Substance Use Patterns of Performing Artists:

A Preliminary Study

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This thesis titled

Substance Use Patterns of Performing Artists:

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Abstract

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Substance Use Patterns of Performing Artists: A Preliminary Study

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Context: Substance use patterns include the use, abuse, and dependence of drugs and alcohol. The quantification of substance use patterns of performing artists has been left mostly to anecdotal evidence and autobiographies. As this topic has been explored in sport since the 1920s or earlier, performing artists have developed a culture of performance without the same rules and regulations to which athletes must adhere. **Objective:** To quantify the substance use patterns of use and abuse in the performing artist population. Additional information concerning injury and performance were collected in relation to substance use patterns. Setting: Online via a web-based survey using Qualtrics[™]. **Participants:** Dancers, musicians, and acting undergraduate and graduate students over the age of 18 attending a mid-sized midwestern university. **Intervention:** Approximately 411 participants were recruited via email by their department heads to voluntarily participate. The survey included demographic questions, two pre-validated surveys that screened for alcoholism and drug abuse, and a series of original questions concerning their substance use patterns. Main Outcome Measures: Description of the prevalence of substance use and abuse patterns in collegiate performing artists in a mid-sized midwestern university.

Dedication

"Let us read, and let us dance; these two amusements will never do any harm to the world." -Voltaire, 1785

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Chapter 1: Introduction

The topic of substance use and abuse involves a complex cultural, biological, and political history in the United States.¹ Psychoactive drugs, those that act on the central nervous system to produce certain changes, are stigmatized and idolized dependent on the context. Films such as *Animal House* and *Fear and Loathing in Las Vegas* paint an experimental and acceptable picture of binge drinking and illicit drug use. On the contrary, using psychoactive substances to gain a competitive edge is typically banned in professional sport and is reproached in other competitive venues.^{2,3}

Over decades, psychoactive drugs have evolved through developments in organic chemistry.¹ Simultaneously, many of these addictive substances have caused conflict for individuals, societies, and government.¹ Between the temperance movement in the early 1800s, Prohibition, and historical ethnic discrimination, alcohol and other psychoactive substances are regulated, controlled, or forbidden in the United States.⁴ However, despite public health warnings of binge drinking, the health risks of cigarettes, and a zero-tolerance policy of illicit drug use, Americans continue to use these substances recreationally.

There are a myriad of motivations to partake in the use of psychoactive substances including sociorecreational, self-medication, or performance-enhancement reasons.⁵ The relationship between people and psychotropic drugs can be distinguished into three categories: use, abuse, and dependence. Dependence includes addiction, substance use disorders, or dependence syndrome. Each drug can be categorized into types, such as opioids, hallucinogens, and stimulants, and are further classified into the

US Drug Enforcement Administration's (DEA) Schedule of Drugs (I-V).⁶ As an example, with it's kaleidoscopic experience, Mescaline is a hallucinogen drug similar to LSD which the DEA categorized as a schedule I drug in the 1970s.⁶

Societal Standards of Drug Use

There is an ethical distinction between substance use research of athletes and performing artists. Similar to athletes, performing artists' careers rely, on the use of the body and at a professional level, may be considered role models. With possible roots in social mores, what is considered acceptable or unacceptable appears grey between the two populations.⁷ Artistic license and creative personalities are often stigmatized as deviant and therefore held to more liberal standards of conduct.⁷ Alternatively, organizational restrictions are prominent in athletics; for example, American collegiate athletes are bound by the National Collegiate Athletic Association's banned substances list.^{2,8,9}

When competing in professional or collegiate athletics, use of a banned substance is known as doping. In the performing arts, this term is unclear as there are no banned substances. As beta-blockers steady the trembling hands of nervous musicians, certain opinions suggest that the use of beta-blockers in musicians is a performance-enhancing drug and therefore ethically questionable.¹⁰ Furthermore, if performance enhancement is equivalent to a competitive edge, then cigarette smoking as an appetite suppressant to achieve the ectomorph physique in dance may be skewed as such.¹¹

Substance Use Research

In a review of previous literature on performing artists' substance use patterns, slightly less than three decades of research was found. To note, a single study investigated actors and another study investigated performing artists within a collegiate setting. Previous researchers were rightfully concerned with alcohol, cigarettes, and marijuana, because these are especially prevalent substances. Most other illicit substances were typically grouped in a "street drugs" or "illicit drugs" category.

Because much of the previous literature comes from various countries, comparisons must take into account cultural differences surrounding substance use. For each study, cultural, religious, and geographical influences should be considered. For example, Croatian professional dancers reported a higher prevalence of smoking than American dancers.^{12,13} This may be a reflection of cultural norms and not a true representation of dancers.

In comparison, the prevalence of these substances used by American citizens are measured annually or biannually by various government and private organizations. For example, data from the National Survey on Drug Use and Health (NSDUH) in 2012 tell us that current substance use by young Americans varies greatly depending on the substance; findings include the prevalence of alcohol use (60.2%), cigarette use (31.9%), marijuana use (18.5%), pain reliever use (3.7%), and hallucinogen use (1.7%) in the American population.¹⁴ Other organizations such as the National Collegiate Athletic Association (NCAA) and the University of Michigan monitor certain groups as well and are reputable sources for comparison.^{15,16}

Statement of the Problem

To address the disparity between substance use research in athletics and the performing arts we have created an instrument and collected data from collegiate performing artists to explore their substance use patterns. The prevalence of 13 substance categories was assessed. Additional questions regarding time of use were asked of the three substances expected to be most prevalent: alcohol, cigarettes, and marijuana. This information is compared to other populations such as Americans, college students, and collegiate athletes. Moreover, because performance and injury can be substantial stressors of performing artists, additional questions regarding performance and injury were asked.

To emphasize, the prevalence of substance use or abuse in all three groups, dancers, musicians, and actors, is unclear. There is substantially more research of dancers and musicians; however, the rate at which specific substances used remains unknown. Furthermore, university performing artists are an underrepresented population in health research, possibly because the arts are not perceived as physically demanding or highly grossing monetarily compared to collegiate athletics.

Purpose of the Study

The purpose of this study was to refine our survey and collect information on the substance use and abuse patterns of collegiate performing artists. An online survey was chosen to protect the identity of participants as well as increase response rate. The survey itself underwent review by three content experts and a selection of several collegiate performing artists.

Additionally, our purpose was to place university performing artists' substance use patterns in context. For theater actors, this was the first investigation of its kind to represent American actors. For musicians and dancers, this information was compared to previous reported trends. All three groups were compared to previous published literature regarding substance use patterns of Americans, college students, and collegiate athletes. As an initial project, we aimed to gain insight into collegiate performing artists' substance use patterns and to refine the survey tool further.

Research Questions

- 1. What are the current substance use and abuse patterns of collegiate performance artists?
- 2. How does the performing artist population compare to the general American population, college students, and college athletes?
- **3.** To what extent do performing artists use substances during rehearsal and performance periods?
- **4.** To what extent do performing artists sustain injuries while intoxicated or under the influence of psychoactive substances?

Delimitations

- 1. Data were collected from a single Midwestern university.
- 2. All participants were aged 18 and over.

Limitations

1. The nature of self-reporting. The sensitive nature of the topic may prevent a full and/or honest disclosure of personal activities or history. Lying about

substance use patterns may also be a cognitive or emotional result of addiction/dependence. However, because of the confidential manner of reporting, the participants would have little reason to be dishonest.¹⁷

- 2. Original instrument. A survey method was chosen to collect identical data across multiple participants. Previously, a comprehensive tool targeting dancers, musicians, and actors did not exist to survey substance use patterns. Original questions were assessed for face validity. Afterwards, a sample of the target population allowed us to review the entire survey for clarity and accuracy.
- **3.** Time. Due to time constraints of the project, the survey was only available for a total of three weeks. Recruitment may have been limited due to time.
- **4.** Identity of investigators. The primary investigator was concurrently serving as a clinician to the performing population sampled. This association could have encouraged or discouraged performers from participating, or being honest, in the survey.

