Adolescent self-reported activity participation satisfaction and substance use

Diana Caswell
Adolescent Self-reported Activity Participation Satisfaction And Substance Use

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Diana L. Caswell

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Approved: Brian Barry
(Committee Chair)
(Committee Member)
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Abstract

The purpose of this study was to examine the relationship between the level of satisfaction derived from participating in extracurricular activities and self-reported substance use. Thirty-six high school students completed a self-report survey assessing their extracurricular activity participation, satisfaction with participation, and aspects of substance use. Results indicated that as level of satisfaction with participation in activities increased, the reported substance use decreased. A positive relationship was found between amount of time spent in activities and alcohol use. In addition, a significant positive relationship was found between participation in athletic activities and alcohol use, as well as, participation in social activities and alcohol use. Also found was a significant increase in the total amount of drugs used from the ninth to tenth grades. Descriptive data found “experimentation” and “curiosity” to be the most common reasons for using substances and “a friend’s house” as the most common place to use.
Introduction

Substance use by American youth continues to be a concern for educators and communities. Prevention programs have focused on a number of issues surrounding the use of drugs by students. Much of the research conducted on substance use by adolescents has focused on assessing the reasons and background factors that contribute to a student’s use of drugs. Some research has found that adolescents in treatment programs reported using drugs to cope with stressors in their lives. In addition, factors including socioeconomic status, self-concept and birth order have been identified (Svobodny, 1982). Extracurricular activities have been typically viewed as a facilitator of developing positive self-concepts and all around socially well-adjusted youths. Recently, much of the research has looked at extracurricular activities and how participation affects the use and amount of use by students. Some of the literature has found that there is no association between participation in extracurricular activities and substance use (Carlini-Cotrim & Aparecida de Carvalho, 1993). Other research has found a positive correlation between participation in these activities and reported substance use (Ringwalt, 1988). And still further research has found that there is a negative correlation between participation in extracurricular activities and involvement with substance use (Shilts, 1991; Van Nelson; And Others 1991). More recent research has focused on personality characteristics of substance users (Shedler & Block, 1990). There is evidence that although students participate in a number of activities they may not obtain a state of arousal that drugs can provide. Therefore, leisure is perceived as boring and the person turns to other activities, such as substance use, to fulfill that need to obtain an optimal high (Iso-Ahola Wessinger, 1987; Iso-Ahola & Crowley, 1991). Further research is needed to look at students who participate in extracurricular activities and the amount of satisfaction they derive from engaging in the activity and how this affects their
involvement with substance use. Results may indicate that although the student fills his time with involvement in sports, clubs and other activities he or she may not receive sufficient satisfaction to deter his or her experimentation or use of substances. If this is the case, it suggests that a wider variety of activities need to be offered to students so that they may explore and find an activity that fulfills their need for optimal gratification and arousal from participating in the activity.

Prevention programs may not be attacking the issues that are the underlying contributing factors to students' use of drugs. If activities are not providing students with the satisfaction and gratification they consider to be optimally arousing, although they enjoy the activity, they may look to other activities, such as substance use, to fulfill that need.

The results of this study will contribute to the understanding of why some students may use drugs and whether their level of satisfaction derived from participating in extracurricular activities affects their reported level of use of substances. This study will provide additional information to educators for consideration of what to include and focus on with substance use prevention programs. This study will focus on a rural population of high school students, where choice of activities is limited due to location and availability of funds to provide a wide variety of extracurricular activities.

This study will examine previous research on substance use and factors that contribute to its use. A description of the present study will follow as well as the questions it proposes to answer. Results of the research will be presented as well as a discussion of their indications and implications for further research.
Background Factors

Gardner (1994) proposed to describe the characteristics of a typical substance user. Through self-reports in data collection, this researcher's goal was to gain insight into the socio-demographic variables of substance users who were seeking professional help in a treatment program. Forty-two subjects, all of whom were in a treatment center, participated in completing an adaptability and cohesion scale and a personal inventory. Results of the surveys indicated that most subjects became involved with drugs through peer influence, with feeling bored/unhappy as the second most common reason. For a majority of the subjects, first experience with substances was related to peers, while family problems was the second most common reason reported. Subjects were also asked to report on the problems they felt were most important in their lives at the time of this survey by ranking them in order of importance. The most important problem considered at that time was substance use (38.1%) and feeling bored/unhappy (33.3%). The frequency of the second rated problem in their lives was again drug use (42.9%) and being bored and unhappy (23.8%), while the third most frequently reported problem was that they were arrested (23.8%), were bored/unhappy (21.4%) and that they were fired from their job (19.0%). These self-reports indicate that heavy substance users who require treatment report the main reason for becoming involved with drugs included peer influence or feeling bored/unhappy. These are factors that should be seriously considered when approaching a prevention program for children at an early age. Further research supports these results.

