

5-2015

Measuring the Level of University Student Knowledge on the U.S. Drug Policy and Harms Associated with Illicit Drug Use: A Replication Study

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Honors Thesis

For

Measuring the Level of University Student Knowledge on the U.S. Drug Policy and Harms
Associated with Illicit Drug Use: A Replication Study

Ashley Williams

Abstract

The purpose of this thesis project is to measure the level of knowledge that university students have regarding state and national illicit drug classifications in the United States and associated penalties with these classifications, as well as the harms resulting from consuming illicit drugs. This particular study, which is to be conducted as a replication study to Higson's campus-based study on the UK drug policy, focuses on a different campus population in regards to the U.S. drug policy. Replication studies such as these are beneficial to previous studies because such additional research will not only strengthen the findings and correct additional errors, but new research may also explore new limitations to the data. Through survey-based research, a 40-student sample of East Tennessee State University Students (ETSU) will be asked to complete a questionnaire testing their knowledge on illicit drug policies and their harms. Such research and collection of data is important because based on student feedback, recommendations can be made in regards to educating young adults on areas such as illicit drug classifications, sentencing penalties, and potential harms.

CONTENTS

	PAGE
Abstract.....	2
Chapter 1- Literature Review.....	4
Chapter 2- Methodology.....	6
Chapter 3- Results.....	10
Chapter 4- Discussion.....	16
Chapter 5- Conclusion.....	24
References.....	25
Appendix 1- Informed Consent.....	29
Appendix 2- Questionnaire.....	31

Chapter 1: Literature Review

The non-medical use of drugs is a world-wide issue, in spite of growing governmental and citizen efforts to hinder or stop its use (Babor, 2010, p. 3). Studies from the National Survey on Drug Use and Health (2012) revealed that in 2012, 43.6 percent of 18-to 25-year-olds reported using an illicit drug in the past month, representing the highest percentages of drug use as compared to other age populations. This study reveals that there is a much higher concentration of illicit drug use in university-level students in comparison to other age groups.

The past two decades of American history has witnessed numerous developments involving the prevention of drug abuse (Botvin, 2000, p. 39). In 2007, the President of the National Center on Addiction and Substance Abuse “called for a major shift in American attitudes about substance abuse and addiction” (Manchikanti, 2007, p. 400). However, research is mixed with attitudes on whether U.S. drug policy should try to reduce actual drug use or should instead strive to decrease the harms that drugs cause to a society (Reuter & Caulkins, 1995, p. 1059). In an attempt to curb drug use, the first U.S. Drug Court was established in 1989 and has since spanned to existence in every state. Drug Treatment Courts emerged as an acknowledgement that traditional efforts within the criminal justice system were not working to reduce illicit drug use (Hora, Schma, & Rosenthal, 1998, p. 448-449). In addition to these Drug Treatment Courts, schools have undertaken considerable efforts in the past several years to not only detect the underlying influences of drug use, but also to inhibit the use of these drugs through the establishment of intervention programs (Dusenbury, Brannigan, Falco, & Hansen, 2003, p. 237). Most commonly, these programs involve stating the dangers of drug use to students and trying to “scare kids into not using drugs” (Botvin, 2000, p. 39). Nevertheless, despite best efforts, research has shown that “poor implementation is likely to result in a loss of

program effectiveness” (Dusenbury et al., 2003, p. 253). Studies have clearly shown that methods such as using scare techniques and teaching on the dangers of drugs has been ineffective, and yet numerous schools throughout the U.S. still persist in using such programs (Botvin, 2000, p. 39).

An examination of previous literature on this topic indicates a growing concern over substance abuse and the prevalence of drugs in society despite the various policies, programs, and efforts from both governmental and private sources alike. Despite the heavy amount of literature and programs on the topic of illicit drug penalties and harms, the overall effectiveness of these and other preventative measures on drug abuse remain questionable in light of the American and worldwide drug epidemic, specifically as seen in the adolescent population (Segal, 1995; Tolbler, 1986). For these reasons, it becomes more readily apparent why the need for researching the actual knowledge and awareness of the drug policy and associated harms in the population exists.

The use of illicit drugs among young people is far from being a minor concern. As previously stated, 43.6 percent of 18-to 25-year-olds had a reported illicit drug use in the past month, with cannabis being the most commonly-used illicit substance among the population (Macleod, et. al, 2004, 1579). This age range of late teens and twenties reflects the highest percentage of drug use, as compared to age groups younger and older. Taking into account this information, it becomes even highly important to examine whether or not the current strategies that lie within some of the most major contributors to voicing the various harms and policies regarding illicit drug abuse – particularly those that stem from the political, educational, and health arenas – are useful if improvement of these strategies are necessary (Boys, et. al, 2001).

In light of these studies, the intent of this research is to question student knowledge on the many aspects of illicit drug use—how they are classified under the law, the resultant penalties from abusing these drugs, and finally the expected harms that one might expect to arise following the abuse of these drugs. It is important that the current illicit drug policies be tested for their level of awareness in the population of young people who represent the majority of these consumption offenses, thereby judging the actual effectiveness of drug policies within the United States. In comparing the students’ responses in these categories, this research will help bring to light those factors—whether government-influenced (policies), self-influenced (personal harms that may result), or both—that seem to deter students’ decisions with whether or not to take illicit drugs.

Chapter 2: Methodology

Sampling

Participants involved in this study were students currently enrolled at East Tennessee State University who fell in the age range of 18-25 years old. The reason for such a specific choice of age is because studies from the National Survey on Drug Use and Health (2012) revealed that “in 2012, the rate of current illicit drug use was higher among young adults aged 18 to 25 (21.3 percent) than among youths aged 12 to 17 (9.5 percent) and adults aged 26 or older (7.0 percent)”. Therefore, remaining within those limits will make the research more comparable to other studies. University students under the age of 18 or above the age of 25 were not included in this research, as such ages would fall outside the targeted population to be studied.

Selection of participants was based on non-probability convenience sampling, so that the researcher could explore convenient research options through selecting “the most readily available respondents, regardless of characteristics, until the required sample size has been

achieved” (Tansey, 2007, p. 16). This sampling method was used in surveying entire classrooms at a time, so that “a sample of the wider student body” (Tansey, 2007, p. 17) could be better achieved in a convenient and profitable timespan. Online surveys were not used due to the limited time frame of the research, as such online surveys occasionally yield low participation rates and inefficient data collection. For these reasons, a self-completion questionnaire was distributed to the students in their regular classroom settings, allowing for ease of data collection once the surveys were completed. Participant recruitment was accessed within the East Tennessee State University population, through researcher’s access to sufficient student classroom populations with the help of willing faculty. Professors of these classes granted the researcher fifteen minutes of class time to explain, distribute, and collect the questionnaires from students who fell in the age range of 18-25 and who consented to taking the questionnaire.

