Substance Abuse and Academic Performance Among University Students

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By Jackson Bunch
Best Empirical Research

Introduction

Substance use by college students has been an issue of concern in our society for many years. After making the transition from high school to college, students generally experience an entirely new, unprecedented level of freedom. They are also exposed to a wide array of new experiences and choices. These factors help to increase the risk of substance abuse among university students. Intuitively, this would lead to the concern that such behavior would result in academic failure, thereby severely limiting a student's chances of future success in life. But is there a connection between substance use and academic performance? If so, what is the nature of this correlation, and how can it be explained? In this study, I seek to answer these questions and more. Does substance use significantly affect a student's GPA? What substances are university students using, and for what reasons? I want to gain a greater understanding of the drug-using student subculture and to see how substance use and school-related obligations are incorporated into these individuals' lives. This is a pertinent course of research, since substance use among university students is relatively widespread and is currently on the rise (Johnston, O'Malley, & Bachman, 2001). It is important to understand the interaction between substance use and academic performance, since, whatever the effects may be, they will continue to become more pervasive in upcoming years.

Literature Review

Though the studies dealing with substance abuse by university students are innumerable, little research has focused on the connection between substance use and academic performance. Of those studies that do, most of the research points to a negative correlation between substance abuse and grade point average. In a study dealing only with legal substances, Musgrave-Marquart, Bromley, and Dalley (1997) found that alcohol and nicotine use were negatively related to GPA, while caffeine was not. In another study on substance abuse by

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college students that focused on demographic variables, Carlson and Davis (1988) discovered that marijuana users had lower high school grade point-averages.

Other studies, however, have shown that the connection between substance abuse and GPA might be less straightforward. Glickman, Newton-Taylor, Adlaf, and Giesbrecht (1997) conducted a study of substance use by university students in Ontario that revealed several trends. Heavy drinking was more prevalent among students with lower grades. Students with a B average were more likely to use hallucinogens than A-students.

However, C-students were less likely to use cocaine, crack, heroin, stimulants with a prescription, and barbiturates without a prescription compared to students with the highest academic average. This finding is interesting because, according to previous studies dealing with the correlation between drug use and GPA, it is unexpected. It runs contrary to our culture's taken-for-granted views concerning substance abuse and achievement.

There has also been research that demonstrates no strong connection between substance use and academic performance. Marcos, Bahr, and Johnson (1986) found that having drug-using friends was by far the strongest indicator for substance use, while attitudes toward education, though not completely unrelated to drug use, demonstrated a much lower correlation. Lo (1991) found that GPA could not be predicted by the selected variables, which involved behavior and views pertaining to drug use.

According to the Monitoring the Future Study (Johnston, O'Malley, Bachman, 2001), the most comprehensive study of trends in drug use by secondary school-aged and college-aged individuals, substance use among college students is rising. This only makes the question more pertinent: Is there a connection between drug abuse and academic achievement? If such a connection exists, then what are the implications of this rising trend of substance abuse? Is it possible to maintain high academic standards and still use substances?

Methodology

For this study, I used both quantitative and qualitative research methods: a survey, interviews, and field observations. I chose a survey as the most effective method of determining if there was a significant statistical correlation between substance use and academic achievement among university students. In order to gain more insight into the interaction of the two variables being studied, academic success and drug use, I conducted several interviews with substance-using college students. Also, I carried out field observations of students using substances so that I could gain more of an understanding of life within the drug-using student subculture.

The surveys measured three primary variables: academic performance, substance use, and substance-related academic problems. First, to determine the subject's level of academic achievement, the survey had several questions concerning the student's grade-point-average and standardized test scores. Next, there was a series of questions that measured the type, frequency, and quantity of the subject's substance use. These questions covered both legal and illicit substances: cigarettes, alcohol, nonprescription stimulants, legally prescribed medication, marijuana, cocaine, hallucinogens, MDMA, opiates, and several types of illicitly attained prescription medications. For the category of legally prescribed medication, the only types that I was concerned with were amphetamines, anti-anxiety medication, painkillers, sleeping aids, and antidepressants. With the exception of antidepressants, these medications are often used for both functional and recreational purposes, because they are fast acting and have a strong effect on an individual's mental state. There are many other prescription substances that affect one's mental state,

but they do not take effect until they have had time to build up in one's system, which usually takes several weeks to a month, so they lack the instant gratification associated with recreational drugs. I also looked at