Shedler and Block (1990) conducted a longitudinal study that investigated the relation between psychological characteristics and drug use. Subjects were initially recruited into the study when they were 3 years old. Psychological measures were used to assess these subjects at ages 3, 4, 5, 7, 11, 14 and 18. When subjects were 18 years old, the researchers revisited the
subjects to measure their drug use, personality, and quality of parenting. Questions relating to drug use assessed types of drugs used and frequency of their use. Personality assessment involved tapping various aspects of psychological functioning while engaged in a variety of experimental procedures. Psychologists administering these procedures based their reports from observations made during this procedure. Personality assessments were also conducted when subjects were 7 and 11 years old. When subjects were 5 years old they were observed through a one-way mirror by a trained observer and their interactions were described. Subjects were categorized as frequent users (defined as subjects who reported using marijuana at least once a week and have tried at least one other drug other than marijuana), abstainers (defined as subjects who had never tried any drugs), or experimental users (defined as subjects who had used marijuana once a month or less and had tried no more than one other drug other than marijuana). Results showed that at age 18, frequent drug users were observed to be alienated, deficient in impulse control, and relatively overreactive to minor frustrations, compared with experimenters. Abstainers were observed to be anxious, emotionally constricted, and lacking in social skills, compared with experimenters. These findings were also evident through childhood assessments. This study implies that experimental users are the most well-adjusted group, while frequent users and abstainers are socially mal-adjusted in their own ways.

Svobodny (1982) looked at frequent users who were enrolled in a treatment program and a control group of high school seniors to investigate differences in biographical factors, self-concept and academic achievement. Data was collected through cumulative records and personal information sheets. A self-concept scale and cognitive assessment measure were administered as well as individual interviews of students and teachers of the treatment group. The person(s) with whom the adolescent lived, birth order, socioeconomic status, school grades,
and school attendance were background factors found to be significantly different for the two groups. In relation to Shedler and Block’s (1990) study, where frequent users were socially maladjusted, this study found that self-concept scores were lower for the treatment group compared to the control group. Students reported on variables that influenced their drug use, which included: peer pressure, low self-concept, inadequacy of relating to others, and an inability to cope with problems. The findings of this research are commensurate with the previously described research by Shedler and Block (1990).

An instrument used in measuring various factors in relation to substance use was administered to student volunteers in a high school population grades 9-12 (Hillman, 1990). The instrument gathered data on student, parent, psychological and social factors and student self-reported substance use. Statistical analysis revealed that alcohol is the most widely used substance, while beer, cigarette and marijuana use increase with grade level. A phenomenon of polydrug use was evident with this adolescent population as well as a strong relationship between use by self and peer use. This suggests that peer use of substances may be a strong variable in predicting substance use. Also found was a significant negative correlation between participation in extracurricular activities and the use of beer, liquor, cigarettes and marijuana. This suggests that students who report participating in activities report less substance use. Students also indicated that they have a low level of confidence in their ability to refuse drugs whether they are pressured to use or just offered. This indicates the need for teaching children the tools for refusing drugs when offered without feeling as though they will be ostracized as a result.
Athletics and Extracurricular Activities

Athletes are often thought of as individuals who are conscious of the health and conditioning of their bodies for maximum performance. Also, they are thought to have increased self-confidence, which provides greater resistance to peer pressure and acts of delinquency. The rationale is that athletes are spending their spare time participating in sports, thus, there is less time to participate in delinquent behaviors. Landers and Landers (1978) took an in-depth look at socialization through interscholastic athletics and its effects on delinquency. They gathered data from senior directories in high school yearbooks from the years 1959 to 1972. These directories contained a complete listing of all extracurricular activities covering the years the students attended the school. Participation in extracurricular activities were categorized into four parts: athletics (participation in one or more seasons on a varsity sport team); service or leadership activities (participation in any one or more service or leadership activity); “both” (participation in one or more varsity sports in addition to one or more extracurricular activity); and “neither” (participation in neither athletic nor service or leadership activities). Delinquency was measured by data collected from official court records. The Town Clerk went through the court records and indicated the total number of misdemeanor and felony offenses in each category. Results showed that of the total 87 delinquent acts, only 10 were felonies and all fell within the “neither” category. The number of misdemeanor offenses were not reported. Further, the data did not support that athletics provides socialization opportunities beyond those provided by other extracurricular activities. This suggests that participation in any kind of extracurricular activities yields benefits of positive socialization and deterrence from delinquent behavior.

According to the previous study, participation in extracurricular activities correlates with a decreased occurrence of delinquent acts. Although they did not specifically look at drug use, it
is possible that this category is included. However, it is common knowledge through the media that there are athletes who engage in delinquent behavior in the form of substance use. Often times athletes consume drugs in an effort to enhance their performance and give them a competitive edge. Bell and Doege (1987) presented a review of the literature on drug misuse by athletes.

Athletics and other organized activities are commonly thought to be positive socializing and skills building activities that greatly contribute to shaping well-rounded young adults. They are thought to give children and adolescents leadership ability, the appreciation of team playing and a positive self-concept. It is assumed that this positive self-concept and leadership qualities give these young adults the power and tools to avoid involvement with chemical abuse. But more and more focus has been placed on whether or not extracurricular activity participation deters substance use. If participation in these activities make for a more socially adjusted, well-rounded individual, then according to the two previous studies reviewed the participating adolescents would not be frequent users of substances. If anything there will be experimentation, but not to the extent of their non-participating peers.

