Otto Middle School was approximately 1,164 with ethnic percentages of two percent Indian, six percent Asian, seventeen percent Hispanic, twenty-four percent black, and fifty-one percent white. The percentage of children at the school that were from families that received state or federal aid was 20.7 percent. Approximately two reported drug related incidents occurred during the school year the present study was implemented. Students at Otto were considered moderate to low risk for drug use. In the present study sixty-one student volunteers age eleven to fourteen participated (see Table 2 for number of males and females in each age category). There were twenty-six sixth graders, nineteen seventh graders, and sixteen eighth graders.

TABLE 2

Number of Males and Females In Each Age Category

Total Participants By Age Group	Raw Number and Percentage of Males		Raw Number and Percentage of Females	
	Number	%	Number	%
Seven: 11 year olds	1	14%	6	86%
Twenty-one: 12 year olds	6	29%	15	71%
Twenty-Four: 13 year olds	14	58%	10	42%
Nine: 14 year olds	4	44%	5	56%
Total = 61	Male Total = 25		Female Total = 36	

Instrument

The instrument was an interview in which the interviewer asked questions from a questionnaire that contained the following sections (a full copy of the instrument questions appears in appendix d, e, f, g, and h).

Demographic data. The following information of demographic characteristics was collected: age, sex, grade level, grade point average, length of time in Lansing area and family composition (see interview/questionnaire questions 1 through 5). These questions were asked for descriptive purposes only.

Family relations and adolescent drug use. Student attitudes toward their families have been found to be related to drug use (Ahlgren at al., 1982; Babst et al., 1978; Bell, 1980; Rohner, 1986; Simons and Robertson, 1989). The less closeness in a family, the more willing students were to take risks, and the more favorable they viewed drugs (Babst et al., 1978). Assessment questions in the present study on family closeness were based on discussions from the above studies and were assessed in the following ways. First, two questions were directly asked for descriptive purposes only, to assess family relationships. They were:

1. On the average how well have you been able to get along with people at home in the last six months? (See question 6 of interview/questionnaire).

2. Is there a person with whom you can honestly discuss your feelings and concerns? (Items a, b, c, d, e, and f were asked for additional descriptive purposes.) (See question 7 of interview/questionnaire.)

Second, assessment of family closeness was obtained by using twenty-nine questions adopted from the Parental Acceptance-Rejection Questionnaire (PARQ) developed by Rohner (1986), to assess level of rejection (see appendix E).

Simons and Robertson (1989) developed a model that suggested that parental rejection not only increased the chances of a youth being involved in drugs directly, but also suggested that it increased youth aggression, decreased self-esteem, decreased coping skills, and increased the chances of the youth being involved with a deviant peer group. Further, they found that each of these individual areas were also related to drug use. The following will discuss how each of these areas were assessed in the present research.

Parental rejection. Twenty-nine questions were adapted from the child version of the Parental Acceptance-Rejection Questionnaire (PARQ) developed by Rohner (1986) to assess level of parental rejection (see parental acceptance section of interview/questionnaire, appendix E).

Aggression. Aggressiveness was measured by four questions adapted from the Self-Report Delinquency Scale

developed by Elliot, Hulzinga, and Ageton (1985). (See aggression section of the interview/questionnaire, appendix F.)

Self-esteem. Self-esteem was measured by using a ten question self-esteem scale developed by Rosenberg (1966) and four questions adapted from the Self-Esteem Inventory (SEI) developed by Coopersmith (1967). (See self-esteem section of interview/questionnaire, appendix G.)

Coping skills. Coping skills were measured by using thirteen questions from the Locus of Control for Children Scale developed by Nowicki and Strickland (1973). (See coping skills section of interview/questionnaire, appendix H).

Deviant peer group. In the present study, deviant peers were defined as friends that use drugs. Deviant peer group affiliation was assumed if the student agreed to any question asking if their friends encouraged or influenced their drug use. (See questions 13, 16, 17, 18, 19, and 20 of interview/questionnaire.)

Student drug use. In the present study, the student drug use section (labeled, Student Drug Use Section) was constructed to identify the following:

1. If the student has ever tried beer, wine, cigarettes or other drugs. (See questions 10 and 11 of interview/questionnaire.)

2. Student reasons for initial drug use. This subsection of the Student Drug Use Section attempts to define why students used drugs the very first time, and generally what they knew about the first drug(s) taken. This section was asked for descriptive purposes only. (See questions 12, 13, and 14 of interview/questionnaire.)

3. Student reasons for present drug use. This subsection of the Student Drug Use Section attempted to define recent drug use within last six months), reasons for use, and situational preference for use. (See questions 15, 16, 17, 18, 19, 20, and 21 of the interview/questionnaire.)

This completes the discussion on how the present study defined and used the Simons and Robertson (1989) research model. The following will continue to discuss the methods used in the present study.

Attitude toward school. Babst et al. (1978) studied family closeness and how it affected adolescent drug and other areas of the person's life. They found that the less family closeness in the youth's life, the more the youth was likely to use drugs. They also found that the less family closeness, the less the student liked school, and the more drug use involvement. This led to the present study prediction that the more parental rejection, the more the student would dislike school criteria (with the exception of school friends), and the more drug use involvement. (See

Attitude Toward School section, question 8 and 9 of interview/questionnaire.)

Rating criteria in the above sections (Student Reasons for Initial Drug Use, and Student Reasons for Present Drug Use sections) were developed from an interview given to students at Otto Junior High School in 1983-84. At that time, questions 10 through 21 of the present interview/questionnaire were asked in an open ended format. Respondents participating in the 1983-84 interview were all students caught using or in possession of drugs (twenty-four students) by school officials at Otto Junior High School during the 1983-84 school year. The most common responses from these students were used as rating criteria in the present questionnaire.

Student preferred school drug prevention program criteria. This section of the interview/questionnaire instrument was constructed for two reasons:

1. To provide the students the opportunity to express their own ideas for a school drug prevention program.

2. To provide students the opportunity to express their opinions on what elements of a school drug counseling program they feel will best facilitate a possible reduction in their chances of getting into drug related trouble.

In this section, students were asked to rate how much characteristics of various drug programs nationwide would possibly help them stay out of drug related trouble.

Questions from the Bell (1980) study and others (Ahlgren et al., 1982; Baker, 1973; Bedworth, 1972; Boe, 1971; Dembo et al., 1982; Eck, 1982; Sheppard et al., 1985; Simons and Robertson, 1989; Swaim et al., 1989; Wright and Moore, 1982) were used to develop rating criteria. The rating criteria was defined by four areas:

1. Program Structure (questions 24, 25, 26, 27, 28).

2. Type of Therapist (questions 29, 30, 34, 35, 36, 37, 38).

3. Program Intent (questions 31, 32, 33, 40, 41, 42, 43, 44, 45, 46, 47, 48).

4. Program Confidentiality Criteria (questions 39 a, b, c, d).

All information in this section was used to assess correlations between level of student drug use and program desired. (See questions 22 through 48 of interview/ questionnaire.)

Procedure

Two randomly selected homeroom classes from each grade level (sixth, seventh, and eighth grades) were studied. Homerooms were selected because all students in the school were enrolled in a homeroom. This made every student in the school a possible candidate for survey participation. An estimated twenty to thirty students were in each homeroom.

After the random selection of homerooms, the teacher in each of the chosen homerooms attended a brief meeting with

the researcher. At this meeting teachers were informed of the research and any questions these teachers had were answered. Also, during this meeting each teacher informed the researcher of the best day and time to introduce the interview project (to avoid exam time or field trip days). The survey was executed in the following way:

1. The primary researcher entered the classroom.

2. The teacher introduced the researcher.

3. The researcher read standardized instructions to the students (see Standardized Instructions, Appendix A).

4. Any questions the students had about the study were answered by the researcher.

5. The researcher then thanked the teacher and students for the opportunity to present the study.

6. A consent letter was given to each student in each class who agreed to participate in the study. They were then asked to give the consent form to their parent/guardian to read about the requirements of student participation, and sign if they approved of their child's participation.

7. When students returned their parental consent form to their homeroom teacher signed by their parent/guardian, those students were then allowed to participate in the study.

8. Students who were allowed to participate in the study were put on the research projects active list. The researcher then summoned the student from class (within one week of referral) by asking a student office monitor or

staff member to contact the student's teacher (this procedure reduced potential student embarrassment since students were often called out of class in this manner for a variety of reasons).

All research interviewing was performed in a confidential private office located in the teacher corps areas of the school. This area was selected over the regular counseling area because student traffic and other school distractions were reduced in this area, making it possible to maintain a more confidential environment.

At the beginning of each interview session, the interviewer reviewed the purpose of the interview with the student, then read the departmental consent form to the student (see appendix C). The interviewer then answered any questions the student had about his/her participation in the study before the student signed the consent form and interviewing began.

All student responses were recorded on the interview form (the interview form was the questionnaire) by the researcher, to assure completeness and accuracy. The interview lasted approximately one hour. All research information and completed questionnaires were kept in a locked file located in the school vault, which was locked and secured at the end of each school day. All information collected from students was destroyed within approximately ninety days of questionnaire completion by a paper shredding machine.

Potential Risk

Students voluntarily gave information about their drug use. This may have caused stress and anxiety for students. To help minimize any stress the student may have had, each student was informed before interviewing began (and during the interview when necessary) that he/she could skip any question asked or discontinue participation in the interview at any time without penalty.

Benefits of the Study

1. The study allowed participating students to feel respected, by asking them their opinions toward development of a school drug prevention program aimed at them.

2. The study allowed students to get personally involved in providing possible solutions to their own drug issues and problems.

3. The study provided information about student drug use and/or potential drug use situations, and type of prevention programs desired by students.

4. The study helped the school develop more effective drug prevention strategies.

5. The study provided information that will help drug prevention program planners understand the needs of a variety of students. This will help reduce exposing all students in a school to one drug prevention program which may help some students and harm others by possibly making

some curious about drugs, or more excited about continuing present drug use.

Results

Psychometric Properties of Scales

All scales used in the present study were tested by:

1. Exploratory Factor Analysis (principal axis factor analysis) followed by VARIMAX rotation (Hunter and Cohen, 1969). This procedure was used to examine exploratory cluster items, to help identify and select scales for the present study.

2. Confirmatory Factor Analysis/Cluster Analysis, using multiple groups analysis with commonalities (Hunter and Cohen, 1969; Nunnally, 1978).