Using non-probability convenience sampling, the researcher was able to obtain 40 total participants. Of course, it is understood that in research, it is important to have a large representative sample size in order to generalize the results of the study back to the entire population (Marshall, 1996, p. 522). Due to the limited time frame of the research and availability to access entire classrooms at faculty approval, attempts to survey a larger population sample would have required a longer period of research than that which was currently allotted. Nonetheless, this research objective, which was to survey a small sample of ETSU students in an effort to better determine their level of knowledge on the given topic of drugs, was fully accomplished using the convenience sampling method.

Research Design

This study is a replication study to the research performed by Carol Higson, who surveyed a sample of forty-two students from the University of London in her work “The Extent

of Student Knowledge on the Current UK Drugs Policy, and their Perception of Harms in Illegal Drugs.” Replication studies are useful not only in establishing consistent research findings through the use of different population samples, but also in examining the findings of different countries—such as that of the United Kingdom and the United States, which this research accomplishes. For these reasons, this study was performed almost identically to that of Higson’s study performed in the UK, adhering to the idea that “a basic requirement for scientific integrity is the ability to replicate the results of research” (Burman, Reed, & Alm, 2010, p. 787).

In accordance with replication study research, the questionnaire used in this study (Appendix 2) was similar to that used in the original study. The researcher for this study gained permission from original researcher Higson to replicate a similar research in the United States using Higson’s questionnaire as a template. Changes were made to the original questionnaire only in terms of some of the illicit drugs mentioned, punishment multiple choice options, and classification terminology. Because the original questionnaire was distributed among United Kingdom students, some of the drugs listed by Higson were not yet widely recognized or posing an issue to American students, in addition to punishment terms and classifications being different from that used in the United States. For these reasons, only minor changes such as these were made to the questionnaire used in this study, such as replacing unrecognized drug names to United States students with recognized drug names, United Kingdom punishment terms with United States punishment terms, and the wording of “class” to “schedule” with regards to drug classifications in the U.S.

Research was conducted in an East Tennessee State University classroom setting and was not administered off the university grounds. Respondents were given a 28-question multiple choice questionnaire as the method of data collection and were instructed to read each question

themselves as well as answer each questions themselves. The questionnaires were handed out to students during classroom times for approximately 15 minutes' duration. Participants were informed that the nature of the study is to find out how much knowledge and understanding that they have on the United States drug classifications, federal possession penalties, and harms resulting from illicit drug use. Each survey was answered and submitted by the sole completer of the questionnaire, ensuring both limited researcher influence and a heightened level of honesty among each participant. The questionnaire was largely comprised of questions concerning student knowledge on various drug topics, with various drugs' "street names" being used in parenthesis beside the drug in question.

Ethical Considerations

Ethical considerations are a necessary element that ensures participant protection and honest research. Having a set of ethical guidelines in place can reduce harm or prevent it entirely (Eisenhauer & Wynaden, 2001, p. 93). Prior to conducting research, ethical concerns and participant involvement were carefully examined by the ETSU Institutional Review Board (IRB). To protect against unwilling or unknowledgeable participant involvement, an informed consent document (Appendix 1) was created and delivered both physically and verbally to participants prior to questionnaire distribution. Informed consent not only provides enough information about the research design so that a rational decision on whether or not to participate can be made, but also allows for voluntary involvement and the right to abandon the study at any given time (Gillespie, 1995, Minimizing Risk section, para. 5). In addition to voluntary involvement, participants' names and contact information were not asked to be provided on the questionnaire so that the questionnaires remained entirely anonymous in order to protect the identity of the participant. In research, it is fundamental that every effort be exhausted to protect

participants' privacy, as well as inform them of research goals, methodology, conflicts of interest, and potential risks involved in the research (World Medical Association, 2001, p. 374).

Medical or psychological resources were not required due to the nature of this research being a test of student knowledge on the U.S. drug policy and the potential harms of drug abuse. The questionnaire did not ask if participants had ever used drugs or knew of someone who used drugs. Participants were provided an informational sheet (Appendix 1) to keep with links to multiple resources regarding answers to the content covered in the questionnaire, as well as the researcher's contact information and a summary of the research project being performed.

Chapter 3: Results

This section is dedicated to examining the research findings obtained from the student surveys, which served as the primary research for this study. A total of 40 surveys was collected from respondents at East Tennessee State University who fell in the age range of 18-25 years old. Of the respondents, 58% were male and 42% were female. The survey responses to be studied in this chapter pertain to the appropriate class of nine different drugs, the federal minimum and maximum penalties resultant from being convicted of illegal possession, and finally the level of harmfulness that respondents believed were associated with these specific drugs.

Drug Classifications

Respondents were first asked to which class/schedule a certain drug belonged. The question was asked a total of nine times throughout the survey, with a different drug name being asked each time. Respondents were given multiple choice options which included Schedule I, Schedule II, Schedule III, Schedule IV, Schedule V, and Legal.

FIGURE 1 – Respondents answers to drug classifications; percentages taken from questions 1, 4, 7, 10, 13, 16, 19, 22 and 25.