Most research supports the notion that some students involved in activities are using substances of some kind, but not to the extent of their non-involved peers. A study conducted by Cooley, Henriksen, Nelson and Thompson (1995) looked at the varying levels of drug experimentation and use of secondary students, as well as the types used, by students in particular activities. Data was collected through self-report questionnaires from 5639 secondary students in four school districts. Results found that students in all types of activities are using substances, but the substance and experimentation and use varied with the type of activity. Athletes were more likely to experiment with tobacco than students in government/clubs.
Students in government/clubs were more likely to use tobacco than students involved in music/drama or multiple activities. Students participating in athletics and government/clubs were more likely to use alcohol than students in music/drama, multiple activities and uninvolved students. Music/drama students were more likely to use marijuana and less likely to use alcohol than their peers in other activities. Students participating in multiple activities were found to be experimenting and using drugs at or above the rate of their peers in other activities. Another interesting and important finding of this study is that drug and alcohol experimentation and use dramatically increased as the grade level increased. However, although students in all types of activities are experimenting and using alcohol and drugs, they are not using to the extent of their nonparticipating counterparts. The students not involved with extracurricular activities were more prone to using stimulants depressants, inhalants, hallucinogens, over the counter drugs and cocaine that their participating peers.

Shilts (1991) conducted a study in which he investigated the relationship between early adolescent substance use and extracurricular activities, peer influence and personal attitudes. Middle school students in grades seven and eight were divided into three groups: substance using, abusing and nonusing. A questionnaire devised specifically for this study was used to gather additional information about the three groups of students. Results indicate that the students who reported a higher involvement in extracurricular activities were those in the nonusing group. A majority (54%) of the abusers group reported using drugs to relieve stress and pressure at home. A significant difference was found between the number of abusers that reported their friends also use as opposed to reports from users, 88% and 56%, respectively. This supports the hypothesis that substance abusing youngsters spend their free time with peers in unstructured substance-related activities.
A study conducted by Van Nelson (1991) examined the relationship between substance use and variables outside of the school context. They looked at non-school activities including athletics, clubs, and music/drama organizations. Data was collected over a two-year period (1988-1990) with a 52-item questionnaire assessing substance use, activity participation and family structure. Results showed that students who reported involvement in non-school activities were less likely to report use of particular substances, while those who reported not being involved in after school activities showed a higher percentage of reported substance use. Although nonparticipating subjects reported a higher percentage of substance use, it is to be noted that subjects who are involved in activities were still using substances, just not to the same extent.

For two years (1990-1992) Van Nelson (1993) administered questionnaires to over 13,000 secondary students to collect information on their use of substances and environmental factors including involvement in extracurricular activities. Tobacco, alcohol, marijuana and cocaine were the substances looked at in this study. For each substance, use was assessed ranging from “never used” to “use daily.” Participation in activities was assessed from “no participation” to “participation in multiple activities.” Activities were broken down into athletics, clubs, and music/drama. Results showed a significant relationship between participation in activities and substance use. Students who did not participate in activities were more likely to use substances than those who did participate in activities, whether they were in-school or out-of-school activities.

A study that compared alcohol use and intoxication in high school athletes and non-athletes involved a self-report inventory to assess frequency of alcohol use, intoxication and student attitudes concerning alcohol and drug use (Carr, Kennedy and Dimick, 1990). Analysis
of the data obtained provided a great deal of information relating to male and female athletes and non-athletes. Male athletes were found to consume alcohol significantly more frequently than male non-athletes. In addition, more male non-athletes reported abstinence from consumption of alcohol than did male athletes. Among comparisons of female athletes and non-athletes, no difference was found between the frequency of consumption of alcohol. In a comparison of male and female athletes on frequency of consumption, no significant difference was found. Comparison of intoxication between athletes and non-athletes found a significant difference between male and female athletes, with male athletes reporting more frequent instances of intoxication. This information is important to educators and coaches when considering drug education and who should be trained in intervention programs.

A study conducted by Ringwalt (1988) also looked at athletes and non-athletes use of substances. In addition, they assessed each group’s perceived risks of using these substances. Self-report surveys were completed by students in grades 7-12 in a North Carolina school. Students were considered athletes if they had reported participating in at least one sport during the school year. Athlete’s perceived risks of using substances did not differ from non-athletes in most cases. The only two categories that differed were perceived risks of weekly smoking of marijuana and using smokeless tobacco, chewing tobacco, or snuff regularly. For these two categories athletes perceived less of a risk for the use of these substances than did non-athletes. However, there was no difference found between athletes and non-athletes perceptions of the five other categories: smoke 1 or more packs of cigarettes per day; smoke marijuana occasionally; get drunk once or twice; have 1 or 2 drinks occasionally; try cocaine or crack once or twice. There were areas of actual reported use in which athletes and non-athletes did differ. Athletes were less likely to smoke cigarettes both over the course of their lifetime and 30 days
prior to the survey. However, athletes were significantly more likely to use alcohol and get drunk over the 30 day period prior to the survey. Also, of great concern is that both athletes and non-athletes gave the lowest risk ratings to the two items relating to alcohol use. Even though non-athletes are not using to the extent of athletes, according to this survey, they do not perceive alcohol use as a great risk to their health. This study further supports that athletes are not exempt from substance use and provides additional insight that students, whether involved in athletics or not, do not consider alcohol consumption as much of a risk as using other types of drugs.