Definitions of Key Terms

A drink: 12-ounces of beer, 5-ounces of wine, 1.5-ounces of a "shot" of 80 proof distilled spirits or liquor (e.g., gin, rum, vodka, or whiskey).¹⁸

Alcohol: Ethanol, C_2H_5OH . A colorless flammable liquid as the intoxicating agent in fermented and distilled liquors.¹⁹

Analgesics: Also referred to as painkillers; these are medicines that reduce or relieve aches and pains.²⁰

Beta-blockers: A class of prescription drug that suppresses anxiety symptoms of a somatic nature and their feedback to the CNS.¹⁰

Cigarettes: Specifically nicotine cigarettes; a small roll of paper that is filled with cut tobacco and smoked.^{19,20}

Club drugs: "Act on the central nervous system and can cause changes in mood, awareness, and how you act." Examples: methylenedioxymethamphetamine (MDMA, ecstasy, and γ -Hydroxybutyric acid (GHB).²⁰

Dependence: Can include addiction, substance use disorders, or dependence syndrome. It is "The state of needing or depending on something or someone for support or to function or survive."²¹

Dissociative drugs: Distort a person's perceptions of reality; a branch of classic hallucinogens. Examples include ketamine, PCP.²⁰

Drugs (also referred to as substances): Medicine or other substances which has a physiological effect when ingested or otherwise introduced into the body.¹⁹

Hallucinogens: Contain nitrogen and are classified as alkaloids. Exact mechanisms remain unclear; LSD or acid, mescaline from cacti, or psilocybin (a type of mushroom) are examples.²⁰

Marijuana: A green, brown, or gray mix of dried, crumbled leaves from the marijuana plant. It can be rolled up and smoked like a cigarette or cigar or smoked in a pipe. Sometimes people mix it in food and eat it.²⁰

Music genres:

Energetic/rhythmic: Dance/electronica, funk, rap/hip-hop, and/or soul/R&BN.²²

Intense/rebellious: Alternative, heavy metal, punk, and/or rock.²²

Reflective/complex: Bluegrass/folk, blues, classical/opera, and/or jazz.²²

Upbeat/conventional: Country, gospel/religious, pop, and/or oldies/soundtracks²² **Opioids:** Possessing some properties characteristic of opiate narcotics, such as heroin or synthetic opium narcotics.^{19,20}

Psychoactive drug: A drug acting on the central-nervous system that can produce changes in mood, consciousness, perception, or behaviors.¹

Substance abuse: "Harmful or hazardous use of psychoactive substances,

including alcohol and illicit drugs, which can lead to dependence syndrome."²¹

Substance use: The introduction of substance into the body; for example, this can include smoking a cigarette or forty cigarettes.

Stimulants: Increase alertness, attention, and energy, as well as elevate blood pressure, heart rate, and respiration. Examples include: cocaine, methamphetamine, or amphetamine.²⁰

Chapter 2: Literature Review

Substance use patterns among performing artists has not been thoroughly investigated. Dancers and musicians have been studied more than actors, but most of these studies were single-substance investigations.^{12,13,23–28} Available information on this topic is often gleaned from autobiographies, biographies of artists, and mass media outlets such as newspaper articles and video reports. Substance use is a highly documented phenomena in sport athletes.^{29,30} The World Anti-Doping Agency (WADA) produced the World Anti-Doping Code document to set standards to protect the integrity of sport and the health of athletes. Performing artists do not have such codes, regulations, or monitoring organizations. While this information would be useful in the healthcare of performing artists, data describing their overall substance use patterns are limited. This study focused on gathering substance use and abuse data regarding musicians, dancers, and stage-actors at the professional and preprofessional levels.

"It is about drugs and the terrible cost of addiction and the high price of creativity"^{31 (p3)}

The Drugs

Drugs are medicine or other substances which have a physiological effect when ingested or otherwise introduced into the body. The US Drug Enforcement Administration (DEA) places drugs on a schedule based on their medicinal and addictive properties (see Table 1).⁶

Schedule Level	Definitions
Ι	No current medical use (the only category) High potential for abuse / most dangerous
II	High potential for abuse / dangerous Less abuse potential than Schedule I drugs
III	Moderate to low potential for physical and psychological dependence
IV	Low potential for abuse Low risk for dependence
V	Lower potential for abuse and dependence than Schedule IV drugs (Cough preparations)

 Table 1. US Drug Enforcement Administration Schedule of Drugs⁶

Definitions.

The interactions people can have with drugs have three distinctions: use, abuse, and dependence. *Substance use* is simply introducing the substance into the body; for example, this can include smoking one cigarette or 40 cigarettes. The World Health Organization (WHO) defines *substance abuse* as a "Harmful or hazardous use of psychoactive substances, including alcohol and illicit drugs, which can lead to dependence syndrome."²¹ Reworded, substance abuse is the intake of drugs and alcohol where the individual and/or others are negatively affected or in danger. The third distinction, *dependence*, can include addiction, substance use disorders, or dependence syndrome.

The WHO defines dependence as "The state of needing or depending on something or someone for support or to function or survive."²¹ Specific to the United States, the National Institutes of Health's National Institute on Drug Abuse defines drug addiction as "Intense and, at times, uncontrollable drug craving along with compulsive drug seeking and use that persists even in the face of devastating consequences." For clinical purpose, the Diagnostic and Statistical Manual of Mental Health Disorders 5th edition (DSM-V) includes a chapter called *Substance-Related and Addictive Disorders*. The DSM-V notes that substance use disorders are "An underlying change in brain circuits that may persist beyond detoxification."³²

Drug categories. Each category of drug has its own set of unique health and side effects; for a complete list, refer to the National Institute of Drug Abuse's document *Commonly Abused Drugs* (see Table 2).³³

Drug Category	Examples			
Alcohol	Liquor	Beer	Wine	
Nicotine	Cigarettes	Cigars	Smokeless Tobacco	
Cannabinoids	Marijuana	Hashish		
Opioids	Heroin	Opium	Opioid Pain Relievers	
Club Drugs	MDMA	GHB	Flunitrazepam	
Hallucinogens	LSD	Mescaline	Psilocybin	
Stimulants	Cocaine	Amphetamine	Methamphetamine	
Dissociative	Ketamine	РСР	DXM	

 Table 2. Drug Categories and Examples³³

Alcohol. On a global scale, alcohol contributes to 2,500,000 deaths each year. WHO notes that alcohol is the world's third largest risk factor for premature mortality, disability, and loss of health. On a beneficial note, alcohol consumption may increase sociability, reduce stress, and elevate the mood.³⁴ Health risks of higher doses of alcohol include depression, hypertension, liver and heart disease, and addiction.³³ Side effects are relaxation and euphoria in low doses and emotional volatility, loss of coordination, and slurred speech in higher doses.^{33,35}

Nicotine. The Surgeon General notes the current smoking rate for American adults is approximately 18%, which is 25% lower than the first Surgeon General's report in 1965.³⁶ Nevertheless, cigarette smoking is predicted to cause 500,000 premature American deaths in 2014.³⁶ Beneficial qualities of cigarettes for dancers may include appetite suppression, which dancers may employ for weight control as well as the psychological effects of relaxation or calmness, however, these claims have low scientific efficacy.

Cannabinoids. Probably the most vogue illicit drug in the news and media today, marijuana has received much attention since its legalization in two US states. The DSM-V includes five classifications for cannabis-related disorders including cannabis use disorder and cannabis intoxication. Signs and symptoms of cannabis use include increased appetite, dry mouth, and tachycardia. Clinically significant psychological changes or problematic behaviors include impaired motor control, euphoria, anxiety, impaired judgment, and social withdrawal. *Analgesics.* There are two types of analgesics, over-the-counter and prescription. Over-the-counter pain relievers are either nonsteroidal anti-inflammatory drugs (NSAIDs or acetaminophens), such as Ibuprofen or Tylenol. Analgesics, or pain-killers, may be taken to reduce or relieve pain and soreness such as headaches or muscle pains.²⁰

Pharmaceuticals. Beta-blockers are a pharmaceutical drug that has gained controversy over their use by musicians. Beta-blockers act on the central nervous system and have proven "Especially useful in anxiety states accompanied by severe somatic manifestations" in musicians.^{10 (p461)} Whether or not this enhances their performance has been debated in popular media and reflected in literature. Stage fright in musicians is defined as "An overwhelming sympathetic activation following anticipated anxiety while performing in public."^{10 (p461)} This can affect a musician's motor skills, such as a tremor in the hands. Taken into consideration, Neftel et al found "Improvement of both technical and musical performance with beta blockade as judged by professional musicians."^{10 (p468)} These results introduce a perplexing controversy: if substances are used under medical consult to normalize a deficit, is this an ethical performance enhancement?

Opioids. Are derived from opium from the poppy plant. The effects range from drowsiness and sedation to a sense of euphoria. The DEA classifies this as a schedule II substance.²⁰

Club drugs. An umbrella term for substances that individuals may use at nightclubs, bars, concerts, and parties which some have excitatory, aphrodisiac, and sensation-heightening properties. They include GHB and MDMA (Ecstasy), as well as other stimulants, hallucinogens, and dissociative drugs.³³

Hallucinogens. Drugs that cause hallucinations or distort the users sense of reality. The exact action on the brain remains unclear, however, it is stated that hallucinogens have similar chemical structures to naturally occurring neurotransmitters.³³

Stimulants. By increasing naturally occurring dopamine within the brain, stimulants can heighten alertness, movement, and pleasure.²⁰ Cocaine acts by blocking the uptake of dopamine letting the neurotransmitter build up in the system. Amphetamines (eg, Adderall) and methylphenidate (eg, Concerta) are prescribed medications for the treatment of ADD and ADHD. The National Survey on Drug Use and Health notes that 3.1% of Americans between the ages of 18 and 25 use methamphetamines.³³

Dissociative drugs. Drugs in this category include PCP and ketamine (special K). They are similar to hallucinogens in their effects, but are considered a more synthetic branch of classic hallucinogens.²⁰

Doping. A topical concern in athletics is the monitoring and protection of athletes' health and doping practices. Doping is the use of substances or methods (blood doping) by athletes or individuals for the purpose of a competitive advantage.³ There is no peer-reviewed published literature of dancers or actors taking drugs to perform better in their craft. However, in 2006 the New York Times published an article titled *The Dancer, A New Athleticism–at what price*?¹¹ This article made several relevant points, one being that contemporary dancers are expected to jump higher, spin faster, and stay unrealistically thin compared to past ideals.¹¹ Second, a content expert in performance enhancing drugs suggested that there is no evidence-based data that professional dancers

are doping, but one cannot be dismissive of the possibility.¹¹ This article suggests a potential for dancers to dope for performance enhancement, but the research is not available.