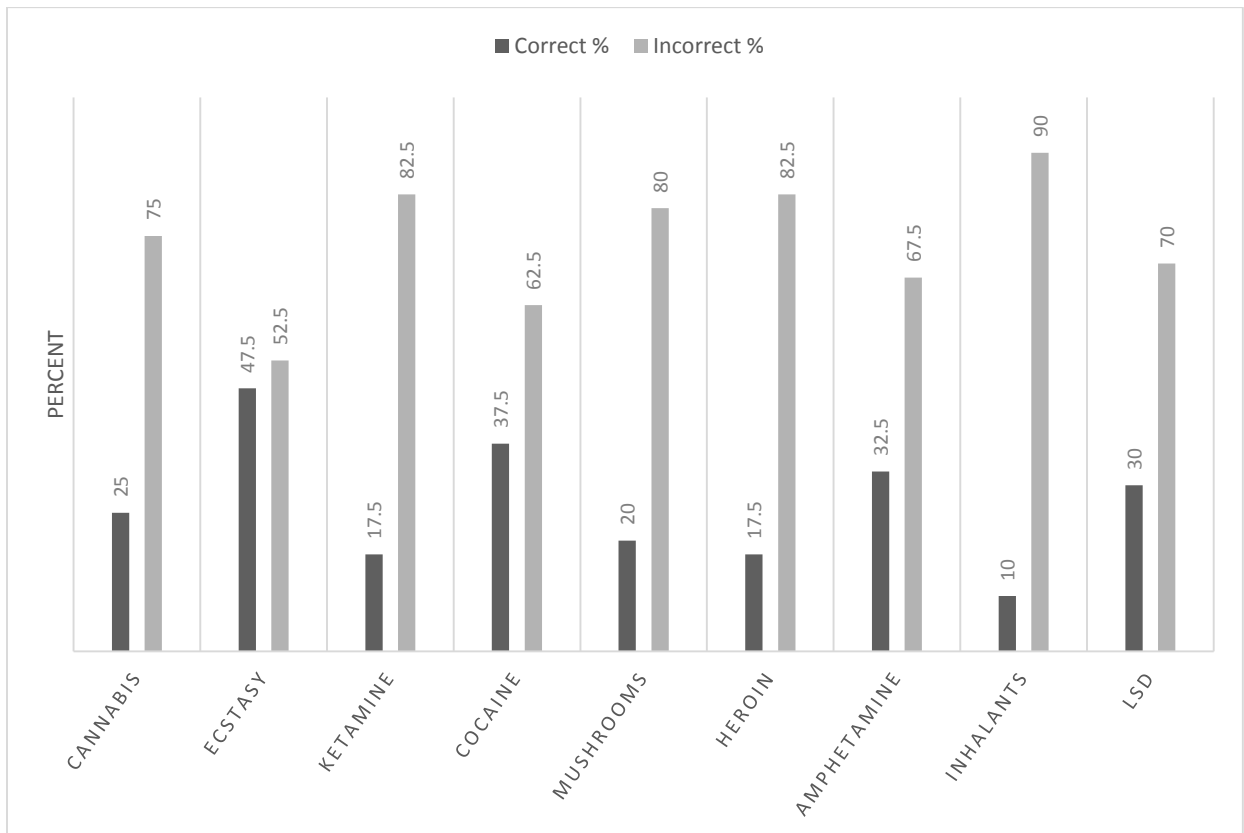
	Schedule I	Schedule II	Schedule III	Schedule IV	Schedule V	Legal	Correct Answer
1. Cannabis	47.5%	17.5%	17.5%	7.5%	10%		Schedule I
2. Ecstasy	22.5%	25%	30%	15%	7.5%		Schedule I
3. Ketamine	7.5%	20%	47.5%	12.5%	12.5%		Schedule III
4. Cocaine	25%	17.5%	12.5%	20%	25%		Schedule II
5. Mushrooms	17.5%	22.5%	25%	20%	15%		Schedule I
6. Heroin	25%	12.5%	5%	20%	37.5%		Schedule I
7. Amphetamine	27.5%	20%	12.5%	20%	17.5%	2.5%	Schedule II
8. Inhalants	22.5%	12.5%	30%	25%	7.5%	2.5%	Legal
9. LSD	25%	12.5%	30%	12.5%	20%		Schedule I

Figure 1 reveals almost half of the respondents (47.5%) chose the correct drug classification for Cannabis and Ketamine. Approximately one-third (30%) of respondents incorrectly categorized Ecstasy and LSD as a Schedule III drug—which would indicate some instances of accepted medical use and less-drug dependency—instead of its correct categorization as a Schedule I drug. Interestingly, another 30% of respondents categorized Inhalants as a Schedule III drug instead of Legal, which would be the correct answer as Inhalants are currently not classified under the Controlled Substances Act. Less than one-fifth (17.5%) of

respondents correctly chose Cocaine as being a Schedule II drug due to its high level of drug dependency, while another 25% each chose Schedule I and Schedule V. A similar response was seen for Heroin, where only one-fourth (25%) of respondents correctly labeled Heroin as a Schedule I drug, while over one-third (37.5%) of respondents incorrectly chose Schedule V as the appropriate classification. The classification for Mushrooms was split almost evenly among the Schedule classifications, revealing an obvious knowledge deficiency as only 17.5% of respondents chose the correct answer for this Schedule I drug. Amphetamine was chosen by most respondents (27.5%) to be a Schedule I drug, while 20% correctly chose Schedule II as its classification.

Federal Sentencing

FIGURE 2 – Respondents answers to federal minimum sentencing on simple possession charges; percentages taken from questions 2, 5, 8, 11, 14, 17, 20, 23 and 26.



In the series of survey questions regarding federal sentencing, respondents were asked what they considered to be the minimum federal punishment for being caught in simple possession of each of the nine different drugs mentioned. Respondents were given choices that ranged from “No federal punishment” to “Prison and a \$5,000 fine.” The correct answer for all of the nine mentioned drugs, excluding Inhalants which are currently legal and therefore have no federal punishment, was “Prison and a \$1,000 fine” (21 U.S.C. § 844).

According to Figure 2, which captures the respondents’ answers these questions, all of the categories had an incorrect majority response. Inhalants, being the only legal drug mentioned, represented the largest category (90%) of incorrect responses, with only 10% of respondents choosing the correct answer of “No federal punishment.” An overwhelming majority (82.5%) gave incorrect responses for minimum federal sentencing of Ketamine and Heroin possession. Other categories that reflect a high incorrect response rate include Mushrooms (80%), Cannabis (75%), LSD (70%), Amphetamine (67.5%), and Cocaine (62.5%). Ecstasy was almost split in terms of correct and incorrect responses, with incorrect responses still ranking slightly higher (52.5%).

With regards to the incorrect responses, which included “No federal punishment” as one of the multiple-choice options, it is interesting to note that a small percentage of respondents incorrectly labeled some of the above-listed illicit drugs as not having a federal minimum punishment associated with simple possession charges. The highest percentage represented was Cannabis (15%), which respondents believed there to be no federal minimum punishment in existence. Following in incorrect responses was Amphetamine (7.5%), Ketamine (5%), Ecstasy (2.5%) and Mushrooms (2.5%).

FIGURE 3 – Respondents answers to federal maximum sentencing on simple possession charges; percentages taken from questions 3, 6, 9, 12, 15, 18, 21, 24 and 27.