Once scales were selected, this analysis was used to identify the standard score coefficient Alpha for each scale. The standard score coefficient Alpha was used to represent internal consistency and parallelism among items within each empirical scale (Hunter, 1987, 1990, 1992).

Parental rejection. The Confirmatory Factor Analysis for the twenty-nine items adopted from the Parental Acceptance-Rejection Questionnaire (PARQ) scale used in this study had a .95 standard score coefficient Alpha.

Aggression. The Confirmatory Factor Analysis for the four items adapted from the Self-Report Delinquency scale had a .47 standard score coefficient Alpha.

Self-esteem. The Confirmatory Factor Analysis for the ten question Self-Esteem Scale by Rosenberg (1966) combined with four questions adapted from the Self-Esteem Inventory (SEI) developed by Coopersmith (1967) had a .74 standard score coefficient Alpha.

Coping-skills. The Confirmatory Factor Analysis for the thirteen questions adapted from the Locus of Control for Children Scale by Nowicki and Strickland (1973) had a .32 standard score coefficient Alpha.

Deviant peer group. The Confirmatory Factor Analysis for the six question scale developed and used in this study to represent Deviant Peer affiliation had a .92 standard score coefficient Alpha. (See questions 13, 16, 17, 18, 19, and 20 of interview/questionnaire.)

Student drug use. The Confirmatory Factor Analysis for the four item Drug Use scale developed and used in this study had a .93 standard score coefficient Alpha. The four items used for the student drug use scale were selected after examining all student drug use items in an Exploratory Factor Analysis, and selecting the highest Cluster Factor Loading that was most relevant to the present study (see questions 15 b, c, d, e of interview/questionnaire). All other items in the student drug use section was used for descriptive purposes only.

Attitude toward school. The Confirmatory Factor Analysis for the Attitude Toward School scale developed and used in this study had a .73 standard score coefficient Alpha (see questions 8 and 9 of interview/questionnaire).

Student preferred school drug prevention program. In this section of the present study, individual questions were asked based on theoretical literature predictions. The predictions made in the present study were used for exploratory purposes only. Individual questions were asked concerning various structural and content areas of school drug prevention programs. Students were asked to rate how helpful these areas would be toward helping them avoid future drug use. Students were also asked how much they agreed or disagreed with various assumptions made about certain drug prevention techniques.

Analysis of Bivariate Relationships

A Pearson correlation coefficient corrected for Attenuation (Hunter and Schmidt, 1993) was used to represent each correlation in the present study. The process of correcting a correlation coefficient for Attenuation involves the following formula:

$$r_{xy}(correct) = \frac{r_{yy} rawscore}{\sqrt{r_{xx}}\sqrt{r_{yy}}}$$

The $\sqrt{r_{xx}}$ and $\sqrt{r_{yy}}$ are the reliabilities of the X and Y scales respectively. These reliabilities represent Cronbach's alpha coefficients. This correction compensates for measurement error. The program called CORRECT uses established psychometric theory to correct the sample correlation for the effects of those artifacts which have been quantified for the study (Hunter and Schmidt, 1990).

Confidence intervals will also be reported with each correlation coefficient. In this study all outcomes are based on directional hypotheses, and the intervals were generated for the 90th percent confidence level (see Hunter and Levine, 1993).

The Inference Probability referred to in this study indicates the probability that the population correlation is positive when the predicted correlation was positive. The Odds Ratio referred to in this study is a relative measure of inference probability. It is the inference probability over one minus inference probability. The inference probability and odds ratio provide additional information when a directional hypothesis is used.

Family relations. Two questions were used for descriptive purposes to show overall percentages of how well students got along with people they live with, and if they

had a person with whom they could honestly discuss their feelings and concerns (see questions 6 and 7 of interview/questionnaire). Results indicated that eighty-three percent of all students participating in the present study got along with people at home "somewhat good" or "very good" on the rating scale. Second, results indicated that eighty-five percent of all participating students had someone with whom they could honestly discuss feelings and concerns. From this, ten percent stated the person they could talk with was their father, thirty-one percent stated mother, only eight percent stated father and mother, and thirty-six percent stated someone other than their mother and father.

Analysis of Main Variables

Table 3 represents the means, standard deviations, and confidence intervals for the main variables. Table 4 presents a correlation matrix of the main variables in the present study. The bottom triangle of the matrix indicates correlations corrected for attenuation. The top triangle of the matrix indicates the Raw correlations. This table also indicates the alpha coefficients for each variable.

Table 5 presents a summary of the correlations (Corrected for Attenuation), Confidence Intervals, Odds Ratios, Inference Probabilities, and prediction comments for the main variables. The following will present how each

TABLE 3

TOTAL MEANS, CONFIDENCE INTERVALS AND STANDARD DEVIATIONS FOR MAIN VARIABLES

	Mean	Standard Deviations	95% Confidence Intervals
Drug Use	2.10	3.50	(1.4≤ Delta ≤ 2.8)
Negative Peers	7.05	8.90	(5.2≤ Delta≤ 8.9)
Family Rejection	51.54	17.73	(47.8 ≤ Delta ≤ 55.3)
Aggression	5.64	1.13	(5.4 ≤ Delta ≤ 5.9)
Self-Esteem	24.60	2.31	(24.1≤ Delta ≤ 25.1)
Avoid Coping	16.00	1.84	(15.6 ≤ Delta ≤ 16.4)
Attitude Toward School	39.15	5.40	(38.0 ≤ Delta ≤ 40.3)

N = 61

TABLE 4

INTERCORRELATION MATRIX

	Drugs	Peer Group	Family Rejection	Aggression	Self Esteem	Avoid Coping	Attitude Toward School
Drug Use	100	.86	.01	.33	.21	.03	-.18
Peer Group	.93	100	.03	.27	.18	.04	-.21
Family Rejection	.01	.03	100	.16	-.56	.32	-.50
Aggression	.50	.41	.24	100	-.24	.17	-.38
Self-Esteem	.25	.22	-.67	-.41	100	-.39	.53
Avoid Coping	.05	.07	.58	.44	-.80	100	-.37
School Attitude	-.22	-.26	-.60	-.65	.72	-.77	100
	—	—	—	—	—	—	—
Alphas:	.93	.92	.95	.47	.74	.32	.73

N = 61

Top half of matrix represents uncorrected correlations.
The bottom half of maxtrix represents corrected correlations.

TABLE 5

DATA OF MAIN VARIABLES

	Corrected Correlation	90% Confidence Interval	Interfence Probability	Odds Ratio	Prediction Comments
Drug/Peer	.93	.87 ≤ rho ≤ 1.00	1.00	999.99	Strong in predicted direction
Drug/Family	.01	-.21 ≤ rho ≤ .24	.53	1.13	Weak in predicted direction
Family/Peer	.03	-.19 ≤ rho ≤ .26	.59	1.45	Weak in predicted direction
Aggression/Drug	.50	.21 ≤ rho ≤ .78	1.00	484.02	Strong in predicted direction
Aggression/Peer	.41	.11 ≤ rho ≤ .71	.99	82.06	Strong in predicted direction
Aggression/Family	.24	-.07 ≤ rho ≤ .55	.90	8.83	Strong correlation 9 to 1 odds
Self-Esteem/Drug	.25	.01 ≤ rho ≤ .50	.04	.05	Strong in opposite direction
Self-Esteem/Family	-.67	-.84 ≤ rho ≤ -.49	1.00	999.99	Strong in predicted direction
Avoid-Coping/Drug	.05	-.33 ≤ rho ≤ .44	.59	1.45	Weak in predicted direction
Avoid-Coping/Family	.58	.24 ≤ rho ≤ .93	1.00	346.59	Strong in predicted direction
Avoid-Coping/Self-Esteem	-.80	-1.0 ≤ rho ≤ -.43	1.00	999.99	Strong in predicted direction
School/Drug	-.22	-.47 ≤ rho ≤ .03	.93	12.37	Strong correlation 12 to 1 odds
School/Family	-.60	-.79 ≤ rho ≤ -.41	1.00	999.99	Strong in predicted direction

prediction described in the present study model was analyzed and results.

Parental rejection. A Pearson correlation (corrected for attenuation) was used to test the prediction that higher parental rejection would relate positively with higher drug use. The correlation was r = .01. The 90th percent confidence interval was $-.21 \leq Rho \leq .24$, with a 1.13 odds ratio, and a .53 inference probability. Notice also that the zero point was approximately in the middle of the interval. A classical test of significance would have failed to reject the null hypothesis at the .05 level.

Aggression. A Pearson correlation (corrected for attenuation) was used to test the predictions that higher parental rejection would relate positively with higher aggression, and that higher aggression would relate positively to higher drug use. Higher parental rejection was positively related to higher drug use (r = .24). The 90th percent confidence interval was $-.07 \leq Rho \leq .55$, with a 8.83 odds ratio, and a .90 inference probability. Although a classical test of significant would have failed to reject the null hypothesis, the odds ratio indicates an approximate nine to one chance that the population correlation was in the predicted direction.

The correlation was r = .50 that higher aggression was positively related to drug use. The 90th percent confidence interval was $.21 \leq Rho \leq .78$, with a 484.02 odds ratio, and

a 1.00 inference probability. A classical test of significance would have rejected the null hypothesis, at the .05 level, and supported the prediction.

Self-esteem. A Pearson correlation (corrected for attenuation) was used to test the predictions that higher parental rejection would relate negatively with higher self-esteem, and that higher self-esteem would relate negatively with higher drug use. Higher parental rejection was negatively related to higher self-esteem ($r = -.67$). The 90th percent confidence interval was $-.85 \leq Rho \leq -.50$, with a 999.99 odds ratio, and a 1.00 inference probability. A classical test of significance would have rejected the null hypothesis at the .05 level, and supported the prediction.

Higher self-esteem related positively with drug use ($r = .25$). The 90th percent confidence interval was $.01 \leq Rho \leq .50$, with a .05 odds ratio, and a .04 inference probability. This correlation was in the opposite direction of the prediction. A classical test of significance would have rejected the null hypothesis, at the .05 level, in the opposite direction of the prediction, if a two tailed test were performed.

Coping skills. A Pearson correlation (corrected for attenuation) was used to test the predictions that the more parental rejection, the more the student would avoid coping; and that the more the student avoids coping, the more drug use. Parental rejection was correlated with avoid coping (r

= .58). The 90th percent confidence interval was .24 ≤ Rho ≤ .93, with a 346.59 odds ratio, and a 1.00 inference probability. A classical test of significance would have rejected the null hypothesis at the .05 level, and supported the prediction.