Through administration of a self-report questionnaire in public and private school throughout Brazil, Carlini-Cotrim and Aparecida de Carvalho (1993) assessed high school students' participation in extracurricular activities and consumption of alcohol and drugs. Participation in extracurricular activities was divided into 4 categories: sports, religious activities, community activities, and artistic activities. Participation counted as being engaged in one of these activities at least once a week. It was found that in the great majority of cases there was no association found between attendance to sports, community, or artistic activities and the use of drugs or alcohol. Any associations that were found were weak or moderate. In a frequent number of cases, however, a weak negative association was found between participation in religious activities and substance consumption. These results suggest that participation in extracurricular activities does not seem to have much effect in the prevention of drug use except in the case of religious activity attendance. The researchers used these results to suggest that it may be more important to look at how much activities are enjoyed rather than look at whether students are participating or not.

A 1989 study conducted by Grimes and Swisher examined the importance of certain drug prevention program themes. The themes included were: providing information, self-concept,
friends and peers, coping strategies, alternative activities and adults as models. Subjects completed a 79-item scale assessing their attitudes towards variables effecting their decision to use or not use substances. Results indicated that the greater the amount of importance that was placed on each variable, except adults as models, the lower the use of certain substances. In particular, the greater the level of importance placed on recreational and alternative activities, the lower the use of tobacco, beer and marijuana (Grimes et al. 1989). These results support a program that addresses a number of variables instead of focusing on one. It also implies that students who place great importance on extracurricular activities are more likely to use certain substances less than those who do not see them as important.

Leisure and Boredom

Tenth and twelfth grade students were surveyed regarding their use of alcohol, use of leisure time and attitudes toward school climate (Pendorf, 1992). The researcher hypothesized that heavy use of alcohol would result in negative relationships with variables including: social and personal behaviors, leisure pursuits, and attitudes and behaviors associated with the school environment. Heavy alcohol use is usually considered to impact adversely with the development of youth in relation to these variables. Results of the questionnaire showed that a positive relationship existed between alcohol use and social and vocational activities. These types of activities are noted in this study to be critical tasks in healthy adolescent development. Therefore, it is surprising that heavy alcohol use is associated with these activities. Heavy alcohol use, however, also correlates with lower grades, a more negative view of teachers, and less enjoyment of school and school subjects. These students reported feeling bored as a result of their dissatisfaction with school. This study also found that participation in sports is not correlated with alcohol use. It further found that beer and wine users, but not hard liquor users,
are less involved with extracurricular activities or hobbies.

Iso-Ahola and Crowley (1991) conducted research pertaining to substance use and leisure boredom in adolescents. They hypothesized that adolescents who use substances are more likely to experience leisure as boredom than adolescents who do not use substances. The subjects were divided into substance abusers and non-substance abusers. The substance abusers were from inpatient and outpatient programs of a private psychiatric hospital. Non-abusers (control group) were comprised of adolescents selected from a private school. The authors used an instrument that measured individual differences in perceptions of boredom in leisure. Also, subjects’ leisure participation was assessed. Results of this study support the hypothesis that substance abusers are more likely than non-substance abusers to experience leisure as boredom. It was found, however, that substance abusers participated in more activities, such as sporting activities, than did non-abusers. This is surprising considering the leisure boredom reported by substance abusers was found to be higher. It seems contradictory to say that substance abusers were more active in their leisure behavior and activities, but at the same time more bored with leisure. This is evidence that supports the idea that substance users and abusers differ from nonusers in their personality dispositions. Substance users, although more active, may become bored with an activity sooner.

Certain personality dispositions, such as thrillseeking, need for immediate gratification, and impulsivity were looked at by Wood, Cochran, Pfefferbaum and Arneklev (1995) to help explain self-reported drug use. High school students served as respondents to a survey assessing sensation seeking factors as they relate to drug use. Through self-reports on several scales, students offered information of the degree to which they tend to engage in behaviors characterized by sensation seeking factors, such as: thrillseeking, impulsivity, and immediate
gratification. Then, substance use was measured on its prevalence, frequency and primary reasons for using. Results indicate that substance use generates intrinsic rewards, which in turn, promotes continued drug use. This study implies that individuals with a high demand for sensory stimulation and limited access to sensation seeking activities will engage in deviant behavior, such as substance use. Individual levels of sensation seeking characteristics seem to be causally related to adolescent substance use. This study gives insight to non-sociological variables, which have traditionally been looked at as major contributing factors to substance use.