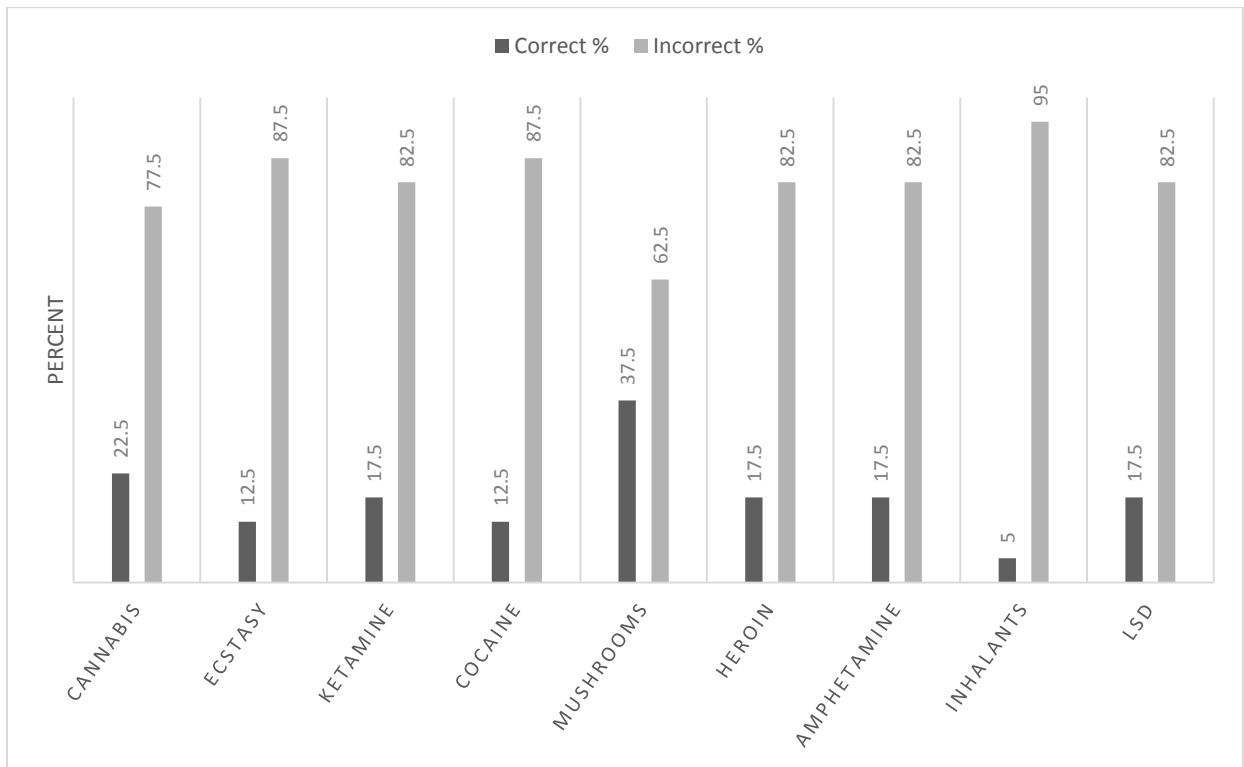


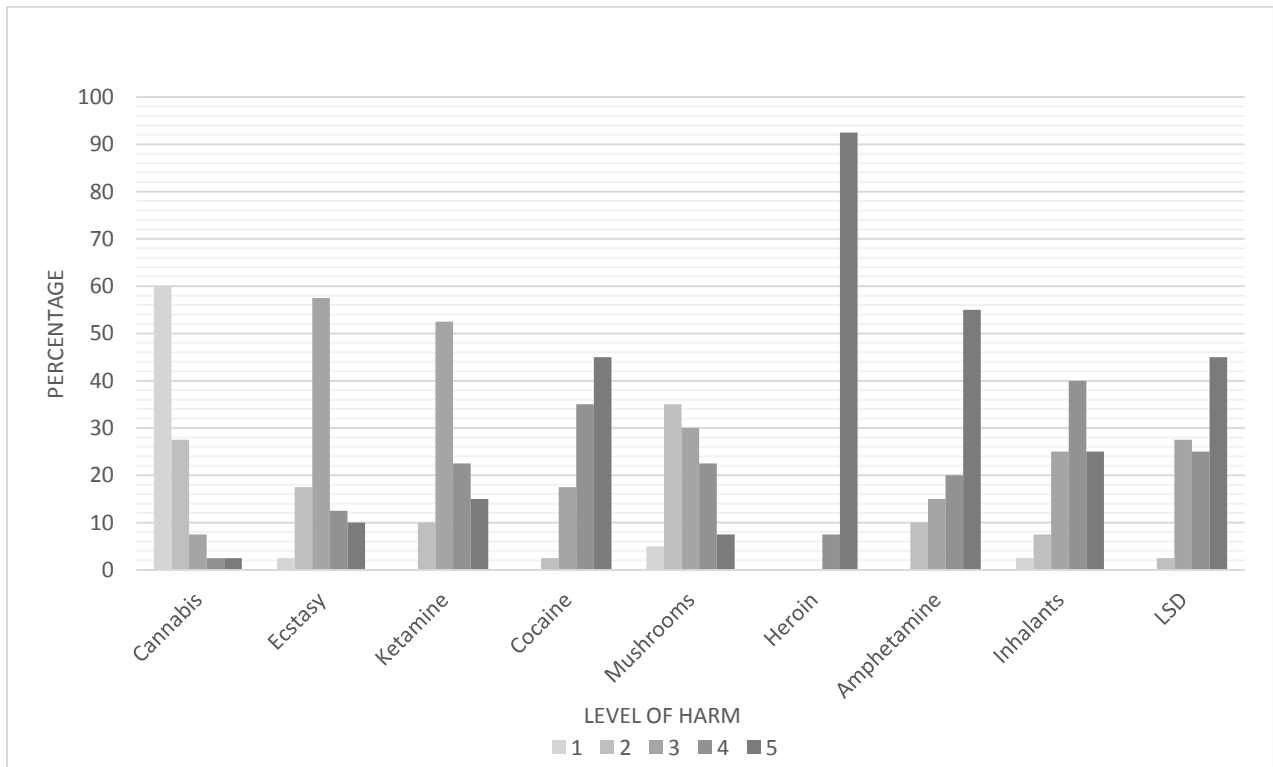
Figure 3 represents respondents’ answers to the series of survey questions regarding federal maximum penalties for being charged with simple possession at the 3rd offense level. Respondents were given choices that ranged from “No federal punishment” to “10 years prison and fine.” The correct answer for all of the nine mentioned drugs, excluding Inhalants which are not punishable federally due to their current legal status, was “3 years prison and fine” (21 U.S.C. § 844).