The correlation was r = .05 that the more the student avoids coping, the more drug use. The 90th percent confidence interval was -.33 ≤ Rho ≤ .44, with a 1.45 odds ratio, with a .62 inference probability. A classical test of significance would have failed to reject the null hypothesis at the .05 level.

Deviant peer group. A Pearson correlation (corrected for attenuation) was used to test the predictions that higher parental rejection would relate positively with higher deviant peer affiliation, and that higher deviant peer affiliation would relate positively with higher drug use. The correlation was r = .03 that higher parental rejection related positively with deviant peer affiliation. The 90th percent confidence interval was -.19 ≤ Rho ≤ .26, with a 1.45 odds ratio, and a .59 inference probability. A classical test of significance would have failed to reject the null hypothesis at the .05 level.

The correlation was r = .93 that higher deviant peer affiliation related positively with drug use. The 90th percent confidence interval was .87 ≤ Rho ≤ .99, with a 999.99 odds ratio, and a 1.00 inference probability. A

classical test of significance would have rejected the null hypothesis at the .05 level, and supported the prediction.

Aggression/deviant peer group. A Pearson correlation (corrected for attenuation) was used to test the prediction that the higher the aggression, the higher the deviant peer group affiliation. The correlation was r = .41 that the higher the aggression the higher the deviant peer affiliation. The 90th percent confidence interval was .11 ≤ Rho ≤ .71, with a 82.06 odds ratio, and a .99 inference probability. A classical test of significance would have rejected the null hypothesis at the .05 level, and supported the prediction.

Self-esteem/avoid coping. A Pearson correlation (corrected for attenuation) was used to test the prediction that the more self-esteem the less avoid coping responses. The correlation was r = -.80 that the more self-esteem the less avoid coping responses. The 90th percent confidence interval was -1.0 ≤ Rho ≤ -.43, with a 999.99 odds ratio, and a 1.00 inference probability. A classical test of significance would have rejected the null hypothesis at the .05 level, and supported the prediction.

Attitude toward school. A Pearson correlation (corrected for attenuation) was used to test the predictions that the more parental rejection, the less students would like school, and the more students liked school, the less

drug use. The correlation was r = -.60 that the more parental rejection, the less students would like school. The 90th percent confidence interval was -.79 ≤ Rho ≤ -.41, with a 999.99 odds ratio, and a 1.00 inference probability. A classical test of significance would have rejected the null hypothesis at the .05 level, and supported the prediction.

The correlation was r = -.22 that the more students like school, the less drug use. The 90th percent confidence interval was -.47 ≤ Rho ≤ .03, with a 12.37 odds ratio, and a .93 inference probability. Although a classical test of significance would have failed to reject the null hypothesis, the odds ratio indicates an approximate twelve to one chance that the population correlation was in the predicted direction.

Multivariate Analysis

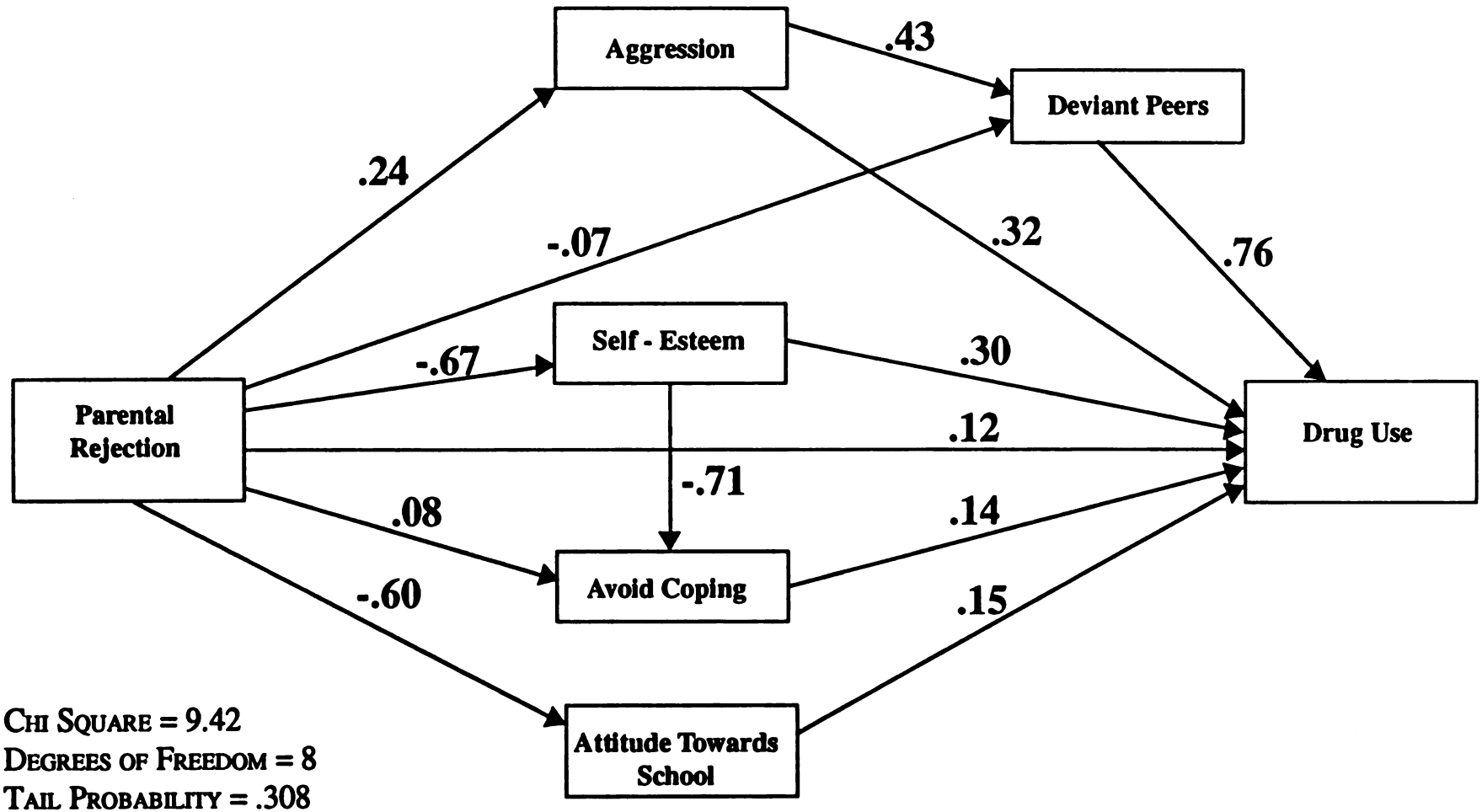
Figure 3 represents the path model used in the present study. This section discusses the multivariate analysis performed on the path model.

A least squares path analysis program (Hunter, 1992) was used to produce the path coefficients in Figure 3. This path analysis indicates results based on a modified version of Simon and Robertson's (1989) social learning model of adolescent substance abuse.

The fit the model to the data. Chi Square statistic was used to assess the "fit" of the modified Simon and

FIGURE 3

PRESENT STUDY PATH MODEL BASED ON THE SIMONS AND ROBERSON (1989) MODEL



CHI SQUARE = 9.42
DEGREES OF FREEDOM = 8
TAIL PROBABILITY = .308

Robertson model (Figure 3). The value of the Chi Square was 9.42, with 8 degrees of freedom, and a .308 tail probability. The tail probability indicates that the data fit the model adequately.

Value of path coefficients. The following presents the predictions and results of the Path Analysis described in Figure 3:

1. The more parental rejection, the more aggression (path coefficient = .24). The 90th percent confidence interval was $-.07 \leq \text{Beta} \leq .55$, with a .90 inference probability. A classical test of significance would have failed to reject the null hypothesis at the .05 level.

2. The more parental rejection, the more deviant peer affiliation (path coefficient = -.07). The 90th percent confidence interval was $-.33 \leq \text{Beta} \leq 3.19$, with a .33 inference probability. This path coefficient was in the opposite direction of the prediction. If a two tailed test of significance were performed, it would have failed to reject the null hypothesis at the .05 level.

3. The more parental rejection, the less self-esteem (path coefficient = -.67). The 90th percent confidence interval was $-.85 \leq \text{Beta} \leq -.49$, with a 1.00 inference probability. A classical test of significance would have rejected the null hypothesis at the .05 level, and supported the prediction.

4. The more parental rejection, the more drug use (Path coefficient = .12). The 90th percent confidence interval was -.37 ≤ Beta ≤ .61, with a .66 inference probability. A classical test of significance would have failed to reject the null hypothesis at the .05 level.

5. The more parental rejection, the more avoid coping responses (path coefficient = .08). The 90th percent confidence interval was -.49 ≤ Beta ≤ .65, with a .59 inference probability. A classical test of significance would have failed to reject the null hypothesis at the .05 level.

6. The more parental rejection, the less the student will like school (path coefficient = -.60). The 90th percent confidence interval was -.60 ≤ Beta ≤ -.40, with a 1.00 inference probability. A classical test of significance would have rejected the null hypothesis at the .05 level, and supported the prediction.

7. The more aggression, the more drug use (path coefficient = .32). The 90th percent confidence interval was -.39 ≤ Beta ≤ 1.00, with a .77 inference probability. A classical test of significance would have failed to reject the null hypothesis at the .05 level.

8. The more self-esteem, the more drug use (path coefficient = .30). The 90th percent confidence interval was -1.0 ≤ Beta ≤ 1.00, with a .37 inference probability. This path coefficient was in the opposite direction of the prediction. If a two tailed test of significance were

performed, it would have failed to reject the null hypothesis at the .05 level.

9. The more avoid coping responses, the more drug use (path coefficient = .14). The 90th percent confidence interval was -1.0 ≤ Beta ≤ 1.00, with a .56 inference probability. A classical test of significance would have failed to reject the null hypothesis at the .05 level.

10. The more the student liked school, the less drug use (path coefficient = .15). The 90th percent confidence interval was -.88 ≤ Beta ≤ 1.00, with a .41 inference probability. This path coefficient was in the opposite direction of the prediction. If a two tailed test of significance were performed, it would have failed to reject the null hypothesis at the .05 level.

11. The more deviant peer affiliation, the more drug use (path coefficient = .76). The 90th percent confidence interval was .20 ≤ Beta ≤ 1.00, with a .99 inference probability. A classical test of significance would have rejected the null hypothesis at the .05 level, and supported the prediction.