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antidepressants, even though they do take several weeks to have an effect, because I was interested to see if antidepressants had any sort of curbing effect on an individual's other forms of substance use. In the area of illicit prescription medication, I omitted antidepressants from the list, because I was only concerned with fast-acting medication. If a college student is illegally taking prescription medication, then they are most likely looking for instant gratification, whether their motivation is functional, such as relieving stress, improving performance, or assisting sleep, or simply recreational. The final set of questions dealt with academic problems caused by substance use. A series of matrix questions gauged the level of the detrimental effect of substances on the student's academic performance. For example, students were asked questions such as, "Have you ever failed to complete an assignment or prepare for a test due to your substance use?" These questions addressed a range of potentially negative effects including absenteeism, performance on tests and assignments, and disciplinary encounters with university administration.

For the survey, my target population was all American university students, while my sampling element was the

individual student. My study population was the students attending The University of Southern Mississippi. Because I was interested in the correlation between academic performance and substance use, it was necessary for my sampling frame to include drug-abusing students. Because of this necessity and my limited resources, I rejected random sampling in favor of a snowball sample. Since, for legal reasons, substance-using students do not tend to openly flaunt their drug use, they are not easily marked; therefore, to ensure that some of the subjects in my sampling frame were indeed substance users, I used a snowball sample that started off with several substance-using students with whom I had a pre-existing relationship. I knew that these individuals used drugs, and they trusted me enough to disclose information pertaining to their substance use. I also knew that substance users tend to associate with other substance users, so my sampling frame spread from these individuals outward through their social network. Through this method, I projected that my sample would contain a sufficient number of substance users and probably several individuals who abstained from substances, as well, since drug users do not exclusively socialize with other drug users. My sampling technique produced twenty survey responses. Because my sample was not random, there are problems with trying to generalize the statistical results to the larger population, but I believe that it should provide useful insights concerning the connection between academic success and substance use among drug-using university students.

I conducted interviews with four substance-using students from The University of Southern Mississippi. Because I wanted them to disclose in-depth knowledge concerning a sensitive

topic, I selected four students with whom I already had a relationship of trust. I posed three general questions: one pertaining to the details of their substance use, one dealing with their academic performance in college, and a final question concerning the effects of their substance use on their academic performance. Through these interviews, I hoped to gain more knowledge of how academic performance and substance use actually interact with one another.

I also conducted field observations of a group of college students using substances. Again, due to the sensitive nature of the topic that I was observing, I used a group of students who already knew and trusted me. I was a participant observer. I was able to disclose my role as a researcher because these individuals were familiar with me, and it would have been virtually impossible to hide the fact that I was conducting observations in such an intimate environment. I hoped these observations would give me a better understanding of the substance-using student subculture—a subculture in which substances used in a social manner and incorporated into an individual's life.

Data and Analysis

Survey Results

Analysis of the survey results revealed several interesting trends. The respondents fell into three academic groups based on their grade-point-averages: 2.0-2.4, 2.5-2.9, and 3.0 and up. For ease of discussion, I will refer to the students with a GPA of 2.0-2.4 as Group 1, the students with a GPA of 2.5-2.9 as Group 2, and the students with the highest levels of academic achievement, a GPA of 3.0 or above, as Group 3. The findings concerning the substance use of these three groups are divided into eleven major categories: the ten substances being researched and the academic problems caused by substance use.

Cigarettes

One interesting piece of information concerning cigarette use among these groups of university students was that everyone, regardless of their GPA, was a smoker at some point. Of the students in Group 1, 100% were currently regular cigarette smokers, while 67% of the students in Group 2 were regular smokers, and 78% of the students with the highest academic performance, Group 3, currently classified themselves as smokers, though only 33% reported smoking regularly. It seems that cigarette use is not significantly correlated with GPA. Instead, the results show that cigarette smoking is common among the majority of college students. It is interesting, though, that while all of the smokers in Group 1 were regular smokers, many of the students in the upper two groups were either occasional smokers or had managed to quit smoking. This raises the question of whether students with a higher GPA possess more will power, determination, and self-discipline than those with lower grade point averages.