Evidence of Substance Use in Various Populations

To give context to the investigation of collegiate level performing artists, relevant populations such as Americans, college students, and collegiate athletes were explored. The first 3 groups have organizations that monitor its substance use and abuse patterns and have influenced subsequent research.

Americans. Several organizations measure and publish information on the substance use patterns of American citizens. The US Department of Health and Human Services has two branches that address the topic of alcohol and drug consumption. The Substance Abuse and Mental Health Services Administration (SAMHSA) distributes the National Survey on Drug Use and Health (NSDUH) annually, which measures 12 substances and substance categories. The National Institutes of Health has 27 institutes and centers including the National Institute on Drug Abuse (NIDA) and the National Institute on Alcohol Abuse and Alcoholism (NIAAA).^{35,37} Both the NIDA and NIAAA conduct and fund research on the subject of drug and alcohol use and abuse. The University of Michigan's *Monitoring the Future* project is an example of a prominent external research effort that receives funding by the NIH, specifically NIDA.^{16,38} Since 1975, this annual survey samples from approximately 420 primary education schools to measure attitudes, behaviors, and beliefs of students. The Centers for Disease Control and Prevention (CDC) also operates under the US Department of Health and Human Services

and is involved with all public health concerns, one of which is alcohol and drug use.³⁹ These organizations have been active and continue to collaborate on similar research to protect and improve the public's health.

The CDC published the Summary Health Statistics for U.S. Adults: National Health Interview Survey for 2012 in February of 2014.⁴⁰ The CDC found "52% of adults were regular drinkers, 13% were current infrequent drinkers, 8% were former infrequent drinkers, and 21% were lifetime abstainers."⁴⁰ (p8) Their research of cigarette smoking found "18% of adults were current cigarette smokers, 21% former smokers, and 61% have never smoked at least 100 cigarettes in their lifetime." The results from SAMHSA (the NSDUH) and the University of Michigan Monitoring the Future project are presented in Table 3 and Table 4.

	Ages 18 – 25	Ages 26 – 34	Ages 35 - 49	50 years or older
Alcohol				
Lifetime	84 4%	90.4%	89.8%	86.4%
Past 30 days	60.2%	64 4%	60.5%	49.3%
Past year *	17.2%	16.1%	15%	13.1%
Cigarettes				
Lifetime	59.7%	69.2%	66.9%	67.9%
Past 30 days	31.9%	32.9%	26.1%	16.5%
Past year *	9.3%	5.9%	0.3%	1.7%
Marijuana				
Lifetime	52.2%	55.2%	49.8%	36.7%
Past 30 days	18.7%	11.5%	5.7%	3.0%
Past year *	12.9%	7.0%	4.3%	1.6%
Pain Relievers				
Lifetime	22.6%	24.1%	16.7%	8.0%
Past 30 days	3.7%	3.1%	1.8%	0.8%
Past year *	6.4%	4.6%	2.9%	1.3%
Stimulants				
Lifetime	9.3%	10.9%	7.7%	6.5%
Past 30 days	1.1%	0.8%	0.2%	0.1%
Past year *	2.7%	1.5%	0.4%	0.0%
Hallucinogens				
Lifetime	17.7%	22.9%	17.7%	11.6%
Past 30 days	1.7%	0.6%	0.5%	0.1%
Past year *	4.8%	0.2%	0.1%	0.1%

Table 3. Select Results of the 2012 National Survey on Drug Use and Health¹⁴

* Past year denotes use more than 30 days ago but within the past 12 months

Table adapted from the Substance Abuse and Mental Health Services Administration. *Results from the 2012 National Survey on Drug Use and Health: Summary of National Findings*. Rockville, MD: Substance Abuse and Mental Health Services Administration; 2013.

	8 th graders	10 th graders	12 th graders
Alcohol			
Lifetime	27.8%	52.1%	10.2%
Past year	22.1%	47.1%	25.7%
Past month	10.2%	25.7%	39.2%
Cigarettes			
Lifetime	14.8%	25.7%	38.1%
Past month	4.5%	9.1%	16.3%
Daily	1.8%	4.4%	8.5%
¹ / ₂ pack+ / day	0.7%	1.5%	3.4%
Marijuana			
Lifetime	16.5%	35.8%	45.5%
Past year	12.7%	29.8%	36.4%
Past month	7.0%	18.0%	22.7%
Daily	1.1%	4.0%	6.5%

Table 4. Select Results of the 2013 Monitoring the Future Survey¹⁶

Johnston LD, O'Malley PM, Miech RA, Bachman JG, Schulenberg JE. Monitoring the Future national survey result on drug use, 1975-2013: Overview, Key Findings on Adolescent Drug Use. Ann Arbor: Institute for Social Research, The University of Michigan; 2014. (Tables 5, 6, 7, and 8 [pp. 5 - 68).

American college students. In the 2011-2012 academic year, approximately 13.3 million students were enrolled in a 4-year postsecondary educational institution.⁴¹ Of all Americans between ages 18 and 24, 38% attend college in the United States.⁴¹ College is a transitional period of environmental and social changes which may include experimentation and new experience seeking to fit into new perceived social norms.⁴²

Similar to the general American population, there are several nationally representative data sets such as The College Alcohol Study (CAS), Core Institute, Monitoring the Future, and the National College Health Assessment (NCHA).^{43,44} The American College Health Association and its 11 regional affiliates aim to advance the health of college students and campus communities; this organization distributes the NCHA to over 100,000 university students.^{17,45} It's publication, the *Journal of American College Health,* has published numerous studies pertinent to the subject of alcohol and drug use of college students. The CAS is administrated by the Harvard College of Public Health and is a longitudinal study that has influenced political and institutional awareness of binge-drinking.^{46,47}

The CAS developed the 5/4 definition of binge drinking; the definition being "The consumption of five or more drinks in a row for men and four or more for women at least once in the past two weeks."^{48 (p18)} Using the CAS and NCHA data, researches have found a pattern of where approximately 70% of college students reported some alcohol use in the past month and 40% reported binge drinking.^{43,48,49}

Along with alcohol, tobacco and marijuana are the three most abused substances and the "Primary sources of morbidity and mortality" in the college population today.¹⁷ ^(p374) Additionally, the misuse and abuse of pharmaceuticals such as analgesics, stimulants, and sedatives is the second most popular illicit drug, second to marijuana, of young adults.^{5,41,50} Other addictive substances such as cocaine, heroin, and hallucinogens are also of concern, and because of this concern, were added to contemporary surveys assessing this subject.

Primack et al published a cluster analysis examining the use of tobacco, marijuana, and alcohol binge-drinking in university level students.¹⁷ Binge-drinking was assessed over any type of alcohol consumption because it was found to be the most clinically significant. Using the NCHA in the 2008-2009 academic year, six clusters were found from the sample of 111,255 individuals from 158 institutions. The largest cluster are the Global Abstainers (n = 59,041; 54%) and second largest being the "Drinkers Who Reject All Smoking" (n = 18,718; 17%).¹⁷ The remaining 4 clusters were a combination of preferences between marijuana, cigarettes, cigars, and hookah.¹⁷ Primack et al identified gender, year in school, and Greek membership to be associated with cluster membership but did not find institutional factors (location, school type) to be congruent with a single cluster.¹⁷

Several studies have examined pharmaceutical use in the college population. From the CAS, approximately 17% of college students reported nonmedical prescription drug use in their lifetime.⁴¹ In a single university study funded by the National Association of Intercollegiate Athletics (NAIA), Quintero found 55% (n = 91) of participants reported sociorecreational use of prescription drugs within the past year.⁵ Using interview methods, Quintero identified motivations for pharmaceutical use as either hedonistic or social; ranging from achieving or managing highs as well as to party, experimentation, and to structure free time.⁵ Most recently, Oberleitner et al interviewed students (N = 55) to whom psychotropic medications were prescribed.⁵⁰ Between 20% and 92.7% reported taking their medications in different frequencies or quantities as prescribed, the wide range accounts for the different types of misuse reported.⁵⁰ Additionally, "70% of participants combined their medication with alcohol or illicit drugs and 35% met DMS criteria for substance dependence."50 (p660) Combined, these studies mark that the misuse and abuse of pharmaceuticals is a rising occurrence and concern among college campuses.

American collegiate athletes. Researchers have found that college athletes carry greater demands than nonathlete students.^{42,43,49} They manage time spent between their sport and academics, the stress of athletic performance, relationships with coaches and peers, and the stress of success and failure of competition.⁴² They are also in a peerintensive environment and consistently report more high-risk behaviors than nonathlete college students.^{42,43,49,51} For these reasons, college athletes are considered a unique population who report a high risk for substance use, especially alcohol.^{43,52}

Social Learning Theory (SLT) dictates that "Social norms can determine the extent to which alcohol use is encouraged."^{51 (p651)} Zamboanga notes "involvement with sports teams in which a preponderance of members drink and participate in social activities involving alcohol could spark the onset of drinking, maintain the use of alcohol, or exacerbate current drinking behaviors among athletes."^{51 (p655)} In support of this theory, Brenner and Swanik found that team-sport members reported greater high-risk drinking than did individual sport atheletes.⁴⁹ Furthermore, certain teams can promote a substance use culture more than others.⁴³ Ford found that female soccer players were "48% more likely to report binge drinking, 72% more likely to report marijuana use, and nearly 2.5 times more likely to report illicit drug use than were all other female athletes."⁴³ Therefore, as example, a female soccer player may be more susceptible to higher rates of substance use than say a female cross-country runner. As sports are peer-intensive and can be socially isolating, peer norms can have a greater impact on behavior and perception of social norms.^{43,51}

To compare trends found between athletes and non-athletes, two data sets are presented in Table 5 and Table 6. Yusko et al surveyed 893 students from a large northeastern university about their substance use patterns of 13 substances and substance groups; six are presented in Table 5. Second, using the 2001 CAS data, Ford examined prescription drug use specifically between athletes and non-athletes.