12. The more aggression, the more deviant peer affiliation (path coefficient = .43). The 90th percent confidence interval was .12 ≤ Beta ≤ .74, with a .99 inference probability. A classical test of significance would have rejected the null hypothesis at the .05 level, and supported the prediction.

13. The more self-esteem the less avoid coping responses (path coefficient = -.71). The 90th percent confidence interval was $-.16 \leq \text{Beta} \leq -.10$, with a .98 inference probability. A classical test of significance would have rejected the null hypothesis at the .05 level, and supported the prediction.

Exploratory Analyses

Male and Female Outcome Differences

Table 6 presents separate Means, Standard Deviations, and Mean differences between males and females that participated in the present study. The d-statistic in Table 6 represents the Standard Difference between Males and Females. The d-statistic is the raw mean difference between males and females, divided by the within group standard deviation, which is the square root of the within group mean square (pooled estimate based on each group standard deviation) (Hunter and Schmidt, 1990). For example, a value of d = 1.0 represents a difference of one standard deviation between the mean of the two groups (the d-statistic is similar to a z score).

The Standard Error (SE) in Table 6 was derived from the formula described in Hunter and Schmidt (1990). The 95th percent confidence interval was used in Table 6 (Hunter and Levine, 1993). Table 6 indicates large differences between males and females on: (1) drug use, (2) negative peer affiliation, and (3) aggression.

TABLE 6

DATA ON DIFFERENCES BETWEEN FEMALES AND MALES

	Female		Male		Mean	d		
	Mean	S.D.	Mean	S.D.	Difference	Stat	S.E.	95% Confidence Interval
Drug Use	1.31	2.80	3.20	4.10	1.90	.54	.265	.01 ≤ Delta ≤ 1.10
Negative Peers	4.94	7.20	10.10	10.10	5.20	.6	.266	.08 ≤ Delta ≤ 1.12
Family Rejection	51.90	20.11	51.10	13.60	.8	.05	.260	-.46 ≤ Delta ≤ .58
Aggression	5.11	.40	6.40	.93	1.3	1.9	.314	1.30 ≤ Delta ≤ 2.51
Self-Esteem	24.40	2.50	24.92	2.04	.52	.23	.261	-.28 ≤ Delta ≤ .74
Avoid-Coping	15.80	1.70	16.40	2.00	.6	.32	.262	-.19 ≤ Delta ≤.83
Positive Attitude Toward School	38.83	7.7	38.20	5.80	.63	.09	.261	-.42 ≤ Delta ≤ .60

N = 36 Females
N = 25 Males

The Mean value of drug use was higher for males than for females (d-stat = .54). The 95th percent confidence interval was .02 ≤ Delta ≤ 1.10. If a two tailed test of significance were performed, it would have rejected the null hypothesis at the .05 level.

The Mean value of negative peer affiliation was higher for males than for females (d-stat = .60). The 95th percent confidence interval was .08 ≤ Delta ≤ 1.12. If a two tailed test of significance were performed, it would have rejected the null hypothesis at the .05 level.

The Mean value of aggression was higher for males than for females (d-stat = 1.9). The 95th percent confidence interval was 1.30 ≤ Delta ≤ 2.5. If a two tailed test of significance were performed, it would have rejected the null hypothesis at the .05 level.

Age Differences

Literature on young people suggests that the age of puberty often triggers identity problems and rebellion (Erickson, 1959; McKinney, Fitzgerald and Strommen, 1982; Scott, 1972). Puberty seems to often begin between thirteen and fifteen years of age in boys and earlier for girls. Students participating in the present study were eleven to fourteen years of age. Table 7 represents the separate Means, Standard Deviations, and Mean differences between two age groups. The first group contained combined data for eleven and twelve year olds; this was compared with combined

TABLE 7

DIFFERENCES BETWEEN PRE-PUBERTY AND PUBERTY AGED YOUTHS

	Group 1 11 -12 yr. olds pre-puberty		Group 2 13-14 yr olds puberty		d		
	Mean	S.D.	Mean	S.D.	Stat	S.E.	95% Confidence Interval
Drug Use	1.00	2.45	3.00	3.97	.63	.270	.10 ≤ Delta ≤ 1.00
Negative Peers	4.04	5.20	9.6	10.40	1.06	.278	.51 ≤ Delta ≤ 1.00
Family Rejection	49.07	14.83	53.63	19.60	.30	.262	-.29 ≤ Delta ≤ .89
Aggression	5.40	1.10	5.84	1.13	.40	.263	-.19 ≤ Delta ≤ .99
Self-Esteem	24.70	1.90	24.51	2.60	.10	.261	-.49 ≤ Delta ≤ .69
Avoid-Coping	15.90	1.80	16.12	1.90	.12	.261	-.47 ≤ Delta ≤.71
Positive Attitude Toward School	40.60	4.84	37.93	5.53	.52	.265	-.07 ≤ Delta ≤ 1.00

There were 7 eleven year olds, 21 twelve year olds, 24 thirteen year olds, and 9 fourteen year olds in this study.

data on thirteen and fourteen year olds (puberty age). Table 7 indicates large differences between group one and group two on: (1) drug use, (2) negative peer affiliation, (3) aggression, and (4) attitude toward school.

The Mean value of drug use was higher for older youths than for younger youths (d-stat = .63). The 95th percent confidence interval was .10 ≤ Delta ≤ 1.00. If a two tailed test of significance were performed, it would have rejected the null hypothesis at the .05 level.

The Mean value of negative peer affiliation was higher for older youths than for younger youths (d-stat = 1.06). The 95th percent confidence interval was .51 ≤ Delta ≤ 1.00. If a two tailed test of significance were performed, it would have rejected the null hypothesis.

The Mean value of aggression was higher for older youths than for younger youths (d-stat = .40). The 95th percent confidence interval was -.19 ≤ Delta ≤ .99. If a two tailed test of significance were performed, it would have failed to reject the null hypothesis at the .05 level. However, this difference seemed large enough to be recognized.

The Mean value of positive attitude toward school was higher for younger youths than for older youths (d-stat = .52). The 95th percent confidence interval was -.07 ≤ Delta ≤ 1.00, with a .96 inference probability. If a two tailed test of significance were performed, it would have rejected the null hypothesis at the .05 level.

Drug Prevention Program Variables

Table 8 describes percentages of student responses to the drug use questions that represented the drug use variable. Table 9 describes student rating percentages on drug program items. Table 10 describes the correlations, confidence intervals, inference probabilities, odds ratios, and prediction comments for each drug prevention program variable. The following categories and results represent the predictions made toward development of a school drug prevention program.

Program structure. Two predictions were made in this category. The first prediction was: the more drug use, the more the student would prefer counseling sessions held in group. The second prediction was: the more drug use, the less the student would prefer private counseling sessions between themselves and the counselor. A Pearson correlation (corrected for attenuation) was used to test both predictions.

The correlation for the first prediction was $r = -.11$. This indicated that students with higher drug use did not prefer group counseling. The 90th percent confidence interval was $-.33 \leq Rho \leq .10$, with a .24 odds ratio, and a .19 inference probability. This correlation was in the opposite direction of the prediction. If a two tailed test significance were performed, it would have failed to reject the null hypothesis at the .05 level.

TABLE 8

AMOUNT OF STUDENT DRUG USE

N = 61					
Used in	**No Drugs**	**Alcohol**	**Cigarettes**	**Marijuana**	
last six months	63.7%	23%	10%	3.3%	
N = 17 *		**Sickness: Nausea,**	**Black-outs**		
Consequences		**Vomiting, Dizzyness,**	**Passed-out**		
in last	**No Effect**	**Headache**	**Unconsciousness**	**Hospitalized**	
six months	50%	50%	0%	0%	
N = 17					
Drug used in	**Alcohol**	**Cigarettes**	**Marijuana**		
last six months	70%	18%	0%		
N = 17					**less than**
How often drug	**Daily**	**3x weekly**	**1x weekly**	**1x monthly**	**1x month**
used in last six months	.06%	0.0%	.06%	24%	65%

* Note: Only 17 out of 61 students used drugs within six months of the present study.

TABLE 9

STUDENT RATING PERCENTAGES ON DRUG PROGRAM ITEMS

N = 61

		% Scale Values *				
		1	2	3	4	5
1.	Counseling sessions held in group	3.3	8.2	5.0	52.5	31.0
2.	Private individual counseling session	3.3	3.3	0.0	28.0	67.0
3.	Hearing an Ex-addict	3.3	2.0	0.0	20.0	75.0
4.	Counseling by students your age	8.2	16.3	2.0	36.1	38.0
5.	Having a counselor who works in your school	2.0	11.5	10.0	38.0	39.3
6.	Having a counselor who is an "outsider"	3.3	13.0	7.0	56.0	21.3
7.	Should show frightening results	2.0	0.0	5.0	28.0	6.6
8.	Program should try to scare you	20.0	28.0	2.0	31.1	20.0
9.	Program should show movies and pictures about drugs	2.0	7.0	2.0	57.4	33.0
10.	Movies and books don't tell the truth about drugs	11.5	30.0	7.0	43.0	10.0
11.	Should talk about good things in your life	2.0	3.3	2.0	46.0	48.0
12.	Should be able to talk about anything	0.0	3.3	6.6	21.3	69.0
13.	The counselor should help you stop drug use	0.0	2.0	0.0	39.3	59.0
14.	No information should be given to parents/relatives	5.0	16.4	7.0	49.2	23.0
15.	No information should be given to teachers	2.0	11.5	5.0	43.0	39.3
16.	No information should be given to your friends	0.0	8.2	11.5	39.3	41.0
17.	No information should be given to other students	0.0	5.0	0.0	51.0	44.3

* Note:
For items 1, 2, 3, 4, 5, 6, 7, 8, 9, and 11, scale values represent following: 1 = would not help at all, 2 = would be somewhat not helpful, 3 = Don't know, 4 = Would be somewhat helpful, 5 = Would help a lot. For items 8, 10, 12, 13,14, 15, 16 and 17, scale values represent the following: 1 = Strongly disagree, 2 = Disagree, 3 = Don't care, 4 = Agree, 5 = Strongly Agree