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This could explain not only why they perform better in school, but also how they were able to break the addiction of cigarettes, while those students in the lowest group lack the perseverance and dedication required for both tasks, and would be an important question for further research.

Alcohol

The questions concerning alcohol use revealed that all of the students surveyed used alcohol, although there were distinctions in the frequency and quantity of consumption between the different GPA groups. As academic performance increased, the frequency and magnitude of alcohol consumption tapered off. In Group 1, 100 percent of the students were daily drinkers, with the majority consuming 5-6 drinks each time they drank. While 67 percent of the students in Group 2 were daily drinkers, 33 percent only consumed alcohol on a monthly basis. The quantity also decreased from that of the lowest group, with all of the students in Group 2 drinking only 3-4 drinks each occasion. The frequency of alcohol consumption was lowest among Group 3. The majority of these students (56 percent) drank only on a weekly basis, though the actual number of drinks consumed on each occasion was somewhat higher than for Group 2, but still lower than for Group 1. Alcohol was the most universally used substance by the students surveyed. Unlike many of the other substances, the connection between alcohol and GPA corresponded not to whether a student drank or not, but to the frequency, and to a lesser degree, quantity, of consumption. A distinct correlation existed: students who drank more often and drank larger amounts tended to have lower levels of performance in school than those who did not consume large amounts of alcohol frequently.

Nonprescription Stimulants

This category covered substances such as caffeine, energy drinks, and diet pills. The highest levels of non-prescription stimulant usage were found in Group 2, where 100 percent used the substances, and frequency was evenly divided among daily, weekly, and monthly usage. Almost as many students from Group 3 used these stimulants as well (89 percent total), but the majority of Group 3 only used these substances on a weekly basis. The

lowest levels of stimulant usage, though still quite high, were found in Group 1, where 67 percent used the substances, and the users were equally divided between daily and weekly consumers.

Prescription Medication

Some individuals out of each group regularly took prescription medication, but many of those individuals were taking types of medication that I was not concerned with, for reasons covered in the methodology section. The medications taken by these students that were not applicable to this study were birth control and asthma medication. Beyond these irrelevant medications, the only students who took prescribed medication were in the highest group, Group 3. Of this group, 22 percent regularly took one or more of the following: amphetamines, sleeping aids, and antidepressants. It would be interesting to investigate further the possibility that the lower levels of other substance use by these students could be connected with the fact that they regularly take these prescribed medicines. Therefore, their high level of academic achievement could be related to the fact that they are able to use these medicines to meet some of the needs that cause others to turn to other forms of substance use, such as stress or anxiety relief, relief from depression, or aid in sleeping. While these students are able to address these needs through the use of prescription medicines, the students in the lower two groups, lacking this alternative, are forced to turn to other substances, most of which have many more detrimental effects associated with them.

Marijuana

Among the respondents, frequency of marijuana use decreased as GPA rose. All of the students in Group 1 used marijuana on a daily basis. In Group 2, the majority of students used marijuana daily (67 percent), while 33

percent never used the drug. In Group 3, 67 percent of students also used marijuana, but the overall frequency was lower than that of Group 2. Of the marijuana users in Group 3, half smoked marijuana on a daily basis, while the other half were evenly split between weekly, monthly, and yearly use.

Cocaine

All the students in Groups 1 and 2 used cocaine, while only 44 percent of the students in Group 3 used the drug.

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In Group 3, 33 percent of the students were yearly users, while 11 percent used cocaine on a monthly basis. Interestingly, though 100 percent of the students in the two lower groups used cocaine to some degree, the actual frequency of use was higher among the students of Group 2. While all of the students in Group 1 only used cocaine on a yearly basis, the students of Group 2 were evenly split between weekly, monthly, and yearly usage. This is surprising, since conventional wisdom would suggest that higher levels of cocaine use would have a detrimental effect on a student's GPA.