Another study done by Brown and Finn (1982) uses the sensation seeking theory and applied it to alcohol use among junior and senior high school students. These researchers focused on the reasons why adolescents get drunk. They looked at whether it was due to peer pressure, having unintentionally had “one too many”, or finding it a pleasurable experience. Students in grades 7, 9 and 11 completed a questionnaire responding to items that looked at their alcohol use as well as the different reasons for using. Results showed that the majority of students who did report drinking reported getting very drunk at least “sometimes” when they get together with friends. Many of these students report that getting drunk is the purpose of drinking. This attitude is shown to peak at age 15 with a lower percentage of those younger and older reporting getting drunk as the purpose. The top three reasons reported by students between the ages of 12 and 17 were to feel good or celebrate (91%), to cheer themselves up because they are unhappy or in a bad mood (54%), and to forget worries, problems, and pressures (50%). Peer pressure seemed to be a major factor with 12- year old students (40%) as opposed to other age groups (5%). Therefore, although many students may use alcohol as a means of coping with their problems, the majority reported using alcohol as a means of making themselves feel good.

The previous research suggests that students involved in extracurricular activities are less
likely to use drugs, are just as likely to use drugs, and are more likely to use drugs compared to their nonparticipating counterparts. To further explain the phenomenon of drug use, research has been conducted on the personality variables that may predispose an individual toward sensation seeking behavior, such as drug use. It is implied that if an individual cannot fulfill a feeling of optimal arousal from engaging in a nondeviant activity, he or she is more likely to look for the immediate gratification he or she can derive from substance use. Taking this theory into consideration from an educators point of view, it seems intriguing to look at a high school population of students and assess their extracurricular activity participation, satisfaction with participation and substance use. It is hypothesized that the greater the reported satisfaction derived from participating in an activity the lower the self-reported substance use.

Method

Research Questions

This study proposes to find an inverse relationship between the level of satisfaction reported to be derived from participation in extracurricular activities and reported substance use.

Participants

The survey was carried out in a small, rural high school of 382 students. Informed consent forms (Appendix A) were sent home to all 382 9-12th grade students. A total of 60 forms were returned with one response indicating that the child was not to participate in the study. Out of the 59 students given permission to participate, 36 students attended the administration of the survey, seven of whom were freshmen, ten of whom were sophomores, six of whom were juniors and thirteen of whom were seniors. The sample included 26 females and 10 males. All students reported to be involved with at least one extracurricular activity.
Instrumentation

An 11-item self-report survey (Appendix B) designed by the author was used to assess extracurricular activity participation, level of satisfaction, and substance use. Activity participation was broken down into several categories: no participation, athletics/sports, government/clubs, music/drama, social, and other. Students were to also indicate if the activity was an in-school or out-of-school activity and during which grade levels they participated. Substance use included on the survey was broken down into six categories: alcohol, tobacco, marijuana, cocaine, hallucinogens, and amphetamines. Satisfaction derived from participation in activities was measured with a Likert-like scale from 1 (not at all satisfying) to 5 (extremely satisfying). The only demographic data collected were the students’ gender and grade level. Due to time constraints there was no pilot study conducted for this survey, therefore, reliability and validity are unknown.

Procedure

The survey was administered mid-week during the lunch period to minimize the amount of class time the students missed. Teachers were given a list of students participating in the study and asked to dismiss them at a given time. The survey was administered in the library and students were told not to place their names anywhere on the survey, as it was to be anonymous. Then, they were told to be as honest as possible when responding to items. Each student was given an envelope in which to seal his or her completed survey. Surveys were collected in an envelope in the back of the room so students could place their surveys in any order to ensure further anonymity.
Design

The independent variables in this study were activity participation and level of satisfaction. The dependent variable was substance use. Substance use included both the type of substances and how often the substance was used. In addition, descriptive data was collected on why students use substances, where they use them and how much satisfaction they derive from the activities in which they participate.

Results

With regard to the primary hypothesis, students reported satisfaction level with participation in activities was looked at in relation to their reported substance use using a Pearson product-moment correlation. The results, as shown in Table 1, indicate a significant negative relationship between level of satisfaction and reported drug use ($r = -0.406, p = .014$).

Table 1

<table>
<thead>
<tr>
<th></th>
<th>Satisfaction</th>
<th>Total Drugs Used</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Correlation</td>
<td>1.000</td>
<td>-4.06</td>
</tr>
<tr>
<td></td>
<td>-4.06</td>
<td>1.000</td>
</tr>
<tr>
<td>Sig. 2-tailed</td>
<td>0.014</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>.014</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>36</td>
<td>36</td>
</tr>
<tr>
<td>Satisfaction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Drugs Used</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
An ANOVA was conducted to look at the relationship between drug use across grade levels. Results showed, as seen in Table 2, that there is no significant relationship in drug usage from 9th to 12th grades $F(3,35) = 17.74, p = .339$.

### Table 2

Does substance use increase with grade level?