TABLE 10

DATA REPRESENTING RESULTS ON STUDENT PREFERRED PREVENTION PROGRAM

Higher Drug Use Correlated with the following items below:	Corrected Correlation	90% Confidence Interval	Interfence Probability	Odds Ratio	Prediction Comments
Group Therapy	-.11	-.33 ≤ rho ≤ .10	.19	.24	Opposite direction of prediction
Individual Therapy	-.35	-.55 ≤ rho ≤ -.16	1.00	688.03	Strong in predicted direction
Hearing Ex-Drug Addict	-.27	-.47 ≤ rho ≤ -.06	.02	.02	Strong in opposite direction
Counselor Your Age	-.02	-.24 ≤ rho ≤ .20	.44	.78	Weak in opposite direction
Counselor that is staff at your school	-.27	-.47 ≤ rho ≤ -.06	.98	63.99	Strong in predicted direction
Counselor that is an outsider	-.02	-.24 ≤ rho ≤ .20	.44	.78	Weak in opposite direction
Should show frightening results	-.27	-.47 ≤ rho ≤ -.06	.98	63.99	Strong in predicted direction
Should scare you from drug use	-.23	-.44 ≤ rho ≤ -.02	.96	26.27	Strong in predicted direction
Movies should be shown	-.17	-.38 ≤ rho ≤ .05	.90	8.83	Strong correlation 9 to 1 odds
Movies don't tell truth about drugs	.07	-.15 ≤ rho ≤ .29	.71	2.41	Weak in predicted direction
Should talk about good things in your life	.00	-.22 ≤ rho ≤ .22	.50	1.00	Weak prediction
Should talk about any problem you have	.09	-.12 ≤ rho ≤ .31	.76	3.15	Strong correlation 3 to 1 odds
Should help you to stop taking drugs	-.07	-.29 ≤ rho ≤ .15	.71	2.41	Weak in prediction direction
Should give drug info to parents and treachers	.26	.05 ≤ rho ≤ .47	.98	50.46	Strong in predicted direction
Should give drug info to your friends and other students	-.05	-.27 ≤ rho ≤ .17	.65	1.87	Weak in predicted direction

The correlation for the second prediction was r = -.34. This supported the prediction that students with higher drug use would not prefer private individual counseling sessions. The 90th percent confidence interval was .15 ≤ Rho ≤ .53, with a 688.03 odds ratio, and a 1.00 inference probability. A classical test of significance would have rejected the null hypothesis at the .05 level, and supported the prediction.

Type of counselor desired. Four predictions were made in this category. They were the following:

1. The more drug use, the more the student would agree that hearing an ex-drug addict talk about drugs would be helpful.

2. The more drug use, the more the student would agree that counseling sessions conducted by students their age would be helpful.

3. The more drug use, the less the student would agree that having a counselor who works at their school would be helpful.

4. The more drug use, the more the student would agree that having a counselor who is an "outsider" (someone that does not work at their school) would be helpful.

The correlation for the first prediction was r = -.27. This indicated that students with higher drug use did not agree that hearing an ex-drug addict talk about drugs would be helpful. The 90th percent confidence interval was -.47 ≤

Rho ≤ -.06, with a .02 odds ratio, and a .02 inference probability. This correlation was in the opposite direction of the prediction. If a two tailed test of significants were performed, the null hypothesis would have been rejected at the .05 level.

The correlation for the second prediction was r = -.02. This indicated that students with higher drug use did not agree that having a counselor their age would be helpful. The 90th percent confidence interval was -.24 ≤ Rho ≤ .20, with a .78 odds ratio, and a .44 inference probability. This correlation was in the opposite direction of the prediction. If a two tailed test of significance were performed, it would have failed to reject the null hypothesis at the .05 level.

The correlation for the third prediction was r = -.27. This indicated that students with higher drug use agreed that the counselor should not work at their school. The 90th percent confidence interval was -.47 ≤ Rho ≤ -.06, with a 63.99 odds ratio, and a .97 inference probability. A classical test of significance would have rejected the null hypothesis, and supported the prediction.

The correlation for the fourth prediction was r = -.02. This indicated that students with higher drug use did not agree that the counselor should be an "outsider," someone who does not work (for payment) at their school. The 90th percent confidence interval was -.24 ≤ Rho ≤ .20 with a .78 odds ratio, and a .44 inference probability. This

correlation was in the opposite direction of the prediction. If a two tailed test of significance were performed, it would have failed to reject the null hypothesis at the .05 level.

Intent of program. Seven predictions were made in this category. They were the following:

1. The more drug use, the less the student would believe showing frightening results of drug use would help prevent drug use.

2. The more drug use, the less the student would agree that trying to scare students away from using drugs would help prevent drug use.

3. The more drug use, the less the student would believe that viewing movies and pictures about drugs and their effects would help prevent drug use.

4. The more drug use, the more the student would agree that movies, video tapes, books, etc. don't tell the truth about drugs.

5. The more drug use, the more the student would believe that being able to talk about the good things in their lives would help prevent drug use.

6. The more drug use, the more the student would agree that the program should allow them to talk about any problems they have.

7. The more drug use, the less the student would agree that the counselor should try to help them to stop taking drugs.

The correlation for the first prediction was r = -.27. This indicated that students with higher drug use did not agree that being shown frightening results from drug use would be helpful. The 90th percent confidence interval was -.47 ≤ Rho ≤ -.06, with a 63.99 odds ratio, and a .98 inference probability. A classical test of significance would have rejected the null hypothesis at the .05 level, and supported the prediction.

The correlation for the second prediction was r = -.23. This indicated that students with higher drug use did not agree that trying to scare students from drug use would be helpful. The 90th percent confidence interval was -.44 ≤ Rho ≤ -3.02, with a 26.27 odds ratio, and a .96 inference probability. A classical test of significance would have rejected the null hypothesis at the .05 level, and supported the prediction.

The correlation for the third prediction was r = -.17. This indicated that students with higher drug use did not agree that viewing movies and pictures about drugs and their effects would be helpful. The 90th percent confidence interval was -.38 ≤ Rho ≤ .05, with a 8.83 odds ratio, and a .90 inference probability. Although a classical test of significance would have failed to reject the null hypothesis, the odds ratio indicates an approximate nine to

one chance that the population correlation was in the predicted direction.

The correlation for the fourth prediction was r = .07. This indicated that students with higher drug use did not agree that movies, video tapes, books, etc. don't tell the truth about drugs. The 90th percent confidence interval was -.15 ≤ Rho ≤ .29, with a 2.41 odds ratio, and a .71 inference probability. A classical test of significance would have failed to reject the null hypothesis at the .05 level.

The correlation for the fifth prediction was r = .00. This indicated that students with higher drug use did not agree that talking about the good things that are going on in their lives would be helpful. The 90th percent confidence interval was -.22 ≤ Rho ≤ .22, with a 1.00 odds ratio, and a .50 inference probability. A classical test of significance would have failed to reject the null hypothesis at the .05 level.

The correlation for the sixth prediction was r = .09. This indicated that students with higher drug use agreed that the program should allow them to talk about any problems they have. The 90th percent confidence interval was -.12 ≤ Rho ≤ .31, with a 3.15 odds ratio. Although a classical test of significance would have failed to reject the null hypothesis, the odds ratio indicated a three to one chance that the population correlation would be in the predicted direction.

The correlation for the seventh prediction was r = -.07. This indicated that students with higher drug use did not agree that the counselor should not try to stop their drug use. The 90th percent confidence interval was -.29 ≤ Rho ≤ .15, with a 2.41 odds ratio, and a .71 inference probability. A classical test of significance would have failed to reject the null hypothesis at the .05 level.

Confidentiality. Two predictions were made in this category. The first prediction was: the more drug use, the more students would agree that parents, relatives and teachers should not be given information about their drug use. The second prediction was: the more drug use, the less the students would care if their friends and other students were given information about their drug use.

The correlation for the first prediction was r = .26. This indicated that students with higher drug use did not want parents and teachers to be given information about their drug use. The 90th percent confidence interval was .05 ≤ Rho ≤ .47, with a 50.46 odds ratio, and a .98 inference probability. A classical test of significance would have rejected the null hypothesis at the .05 level, and supported the prediction.

The correlation for the second prediction was r = -.05. This indicated that students with higher drug use did not care if their friends or other students were given information about their drug use. The 90th percent

confidence interval was $-.27 \leq Rho \leq .17$, with a 1.87 odds ratio. A classical test of significance would have failed to reject the null hypothesis at the .05 level.

Discussion

Family relations. General descriptive questions concerning family relations of participating students indicated that eighty-three percent of these students stated that they got along with people at home "somewhat good" or "very good." When students were asked if they had someone with whom they could honestly discuss their feelings and concerns, eighty-five percent said yes. From this, only ten percent stated the person they could talk with was their fathers, thirty-one percent stated mothers, and thirty-six percent stated someone other than their mothers and fathers. This seems to indicate that many students participating in the present study had fathers that were not available for honest discussion, and were not sensitive to their feelings. Also, since only thirty-one percent stated they could honestly talk to their mothers, a large percentage (thirty-six percent) had to find someone other than their parents with whom to talk honestly and express their feelings. This lack of honest discussion and sharing of feelings between parents and their children may promote problems that result in youth drug use.

Main variables. The data from the present study did not support the prediction that higher family rejection promotes higher drug use among youth. This does not support the views of many family theories (Baither, 1980; Wright and Moor, 1982), which promote the position that by studying the family relations (parental rejection, etc.) of young drug abusers, a better understanding of causes for early drug use might be found and alleviated. Although family rejection was not directly related to drug use, it was found to directly relate with low self-esteem, poor coping skills and negative attitudes toward school. The correlation between family rejection and aggression was relatively low ($r = .24$); however, the inference probability was very high (.90), with a 8.83 odds ratio. This indicated a nine to one chance that family rejection was also related to aggression. Aggression and negative attitude toward school were both found to be directly related with drug use. This seemed to indicate that even though family rejection was not found to directly relate to drug use, it directly contributed to other problems that were found to directly relate to drug use.

Deviant peer group affiliation was found to be strongly related to drug use. This outcome does not support popular theoretical trends (Ahlgren, 1982; Babst et al., 1978; Baither, 1980; Simon and Robertson, 1989; Wright and Moore, 1982) that negative family relations are the most important predictors for youth drug use. In the present study

negative peer group affiliation was the highest direct predictor for drug use, and family rejection was the lowest direct predictor. This reverse outcome may be due to the age group participating in the present study (seven eleven-year-olds, twenty-one twelve-year-olds, twenty-four thirteen-year-olds, and nine fourteen-year-olds). Most studies on drug use seem to obtain information from individuals age eighteen and older. The present study indicates that peer pressure may be a major predictor for drug use among younger youths, but may not be a major factor among youths age eighteen and older. This study also supported the prediction that aggression may promote deviant peer group affiliation (or vice versa).