	Males		Females	
	Nonathletes	Athletes	Nonathletes	Athletes
Alcohol				
Past year	90.6%	93.6%	91.1%	91.1%
Past month	83.0%	85.4%	79.7%	76.6%
Cigarettes				
Lifetime	49.7%	39.9%	53.5%	35.4%
Marijuana				
Lifetime	63.8%	54 5%	62.4%	53.8%
Past year	50.0%	37.3%	47.6%	25.0%
Prescription Drugs				
Lifetime	24 3%	22.8%	14 7%	10.2%
Last year	21.7%	17.0%	9.6%	7.1%
Cocaine/Crack				
Lifetime	15 5%	12.5%	7 4%	3.8%
Last year	12.2%	11.7%	4.8%	3.2%
Hallucinogens				
Lifetime	23 3 %	15.5%	9.7%	9.6%
Last year	16.7%	10.8%	4.9%	5.7%

Table 5. Prevalence of Drug Use in Collegiate Sample⁵³

Data selectively extracted from Yusko DA, Buckman JF, White HR, Pandina RJ. Alcohol, tobacco, illicit drugs, and performance enhancers: A comparison on use by college student athletes and nonathletes. J Am Coll Health. 2008;57(3):281-289 (Tables 2 and 3 [pp. 284 and 285]).

	Males		Females	
	Nonathletes	Athletes	Nonathletes	Athletes
Any	19.5%	19.4%	17.3%	13.9%
Barbiturate	6.5%	6.1%	5.7%	3.9%
Stimulant	8.6%	8.9%	5.5%	6.1%
Tranquilizer	9.2%	8.3%	7.7%	3.6%
Opiate	13.6%	13.3%	12.0%	7.9%

Table 6. Prevalence of Nonmedical Use of Prescription Drugs (Lifetime)⁴¹

Data selectively extracted from Ford JA. Nonmedical prescription drug use among college students: A comparison between athletes and nonathletes. *J Am Coll Health*. 2008;57(2):211-219 (Table 2 [pp. 215]).

Yusko et al noted a "Significantly greater off-season social drug use than inseason in the male and female student athletes" finding that the use of substances doubled off-season in male athletes and quadrupled in female athletes.^{53 (p287-288)} Ford found that college athletes are generally "Less likely to use prescription drugs nonmedically, with the exception of stimulants."^{41 (p216)} Both researchers noted that the stigma of illicit drugs and the perceived health risks of such substances may contribute to a consistent lower prevalence of illicit drug use in college athletes compared to non-athletes.^{41,53} The researchers also found that male athletes reported "Significantly more occasions of heavy episodic drinking and a greater number of drinks on their heaviest drinking day versus male nonatheltes."^{53 (p284)} Approximately 80% of US college athletic programs are a part of the National Collegiate Athletic Association (NCAA). The NCAA sets regulations that ban certain substances and procedures (such as blood-doping) from athletic-performance at the collegiate level. Examples of banned substances are street drugs, alcohol, beta-blockers, stimulants, and anabolic agents.² Athletes whom fail to comply or test positive during a drug test may have their eligibility to compete revoked.²

Performing artists. Performing artists are individuals who use their body as a medium to convey artistic expression (versus visual artists who produce a tangible artwork). Primary forms of performance artists are dancers, stage actors, and musicians. Musicians can be instrumentalists, vocalists, or both. Each of these professions has a unique history of traditional performance which today integrates contemporary standards.

Dancers. Dancers use body movement in conjunction with a rhythm, music, or a part of a choreography to generally achieve artistic expression. Their substance use and abuse patterns have been studied more than other performing artists, possibly due to their stronger relation to sport athletes. Research of dancers' substance use has primarily focused on nicotine cigarettes and alcohol and secondarily on opiates, hallucinogens, and nutritional supplements and diet aids. A summary of alcohol and cigarette use in dance literature is presented in Table 7.

Author, Year	Sample Size	Alcohol	Cigarettes
Chmelar, 1987 ⁵⁴	39	100% social 84.6% light to moderate	17.9% less than half a pack of cigarettes per day
Clippinger, 1999 ²³	397	No data	27% regular or occasional
Oreb, 2006 ¹²	51	No data	45% (under age 35)
Sekulic, 2008 ⁵⁵	43	Approximately 11% daily to >1/day	20% regular and "time-to- time'
Sekulic, 2010 ²⁵	25	72% (drunk) one a month – daily/regularly	44% less than 40 per day / from time-to-time
Southwick, 2013 ⁵⁶	253	No data	13% (of which 80% male)

 Table 7. Previous Substance Use and Abuse Literature of Dancers

The variability in the information gathered makes comparing these studies challenging. The measures of alcohol consumption are inexact since each study has varying definitions of alcohol consumption. The percentages presented above can be generalized to persons who do not abstain from alcohol. In regard to nicotine cigarette consumption, a range between 13% in American professional dancers to 45% in Croatian folk dancers is presented, which could relate to the cultural specific prevalence of smoking.^{12,56} Data were collected retrospectively as a part of a larger survey of health and other health patterns. There are no reports of illicit drug use in North America in the dance population. In Croatia, Oreb, Sekulic, and Zenic have presented data on other substances used such as opioids, hallucinogens and diet aids in dancers.^{12,55,57}

Actors. There is only one report of drug use in actors and their doping patterns. Focus groups and interviews were conducted with a sample of 64 Nigerian actors and actresses. Nwadigwe writes "Virtually all the respondents admitted taking considerable quantities of alcohol, particularly before peformance."^{28 (p150)} Other results showed 75% of respondents had used marijuana, 11% used cocaine or heroin, and 8% used steroids.

Motivations for stimulants use were also collected. Allowing the performer to feel "'confident,' 'high,' and 'sharp' to overcome 'shyness,' 'fear,' and 'timidity'" were shared by the more novice and younger performers. The established actors expressed a sense of tradition and professional sociability that influenced them to use illicit drugs and alcohol. In particular for females, nude roles proposed a specific threat; to quote a 29-year-old actress, "For a decent woman to play such roles in our culture and environment, you need some stimulants to push you on."²⁸ Men who reported having used steroids noted it was for muscular build-up to achieve an aesthetic for a particular role.

Musicians. There is less data collected for musicians in terms of substance use compared to dancers, but in the available research the percentages of substance use is higher in musicians than dancers (see Table 8). A study by Miller and Quigley examined the patterns of 226 musicians in regard to their genre, gender, sensation-seeking personality trait, and substance use patterns. They found the musicians demonstrated "Considerably more prevalent [substance use patterns] in this sample of adult musicians than in the general population, as reported in the annual Monitoring the Future (MTF) study."^{22 (p401)} Additional analysis revealed that substance use patterns differed over genre but did not differ in relation to gender and that a sensation-seeking personality trait was a
strong predictor of substance abuse. This was the first study of its kind to investigate the prevalence of substance use by musicians compared to the general population.

Author/Year	Musicians	Alcohol	Cigarettes	Marijuana	Other Drugs
Miller, 2011	226	89.4%	42.7%	50.2%	42.2% (illicit)
Reaburn, 1987	10	80%	50%	No data	30%/50%

Table 8. Previous Substance Use and Abuse Literature of Musicians

Fifteen years prior, Reaburn conducted interviews on the subject with ten rock musicians who are typically perceived as frequent substance users.²² She found the frequency and duration that musicians used substances increased when their performance schedules increased, possibly as a coping mechanism.⁵⁸ Dobson, reported that drinking and drug use is a part of professional sociability which is "The need to be sociable and liked by one's colleagues and peers in order to increase chances of offers of work, or simply to retain existing work."²⁶ (p²⁴⁸⁾ This was a common thread in her interviews with young free-lance musicians. Other motivators for substance use in the population were boredom, peer pressure, and custom.²⁶

Influences of Substance Use

Stress and coping. Coping is defined as "Ongoing cognitive and behavioral efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person."⁵⁹ (p237) Whether in a positive way (studying more to achieve a better grade) or negative (cessation of attending a failing class), coping is

employed because it "changes over time and in accordance with the situational contexts in which it occurs."^{59 (p235)} Coping is a response to stress and/or a perceived threat. Like coping, stress can be positive or negative in nature; eustress is positive stress such as first day of class jitters versus distress, as we usually think of stress, such as the emotional weight of unpaid medical bills.