<table>
<thead>
<tr>
<th>ANOVA</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Drugs Used Main Effects GRADE</td>
<td>53.233</td>
<td>3</td>
<td>17.744</td>
<td>1.164</td>
<td>.339</td>
</tr>
<tr>
<td>Model</td>
<td>53.233</td>
<td>3</td>
<td>17.744</td>
<td>1.164</td>
<td>.339</td>
</tr>
<tr>
<td>Residual</td>
<td>487.767</td>
<td>32</td>
<td>15.243</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>541.000</td>
<td>35</td>
<td>15.457</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

To further examine differences an independent t-test was performed between grade levels. Drug usage increased significantly from the ninth to tenth grades, $t(1,15) = 5.49, p = .033$. This drug involvement doubled with ninth graders using an average of 1.14 drugs (s.d. = 1.77), and tenth graders using an average of 3.50 drugs (s.d. = 4.74). The average amount of drugs used is the average amount reported by all students in that grade level.

The relationship between the amount of time a student spent engaging in the reported activities and their total drug usage was examined using a Pearson Correlation. It was found that the amount of time spent in athletics was positively correlated with total drug usage $r = .53, p = .003$ (see Table 3).
Table 3

Relation of time spent in activity and total drug use?

<table>
<thead>
<tr>
<th>Pearson Correlation</th>
<th>Total Drugs Used</th>
<th>Athletics</th>
<th>Government</th>
<th>Music</th>
<th>Social</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>total drugs used</td>
<td>1.000</td>
<td>.528</td>
<td>-.312</td>
<td>.051</td>
<td>.574</td>
<td>.498</td>
</tr>
<tr>
<td>Athletic</td>
<td>.528</td>
<td>1.000</td>
<td>.533</td>
<td>.441</td>
<td>.846</td>
<td>.929</td>
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<td>Government</td>
<td>.312</td>
<td>.533</td>
<td>1.000</td>
<td>.940</td>
<td>.574</td>
<td>1.000</td>
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<td>Music</td>
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<td>.441</td>
<td>.940</td>
<td>1.000</td>
<td>.577</td>
<td>.655</td>
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<td>Social</td>
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<td>.846</td>
<td>.574</td>
<td>.577</td>
<td>1.000</td>
<td>1.000</td>
</tr>
<tr>
<td>Other</td>
<td>.498</td>
<td>.929</td>
<td>1.000</td>
<td>.655</td>
<td>1.000</td>
<td>1.000</td>
</tr>
</tbody>
</table>

| Sig. 2-tailed total drugs used | - | .003 | .380 | .819 | .004 | .502 |
| Athletic               | .003 | - | .218 | .052 | .000 | .242 |
| Government             | .380 | .218 | - | .000 | .234 | .000 |
| Music                  | .819 | .052 | .000 | - | .019 | .546 |
| Social                 | .004 | .000 | .234 | .019 | - | .000 |
| Other                  | .502 | .242 | .000 | .546 | .000 | - |

| N total drugs used | 36 | 30 | 10 | 23 | 23 | 4 |
| Athletic           | 30 | 30 | 7 | 20 | 20 | 3 |
| Government         | 10 | 7 | 10 | 9 | 6 | 3 |
| Music              | 23 | 20 | 9 | 23 | 16 | 3 |
| Social             | 23 | 20 | 6 | 16 | 23 | 4 |
| Other              | 4 | 3 | 3 | 3 | 4 | 4 |

Table 4 shows the summary of results found when a Pearson Correlation was used to look at the relationships between participation in each activity, separate from the amount of time spent in the activity as shown in Table 3, and each substance type. Results indicate that athletics were significantly positively correlated with alcohol use $r = .584, p = .004$. Social activities were also found to be significantly positively correlated with alcohol use $r = .509, p = .037$. 
Table 4

Relations between activity type and drug type use (r values)

<table>
<thead>
<tr>
<th></th>
<th>Athletics</th>
<th>Government</th>
<th>Music</th>
<th>Social</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol</td>
<td>.584**</td>
<td>-</td>
<td>.247</td>
<td>.509*</td>
</tr>
<tr>
<td>Tobacco</td>
<td>.010</td>
<td>-1.000**</td>
<td>-.349</td>
<td>-.036</td>
</tr>
<tr>
<td>Marijuana</td>
<td>.171</td>
<td>-</td>
<td>-.258</td>
<td>.550</td>
</tr>
<tr>
<td>Hallucinogens</td>
<td>.802</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Cocaine</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Amphetamine</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

** significant at the 0.01 level
* significant at the 0.05 level

Tables 5, 6, and 7 show the results to the questions examining the most common reason students use; the most common place they use; and what students reported they most enjoy doing in their spare time respectively. Results show that students reported curiosity and experimentation as the most common reason for using substances (22.2%) followed by the reason that their friends use (13.9%). Students reported using drugs at their friends house as the most common place to use (30.6%) followed closely by public/recreation areas (22.2%). No students reported using drugs at school (0%). An overwhelming majority of students reported spending time with friends as the activity they most enjoy when not in classes (40.6%). The second most popular response to this question was participating in the activities they indicated on the survey (26.5%).
Table 5