Hallucinogens

There was a surprisingly high level of hallucinogen use across all three groups All of the students in Groups 1 and 2 used hallucinogens, and the majority of the students in Group 3 (67 percent) did as well. There were distinctions between the frequency of use among Group 1 and Group 2, though not the kind that one would expect. Similar to the pattern of cocaine frequency in Groups 1 and 2, students in Group 1, surprisingly, used hallucinogens less often than students in

Group 2. Like all of the hallucinogen-using students in Group 3, all of the students in Group 1 used hallucinogens on a yearly basis. This contrasted with the more frequent use of hallucinogens found in Group 2, where the majority of the students used these drugs on a monthly basis (67 percent) and 33 percent used the drugs yearly.

MDMA

The results concerning the use of ecstasy (MDMA) were also contrary to expectations. It was not surprising that the lowest levels of usage were found in Group 3, with only a small percentage (11 percent) ever using the drug, and then using it only several times a year. But the level of usage of Group 2 was over twice that of Group 1 (67 percent yearly consumption versus 33 percent yearly consumption). Again, this was contradictory to expectations.

Opiates

Heroin, morphine, and Oxycontin composed the category of opiates. The pattern was similar to the findings concerning cocaine, hallucinogens, and MDMA, in that the highest levels of usage were in again in Group 2, where 33 percent of the students used opiates on a monthly basis. Also surprising was the fact that that Group 3 used opiates more frequently than Group 1: 11 percent of the students from Group 3 used opiates on a monthly basis while none of the students in Group 1 ever used any opiates.

Illicit Prescription Medication

The highest frequency of illicit prescription drug use was found in Group 1, where all of the students used illegally obtained prescription medicines. Most of these students were monthly users (67 percent), while the others used illicitly-obtained prescription medication on a yearly basis (33 percent). Each drug type was accounted for: 67 percent used anti-anxiety medications, 67 percent used

painkillers, 33 percent used amphetamines, and 33 percent used sleeping aids. In both Group 2 and Group 3, 67 percent of the students used illicit prescription medication. All of the users in Group 2 were monthly users, while those in Group 3 were somewhat more evenly divided between weekly, monthly, and yearly users. In Group 2, 67 percent used amphetamines, 67 percent used anti-anxiety pills, and 67 percent used painkillers. No one in Group 2 used sleeping aids. As in Group 1, all four types of medication were used by students in Group 3: 44 percent used amphetamines, 44 percent used anti-anxiety, 44 percent used painkillers, and 22 percent used sleeping aids.

<u>Substance-Related Academic Problems</u>

In general, the pattern of substance-related problems was as would be expected, with the severity of problems decreasing as GPA increased. The level of problems caused by substance use was determined through a series of eight questions concerning the frequency of detrimental substance-related effects on different aspects of academic performance, ranging from attendance to schoolwork and tests. The respondent would select the frequency of each problem, choosing from either Never, Sometimes, or Frequently, and the responses were scored as 0, 1, or 2 points, respectively. These responses to each of the eight questions were added together to create a composite score for each student. The higher the score, the greater the severity of the student's substance-related academic problems. Group 1 had an average score of 6. Group 2's problems were lower, with a score of 4. Finally, Group 3 had a score of 3.45.

Interviews

In the following discussion, pseudonyms have been used to refer to the individuals interviewed. These interviews revealed some interesting themes. First, alcohol has a much greater negative consequence than any other substance used, regardless of how often that other substance is consumed. And this is not simply due to the fact that the subjects lacked experience with other drugs; they had, in fact, covered the gamut of substances, excluding a few things such as crack cocaine or crystal methamphetamine. Between them, these students had used, and in most cases, currently use, every substance that was included in the survey questionnaire. Some of the subjects were aware of the fact that alcohol use had a more detrimental effect on their academic life than any other substance that they used, while others did not openly acknowledge the fact, instead revealing it through a discussion of their performance and

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their substance use. Jane clearly identified the negative effects of alcohol on her academic performance

Jane: My [first several years in college], I made a 3.9 GPA. However, this semester, I have made my first C, and possibly failed a class.

Interviewer: What has been different about this semester?