Performing artist research of occupational stress has focused primarily on dancers, secondarily on musicians. No research exists in this area regarding stage-actors. In musicians, Raeburn et al identified five highly stressful aspects as a professional rock musician; finances, job insecurity, lack of recognition, performance anxiety, and conflicts between the career role and other social roles.⁵⁸ Through interviews, Noh et al found that in a Korean ballet company, physical appearance, poor physical condition, a timid personality, professional relationships, performance, auditions, and difficulties with finances are all professional stressors.⁶⁰

In orchestral musicians, coping has been found to be more emotionally focused, meaning the musicians employed strategies such as seeking social support, expression of feelings, and seeking distraction from the stressor.⁶¹ In contrast, problem-focused coping is to change the stressor by acting on the environment or self. In certain conditions, either process is more desirable and/or adaptive. In Raeburn's study of rock musicians, similar to the orchestral musicians, the musicians employed emotion-focused coping strategies. Ninety percent sought social support every time in each of three coping episodes. In 66% of the coping episodes, substances were used by approximately 50% of the sample, while 20% of the sample used substances in all three coping episodes.⁵⁸ In this sample, females

employed more coping strategies and also experienced a higher overall amount of stress.^{24,58}

Noh et al (2009) found that "More than 50% of the dancers in the Korean ballet company studied (N = 20) adopted unhealthy practices in an effort to cope with the stress they experienced from their lives as dancers."^{60 (p131)} He goes on to state that 65% of the dancers participated in dysfunctional behaviors such as drinking alcohol and overeating as coping strategies. However, in this sample, physical appearance (weight) was listed as a primary stressor and the act of intoxication and overeating has negative ramifications based on caloric intake. To illustrate this point, Noh writes this quote from a participant "To cope with stress, I drank a lot. When I over-drank, I started blaming myself because of fear of increasing in weight."^{60 (p131)} Ergo, this behavior is characterized as dysfunctional and possibly maladaptive coping.

The use of alcohol in this situation acts as a palliative effect within the context of a dancer's stress. Carver et al described alcohol consumption as a mental disengagement as a temporary relief from stress, which may be categorized as emotional-based coping.⁶² In Lazarus' article, mental disengagement may be an adaptive process of coping, however, it more typically impedes adaptive coping. In dancers, understanding the effectiveness and adaptive outcomes of substance use with stress is still unknown.⁵⁹

In 1989, Carver et al developed a multidimensional coping inventory that included drug and alcohol use as a method of coping. Substance use was categorized as an aspect of mental disengagement, which is a variation of behavioral disengagement. Mental disengagement "Serves to distract the person from the thinking about the behavioral dimension or goal with which the stressor is interfering", sometimes referred to as "escapism."^{62 (p269)}

Within the parameters of coping, alcohol can be strategically used to "Escape, avoid, or otherwise regulate negative emotions . . . thus drinking to cope is depicted as a reactive process within the framework of a drive reduction model."⁶³ (p⁹⁹¹⁾ Cooper et al writes that "Drinking to cope is a maladaptive coping response and it is inversely related to coping ability, skill, or options."⁶³ Alcohol impairs cognitive processing therefore is viewed more as a problem avoidance coping strategy (emotional-focused) than problem-focused coping.⁶³

As stated, there is no research into stage actors occupation stress or coping patterns. In all three studies examining musicians and dancers, emotionally based coping strategies are more common than problem-focused coping. Substance use falls under this process meaning performing artists are more likely to use substances when they perceived abilities to be less than needed to manage the task at hand. Common stressors to performers include injury and performance anxiety.

Injury. Because artists' medium is their body, injury poses a great threat to their livelihood and creative output. To take a closer look at injury, we turn to sport research to adapt a validated definition. In sport, injury is often defined as requiring medical attention and restricts the person's ability to participate for one or more days beyond the day of injury.⁶⁴ Considering dancers, this population is notorious for not seeking medical attention when required.⁶⁵ Injuries in dancers typically falls between 80% and 90% injured per year and between 39% to 87% in musicians.^{66,67}

The process of injury often becomes a stressor in itself; whether it's positive or negative relies on a multitude of factors. Either acute or chronic, performance-limiting injuries can host a range of cognitive, emotional, and behavioral reactions in performing artists.⁶⁸ Cognitive appraisal includes goal adjustments, rate of perceived recovery, self-perceptions, sense of loss or relief, and cognitive coping.⁶⁹ Emotional responses vary greatly by population studied.⁷⁰ Behavioral responses can manifest as: adherence to rehabilitation, problem-solving technique strategies, risk-taking behaviors, malingering, and behavioral coping.⁶⁹ Performing artists spend many hours a week rehearsing and practicing their art form and when faced with the inability to continue "normally", this may place undue stress onto the performer.⁷¹

The psychological outcomes of injury have been well documented in dance. Mainwaring et al notes that in a review of the current literature, dancers experienced an array of negative emotions after an injury including fear, uncertainty, depression, frustration, and anxiety.⁶⁵ Musicians and actors may face similar feelings when injured. The artist must adapt from participating in rehearsals and performances to spending time in medical environments and observation of their peers. Even if stress was a predictive factor of becoming injured, rehabilitating from an injury can become a stressor itself.

Performance anxiety. Musical pre-performance anxiety or stage-fright, is defined by Salmon (1990) as "The experience of persisting, distressful apprehension about and/or actual impairment of, performance skills in a public context, to a degree unwarranted given the individual's aptitude, training, and level of preparation."^{72 (p3)} This type of distress is well documented in musicians occurring in fourteen percent to twenty-five percent of musical performers.⁷³ There are a lack of data on the prevalence of performance-anxiety prevalence in actors and dancers.

Performance anxiety is very similar to social phobia as defined by The Diagnostic and Statistical Manual of Mental Disorders (DSM).⁷³ Duplicate signs and symptoms include excessive fear, inevitable anxiety, and fear of embarrassment.⁷³ Various research articles suggest treatments for this specific type of anxiety. One solution, as mentioned earlier, are medically prescribed beta-blockers to reduce the somatic surfacing of anxiety symptoms.¹⁰

In a facilitative context, performance artists have the ability to use performance anxiety as facilitative to their performance. Dancers perceiving a lower level of anxiety were better as using adaptive, problem-focused coping than dancers with more severe anxiety whom utilized more maladaptive coping strategies.⁷⁴ Not only intensity, but also the type of anxiety affects the execution. Walker and Nordin-Bates noted that "Cognitive anxiety was generally more dominant than somatic anxiety and was interpreted as debilitative."^{74 (p137)} This reflects that dancers felt there was an ideal amount of anxiety that would benefit the performance, too much or to little and the performance suffers.⁷⁴ **Creativity**

Artist Bryan Saunders employs drugs to directly influence his self-portraits.⁷⁵



Figure 1. Photographs by Bryan Saunders. Reprinted with permission from Bryan Saunders, originally appearing on http://bryanlewissaunders.org/drugs (see Appendix C).

Saunders work represents a literal interpretation of the influence of drugs in creative productions (see Figure 1). An abundance of documented art has referenced drug use and yet there is limited scientific investigation on how drugs influence artistic output.^{76–78} For example, Jim Morrison, of the band the Doors, documented personal accounts of his drug use and creative output over his career. "Girl we couldn't get much higher" crooned by Morrison in his hit song "Light my Fire," may be an example of his lyrical drug references. Through these data, Holm-Hadulla concluded that his lifestyle of using psychoactive substances was both a motivation and a weakness that influenced his later career.⁷⁶ Morrison was not alone, in the same period other musicians such as The Grateful Dead, Jimi Hendrix, late Beatles work referenced drugs as the musicians confirmed and allegedly used drugs themselves.

Moreover, in a review of comic artist Robert Crumb (active 1968–present), Jones makes a case for the effect psychedelic drugs had on Crumb's work.⁷⁷ Crumb's work saw perceptual and abstract changes through the four years of his self-reported LSD use. Crumb's post-LSD work was able to regain technical mastery while drawing from the perceptual alterations and fluidity of consciousness of his past LSD experiences.⁷⁷ In this example, creativity is altered, but no mention of hindrance is reported.

Is it their artistic license that gives artists the freedom from discredit to privately and publically engage in alcohol and drug use?⁷⁸ This is the question posed by Novik and Steen in *Sport in Society*. They compared the harsh societal mores placed upon rolemodel athletes versus famous singers and actors. Investigating famous creative types such as F. Scott Fitzgerald and Van Morrison, Novickwrote:

Drugs have not only long been tolerated in the creative arts but also encouraged, even demanded, and not solely as creative inspiration but as prima facie evidence of a life on the edge, full of unorthodoxy, defiance and rebellion, glamour, thrills and danger.^{78 (p 424)}

Novick doesn't provide answer, but poses the question–why do we treat athletes differently? Furthermore, who gets to decide which societal mores certain public figures must succumb to so that they may remain favorable in the public eye?⁷⁸

The full discourse of drugs influence on creativity is outside of the scope of this project. However, using drugs to stimulate creativity may be a driving influence for artists to experiment. Drug use and abuse was shown to both help and hinder the creative output of artists such as Morrison and Crumb. Because of the subjectivity and the personal meaning of one's art production, the ethics of drug use in creating art remains subjective.

Chapter 3: Methods

Design

This study was a retrospective, cross-sectional design that used an original survey to collect information on performing artists' substance use patterns. The setting was online using a web-based software to collect data from university students in a mid-sized midwestern university.