The prediction that higher self-esteem would lower drug use was not true for the age group participating in this study. This study found the opposite of the prediction which was: the higher the self-esteem, the higher the drug use. This reversed outcome may be due to peer pressure. Perhaps, younger youths that use drugs due to peer pressure may experience an increase in self-esteem if they are involved in a deviant peer group that provides a sense of identity and acceptance. Low self-esteem was found to strongly promote poor coping skills as predicted.

Male and female exploratory analysis. An exploratory examination of possible differences between males and females indicated large differences in the areas of drug

use, negative peer group affiliation, and aggression. Males rated higher than females in all three of these areas. This outcome supported the present study's path analysis results. It was previously mentioned that the path analysis (see Figure 3) indicated that aggression strongly promoted negative peer group affiliation, and negative peer group affiliation strongly promoted drug use. Since males were rated higher than females on aggression, it might be anticipated that males would rate higher on deviant peer affiliation, and drug use based on the path model predictions.

Age difference exploratory analysis. Literature on young people (Erickson, 1959; McKinney, Fitzgerald and Strommen, 1982; Scott, 1972) suggested that the age of puberty often triggers identity problems and rebellion. Puberty typically begins between thirteen and fifteen years of age for boys. The results of the present study supported the above theoretical views on puberty. Youths age thirteen and fourteen (puberty age) rated higher on drug use, negative peer affiliation, aggression, and negative attitude toward school, when compared with youths age eleven and twelve (pre-puberty age).

Drug prevention variables. Results indicated that students agreed with many of the predictions concerning potential drug prevention content elements. First, the more drug use, the less students preferred individual counseling

sessions. This may indicate that the more drugs used, the less the students trusted authority.

Second, the more drug use the less students wanted a counselor that worked at their school. This may indicate that the more students used drugs, the less trust they had in school staff and administration.

Third, the more drug use, the less the students agreed that showing them frightening results from drug use would be helpful. This may indicate that the more the students used drugs, the less they believed in the potential dangers of drug use.

Fourth, the more drug use, the less students agreed that trying to scare them from drug use would be helpful. This may indicate that the more the students used drugs, the less fearful of drugs they become.

Fifth, the more drug use, the more the students believed that parents and teachers should not be given information about their drug use. This seems to indicate that the more the students used drugs, the less they felt parents and teachers would be helpful.

The more drug use, the less the students believed that movies, video tapes, books, etc. would be helpful. This may indicate that the more the students use drugs, the less the students believe in media presentations on drugs.

One program content element was strongly supported in the opposite direction of the prediction. The opposite outcome indicated that the more drug use, the less the

students believed that hearing an ex-drug addict talk about drug use would be helpful. This is interesting because it does not support the intent of Alcohol Anonymous, Cocaine Anonymous, etc., which is primarily based on discussion presented by recovering addicts. This may indicate that recovery groups may not be as effective in preventing drug use among younger youths (age eleven to fourteen) as it is for older age groups.

Multivariate analysis. Many of the predictions made in the present study were based on predictions made in the Simons and Robertson (1989) study (see Figure 1). The following predictions were supported in the outcome of the present study's model:

1. The more parental rejection, the less self-esteem.

2. The more parental rejection, the less positive the youths' attitude toward school.

3. The more deviant peer affiliation, the more drug use.

4. The more aggression, the more deviant peer affiliation.

5. The more self-esteem, the less avoid coping responses.

This seemed to strongly indicate that parental rejection is a strong predictor for low self-esteem, and low self-esteem seemed to be a strong predictor for poor coping skills. Further research might pursue the possibility of

parental rejection increasing poor coping skills by possibly lowering self-esteem. Parental rejection also seems to be a strong predictor of negative attitude toward school.

Aggression seemed to be a strong predictor for deviant peer affiliation, and deviant peer affiliation seemed to be a strong predictor for drug use. Further research might pursue the possibility of aggression contributing to drug use by increasing deviant peer affiliation, which seems to be the strongest direct predictor for youth drug use.

The Chi Square statistic indicated that the elements in the present model fit the data adequately.

Directions for Policy

The following suggestions might be made based on the outcome of the present study. First, family related problems are important contributors to youth drug use. However, family problems may have more of an indirect effect on drug use than expected. Family problems seem to be more directly related to low self-esteem, poor coping skills, negative attitude toward school, and possibly aggression. This suggests that by improving relations between the youths and their families (e.g., development of positive parental role modeling), youths may be more able to develop alternative strategies for living without drug use.

Second, programs aimed at youth drug prevention should primarily work toward increasing youth self-esteem, coping skills, and possibly school grades. The program should also

teach youths the difference between aggression and assertiveness, and encourage assertive behavior.

Third, youth drug prevention programs should help youths develop independent behavior, goal strategies, and self-confidence. By improving in these areas, youths may not feel the need to join gangs and other negative peer groups to get their needs met.

In summary, there seems to be many contributing factors to youth drug use. However, if prevention programs commit to addressing the many possible factors which promote youth drug use, it may be possible to continue to alleviate drug use among the youth.

Limitations of the Present Study

Several limitations of the present study need to be noted. First, the sample was very small. This was due to the participation of less student volunteers than predicted.

Second, the small sample size may have also affected the statistical conclusions found in this study. The number of students participating in this study may not have been sufficient to generalize the reported results and student opinions to other youths, schools, or settings.

Third, this study sampled students from only one school. Although this middle school seemed to be representative of other public middle schools in the same school district, this study may have included many unknown biases that may have influenced the results in unknown ways.

Fourth, a larger sample size may have strengthened the relationship between family rejection and aggression. Although the correlation was low, the inference probability was .90 which indicated a nine to one chance that the population correlation was in the predicted direction.

Fifth, no student drug use was considered heavy in this study. At best, reported drug use was experimental or recreational. This limitation is important to note because factors leading to drug experimentation may be different from factors that lead to heavy drug use.

Sixth, relationships other than those predicted in this study may exist within the present study path model. Further research would be helpful in investigating other possible drug use relationships.

The seventh limitation involved student preferred program criteria. Students were not asked why they agreed or disagreed with the various criterion for a possible school drug prevention program. This lack of information resulted in speculation in interpreting results found in this area.

APPENDIX A

Student Introduction to Survey

The Researcher will enter the homeroom (pre-approved by the teacher) and upon permission of the teacher, will introduce their self:

My name is Robert Clark and I am a Ph.D. student in psychology at Michigan State University. I am here to help this school develop better ways to keep students out of drug related trouble.

The presenter will then say the following:

This school is presently trying to start a program that will help keep students from getting involved in drug trouble. To help make sure that the program will be helpful and interesting, the school would like to give students the chance to express their opinions, for the type of drug program they believe would help themselves and other students here at Otto.

If you participate, I will ask you questions about why you think drugs are used, what you know about drugs, some of your experiences that relate to drug use or potential drug use, and discuss your ideas for a school drug prevention program. Your participation is totally voluntary, and you can withdraw from the interview/questionnaire at any time without penalty. The interview will take about one hour, and your responses will be strictly private. The interviewer will only know your first name. All information you give during the interview will only be identified by a code number. The school is not interested in knowing your name, it is only interested in collecting information that will help improve the school drug prevention program.

It is important that we get your participation to help make sure that the program is interesting and useful, in helping you avoid drug related trouble at this school.

If you would like to participate, please take this letter home and have your parent(s) or Guardian read and sign it. Then return the letter to this class as soon as possible.

APPENDIX B

Dear Parent(s)/Guardian(s)

Otto Middle School is in the process of looking at its drug use prevention program. I worked at Otto from 1982-1985 as a counselor and researcher, to help Otto develop their school drug prevention strategies. Presently, I am continuing research toward drug prevention at Otto as a Ph.D. Candidate at M.S.U.

Several classrooms (homerooms) have been given the opportunity to participate in an introduction, explaining how they can participate in answering an interview/questionnaire. The questionnaire will ask students their opinions on what they feel would help themselves and others avoid drug use. It will also ask about their feelings and behavioral experiences, that relate to drug use or potential drug use. Student Participation is totally voluntary, and students can discontinue the interview/ questionnaire at any time without penalty.

Your son/daughter's classroom was selected to participate in the interview/questionnaire. Student participation will be confidential (no names will be asked or included with student opinions and answers). The interview/questionnaire will take approximately one hour, and will be arranged by the school administration. However, students cannot participate without your written permission. Your signature on this form will give your son/daughter the opportunity to participate and contribute to the development and review of the school drug prevention program (when this form is returned to the homeroom teacher). If you have any questions about this student opportunity, contact Otto Middle School and I will be happy to answer them.

(Parent or guardian signature):_____

Thank You

(Student signature):_____

Robert Clark, M.A., C.S.W.
Project Manager

APPENDIX C

MICHIGAN STATE UNIVERSITY

Department of Psychology

DEPARTMENTAL RESEARCH CONSENT FORM

1. I have freely consented to take part in a scientific study being conducted by: _____

   under the supervision of: _____

   Academic Title: _____

2. I agree to take part in the study on _____.
   I understand the study deals with _____ and
   I have been given a clear explanation of my part in this work.

3. I understand that I am free to discontinue my participation in the study at any time without penalty.

4. I understand that the results of the study will be treated in strict confidence and that I will remain anonymous. Within these restrictions, results of the study will be made available to me at my request.

5. I understand that my participation in the study does not guarantee any beneficial results to me.

6. I understand that, at my request, I can receive additional explanation of the study after my participation is completed.

Signed: _____

Title of Exper.: _____

_____

Date: _____

APPENDIX D

INTERVIEW/QUESTIONNAIRE

DATE ADMINISTERED: _____ CODE NUMBER: _____

GENERAL INFORMATION

1. Date of Birth _____ Age _____

2. Sex Male _____ Female _____

3. Grade _____

4. Grade Point Average _____

5. a) How long have you lived in Lansing? (number of years) ___
   b) Who do you live with: Mother _____ Father _____
   Both _____ Guardian _____
   c) How many brothers and sisters do you have? _____
   d) How many live with you? _____
   e) How many are younger than you? _____

FAMILY RELATIONS (SECTION)

Now I would like to ask you a few questions about your family relations.