Jane: My alcohol intake has increased significantly… hangovers, staying out till four in the morning, actually being drunk when I was supposed to be in class have negatively affected my attendance.

Another interviewee, Ann, admitted that her poor performance in school was due to her failure to attend classes. Because she went out drinking at bars most evenings, Ann often slept through most of the day, rarely possessing the energy to get up for classes. The third interviewee, John, stated the following: "During my freshman year… I smoked pot all the time. But my GPA was much better when I only smoked pot. Then, my sophomore year, I basically stopped smoking pot and started drinking pretty much on a daily basis, and my GPA went straight down."

John was reluctant to admit that his current academic shortcomings, all stemming from his lack of attendance, were related to his alcohol abuse. He stated that, "I do miss classes, but that is due to me being lazy, not my drinking." Yet, John acknowledged that he still drank on a daily basis, and later confessed, "I would say that it [frequent drinking] has affected my attendance, I guess." Alcohol clearly has a severely negative effect on the academic performance of these students, primarily through failure to attend class. The lifestyle associated with frequent alcohol consumption involves staying out late drinking, which is not necessarily a characteristic of other forms of substance use and could help to explain why alcohol has such a marked effect on a student's GPA. Jane stated the following:

"I believe that pot actually helped my academic performance, due to the fact that I would consistently go to bed at a decent hour. Whereas, with my alcohol abuse, I would stay up until four in the morning, and then miss my class at eight… At the time that my [intravenous] opiate use was at its highest, four to five times a week for a period of two months, I still managed to maintain a 4.0 average. So, I don't think that it has had nearly the negative effect as alcohol. Again, like pot, I think that that is because you do it earlier in the day, and not end up staying out all night like you do when you're drinking. I could also manage to do homework on these substances, but not while I'm drunk."

It is interesting that the use of socially stigmatized substances such as heroin actually had a far less negative effect on this student's academic performance than did alcohol. Again, it seems that alcohol consumption, more than most other substances, involves very late nights, which in turn, has a very detrimental effect on class attendance, which has a very negative effect on a student's GPA.

The second major theme discovered through the interviews was the heavy use of illicitly attained prescription amphetamines in order to enhance academic performance. This was very common among the subjects, with three of them regularly taking prescription amphetamines, though none of them were actually prescribed the medication by a doctor. They felt that amphetamines were the reason that they were able to achieve high grades. Joe stated, "One of the main reasons that my grades were so horrible at [the other university] was that I did not write a single paper. I would wait until the last minute to start on it, get overwhelmed, flip out, and not do it. Now, I still wait until the last minute, but I can [obtain amphetamines from a friend who is prescribed the medication], and I have made A's on every paper that I have done at Southern, and that is solely because of ADD medicine that I take illegally."

Ann said that she took amphetamines in order to do "pretty much any school work. If I have to read anything, or write something, or study. It just helps me focus, and get the work done." Jane stated: "I started taking Ritalin in college, and my grades improved immensely, from like a 3.4 in high school to a 3.9 at Southern." When describing her Ritalin use, Jane said, "I only use it to study for tests. Unfortunately, I procrastinate, and I usually end up taking Ritalin throughout the night before a test, often up to 120

mg over the course of the day and that night. However, I never take it for recreational uses, though I did briefly at one point in high school. In fact, in high school, I only did it recreationally, but in college, I only take it for academic purposes: to study for a test, to write a paper, to do a project… I am able to concentrate for a longer period of time [while taking Ritalin]. It gives

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me a little energy boost, so that I feel motivated to do stuff. I am able to retain more information."

Amphetamines were the primary substance used by the subjects to actually increase academic performance. For them, illicit amphetamine use seems to be common and is viewed as a normal part of college life. It is interesting that even people who have not been diagnosed with Attention Deficit Disorder seem to be able to benefit from amphetamine use.

Field Observations

I observed a group of eight 19-to-23-year-old using substances in the informal setting of an acquaintance's living room around midnight on a Saturday night. These field observations exposed several interesting points. First, substance use seems to be less of a hobby and more of a way of life. Secondly, marijuana, and to a much lesser degree, alcohol, is treated communally. Also, there is evidence that substances are used by university students to relieve the stress of academic life. Finally, the drug use and the attitudes toward different drugs are both very relative, depending entirely on the drug-using subculture.