Participants

Participants were undergraduate or graduate students in the theater, dance, or music departments as a performer (actor, dancers, musician) enrolled during the Spring 2014 semester. All participants were over the age of 18. The Ohio University Institutional Review Board approved the protocol.

Instrumentation

The survey was developed using Qualtrics[™] survey software (see Appendix A). After reviewing relevant literature, original items were created and then combined with two pre-validated surveys. The survey used display logic instructions that adapt in realtime to participants' answers by adjusting to avoid redundancy. The survey included four sections (1) demographics, (2) two previously validated surveys of drug and alcohol abuse (see Appendix B), (3) frequency tables, (4) original questions specific to performance and injury. The survey addressed 13 substances and therefore the original questions display only when the participants indicate any use in the frequency table section. Demographic information collected included: age range, sex, geographical information, employment/student status, and lastly, years of involvement in their given field.

Previously validated surveys, the Short Michigan Alcohol Screening Test (SMAST) and the Drug Abuse Screening Test (DAST), were used to identify the prevalence of problems related to alcoholism and drug abuse in performing artists (see Appendix B).^{79–81} Permissions for reuse were granted by Copyright Clearance Center and the Centre for Addiction and Mental Health (see Appendix C). To be economical with time and participant patience, the short versions of these were selected. The DAST-10 has a sensitivity of 80-85% and specificity of 78%-88%.⁷⁹ The SMAST is sensitive to long-term drinking patterns, has higher reliability, and lower standard error of measurement relative to other short alcohol screening tools.⁸² The participants were allowed to skip questions on the SMAST and DAST-10 which complies with their original instructions.

Procedure

An email containing an introduction, survey hyperlink, and research website hyperlink was sent to the dance, theater, and music department chairs requesting their assistance to distribute the recruitment email among their performing artist students (see Appendix D). With approval and permission, the recruitment email was sent, via the department chairs' emails, to the performing artist students. This method allowed for approximately 411 performing artists to be contacted and given access to the hyperlink and research website. The link was active for approximately 2 weeks to 1 month, pending the timeliness of each department chair, with 1 to 2 reminders following the initial email communication.

Upon selecting the link, each student performing artist was presented with the consent form with the option to select "Agree" or "Disagree" after the terms were read (see Appendix A). Each participant agreed to the informed consent before proceeding onto the survey. The survey took approximately 10 to 20 minutes to complete. Because of it's flexible design, the survey varied in length dependent on how many substances each participant reported. After they answered the last question, the survey closed and showed a statement of gratitude for their time and information to seek further help if needed. The survey results were recorded by Qualtrics[™] online survey software.

Analysis

Analysis comprised of averages and cross tabulation to describe the population. Using QualtricsTM, cross tabulation was used to compare groups, ages, and substance specific questions such as injury and performance questions. Open-ended questions were scanned for themes and revealed outlier situations.

Scoring abuse scales. The SMAST operates by a point system; questions 1, 4, and 5 are worth one point when answered "no" and all other questions answered as a "yes" are worth one point. There are three levels of scoring; 1 or no points equates to no problems with alcoholism, 2 points is a possible problem, and 3 or more points is a probable problem with alcohol.⁸³

The DAST-10 only has one reverse question. Questions 1, 2, 4 through 10 are worth 1 point for "yes" and question 3 is worth 1 point for "no." The minimum score to

be identified with a moderate, substantial, or severe level of problems related to drug abuse is 3. A score of 1 to 2 suggests a low level of problems related to drug use, 3 to 5 equates a moderate level, 6 to 8 indicated a substantial level, and 9 to 10 is a severe level of problems related to drug abuse.^{79,80,82,}

Parts three and four of the survey are the frequency tables and specific questions related to injury and performance with each drug category. This information was analyzed by central tendencies and the Chi-square test for independence. This information was compared between the three groups as well as to the general American population, college students, and collegiate athletes.

Chapter 4: Results

The prominent findings are presented in five sections: (1) demographics, (2) prevalence of use, (3) substance abuse potential, (4) injuries sustained while under the influence and, (5) patterns of use.

Demographics

Various department chairs distributed emails with a link to the survey to an estimated 411 Ohio University performing arts students. Although the distribution method leaves ambiguity in the actual number of students who were invited to participate in the study, the target participants consisted of an estimated 300 (73%) musicians, 61 (15%) dancers, and 50 (12%) acting majors.

Usable responses were received from 58 participants, yielding a response of 58 (14.1%). The majority 47 (81%) of respondents were female. Student's aged 21 to 25 represented the largest group 30 (52%). Musicians represented the largest group of respondents, with 26 (45%) surveys completed, representing 8% of this population. Approximately one-third of dancers, 19 (33%) and actors 15 (26%), submitted usable surveys (see Table 9).

	Dancers	Musicians	Actors	Total
Participants	19 (33%)	24 (41%)	15 (26%)	58 (100%)
Sex				
Male	1 (5%)	7 (29%)	5 (33%)	13 (22%)
Female	18 (95%)	17 (71%)	10 (66%)	45 (78%)
Age Range				
18 - 20	6 (32%)	15 (62%)	4 (27%)	25 (43%)
21 - 25	13 (68%)	8 (33%)	7 (47%)	28 (48%)
26 - 30	0 (0%)	1 (4%)	2 (13%)	3 (5%)
31 – 35	0 (0%)	0 (0%)	1 (7%)	1 (2%)
36 - 40	0 (0%)	0 (0%)	0 (0%)	0 (0%)
41 or older	0 (0%)	0 (0%)	1 (7%)	1 (2%)
Education Level				
Graduate	0 (0%)	4 (17%)	4 (27%)	8 (14%)
Undergraduate	19 100%)	20 (83%)	11 (73%)	50 (86%)
Years of Training				
Less than 1 year	1 (5%)	2 (9%)	0 (0%)	3 (5%)
1-5 years	1 (5%)	1 (4%)	6 (40%)	8 (14%)
6 - 10 years	5 (26%)	6 (26%)	5 (33%)	15 (26%)
11 or more	12 (63%)	14 (60%)	4 (27%)	30 (53%)

Table 9.	Demogra	phics of	f Partici	oant Perf	orming	Artists
	2					

Prevalence of Substance Use

Participants were asked if they have consumed any of the following 13 listed substances: Alcohol, cigarettes, marijuana, analgesics, prescription medication for nonmedical use, opioids, club drugs, hallucinogens, stimulants, dissociative, other compounds such as inhalants or steroids, beta-blockers, or other. The frequency of use are presented in Tables 2 through 5. All but 3 participants consumed alcohol, the most commonly used substance reported in this survey, in their lifetime. The choices of "2 to 3 times a month" 17 (29%) and "2 to 3 times a week" 16 (28%) were the two most frequently selected categories for those who reported consuming alcohol in the past year. Two musicians and one dancer reported consuming alcohol daily.

Four other substances were reported to be used daily including cigarettes, marijuana, stimulants, and the "Other" category. More participants reported using marijuana (40, 69%) than reported using cigarettes 34 (59%). From the open response question, two participants had polarized thoughts on marijuana use. One wrote "I usually only really smoke weed because it helps me with stomach pain and anxiety related to food. It's not like I use it...more as a medicine :)." The other participant wrote "I saw a friend lose an opportunity to perform because of pot [so] I stopped." These responses reflect the different context marijuana can be used or abused. Marijuana use over the lifetime use was reported by 13 (68%) dancers; 6 (32%) of which reported using marijuana 2 to 3 times per week or daily. In each group, at approximately 50% of participants reported having tried cigarettes in their lifetime, but only 5 (9%) reported smoking daily or weekly.

Analgesics, such as over-the-counter or prescription level pain-relievers, had the same lifetime frequency reported as cigarettes 34 (59%). By group, 9 (47%) dancers, 8 (33%) musicians, and 5 (33%) actors reported the use of analgesics in the past year. Approximately one quarter of dancers (5) and musicians (6) reported having used prescription medication for non-medical reasons. Of the participants that reported using

prescription drugs for non-medical use in their lifetime, 12 (21%) reported having used them in the past year.

The actors were the only group to report any use of opioids and musicians were the only group to report any other compound use (such as inhalants or steroids). No participants reported having used dissociative drugs such as ketamine or PCP. Dancers were twice as likely to report club drug use than musicians and three times more likely than actors; 11 (19%) participants reported using club drugs in total while only 6 (10%) reported use in the past year. Of the 8 (14%) participants that reported using stimulants in their lifetime, 7 (86%) have used cocaine, 4 (50%) have used amphetamine, and 2 (25%) have used methamphetamine. Three participants reported they have consumed "other" substances in their lifetime but they did not report what these were when given the option. Three musicians reported using beta-blockers, but only one reported use in the past year (see Tables 10 through 13 and Figure 2).



Figure 2. Substance use reported over the lifetime, past year, and past month use.