Similar to the responses given in Figure 2, Figure 3 reveals an overwhelming incorrect majority response in all of the nine drug categories. Inhalants, representing the only legal drug in this study, once again ranked highest in incorrect responses (95%), as only 5% of respondents correctly choose the correct answer of “No federal punishment.” Interesting, Figure 3 shows both Cocaine and Ecstasy to rank next highest in terms of incorrect response percentages (87.5%),

while in Figure 2 respondents had the highest correct response percentages in these two categories. Closely resembling Figure 2, Figure 3 reveals that (82.5%) of respondents gave incorrect responses for maximum federal sentencing of Ketamine, Heroin, Amphetamine, and LSD possession. Categories following in high incorrect response rate include Cannabis (77.5%) and Mushrooms (62.5%).

With regards to the incorrect responses, which included “No federal punishment” as a multiple-choice option, a small number of respondents incorrectly identified some of the above-listed illicit drugs as having no federal maximum punishment associated with simple possession charges at the 3rd offense level. The highest percentage of incorrect responses was Ecstasy (7.5%), in which circumstance respondents believed that no federal maximum punishment would be given. Following in incorrect responses was Cannabis (5%), Ketamine (5%), Amphetamine (2.5%) and Mushrooms (2.5%).

FIGURE 4 – Respondents answers to perceived harms; percentages from question 28.



Respondents were asked to rank each of the nine drugs by their perceived level of harmfulness, with one representing the least level of harm and five representing the greatest level of harm. Figure 4 reveals that the overwhelming majority of respondents (92.5%) believed that Heroin caused the highest level of harm. Following next in highest level of harm rankings was Amphetamine (55%), Cocaine (45%), and LSD (45%). Perceived to be the least harmful was Cannabis (60%), with only 2.5% ranking it as having the highest level of harm. Over half of the respondents believed Ecstasy (57.5%) and Ketamine (52.5%) to be a Level 3 harm, while Inhalants (40%) were believed to be a Level 4 harm. Mushrooms was labeled by 35% of respondents as a Level 2 harmful drug. Respondents for the categories of Ketamine, Cocaine, Heroin, Amphetamine, and LSD left Level 1 blank. The next chapter will discuss the implications of these survey findings.

Chapter 4: Findings Discussion

The findings from the responses given in the previous chapter will be discussed in this chapter as well as evaluated with prior research on the topic. Topics researched in this chapter will include the classifications of the nine studied drugs as well as the perceived harmfulness of these drugs. With regards to these findings, the subject of U.S. drug classifications will be discussed as such classifications are categorized according to how harmful a drug is in terms of abuse potential and severe dependency issues. Additionally, this chapter will examine respondents' answers in the categories of federal sentencing guidelines and perceived harmfulness in an effort to find any correlation, or lack thereof, between the level of knowledge of these two issues. Finally, the implications of such findings will be discussed. A knowledge deficiency as evidenced in the responses could indicate a greater need for United States drug

policies and drug abuse harms to be taught more prevalently in classrooms or other areas of education, as previous research has shown, which will also be noted in this chapter.

Drug Classifications

In the questionnaire, participants were asked to classify each of the nine different drugs used in this study. The multiple choice options given were Schedule I, Schedule II, Schedule III, Schedule IV, Schedule V, and Legal. The results from these nine questions revealed a clear lack of knowledge for a majority of the drugs studied. Cannabis was correctly classified as a Schedule I drug by only 47.5% of respondents, as was Ketamine as a Schedule III drug. With the more recent media attention on Cannabis and its legalized status and medically-accepted usage in some states, knowing how to classify the drug on a federal level may have proved difficult for some students, accounting for under half of the surveyed population choosing the correct categorization. Furthermore, considering these state stances on accepted Cannabis use, it may be seem bizarre for participants to think of placing Cannabis “in a graver category than cocaine and on a par with heroin” (Blumenson & Nilsen, 2009, p. 2). Such a finding on split student responses could very well illustrate confusion over differing state and federal laws, as well as a variety of differing medical marijuana legislation that is continually evolving (Pacula, Chriqui, Reichmann & Terry-McElrath, 2002, p. 1). As some state laws allow for medicinal use of cannabis, these laws could very well be creating a new mindset that cannabis is a less wicked or dangerous drug and more socially-accepted than federal laws would have the population believe (Mikos, 2009, p. 1424).

One-fourth (25%) of respondents correctly identified Heroin and LSD and a Schedule I drug. Interestingly for Heroin, more respondents (37.5%) chose Schedule V as their answer. A possible reasoning for this majority error could be that participants incorrectly assumed that Schedule V referred to the classification of drugs belonging to the Schedule I category, where drugs have a high abuse potential and no appropriate medicinal use in the United States (21

U.S.C. § 812). The alternative reasoning, on the other hand, would be that participants believed Heroin to actually fall into the Schedule V classification. Such a rationale seems difficult to believe, however, as Heroin has been labeled by some as the “worst drug in the world” and one that is believed by many to lead to “intractable, lifelong addiction” (Robins, Compton, & Horton, 2000, p. 530). Nevertheless, the data clearly reveals that with regards to Heroin, a majority of participants either lacked in knowledge of the Federal Drug Scheduling chart, the abuse potential and lack of accepted medical use of the drug, or both. LSD was almost evenly split in majority responses as being a Schedule I drug (25%), Schedule III drug (30%) or Schedule V drug (20%). As previously stated, the correct classification for LSD is a Schedule I drug. Similar to the uncertainty of the answers pertaining to Heroin, participants appear to have less knowledge regarding how LSD is classified federally, with answers belonging in both extreme categories as well as in the middle. Again, a potential reasoning for such responses could be due to students’ inability to correctly identify how abuse potential and approved medical uses were ranked in the Federal Drug Scheduling chart, such as if a student incorrectly believed Schedule V to represent the Schedule I category. Another possible reason would be that LSD was considered to be a moderate or acceptable drug, depending on participants who placed LSD into Schedule III or Schedule V. In examining the level of perceived safety among certain drugs, LSD has been ranked in the same category of alcohol and prescriptions as being relatively safe, while higher risk was designated to drugs such as heroin and cocaine (Gamma, Jerome, Liechti, & Sumnall, 2005, p. 188). In reality, however, LSD falls into the same federal classification of Heroin as a Schedule I drug. From these findings, it can be assumed that the knowledge surrounding LSD is either lacking with regard to the federal scheduling of this drug or with regard to its high abuse potential.