6. On the average how well have you been able to get along with people at home in the last six months?
   (Indicate which ONE of the following responses BEST describes your feelings)

Very Badly (1)	Somewhat Badly (2)	Neither Good Nor Bad (3)	Somewhat Good (4)	Very Good (5)

7. Is there a person in which you can honestly discuss your feelings and concerns? Yes _____ No _____

   a) If yes, are they related to you? Yes _____ No _____
   b) Does this person live with you? Yes _____ No _____
   c) How long have you known this person (if they are not a relative)? _____
   d) Could you also talk honestly with this person about alcohol and drug use? Yes _____ No _____
   e) Is this person your: Mother _____ Father _____
   Both _____ Guardian _____

Now proceed with the following scales: 1) Parental Acceptance-Rejection Questionnaire, appendix E, 2) aggression, self-reported delinquency scale, appendix F, 3) Self-Esteem 10 question index, appendix G, 4) Coping Style, Locus of Control for Children Scale, appendix H.

ATTITUDE TOWARD SCHOOL (SECTION)

8. Indicate how much you like the following topics as they relate to your school. Indicate one response for each topic. The responses are:

   1 = Don't like at all
   2 = Don't like most of the time
   3 = Neither like nor dislike
   4 = Like most of the time
   5 = Always like

   a) _____ Your school work (generally)
   b) _____ School rules and regulations
   c) _____ Your classes (generally)
   d) _____ Sports team(s)
   e) _____ School clubs and/or organizations

9. Indicate how much you like the following people in your school. Indicate only one response for each person. The possible responses are the same as in the previous question.

   1 = Don't like at all
   2 = Don't like most of the time
   3 = Neither like nor dislike
   4 = Like most of the time
   5 = Always like

   a) _____ Teachers (generally)
   b) _____ Your friends at school (generally)
   c) _____ Counselor(s)
   d) _____ Administrators (principal, assistant principal)
   e) _____ Hall monitors (security guards, etc.)

STUDENT DRUG USE (SECTION)

10. Have you ever tried beer, wine, cigarettes or other drugs?
Yes _____ No _____

If the above answer is NO, skip questions 12 - 21.

11. Are you presently taking any drug(s) prescribed by a doctor for a health-related problem? Yes _____ No _____

If yes, what drug or drugs are you taking and why? (List drug and reason for taking it in the space provided below).

DRUG	REASON
_____	_____
_____	_____

STUDENT REASONS FOR INITIAL DRUG USE (SECTION)

In this section, I just want to ask you about the first drug or drugs you took the very first time that you tried drugs.

12. What drug(s) did you take the very first time you ever tried any drug(s)? (example: beer, wine, cigarettes, etc.) (Limit discussion to one drug if possible).

_____

How old were you? _____

13. Now I'd like you to rank how important the following reasons were in getting you to use this/these drug(s). (Use only one rank for each reason).

The ranking scale is the following:

1 = Very important
2 = Somewhat important
3 = Don't remember
4 = Somewhat not important
5 = Not important

a) _____ Curiosity; just wanted to try it.
b) _____ Friends wanted you to try it because they use it.
c) _____ Relatives wanted you to try it.
d) _____ Everyone else was doing it.

14. How much did you know about the drug(s) before you tried it (them)? (Rate how much you know about each of the following items. Use only one rating for each item). The rating scale is:

1 = Didn't know anything
2 = Knew a little about the drug
3 = Don't remember how much you knew at the time
4 = Knew a lot about the drug
5 = Knew everything about the drug

a) _____ Chemical content
b) _____ Physical effects
c) _____ Negative effects
d) _____ Positive effects
e) _____ How to take the drug
f) _____ How much it cost

STUDENT REASONS FOR PRESENT DRUG USE (SECTION)

15A. Have you used beer, wine, cigarettes, or other drugs in the last six months? Yes _____ No _____

If the above answer is NO, skip questions 15 - 19.

B. What drug(s) (example: beer, wine, cigarettes, etc.) have you used in the last six months?

_____

_____

C. While using this/these drug(s), have you ever experienced the following?

_____ Sickness (examples: nausea, vomiting, dizziness, headache).
_____ Unconsciousness, blackouts, pass-outs.
_____ Hospitalized for a drug use related problem (Example: car accident that was alcohol related).

D. What drug do you use most often? _____

E. Which of the following best represents how often you use this drug?

Daily? _____ Three times a week? _____ Once a week? _____
Once a month? _____ Less than once a month? _____

16. What caused you to use this/these drug(s) the very first time? (Indicate how important the following possible reasons were in causing you to use this/these drug(s) for the first time).

1 = Very important
2 = Somewhat important
3 = Don't remember
4 = Somewhat not important
5 = Not important

a) _____ Curiosity; you just wanted to try it.
b) _____ Friends wanted you to try it because they use it.
c) _____ It was a holiday or special occasion.
d) _____ A relative offered it to you.
e) _____ To help you cope with problems at home.

Was there any reason not mentioned that caused you to use this/these drug(s) for the first time? _____

_____

17. Now I would like you to rate how important the following reasons were in causing you to continue using this/these drug(s).

1 = Very important
2 = Somewhat important
3 = Don't remember
4 = Somewhat not important
5 = Not important

a) _____ It helps you have a good time.
b) _____ It makes you feel good about yourself (more confidence).
c) _____ It's easy to get.
d) _____ Friends want you to keep using it with them.
e) _____ It's just a habit.

Is there any reason not mentioned that causes you to continue using this/these drug? _____

18. Which of the following situations do you like to use this/these drug(s) most? The numbers are:

1 = Always
2 = Almost always
3 = Don't know
4 = Almost never
5 = Never

a) _____ Alone
b) _____ With your friends
c) _____ At school
d) _____ At parties
e) _____ At concerts

Is there any other situation not mentioned in which you use this/these drug(s)?

_____

19. Rate how much you agree with the following reasons as to why you use this/these drug(s) and not some other drug(s)? (Indicate by placing a "check" next to the reason that best describes your feelings).

1 = Strongly agree
2 = Agree
3 = Don't know
4 = Disagree
5 = Strongly disagree

a) _____ The drug(s) is/are more available than other drugs.
b) _____ The drug(s) is/are safer than other drugs.
c) _____ You tried other drugs and didn't like them.
d) _____ You trust the person who gives you this/these drug(s)
e) _____ You think other drugs are stupid.
f) _____ Your friends use it.

Is there any other reason not mentioned for why you use this/these drug(s) most often and not some other drug(s)?

_____

_____

20. What drug (example: beer, wine, cigarettes, etc.) have you used the longest time even if you don't use it now? _____

What particular reason was there for your using this drug for this time period? (Rate how much you agree with the following reasons).

1 = Strongly agree
2 = Agree
3 = Don't know
4 = Disagree
5 = Strongly disagree

a) _____ You like the effect of the drug.
b) _____ It helps you get along with others.
c) _____ It helps you had a good time.
d) _____ You like the taste of it.
e) _____ It's easier to get.
f) _____ Because your friends use it.

Is there any other reason not mentioned for why you used this drug the longest time? _____

_____

21. Of the drug(s) (example: beer, wine, cigarettes, etc.) you presently use, which of these do you like most? _____

STUDENT PREFERRED SCHOOL DRUG PREVENTION PROGRAM CRITERIA (SECTION)

In this section, I would like your opinion on what type of school program you think would be useful to help keep students in this school from getting into drug related trouble.

22. What do you think this school should do to help keep students out of drug related troubled? _____

_____

_____

_____

_____

_____

How much do you agree with the following statement?

23. All students caught using drugs in school should be given the option to attend a program aimed at getting students to stop their school drug use rather than to be suspended from school.

_____	_____	_____	_____	_____
Strongly Disagree	Disagree	Don't Care	Agree	Strongly Agree

Now I would like to know your opinion on what type of school counseling program you think would be useful to help you stay out of drug-related trouble in school.

How much do you think the <u>following</u> ideas for a school counseling program would (possibly) help you stay out of drug trouble in school if you were given a chance to participate:

24. Counseling sessions held in a group?

_____	_____	_____	_____	_____
Would not help at all	Would be somewhat unhelpful	Don't know	Would be somewhat helpful	Would help a lot

25. Counseling sessions involving all boys (girls)?

_____	_____	_____	_____	_____
Would not help at all	Would be somewhat unhelpful	Don't know	Would be somewhat helpful	Would help a lot

26. Counseling sessions involving both boys and girls?

Would not help at all	Would be somewhat unhelpful	Don't know	Would be somewhat helpful	Would help a lot

27. Private counseling sessions between just you and the counselor?

Would not help at all	Would be somewhat unhelpful	Don't know	Would be somewhat helpful	Would help a lot

28. A combination of group and individual counseling sessions?

Would not help at all	Would be somewhat unhelpful	Don't know	Would be somewhat helpful	Would help a lot

29. Hearing an ex-drug addict talk about drugs and drug use?

Would not help at all	Would be somewhat unhelpful	Don't know	Would be somewhat helpful	Would help a lot

30. Counseling sessions conducted by other students about your age?

Would not help at all	Would be somewhat unhelpful	Don't know	Would be somewhat helpful	Would help a lot

31. Counseling sessions that show you frightening results that happen to some people using certain street drugs?

Would not help at all	Would be somewhat unhelpful	Don't know	Would be somewhat helpful	Would help a lot

32. Viewing movies and pictures about drugs and their effects?

Would not help at all	Would be somewhat unhelpful	Don't know	Would be somewhat helpful	Would help a lot

33. Being able to talk to the counselor about the good things that are going on in your life, like accomplishments in school, achievements in sports, better relations at home with your family, etc.?