Reasons why students use

<table>
<thead>
<tr>
<th>Reason</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boredom</td>
<td>11.1</td>
</tr>
<tr>
<td>Friend’s use</td>
<td>13.9</td>
</tr>
<tr>
<td>Like how it feels</td>
<td>8.3</td>
</tr>
<tr>
<td>Other</td>
<td>22.2</td>
</tr>
</tbody>
</table>

Table 6

Where students use

<table>
<thead>
<tr>
<th>Location</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Home</td>
<td>8.3</td>
</tr>
<tr>
<td>Friend’s house</td>
<td>30.6</td>
</tr>
<tr>
<td>School</td>
<td>0</td>
</tr>
<tr>
<td>Public/Recreation Area</td>
<td>22.2</td>
</tr>
</tbody>
</table>

Table 7

What students most enjoy doing in their free time

<table>
<thead>
<tr>
<th>Activity</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engage in activity</td>
<td>26.5</td>
</tr>
<tr>
<td>Time with friends</td>
<td>40.6</td>
</tr>
<tr>
<td>Being by myself</td>
<td>6</td>
</tr>
<tr>
<td>Working</td>
<td>9</td>
</tr>
<tr>
<td>Time with family</td>
<td>10.9</td>
</tr>
<tr>
<td>Other</td>
<td>6</td>
</tr>
</tbody>
</table>

Discussion

The results supported the hypothesis that students are less likely to use substances when the satisfaction they derive from participation in activities increases. It seems to be a logical conclusion then that the goal is to have students feel very satisfied by engaging in an activity. One way to approach this goal may be to provide a wide variety of activities available to
ACTIVITY SATISFACTION AND SUBSTANCE USE

students. Looking at each student individually and tapping in to their passion and interests may provide schools and communities with a better idea of types of activities to provide. The activities offered to students at the present time, may be appealing enough to engage students in their spare time, but may not be activities they would rather engage in given the choice of a wider variety of activities. However, the financial limitations of schools often only allows districts to offer a certain number of activities. The ideal goal of tapping individual interests and providing numerous activities within a community may not be feasible, but these results should make people more aware that keeping adolescents busy with activities is not a deterrent to substance use unless it is an activity they enjoy.

This research also found that there is a significant increase in the total amount of drugs used by students from the ninth to tenth grades. These results, although they cannot be generalized due to the small sample size, suggest that there is a possibility that some factor occurs between these grade levels that may affect the use of drugs by high school students. Further research that takes a closer look at a possible increase in substance use between grade levels and the reasons why is needed to give educators an idea of the prevailing issues to attack in prevention programs.

A surprising result found in this research was that substance use increased with the amount of time spent in an activity. It would seem that the opposite would be true. As adolescents are filling up their free time with constructive activities, they have less time to devote to delinquent activities. This study found this to not necessarily be true. It appears that there are other factors contributing to an increased amount of total drugs used or the frequency with which drugs are used when students are spending more time engaging in an activity. This is another area where research would be beneficial to investigate the possible reasons why this is so.
The only significant relationships found between the type of activity and type of drug was with athletics and alcohol and social activities and alcohol. The significant relationship found with social activities and alcohol is not surprising considering this included parties and other out-of-school social gatherings where drug use may be more conducive. This is especially true looking at the majority of responses that indicated that students who do use drugs are using with their friends at friends’ houses. Of all the activities included on this survey, athletics, which requires a strong healthy body, is strongly associated with alcohol use. Alcohol seems to be the most popular used as reported in this study. Perhaps these adolescents feel that it is the least harmful substance to experiment with or use on a regular basis. A possible reason for this is that as opposed to cigarettes which can affect an athlete’s breathing, and the other listed substances, which are illegal to use at any age, alcohol is easy to obtain and the least risky substance to consume.

Another implication of these findings suggests that it is important for athletic directors and coaches to be educated on substance use prevention since they are in contact with athletes on a regular basis. The strong relationship between athletic participation and alcohol use is concerning since athletic participation has been believed to build leadership skills, teamwork and self-confidence, all characteristics that are believed to lead to a healthy lifestyle. However, when alcohol use becomes a repeated and chronic behavior, a healthy lifestyle no longer seems to be a result. Although not all students involved in athletics are using alcohol, or any other substance, this study indicates that a number of them are using. The question of why students involved with athletics seem to be using alcohol significantly more than students involved with other activities remains unanswered. Social activities are also associated with alcohol use according to this study. However, in-school social activities were not distinguished from out-of-school social
activities, such as attending parties and hanging out with friends. Therefore, the significant relationship may be due to a large amount of subjects who attend parties where alcohol is likely to be present. The results of this part of the study should be interpreted cautiously because the type of social event is not specified.

**Limitations**

This study has a number of limitations. Among them is the small sample size. Only 36 students participated in this study. Although some statistical analyses showed very strong relationships, it is not possible to say that these results can be generalized to the entire adolescent population. In addition, all of the subjects reported participation in at least one activity. Unfortunately, a comparison could not be made between subjects involved in extracurricular activities and subjects who did not participate in any activities. These results only show the characteristics of students who reported participation in any activities.