Approximately one-fifth of respondents gave the correct answer for Ecstasy (22.5%), Amphetamine (20%), Cocaine (17.5%), and Mushrooms (17.5%). Ecstasy and Mushrooms, both being Schedule I drugs, were selected by the majority of respondents in both cases to be a Schedule III drug. Such results indicate that more respondents assumed Ecstasy and Mushrooms to be less dangerous and not as addicting as these drugs actually are. In light of recent research which states that ecstasy is often thought of as a harmless recreational drug choice (Williams, Meagher, & Galligan, 1993, p. 44), it can be assumed that respondents answered this way out of the belief that such drugs are merely recreational and therefore less-harmful. For cocaine, a majority of respondents incorrectly placed cocaine as a Schedule I drug (25%) or a Schedule V drug (25%), when the correct response was a Schedule II drug. With 25% of respondents placing Cocaine as a Schedule V drug, it may be assumed that these participants incorrectly believed the arrangement of the Federal Drug Scheduling chart to be reversed (with Schedule I harms belonging to the category of Schedule V, and vice versa), as opposed to this drug actually belonging to the Schedule V category where the abuse potential is much lower and the potential for medical usage exists (21 U.S.C. § 812). However, in light of the fact that addiction caused by cocaine is widely recognized as harmful (Goodger, Wang, & Pogrel, 2005, p. 333), it is also true that cocaine's widespread abuse stems from its "reputation as a relatively safe recreational drug" (Washton & Tatarsky, 1984, p. 252). Knowing this, it becomes difficult to determine if Cocaine was believed by one-fourth of respondents to actually be a non-dangerous drug or if respondents lacked correct knowledge of the Federal classifications. In the case of Amphetamine, more respondents (27.5%) chose Schedule I to be the correct classification, while the correct answer was Schedule II. Interestingly, 2.5% of respondents believed Amphetamines to be legal on the federal level. Evidently, a lack of awareness of the harms and abuse likelihood is not as well-

known as it should be, as less than half (47.5%) of respondents placed Amphetamines into the higher scheduling classifications.

Sentencing and Harms

Next in the survey, participants were questioned in their knowledge of federal minimum and maximum sentencing guidelines with regard to possession charges of the drugs listed in this study. Incorrect responses were far more common than correct responses, as seen in Figures 2 and 3 from the previous chapter. The drug with the highest incorrect response rate in both categories of minimum and maximum sentencing was Inhalants. Because Inhalants were the only legal drug listed in the survey, it is likely that participants were unaware of its federally-legalized status and therefore chose an answer related to punishment. With regards to the minimum sentencing responses, the highest correct response rate (47.5%) was Ecstasy, while the highest correct response rate (37.5%) in the maximum sentencing responses was Mushrooms. Nevertheless, correct responses in these two categories are represented by less than half of respondents' answers. In terms of average correct responses, minimum sentencing responses had an average correct response of 26.4% while maximum sentencing responses had an average correct response of 17.8%. From these findings, it can be presumed that federal sentencing standards are not well-known, at least in the case of the student population observed in this study. Such results may point to a lack of education regarding federal drug sentencing guidelines, either due to institutions' failure to teach on the subject or lack of informing oneself on federal law.

The legal consequences of drug abuse is important to young people because it can negatively influence their social status (Hemmelstein, 1995). Therefore, it is understood that a personal motivation to inform oneself of the potential federal consequences that result from drug

possession should at least influence some level of knowledge regarding the subject. Conversely, this may only be true of actual drug users themselves, as the risk of federal punishment might not be as substantial to non-user populations. Before discussing the findings of the sentencing questions further, it is important to note how respondents classified these drugs in terms of perceived harm. Such findings offer better insight into the correlation between believed harms and risk of punishment.

The last section of the survey asked participants to identify they believed these drugs ranked in terms of least harmful to most harmful. The most frequently observed high-risk drug (Level 5) in Figure 4 was Heroin (92.5%), followed by Amphetamine (55%), Cocaine (45%), and LSD (45%). Only Inhalants were chose by a majority of respondents (40%) to belong to the next-highest harm category (Level 4). Drugs ranking highest in the moderate-risk category (Level 3) were Ecstasy (57.5%) and Ketamine (52.5%). The only drug considered to be a relatively-low harm (Level 2) by the majority of respondents was Mushrooms (35%), while Cannabis was the only drug to reach majority response (60%) in the lowest-harm category (Level 1).

While illicit drugs obviously carry some form of harm, not all of these drugs carry the same stigmatizations (Ahern, Stuber, & Galea, 2007, p. 188). Some of these drugs which carry the higher stigmas are heroin, cocaine, and hallucinogens such as LSD (Harrel, Kapsak, Cisin, & Wirtz, 1997, p. 49). Such stigmatizations may lead the general public to believe that these drugs carry a greater risk of harm, whether or not these individuals have experienced the harms of these drugs personally. Cannabis, on the other hand, which was perceived to be in the lowest-harm drug category, was first legalized for medical purposes in 1996 (Cerdá, Wall, Keyes, Galea, & Hasin, 2012, p. 23) and has now reached medical legalization status in 23 states and the

District of Columbia. State laws such as these can foster the acceptability of marijuana use in society and minimize the drug's perceived harms (Lynne-Landsman, Livingston, & Wagenaar, 2013, p. 1500). Such recent changes to legislation concerning Cannabis, therefore, causes the stigmatization for Cannabis to be much lower, despite the fact that many studies still point to the belief that Cannabis is a gateway drug to other illicit drugs (Hall & Lynskey, 2005, p. 41). For these reasons, stigmatization itself can be a type of knowledge base for non-drug users to reference when confronted with ranking the levels of harm of certain drugs, as performed in this study. Without further research into the matter, it cannot be stated conclusively whether participants in this study based their answers off of personal knowledge—either through themselves or someone they knew—or if answers were based off of certain stigmatizations, and lack thereof, of certain drugs.

While a drug's level of harm in terms of severe physical and psychological dependence certainly influences how a certain type of drug is classified under the Federal Drug Scheduling chart, harmfulness is not the only factor. It is important to note that a variety of charts exist which attempt to rate drugs in terms of their harmfulness, with Heroin most often listed as the most harmful drug. While charts such as these are certainly useful in studying the categorical harmfulness of drugs, often these charts factor in 'harm to oneself' and 'harm to others' together to create a ranking. To combine these two separate types of harms, however, regularly leads to a flawed analysis (Caulkins, Reuter, & Coulson, 2011, p. 1886). Nevertheless, this idea of classifying drugs in rank-order based on their possibility of harm is important, because "such rankings could form the basis of differential control policies, reflecting...the relative magnitudes of the problems posed by different types of drugs" (Kalant, 1999, p. 26). Such calculations of

drug risks could help both to influence drug-related policies and to further public education on the issue, thereby decreasing future harms caused by drugs (Rolles & Measham, 2011, p. 243).