_____	_____	_____	_____	_____
Would not help at all	Would be somewhat unhelpful	Don't know	Would be somewhat helpful	Would help a lot

34. Having a counselor who is someone (teacher, counselor, administrator, etc.) in this school?

_____	_____	_____	_____	_____
Would not help at all	Would be somewhat unhelpful	Don't know	Would be somewhat helpful	Would help a lot

If applicable, who specifically? _____

35. Having a counselor who is an "outsider", someone who does not teach or work (for payment) at your school?

_____	_____	_____	_____	_____
Would not help at all	Would be somewhat unhelpful	Don't know	Would be somewhat helpful	Would help a lot

Now I would like your opinion on the following questions:

36. How old would you like your counselor to be?

_____	_____	_____	_____	_____
19-25	26-32	don't care	33-40	41 or older

37. Which <u>one</u> of the following descriptions best represents what you feel would be the best choice of attire (clothing) for the counselor to wear while talking with students who use drugs in this school?

a) _____ T-shirt and jeans
b) _____ Slacks and shirt
c) _____ Whatever he/she wants to wear
d) _____ Slacks, shirt and tie
e) _____ Suit and tie

How much do you agree with the following statements:

38. The counselor should have experience working with students your age who use drugs.

_____	_____	_____	_____	_____
Strongly disagree	Disagree	Don't care	Agree	Strongly agree

39. Absolutely no information given in individual or group sessions should be given to:

A) Parents or Relatives:

_____	_____	_____	_____	_____
Strongly disagree	Disagree	Don't care	Agree	Strongly agree

B) Teachers:

_____	_____	_____	_____	_____
Strongly disagree	Disagree	Don't care	Agree	Strongly agree

C) Your friends:

_____	_____	_____	_____	_____
Strongly disagree	Disagree	Don't care	Agree	Strongly agree

D) Other students:

_____	_____	_____	_____	_____
Strongly disagree	Disagree	Don't care	Agree	Strongly agree

40. How necessary do you think it is for someone to teach the following people what drugs "really do" (because they seem to know nothing about them).

Give only <u>one</u> of the following ratings to each person:

1 = Very necessary
2 = Might be necessary
3 = Don't care
4 = Might not be necessary
5 = Not necessary

a) _____ Parents
b) _____ Other relatives
c) _____ Teachers
d) _____ Friends
e) _____ Other students

41. How do you think showing you another person's bad experience with drugs will effect your drug use?

1 = Strongly agree
2 = Agree
3 = Don't know
4 = Disagree
5 = Strongly disagree

a) _____ It might prevent you from using drugs.
b) _____ It might prevent you from using the particular drug(s) shown to you.
c) _____ It might not effect your drug use behavior.
d) _____ It might make you curious about trying the drug(s) shown to you.
e) _____ It might cause you to start using the drug(s) shown or help motivate you to continue using the drug(s) shown.

How much do you agree with the following statements:

42. The program should try to scare students away from using drugs.

_____	_____	_____	_____	_____
Strongly disagree	Disagree	Don't care	Agree	Strongly agree

43. It is important that the counselor answers your questions on drugs and their use.

_____	_____	_____	_____	_____
Strongly disagree	Disagree	Don't care	Agree	Strongly agree

44. The counselor should try to help you to stop taking drugs.

_____	_____	_____	_____	_____
Strongly disagree	Disagree	Don't care	Agree	Strongly agree

45. The counselor should try to help you stay out of drug-related trouble in school.

_____	_____	_____	_____	_____
Strongly disagree	Disagree	Don't care	Agree	Strongly agree

46. The drug program should allow you to talk about any problem you may have no matter what it is -- if you want to.

_____	_____	_____	_____	_____
Strongly disagree	Disagree	Don't care	Agree	Strongly agree

47. People in group sessions should only talk to each other about drugs because movies, video tapes, books, etc. don't usually tell the truth about drugs.

_____	_____	_____	_____	_____
Strongly disagree	Disagree	Don't care	Agree	Strongly agree

48. The counselor shouldn't worry about what drugs you use as long as you don't bring or use them in school.

_____	_____	_____	_____	_____
Strongly disagree	Disagree	Don't care	Agree	Strongly agree

* * * * * * * * * * *

THANK YOU VERY MUCH FOR YOUR COOPERATION!

* * * * * * * * * * *

APPENDIX E

PARENTAL ACCEPTANCE-REJECTION QUESTIONNAIRE

Appendix E

Now I would like to know how well you get along with your parent(s) or guardian.

Remember, there are no right or wrong answers, so answer each sentence the way you really feel.

	Always	Almost Always	Don't Know	Almost Never	Never
My Mother/Father/Guardian...					
1) says nice things about me.	____	____	____	____	____
2) does not really love me.	____	____	____	____	____
3) talks to me about our plans and listens to what I have to say.	____	____	____	____	____
4) encourages me to bring my friends home, and tries to make things pleasant for them.	____	____	____	____	____
5) yells at me when they are angry.	____	____	____	____	____
6) makes it easy for me to tell her things that are important.	____	____	____	____	____
7) makes me feel proud when I do well.	____	____	____	____	____
8) praises me to others.	____	____	____	____	____
9) talks to me in a warm and loving way.	____	____	____	____	____
10) seems to dislike me.	____	____	____	____	____
11) says nice things to me when I deserve them.	____	____	____	____	____
12) is really interested in what I do.	____	____	____	____	____
13) thinks it is my own fault when I am having trouble.	____	____	____	____	____

	Always	Almost Always	Don't Know	Almost Never	Never
My Mother/Father/Guardian...					
14) makes me feel wanted and needed.	____	____	____	____	____
15) tells me how proud they are of me when I am good.	____	____	____	____	____
16) makes me feel I am not loved any more if I misbehave.	____	____	____	____	____
17) makes me feel what I do is important.	____	____	____	____	____
18) tries to help me when I am scared or upset.	____	____	____	____	____
19) complains about me.	____	____	____	____	____
20) cares about what I think and likes me to talk about it.	____	____	____	____	____
21) lets me do things I think are important, even if it is inconvenient for them.	____	____	____	____	____
22) lets me know I am not wanted.	____	____	____	____	____
23) is interested in the things I do.	____	____	____	____	____
24) tries to make me feel better when I am hurt or sick.	____	____	____	____	____
25) tells me how ashamed they are when I misbehave.	____	____	____	____	____
26) lets me know they love me.	____	____	____	____	____
27) treats me gently and with kindness.	____	____	____	____	____
28) makes me feel ashamed or guilty when I misbehave.	____	____	____	____	____
29) tries to make me happy.	____	____	____	____	____

APPENDIX F

(AGGRESSION)
SELF-REPORTED DELINQUENCY SCALE

Appendix F

Now I would like to ask you a few questions about past conflict with others.

Please answering "yes" or "no" to the following questions.

1) Have you ever fought someone physically?
Yes _____ No _____

2) Have you ever taken something from someone by force?
Yes _____ No _____

3) Have you ever carried a weapon for self-defense?
Yes _____ No _____

4) Have you ever injured someone by hitting them?
Yes _____ No _____

APPENDIX G

SELF-ESTEEM
10 QUESTION INDEX
AND
SELF-ESTEEM INVENTORY (SEI)

Appendix G

Now I would like to know about how you feel about yourself.

Please answer "yes" or "no" to the following statements.

1) On the whole, I am satisfied with myself.
   Yes _____ No _____

2) At times I think I am no good at all.
   Yes _____ No _____

3) I feel that I have a number of good qualities.
   Yes _____ No _____

4) I am able to do things as well as most other people.
   Yes _____ No _____

5) I feel I do not have much to be proud of.
   Yes _____ No _____

6) I certainly feel useless at times.
   Yes _____ No _____

7) I feel that I am a person of worth, at least equal with others.
   Yes _____ No _____

8) I wish I could have more respect for myself.
   Yes _____ No _____

9) All in all, I am inclined to feel that I am a failure.
   Yes _____ No _____

10) I take a positive attitude toward myself.
   Yes _____ No _____

(Self-Esteem Inventory Questions)

11) I spend a lot of time daydreaming.
   Yes _____ No _____

12) I often wish I were someone else.
   Yes _____ No _____

13) I find it hard to talk in front of the class.
   Yes _____ No _____

14) There are lots of things about myself I would change if I could.
   Yes _____ No ____

APPENDIX H

(COPING STYLE)
LOCUS OF CONTROL FOR CHILDREN SCALE

Appendix H

Now I would lke to ask you a few questions about how you cope with problems.

Please answer "yes" or "no" to the following questions.

1) Do you believe that most problems will solve themselves if you just don't fool with them?
   Yes _____ No _____

2) Do you believe that if somebody studies hard enough he or she can pass any subject?
   Yes _____ No _____

3) Do you feel that most of the time it doesn't pay to try hard because things never turn out right anyway?
   Yes _____ No _____

4) Do you feel that if things start out well in the morning that it's going to be a good day no matter what you do?
   Yes _____ No _____

5) Do you feel that when you do something wrong there's very little you can do to make it right?
   Yes _____ No _____

6) Do you feel that one of the best ways to handle most problems is just not to think about them?
   Yes _____ No _____

7) Do you feel that you have a lot of choice in deciding who your friends are?
   Yes _____ No _____.

8) Do you often feel that whether you do your homework has much to do with what kind of grades you get?
   Yes _____ No _____

9) Do you feel that when a kid your age decides to hit you, there's little you can do to stop him or her?
   Yes _____ No _____

10) Most of the time, do you feel that you can change what might happen tomorrow by what you do today?
   Yes _____ No _____

11) Do you believe that when bad things are going to happen they just are going to happen no matter what you try to do to stop them?

12) Do you feel that when good things happen they happen because of hard work?
   Yes _____ No _____

13)**Are you the kind of person who believes that planning ahead makes things turn out better?**
Yes _____ No _____

APPENDIX I

Appendix I

STUDENT SUGGESTIONS ON WHAT THEIR SCHOOL COULD DO TO HELP KEEP STUDENTS OUT OF DRUG RELATED TROUBLE.

1) The school should show students what drugs look-like; this would help students identify drugs.
2) The school should search lockers without warnings.
3) Each student should write a report on how to keep drugs out of school and the winner should get a prize.
4) The school should have a drug Hot Line.
5) The school should confront suspicious students when they come to school.
6) The school should have a drug counseling program for students that need help.
7) An ex-addict should talk to students about drugs.
8) The school should not eliminate sports in school; this increases boredom and possible drug experimentation.
9) The school should have more activities and programs about drug use held in the auditorium for the whole school.
10) Students should be able to ask questions before, during and after school drug presentations.
11) The school should have student monitors that enforce drug prevention at school.
12) The school should have metal detectors and check students for weapons/drugs when they enter school.
13) The school should show students how they will look if they use drugs.
14) The school should show movies about drugs.
15) The school should check lockers every 9 weeks for drugs.
16) The school should have more guest speakers talk about drugs.
17) Don't talk about what drugs do, we already know what

they do (boring). Should have ex-addict talk about their experiences.

18) Need more security guards to check bathrooms during class time.
19) Need counselors to review drug information throughout the year; not talked about enough, kids forget.
20) Need Bulletin Boards with drug prevention reminders.
21) Need information on how to cope with peer pressure.
22) The school should keep the Alateen program going after school.

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