Another limitation that may have affected the results is the size and location of the school surveyed. The subjects came from a small rural town where activities may be limited compared to a larger suburban or urban school. Another consideration is that alcohol may be more available than other drugs in a rural setting. Surveying student populations from larger schools may result in a different set of characteristics and perspectives on substance use of high school students.

This research provides an idea of an underlying factor in student substance use. It appears that the satisfaction a student derives from engaging in an activity has a relationship to that student's possible substance use. If educators, communities and parents can gain insight from these types of studies that attempt to gather information on the issue of why students find substance use appealing, it can be used to help prevent or lessen its occurrence.
References


Dear Parent,

My name is Diana Caswell and I am currently the school psychology intern working in the Cal-Mum School District. At the same time, I am finishing my Masters Degree in School Psychology at the Rochester Institute of Technology. As part of my training requirements, I am presently working on my Masters Thesis. A personal interest of mine is substance abuse prevention and my thesis topic deals with this issue, specifically in the adolescent population.

One of the biggest problems schools face is student drug use. It would be ideal for a community to figure out how to prevent drug use, but, realistically, for now, our goal is to lessen its occurrence. Out of the multiple programs and curricula that have been used in schools, researchers do not know what methods and techniques work to deter substance use and which one's don't. My method of research will include the distribution of a survey, during homeroom, which will assess students' perspectives of substance use. I hope that my findings will be able to contribute to the literature of research on adolescent substance use to help schools and communities better understand this problem and become aware of possible effective methods that may be employed to reduce drug use among adolescents.

During their homeroom, your child would complete a survey which will take approximately 10 minutes to complete. The surveys are completely confidential and anonymous. The only identifying information on the survey are the students' sex and grade level. If at any time you wish to withdraw consent for your child to participate, you may do so.

Thank you for taking the time to respond. You may send this back to school with your child and have them drop it off in the Guidance office. If you have any questions regarding this study, please feel free to contact me at 538-6814 or 538-3008 Monday through Friday. You may also contact Dr. Brian Barry at R.I.T. at 475-2018.

_____ Yes, I give permission for my child to participate
_____ No, I do not want my child to participate

__________________________  __________________________  ____________
Student's Name                      Parent's Signature          Date

*Please have your child return this form to the guidance office by January 30th.
APPENDIX B

DO NOT PUT YOUR NAME ANYWHERE ON THIS SURVEY

STUDENT SURVEY

This survey is for research purposes only and you will not be penalized for your responses. Please be as truthful as possible.

1. SEX (circle)  Male  Female

2. GRADE LEVEL  
   
   9  10  11  12

3A.  Please check which activities you have participated in for each grade level up to the present time.

<table>
<thead>
<tr>
<th>(I/O)</th>
<th>ACTIVITY</th>
<th>9th</th>
<th>10th</th>
<th>11th</th>
<th>12th</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No Participation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Athletics/Sports</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Government/Clubs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Music/Drama</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Social Activities (parties, dances, etc.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Other (please specify)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

B. Please indicate whether the activity you participated in is In-School (I) or Out-of-School (O) by placing the corresponding letter next to the activity under the column labeled (I/O).

C. Approximately how many hours a week do you typically spend engaged in these activities (for seasonal activities indicate the hours per week when you are participating during that season).

A. 0-3  B. 4-7  C. 8-11  D. 11+

4. Please indicate on the scale of 1 to 5 below how you would describe the level of satisfaction you obtain from participating in the activities you identified above?

Not at all satisfying  somewhat satisfying  very satisfying  extremely satisfying

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

5. What do you most enjoy doing during your free time when not in class?

A. Participating in the activities indicated above
B. Spending time with friends in social gatherings
C. Being by myself
D. Working
E. Spending time with my family
F. Other (please specify)_________________
6. Please indicate which of the following substances you have:

0 – never used
1 – experimented with or used and quit
2 – use on a monthly basis
3 – use on a weekly basis
4 – use daily

A. ____ Alcohol  D. ____ Cocaine
B. ____ Tobacco  E. ____ Hallucinogens
C. ____ Marijuana  F. ____ Amphetamines

7. Please indicate during which grades you have used any of the listed substances.

0 – before 9th grade  3 – 11th grade  6 – 12th grade
1 – 9th grade
2 – 10th grade

A. ____ Alcohol  D. ____ Cocaine
B. ____ Tobacco  E. ____ Hallucinogens
C. ____ Marijuana  F. ____ Amphetamines

8. If you reported that you have tried or currently use any of the previously listed substances what is the primary reason?

A. Boredom
B. My friends use
C. I like how it makes me feel
D. Other (please specify) ____________________

9. If you have used, where do you most frequently use?

A. Home
B. Friend’s house
C. School
D. Public/recreation areas

10. Are you employed during the school year?

A. Yes
B. No

11. If you are not employed and engage in substance use, how do you afford to do so?

12. As a student, your input is valuable. Do you have any ideas about what school can do to lessen substance use among adolescents?