Taking into consideration this present study's responses to harms, a reexamination of participants' responses to sentencing reveals some correlating trends. As research suggests, stigmatization towards certain drugs can more easily occur when one's behavior and physical appearance worsens as a result of drug use, as opposed to those who use so-called 'recreational' drugs (Parker, Williams, & Aldridge, 2002, p. 943). Not surprisingly, the drugs which were viewed as causing the highest level of harm in this study were also presumed to have the highest federal punishments, while drugs which were viewed as having the lowest level of harm were presumed to have either no federal punishment or the lowest level of punishment. Heroin, which ranked highest in harmfulness, was presumed by 65% of respondents as having the highest maximum punishment (10 years and a fine). A similar outcome was seen with the drugs Cocaine and LSD, both of which ranked high in level of harm and were believed by the majority of respondents (52.5% and 42.5% respectively) to receive the highest maximum punishment. Interestingly, as already discussed in the previous chapter, the correct answer for each of the illicit drugs mentioned with regards to federal maximum penalties is 3 years in prison and a fine, although multiple choice options ranged from "no federal punishment" to "10 years and a fine." On the contrary, Cannabis, which ranked lowest in harmfulness, was believed by 62.5% of respondents to carry either no federal punishment or the lowest possible sentence (\$1,000 fine). Likewise, Mushrooms carried the next-lowest perception of harm and similarly was chosen to 50% of respondents to carry no federal punishment or the lowest possible sentence. The correct answer for minimum federal charges regarding these illicit drugs is "prison and \$1,000 fine." From these responses, a correlation can be observed between participants' perception of harm

and potential federal punishment charges. Drugs believed to be most harmful were given stricter sentencing, while drugs believed to be least harmful were given the more lenient sentences (see Figure 2, 3, and 4).

Chapter 5: Conclusion

Findings from the previous chapter points to the need for increased public education concerning drug laws and harms. More specifically, with the university-age population representing the highest percentage of illicit drug users, it could be theorized that a greater opportunity exists for improved drug education at the university level. Although recently there have been increased federal policies and strong funding through the US Department of Education to enhance the effectiveness of substance prevention strategies (Hallfors & Godette, 2002, p. 461), widespread-promoted curricula is still largely being used by schools despite these program materials either being inadequately evaluated or being found unsuccessful in terms of actually decreasing drug abuse (Rohrbach et al., 1996; Tobler & Stratton, 1997; Swisher, 2000). Primarily, this is caused by the false assumption that because a program is widely-accepted, it must also be deemed effective. However, the ineffectiveness of these and other popular drug education programs such as D.A.R.E validates the need to “return to the drawing board” in order to reevaluate current policies and trends regarding substance abuse prevention (Rosenbaum & Hanson, 1998).

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21 U.S.C. § 812

21 U.S.C. § 844

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APPENDIX 1

Informed Consent

Title: Measuring the Level of University Student Knowledge on the U.S. Drug Policy and Harms Associated with Illicit Drug Use: A Replication Study

East Tennessee State University

My name is Ashley Williams. I am a senior conducting questionnaires for my undergraduate thesis research project. The aim of this research is to examine the understanding and knowledge that aged 18- 25 year old students have on the U.S. drugs policy.

You are being asked to complete this voluntary questionnaire, lasting approximately 5-10 minutes. There will be a series of questions asking the possible sentences for drug possession and your view on harmful drugs. This questionnaire is completely anonymous; it will not ask you for your name, address, or email address. You will not be asked about any personal drug use. You have the right to withdraw at any time without having to give reason.

Thank you for taking the time and agreeing to complete this questionnaire. By completing this questionnaire you are confirming your consent to take part in this study.

The aims of the research are to:

1. Measure participants' factual knowledge of the U.S. drugs policy.
2. Measure which drugs participants think are the most harmful to the user.
3. Measure the participants understanding of criminal procedures associated with drug possession in the U.S.
4. Assess the extent to which 18-25 year olds understand U.S. drug policy.

Note:

- You must be at least 18 years old and no older than 25 to take part in this survey.
- This survey will be used as research
- Taking part in this survey is voluntary
- If you choose to take part in this study, you will be asked to complete this survey to be used in research involving student knowledge on the U.S. drug policy and harms associated with using illicit drugs.
- Your survey responses will remain anonymous and no identifying personal factors will be used.
- You do not have to answer any question that makes you feel uncomfortable or relates to matters that you do not wish to talk about.
- You have the right to withdraw from the interview at any time without disadvantage to yourself and without being obliged to give any reason. If you find you would like to withdraw from the study after the questionnaire has been completed, please notify the Primary Investigator prior to turning in your survey and your survey will not be included in the research and discarded.
- By choosing to take part in this survey, you consent for your answers to be used anonymously in this research.
- Contact info for the Primary Investigator:
 - Phone: (423) 291-2780

- Email: williamsae2@goldmail.etsu.edu

Links to additional information:

Federal Drug Penalties: <http://www.bu.edu/safety/alcohol-drugs/laws/>

Federal Drug Schedule Classifications <http://www.drugabuse.gov/drugs-abuse/commonly-abused-drugs-charts/commonly-abused-drugs-chart>

APPENDIX 2

Please answer all of the following questions:

Your details:

Age: _____ **Gender:** Male Female.

Where are you originally from? : _____

What course are you studying? _____

1. What class/schedule is cannabis ('weed', 'pot')?
 - a) Schedule I
 - b) Schedule II
 - c) Schedule III
 - d) Schedule IV
 - e) Schedule V
 - f) Legal

2. What is the federal minimum penalty for being caught in simple possession (1st offense) of cannabis?
 - a) \$1,000 fine
 - b) Prison and \$5,000 fine
 - c) Prison and \$1,000 fine
 - d) \$5,000 fine
 - e) No federal punishment

3. What is the federal maximum penalty for being caught in simple possession (3rd offense, no aggravating circumstances) of cannabis?
 - a) 5 years prison and fine
 - b) 10 years prison and fine
 - c) 1 years prison and fine
 - d) 3 years prison and fine
 - e) No federal punishment

4. What class/schedule is ecstasy ('MDMA')?
 - a) Schedule I
 - b) Schedule II
 - c) Schedule III
 - d) Schedule IV
 - e) Schedule V
 - f) Legal