My observations revealed that these drug users do not simply use substances: they actually structure much

of their life around their substance use. Over the course of the two-hour observation, the group's conversation repeatedly returned to the topic of substance use. Substance users enjoy talking about substances, and these conversations require extensive knowledge and experience concerning substance use. Substance-using individuals devote a lot of time to procuring substances, and they possess in-depth knowledge concerning a wide array of substances. There is truly a subculture associated with substance use. There are rules, vital knowledge, and a social structure. Someone unfamiliar with the subculture I was observing would have been very disoriented had they been in the room, not having the knowledge necessary to understand many of the conversations and lacking the drug-related anecdotes to contribute to those conversations. They would have not been aware of the rules governing certain aspects of substance use (some of which will be discussed in the next point). They would have been unable to attain substances, lacking the necessary connection to the social network through which drugs are disseminated. In essence, drug users form a very particular social group, and to become participating members in that group, individuals must undergo a process of socialization in which they gain the necessary knowledge and experience.

A second point of interest that I noted during the observations is that marijuana is treated as a communal asset. It is distributed to the group through a rigid, ritualized process. Everyone who desires to smoke receives the same amount, despite the fact that, at any given point, it is often only one person's marijuana that is being smoked. The rotation process, in which the marijuana is passed around the room, is guided by specific rules, which everyone follows without being told to

do so: inhale the marijuana only once if it is in a pipe, or twice if it is rolled into a joint, and then pass to the person on the left. Through this process, the marijuana is equally distributed to everyone in the room. The owner of the marijuana receives no more than anyone else. Alcohol is treated in a somewhat similarly communal manner, but not nearly to the same degree as the marijuana. I observed beer and whiskey being freely shared among the group, but there was not the strict structure controlling the distribution of alcohol as had been observed with marijuana, where everyone actually gets the same amount. The owners of alcohol shared it quite liberally, but they did not proportionally divide it among everyone in the room.

Another phenomenon that I observed was that students use substances in order to relieve the pressures caused by school. The evening of observation was the Saturday prior to Finals Week, and many of the individuals expressed concerns over the upcoming exams. Many of the students used substances that evening to relieve the anxiety caused by the impending tests. Plans were made to go out and engage in heavy alcohol consumption after exams were finished. These individuals planned to use alcohol to relax after a strenuous week of academic pressure. Yet, they also seemed to think that heavy substance use during the actual exam period (such as on the day of an exam or the night before) would impair their performance on the finals. They were drinking and smoking marijuana that Saturday evening, two nights before the first exams, but planned to refrain from heavy substance use after that evening until exams were completed. This illustrates two points. First, many students use substances in order to relieve school-related anxiety. Second, many students also realize the negative effect that

heavy substance use can have on their academic performance. Students, therefore, seek to balance the two, using substances when they are able, and refraining from substances when they must.

Finally, the observations revealed that views concerning drug use are relative, even among drug users. Some drug-using subgroups look at certain drugs one way, while another group may possess very different views concerning the same drug and those who use it. I realized this fact when the group started discussing the drug crystal methamphetamine. One girl recounted a recent instance in which a fellow student offered her crystal meth. She couldn't restrain herself from laughing at the offer, which she refused without a second thought. The entire group was amused by the story, in a condescending way, since they were laughing at the absurdity of such an idea. And yet, on many occasions in the past, members of this group had freebased cocaine, injected morphine, eaten excessive amounts of LSD, or snorted MDMA. Despite this, they all looked down on the drug crystal meth. It is on the other side of the line, a line which seems to be in different places for different drug-using groups. The group as a whole clearly expressed a

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universal disdain for this particular substance. They possessed derogatory slang for the drug (such as "furl"), and for those who used it. They viewed crystal meth as a dirty, unsafe, lower-class drug (like crack), and dismissed

"furlheads" as "white trash."