	Lifetime	Less than monthly	Once a Month	2 to 3 times a month	Once a week	2 to 3 times a week	Daily
Alcohol	55 (94.8%)	5 (8.6%)	7 (12.1%)	17 (29.3%)	4 (6.9%)	16 (27.6%)	3 (5.2%)
Cigarettes	34 (58.6%)	8 (13.8%)	4 (6.9%)	6 (10.3%)	2 (3.4%)	0 (0.0%)	3 (5.2%)
Marijuana	40 (69.0%)	13 (22.4%)	2 (3.4%)	5 (8.6%)	1 (1.7%)	6 (10.3%)	4 (6.9%)
Analgesics	34 (58.6%)	13 (22.4%)	2 (3.4%)	3 (5.2%)	3 (5.2%)	1 (1.7%)	0 (0.0%)
Prescription	12 (20.7%)	4 (6.9%)	2 (3.4%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Opioids	2 (3.4%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Club Drugs	11 (19.0%)	6 (10.3%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Hallucinogens	6 (10.3%)	1 (1.7%)	1 (1.7%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Stimulants	8 (13.8%)	5 (8.6%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (1.7%)
Dissociative	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Other Compounds	2 (3.4%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Other	3 (5.2%)	1 (1.7%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (1.7%)
Beta Blockers	4 (6.9%)	1 (1.7%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (1.7%)	0 (0.0%)

Table 10. Distribution of Drugs Used: All Performing Artists

	Lifetime	Less than monthly	Once a Month	2 to 3 times a month	Once a week	2 to 3 times a week	Daily
Alcohol	23 (95.8%)	3 (12.5%)	2 (8.3%)	9 (37.5%)	2 (8.3%)	4 (16.6%)	2 (8.3%)
Cigarettes	15 (62.5%)	4 (16.6%)	2 (8.3%)	3 (12.5%)	1 (4.1%)	0 (0.0%)	1 (4.1%)
Marijuana	14 (58.3%)	5 (20.8%)	2 (8.3%)	1 (4.1%)	1 (4.1%)	2 (8.3%)	1 (4.1%)
Analgesics	13 (54.1%)	6 (25%)	2 (8.3%)	1 (4.1%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Prescription	6 (25%)	3 (12.5%)	1 (4.1%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Opioids	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Club Drugs	3 (12.5%)	1 (4.1%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Hallucinogens	3 (12.5%)	0 (0.0%)	1 (4.1%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Stimulants	3 (12.5%)	1 (4.1%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Dissociative	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Other Compounds	2 (8.3%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Other	1 (4.1%)	1 (4.1%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Beta Blockers	3 (12.5%)	1 (4.1%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)

Table 11 Distribution of Drugs Used: Musicians (N = 24)

	Lifetime	Less than monthly	Once a Month	2 to 3 times a month	Once a week	2 to 3 times a week	Daily
Alcohol	17 (89.4%)	1 (5.2%)	4 (21%)	3 (15.8%)	1 (5.2%)	7 (36.8%)	1 (5.2%)
Cigarettes	10 (52.6%)	2 (10.5%)	0 (0%)	2 (10.5%)	0 (0.0%)	0 (0.0%)	2 (10.5%)
Marijuana	13 (68.4%)	2 (10.5%)	0 (0%)	1 (5.2%)	0 (0.0%)	3 (15.8%)	3 (15.8%)
Analgesics	12 (63.1%)	4 (21%)	0 (0%)	2 (10.5%)	1 (5.2%)	1 (5.2%)	0 (0.0%)
Prescription	5 (26.3%)	1 (5.2%)	1 (5.2%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Opioids	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Club Drugs	6 (31.5%)	4 (21%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Hallucinogens	2 (10.5%)	1 (5.2%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Stimulants	3 (15.8%)	1 (5.2%)	4 (21%)	3 (15.8%)	1 (5.2%)	7 (36.8%)	1 (5.2%)
Dissociative	0 (0.0%)	2 (10.5%)	0 (0.0%)	2 (10.5%)	0 (0.0%)	0 (0.0%)	2 (10.5%)
Other Compounds	0 (0.0%)	2 (10.5%)	0 (0.0%)	1 (5.2%)	0 (0.0%)	3 1(5.8%)	3 (15.8%)
Other	0 (0 0%)	4 (21%)	0 (0 0%)	2 (10 5%)	1 (5 2%)	1 (5 2%)	0 (0 0%)
Beta Blockers	1 (5.2%)	1 (5.2%)	1 (5.2%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)

 Table 12. Distribution of Drugs Used: Dancers (N = 19)

	Lifetime	Less than monthly	Once a Month	2 to 3 times a month	Once a week	2 to 3 times a week	Daily
Alcohol	15 (100%)	1 (6.6%)	1 (6.6%)	5 (33.3%)	1 (6.6%)	5 (33.3%)	0 (0.0%)
Cigarettes	9 (60.0%)	2 (13.3%)	2 (13.3%)	1 (6.6%)	1 (6.6%)	0 (0.0%)	0 (0.0%)
Marijuana	13 (86.6%)	6 (4.0%)	0 (0.0%)	3 (20%)	0 (0.0%)	1 (6.6%)	0 (0.0%)
Analgesics	9 (60.0%)	3 (20.0%)	0 (0.0%)	0 (0.0%)	2 (13.3%)	0 (0.0%)	0 (0.0%)
Prescription	1 (6.6%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Opioids	2 (13.3%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Club Drugs	2 (13.3%)	1 (6.6%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Hallucinogens	1 (6.6%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Stimulants	2 (13.3%)	1 (6.6%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (6.6%)
Dissociative	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Other Compounds	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Other	2 (13 3%)	0 (0.0%)	0 (0 0%)	0 (0.0%)	0 (0 0%)	0 (0 0%)	1 (6 6%)
Beta Blockers	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)

Table 13. Distribution of Drugs Used: Actors (N = 15)

Substance Abuse Potential

The Drug Abuse Screening Test (DAST) and Short Michigan Alcoholic Screening Test (SMAST) were administered within the survey as a separate section to screen for alcoholism or drug abuse related problems (see Tables 6 and 7).

Drug Abuse Screening Test. The DAST filters results into 5 categories: No problem, low level, moderate level, substantial level, and severe level of drug abuse related problems (see Table 14). Of the 58 participants, 6 (10%) reported no problems related to drug abuse, 39 (67%) participants had a low level, 12 (20%) had a moderate level, and 1 (2%) reported a substantial level of drug abuse in the past 12 months. No performing artists indicated a severe level of problems related to drug abuse. Twelve (21%) of the performing artists reported a moderate level of problems related to drug abuse. The one severe case was an undergraduate female musician.

Short Michigan Alcoholism Screening Test. The SMAST filters its results into three categories: No problems, borderline alcohol problem, and potential alcohol abuse (Table 15). Of the 58 participants, 47 (81%) reported no problems related to alcohol abuse, 5 (8%) indicated a possible problem, and 6 (11%) reported probable alcohol abuse. A total of 11 (19%) participants reported some level of alcoholism-related problems; 3 (20%) actors, 2 (8%) musicians, and 1 (5%) dancer scored at a level of probable alcoholism where further assessment is suggested. This indicates that approximately 1 in 5 collegiate performing artists may be at risk for developing alcoholism-related problems.

	No Problems	Low Level	Moderate Level	Substantial Level	Severe Level
Dancers	3 (16%)	12 (63%)	4 (21%)	0 (0%)	0 (0%)
Actors	0 (0%)	12 (80%)	3 (20%)	0 (0%)	0 (0%)
Musicians	3 (12%)	15 (63%)	5 (21%)	1 (4%)	0 (0%)
Total	6 (10%)	39 (67%)	12 (21%)	1 (2%)	0 (0%)

Table 14. Drug Abuse Screening Test (DAST) Results

Table 15. Short Michigan Alcohol Screening Test (MAST) Results

	No Problems	Possible	Probable
Dancers	15 (79%)	3 (16%)	1 (5%)
Actors	12 (80%)	0 (0%)	3 (20%)
Musicians	20 (84%)	2 (8%)	2 (8%)
Total	47 (81%)	5 (8%)	6 (11%)

The majority of performing artists, 47 (81%), did not report problems with alcoholism however 39 (67%) scored a low level of drug abuse related problems. In the DAST, all actors reported a low or moderate level of drug abuse related problems. The one musician who reported a substantial level of drug abuse also scored probable alcoholism on the SMAST. The other 5 participants who scored probable alcoholism on the SMAST scored at least a low level of drug abuse related problems on the DAST. In the open-ended responses, one participant identified themselves as a recovering addict of 3 years. They stated "[I] used extensively while performing and rehearsing earlier in life." Discounting the reported low levels of drug abuse problems, there is approximately a 1 in 5 risk of performing artists reporting problems related to alcoholism or drug abuse.

Injuries Sustained While Under the Influence

Eleven injuries were sustained while under the influence of psychoactive substances. One female dancer reported being injured while under the influence of alcohol, analgesics, and prescription medication; the survey did not differentiate if these were individual injuries or a single injury. The remaining 8 injuries were each sustained under the influence of alcohol. Of the total 10 alcohol-related injuries, 9 were reported by female participants and 5 of these females identified themselves as dancers.

Patterns of Use

Times of use. Participants whom reported having consumed alcohol (55), cigarettes (34), or marijuana (40) in the past year were asked to identify specific times or moments they engage with these substances; multiple selections were allowed and a response was not forced (see Figure 3). Alcohol was reported to be consumed more during the late night (47, 85%) and while socializing either at home 39 (71%) or out 55 (82%). Alcohol was reported to be least consumed during the morning 1 (2%) and afternoons (0). Similarly, cigarettes were reported to be most consumed during the late night 14 (41%) and while out socializing 14 (41%). Five females reported using cigarettes as a part of the creative process 5 (15%). Marijuana was reported to be used most during late nights 23 (58%), evenings 18 (45%), while out socializing 20 (50%) and

additionally, in the afternoons 10 (25%). The only time or moment not selected of any substance was alcohol in the afternoon.