5. 2. What is the federal minimum penalty for being caught in simple possession (1st offense) of ecstasy?
- a) Prison and \$5,000 fine
 - b) \$1,000 fine
 - c) Prison and \$1,000 fine
 - d) \$5,000 fine
 - e) No federal punishment
6. What is the federal maximum penalty for being caught in simple possession (3rd offense, no aggravating circumstances) of ecstasy?
- a) 3 years prison and fine
 - b) 5 years prison and fine
 - c) 1 year prison and fine
 - d) 10 years prison
 - e) No federal punishment
7. What class is Ketamine ('K', 'kit-kat')?
- a) Schedule I
 - b) Schedule II
 - c) Schedule III
 - d) Schedule IV
 - e) Schedule V
 - f) Legal
8. 2. What is the federal minimum penalty for being caught in simple possession (1st offense) of Ketamine?
- a) Prison and \$5,000 fine
 - b) \$5,000 fine
 - c) \$1,000 fine
 - d) Prison and \$1,000 fine
 - e) No federal punishment
9. What is the federal maximum penalty for being caught in simple possession (3rd offense, no aggravating circumstances) of Ketamine?
- a) 1 year prison and fine
 - b) 10 years prison and fine
 - c) 3 years prison and fine
 - d) 5 years prison and fine
 - e) No federal punishment
10. What class is Cocaine ('candy', 'powder')?
- a) Schedule I
 - b) Schedule II
 - c) Schedule III

- d) Schedule IV
- e) Schedule V
- f) Legal

11. 2. What is the federal minimum penalty for being caught in simple possession (1st offense) of Cocaine?

- a) Prison and \$5,000 fine
- b) Prison and \$1,000 fine
- c) \$1,000 fine
- d) \$5,000 fine
- e) No federal punishment

12. What is the federal maximum penalty for being caught in simple possession (3rd offense, no aggravating circumstances) of Cocaine?

- a) 3 years prison and fine
- b) 5 years prison and fine
- c) 1 years prison and fine
- d) 10 years prison and fine
- e) No federal punishment

13. What class are Mushrooms ('shrooms', 'magic mushrooms')?

- a) Schedule I
- b) Schedule II
- c) Schedule III
- d) Schedule IV
- e) Schedule V
- f) Legal

14. 2. What is the federal minimum penalty for being caught in simple possession (1st offense) of Mushrooms?

- a) Prison and \$5,000 fine
- b) \$1,000 fine
- c) Prison and \$1,000 fine
- d) \$5,000 fine
- e) No federal punishment

15. What is the federal maximum penalty for being caught in simple possession (3rd offense, no aggravating circumstances) of Mushrooms?

- a) 5 years prison and fine
- b) 3 years prison and fine
- c) 10 years prison and fine
- d) 1 year prison and fine
- e) No federal punishment

16. What class is heroin ('dope', 'smack')?
- a) Schedule I
 - b) Schedule II
 - c) Schedule III
 - d) Schedule IV
 - e) Schedule V
 - f) Legal
17. 2. What is the federal minimum penalty for being caught in simple possession (1st offense) of heroin?
- a) \$1,000 fine
 - b) Prison and \$5,000 fine
 - c) \$5,000 fine
 - d) Prison and \$1,000 fine
 - e) No federal punishment
18. What is the federal maximum penalty for being caught in simple possession (3rd offense, no aggravating circumstances) of heroin?
- a) 3 years prison and fine
 - b) 10 years prison and fine
 - c) 1 year prison and fine
 - d) 5 years prison and fine
 - e) No federal punishment
19. What class is Amphetamine ('speed', 'uppers')?
- a) Schedule I
 - b) Schedule II
 - c) Schedule III
 - d) Schedule IV
 - e) Schedule V
 - f) Legal
20. 2. What is the federal minimum penalty for being caught in simple possession (1st offense) of Amphetamine?
- a) Prison and \$5,000 fine
 - b) Prison and \$1,000 fine
 - c) \$1,000 fine
 - d) \$5,000 fine
 - e) No federal punishment
21. What is the federal maximum penalty for being caught in simple possession (3rd offense, no aggravating circumstances) of Amphetamine?
- a) 10 years prison and fine
 - b) 5 years prison and fine

- c) 1 year prison and fine
 - d) 3 years prison and fine
 - e) No federal punishment
22. What class/schedule is Inhalants ('poppers', 'snappers')?
- a) Schedule I
 - b) Schedule II
 - c) Schedule III
 - d) Schedule IV
 - e) Schedule V
 - f) Legal
23. 2. What is the federal minimum penalty for being caught in simple possession (1st offense) of Inhalants?
- a) \$1,000 fine
 - b) Prison and \$5,000 fine
 - c) Prison and \$1,000 fine
 - d) \$5,000 fine
 - e) No federal punishment
24. What is the federal maximum penalty for being caught in simple possession (3rd offense, no aggravating circumstances) of Inhalants?
- a) 5 years prison and fine
 - b) 10 years prison and fine
 - c) 1 years prison and fine
 - d) 3 years prison and fine
 - e) No federal punishment
25. What class/schedule is LSD ('acid')?
- a) Schedule I
 - b) Schedule II
 - c) Schedule III
 - d) Schedule IV
 - e) Schedule V
 - f) Legal
26. 2. What is the federal minimum penalty for being caught in simple possession (1st offense) of LSD?
- a) \$5,000 fine
 - b) Prison and \$1,000 fine
 - c) Prison and \$5,000 fine
 - d) \$1,000 fine
 - e) No federal punishment

27. What is the federal maximum penalty for being caught in simple possession (3rd offense, no aggravating circumstances) of LSD?

- a) 1 year prison and fine
- b) 10 years prison and fine
- c) 5 years prison and fine
- d) 3 years prison and fine
- e) No federal punishment

28. What drug do you think is the most 'harmful' (physically, psychologically, and socially harms) to a person?

(Please circle the number which you think suits best; 1 being the least harmful and 5 being the most harmful)

- a) Cannabis 1 2 3 4 5
- b) Ecstasy 1 2 3 4 5
- c) Ketamine 1 2 3 4 5
- d) Cocaine 1 2 3 4 5
- e) Mushrooms 1 2 3 4 5
- f) Heroin 1 2 3 4 5
- g) Amphetamine 1 2 3 4 5
- h) Inhalants 1 2 3 4 5
- i) LSD 1 2 3 4 5

If you could not answer any of the questions or have any feedback on this questionnaire, please feel free to write below.

Federal Drug Penalties: <http://www.bu.edu/safety/alcohol-drugs/laws/>

Federal Drug Schedule Classifications <http://www.drugabuse.gov/drugs-abuse/commonly-abused-drugs-charts/commonly-abused-drugs-chart>