Conclusion

The survey results revealed several interesting points. Several of these trends were expected, reflecting the idea that GPA tends to decline as substance use increases. All of the respondents had smoked cigarettes at some point, but those students with the lowest GPA were still regular smokers, which did not hold true for the other two groups. The higher a student's GPA, the more likely it was that the student had quit smoking. All the students drank alcohol. It was, in fact, the most universally used substance. But the students that drank more often and in larger amounts tended to have lower levels of academic achievement. Frequency of marijuana use decreased as GPA rose. Also worth noting is that the only students taking any of the legally- prescribed medications that I was concerned with for this study (amphetamines, antianxiety medication, painkillers, sleeping aids, and antidepressants) were those with the highest GPA. This could explain the lower levels of other types of substance use among this group, since they were not forced to seek alternatives, such as illicit substances, in order to meet their substance-related needs. Illicit prescription use was highest in Group 1, decreasing in the more academically successful groups.

Several unexpected trends also became apparent through this study. For some types of substances, usage was higher in Group 2 (mid-level GPA) than in Group 1 (lowest GPA). When compared to Group 1, Group 2 more frequently used nonprescription stimulants, cocaine, hallucinogens, MDMA (students in Group 2 were over twice as likely to use ecstasy than those in Group 1), and opiates. These results were surprising, since they contradicted the general trend of GPA decreasing as

substance use rises. Also, hallucinogen use was remarkably high. All students in Group 1 and Group 2 used hallucinogens, and the majority of the students in Group 3 (67 percent) also used these substances. And perhaps the most unexpected results involved the use of opiates. As mentioned before, opiate use was higher among Group 2 than Group 1 (33 percent as compared to 0 percent). But, surprisingly, use was actually higher in Group 3 than in Group 1. This was the only substance, besides legally prescribed medications, that was used more heavily by those with the highest GPA than those with the lowest GPA.

The interviews reinforced and extended some of the survey findings. Primarily, alcohol has the most negative effect on academic performance, regardless of what other substances an individual might take. This seems to be attributed to the lifestyle that accompanies heavy alcohol use, which involves late nights drinking at bars. This has a strong detrimental effect on attendance, which has seemed to be the central source of students' academic problems. In addition to this, I found that illicitly obtained prescription amphetamine use is very high among those students. They use this drug in order to enhance their performance, often when studying for tests or writing papers.

Finally, the field observations added a contextual understanding. My field observations suggested that substance use is not simply a form of recreation: it is a way of life. Substance-using students are firmly enmeshed in a drug-using subculture around which their lives revolve. Second, marijuana is treated as a communal resource and is distributed to the group through a structured and ritualized process. Alcohol is also freely shared, but not to the same degree as marijuana. Third, students often use substances to relieve the stress of school but also realize that

there are times when they must refrain from substance use in order to perform well in school. And finally, views concerning drug use are culturally bound, changing dramatically from one subgroup to the next.

This research raised several questions that deserve closer examination in the future. First, does the correlation between GPA and cigarette use mean that students with a high GPA possess more willpower, determination, and self-discipline than those with lower grade point averages, and this is not only why these students perform better in school, but also how they were able to break the addiction of cigarettes, while students with a low GPA lack the perseverance and dedication required for both tasks? Second, could the consistently lower levels of other forms of substance use by academically successful students be explained by the fact that they regularly take legally-prescribed medication? Is it possible that these students perform so well because they are able to use these medicines to meet some of the needs that cause other students to turn to other substances, most of which have many more detrimental effects associated with them? Third, future research could focus on comparing the detrimental academic consequences caused by alcohol use versus the academic cost of other forms of substance use. The qualitative data gained through the interviews suggested that alcohol was the most academically destructive substance. This would be interesting, considering that alcohol is one of the very few legal substances. More quantitative research could be done on the topic in order to determine whether the ideas brought up in the interviews are applicable to the larger undergraduate population, or if they only hold true for a few individuals. Finally, future studies could look more closely into the substance use trends that contradicted expectations.

Researchers could seek to explain why some types of drugs are actually used more heavily among students with higher grade point averages. What is it about these substances, or these students, that causes such a divergence from the general trend? It is important to understand the interaction between academic success and substance use, considering the trend of increasing substance use among college students.

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