Figure 3. Times and moments of substance use.

Substance use and performance. A Chi-square test of independence was performed to examine the difference between performance and the groups (see Table 8). A difference between these variables was significant χ^2 (2, N = 57) = 6.155, (p < .05). Musicians were more likely to report consuming alcohol before performance and dancers were more likely to consume analgesics prior to performance. By comparison, fewer actors than musicians and dancers reported a history of engaging with psychoactive substances before or during performing. In addition to Table 16, one musician reported to performing under the influence of hallucinogens and one actor reported performing under the influence of stimulants.

Further information was gathered from open-ended questions. Three participants responded that they have not and would not use drugs during rehearsal or performance. One participant noted using pain medication for an injury while playing. Two wrote of the positive qualities of substance use; "A glass of red wine before singing is actually very healthy for one's voice!" and "I like to have a glass of wine after rehearsals...to help me unwind and relax."

		_	
	Musicians	Dancers	Actors
Alcohol			
Before	8 (33.3%)	0 (0.0%)	0 (0.0%)
Performance	8 (33.3%)	1 (5.2%)	1 (6.6%)
Rehearsal	9 (37.5%)	1 (5.2%)	1 (6.6%)
Cigarettes			
Before	1 (4.1%)	1 (5.2%)	1 (6.6%)
After	1 (4.1%)	2 (10.5%)	1 (6.6%)
Marijuana			
Performance	6 (25.0%)	1 (5.2%)	1 (6.6%)
After	2 (8.3%)	3 (15.7%)	1 (6.6%)
Analgesic			
Performance	7 (29 1%)	8 (42 1%)	2 (13 3%)
Rehearsal	8 (33.3%)	8 (42.1%)	2 (13.3%)
Beta Blockers			
Performance	1 (4.1%)	0 (0.0%)	0 (0.0%)

Table 16. Substance Use and Performance

Conclusion

Alcohol, cigarettes, marijuana, and analgesics were the most commonly used substances by each group. The SMAST identified 6 (11%) participants who scored having a probable problem with alcoholism and the DAST identified 13 (23%) participants with a moderate to substantial problems with drug abuse. Injuries while under the influence were experienced by 9 (16%) participants, each of which was alcohol-related. Substances and performance was identified in two groups; musicians and alcohol as well as dancers and analgesics.

Chapter 5: Discussion

To better understand performing artists through the lens of health, this project focused on the substance use patterns, illicit and licit, of collegiate performing artists. Four central questions drove the formation of the original survey instrument; (1) What is the prevalence of substance use and abuse in the collegiate performing artist population? (2) How do performers compare to related populations? (3) Do performers engage in psychoactive substances before or during performance times? (4) What percentage of performers have sustained an injury while under the influence of psychoactive substances?

This project was conducted within a public university, which offers dance, music, and theater as bachelor and master degree programs. There are several tracks within the theater program (directing, production, sound, lighting) so this project included only students with a focus in acting, which is a bachelor of fine arts degree. Due to the subject matter, privacy of the participants was of upmost importance. For this reason, a confidential, online survey was administered via each departments' director so that names and other personal identifying information were not collected. The survey was emailed to approximately 411 performing arts students, of which 62 (15%) responded and 58 (14%) completed the survey.

Prevalence and Group Comparisons

Alcohol 55 (94.8%) and marijuana 40 (69%) were the two substances most reportedly used over the lifetime, followed by cigarette use 34 (59%) and analgesic medication use 34 (59%). Other illicit substances showed a lower prevalence over the

lifetime, such as club drugs 11 (19%), stimulants 8 (14%), and hallucinogens 6 (10%). Past year and monthly use were calculated by adding the individual responses of question D4.2 (use in the past year) of the survey (see Appendix A).

Alcohol is licit and widely available substance for individuals over the age of 21 in the United States; therefore, it was foreseeable that alcohol was consumed more than the other screened substances. Within this sample, 22 (84.6%) musicians, 17 (85%) dancers, and 13 (81.2%) actors consumed alcohol within the past year, representing 90% of the entire sample. Alcohol was widely studied in the previous performing artist literature, with a reported prevalence between 40% and 100%.^{22,25,55,57,58} Alcohol was not reported to be as involved in the creative process as cigarettes and marijuana were; this was interesting as alcohol showed to have a relationship with musicians and performance (see Chapter 4, Substance Use and Performance).

Cigarettes were used by fewer participants than marijuana when comparing lifetime use to past year use. Specifically in the dance population, rates between 16.5% and approximately 45% have been reported in samples of university and professional level dancers.^{12,23,25,54–56} These studies suggest that many dancers use cigarettes as an appetite suppressant to maintain a thinner physique. Our study indicated 6 (30%) of dancers have used cigarettes in the past year and 2 (11%) dancers reported use on a daily basis. Thirty percent is a higher prevalence of smoking than previous American studies, but lower than the two studies examining professional Croatian dancers.^{13,23,54,57} This could be influenced by the higher prevalence of cigarette smoking in Croatia compared to North America.²¹ This study is the first of its kind for collegiate theater actors in the United States. A group of 64 actors interviewed in 2008 reported that 75% used marijuana, 11% used cocaine or heroin, and 8% used steroids.²⁸ Comparatively, the current sample (N = 16) showed 13 (81%) have used marijuana, 2 (13%) have used stimulants or opioids, and no actors reported 'other compounds' such as steroids, within their lifetimes. As this was a culturally different sample and we used a different methodology, it is surprising how close the prevalence between the two samples are. Moreover, other findings included 15 (94%) have consumed alcohol and 9 (60%) have smoked cigarettes in the actor's lifetime.

The current sample of musicians were most similar to the 10 rock musicians surveyed in 1987 who reported 80% consumed alcohol, 50% used cigarettes, and 50% occasionally used other drugs such as marijuana; the current sample reported 22 (91%) alcohol consumption, 11 (46%) used cigarettes, and 12 (50%) have used marijuana in the past year.⁵⁸ More recently, Miller and Quigley conducted a study with a broad sample of musicians in the United States. Our study reported a higher rate of weekly alcohol, yearly cocaine, and yearly prescription drug use compared to the 226 musicians from Miller and Quigley's research.²² However, 50% of both samples (12 and 113) reported using marijuana in the past year or occasionally.²²

Population Comparisons

Americans. To compare the current sample to a single age group of American citizens, the young adults (ages 18 to 25) were selected from the total sample; this excluded 5 participants aged 26 or older. The remaining 53 young adult performing artists were compared to the 2012 National Survey on Drug Use and Health (NSDUH) (N

 \approx 67,500) results of young Americans' use of several substances. This comparison can be seen in Figure 2; attention paid to the difference in sample size (see Figure 4).



Figure 4. Young adult substance use prevalence, past month.

Young Americans reported the same four most consumed substances as performing artists which are: alcohol (60.2%), cigarettes (31.8%), marijuana (18.7%), and analgesics (3.8%).¹⁴ However, in the performing artist sample, marijuana use was reported by more participants than cigarette use. Moreover, analgesics were reported by 3.8% of the American population compared to the 13 (54%) of the performing artist sample.¹⁴ Cocaine was the most prevalent illicit drug reported in the American sample, while club drugs 11 (19%) were the most reported in the performing artist sample.¹⁴ **College students.** To understand the performing artists in relation to college students, reports such as the College Alcohol Study (CAS), the National College Health Assessment (NCHA), and other independent research of college students' substance use patterns were used. The CAS found 70% of college students engaged in alcohol use in the past month and 40% reported binge drinking (the consumption of 5 or more drinks in a row for men and 4 or more for women at least once in the past 2 weeks).^{46,48} Binge drinking was not assessed in our study. Specifically 47 (80%) performing artists reported consuming alcohol in the past month.

In the cluster analysis using the NCHA by Primack et al, the Global Abstainers group, meaning persons who reported no binge-drinking or smoking behaviors in the past 30 days, represented 54% of the college student sample of over 100,000 individuals.¹⁷ In comparison, just 3 (5%) the performing artists had never consumed alcohol in their lifetime and 6 (10%) reported not having consumed alcohol in the past year. In comparison to these two larger-scale surveys, alcohol consumption is slightly higher prevalence in the performing artist sample.

Alcohol, marijuana, and cigarettes are the three most abused substances in the college population.¹⁷ The prevalence of marijuana use of college students is reported to be between 41% to 47% while, in comparison, 40 (69%) performing artists reported marijuana use in their lifetimes.^{44,48} For nicotine, Yusko et al found 49.7% of male and 52.5% of female college students' have used cigarettes in their lifetime and similarly, 34 (58.6%) performing artist's reported cigarette use in their lifetime.⁵³ These comparisons tell us that performing artists may be somewhat on par with college students in regard to

their alcohol and cigarette consumption however, marijuana use should be further questioned as it revealed a larger gap.

Recent research of college students notes a growing concern of the misuse and abuse of pharmaceuticals. For example, Quintero found 55% of sociorecreational use of prescription drugs within the past year while Ford reported 17% of nonmedical prescription drug use in their lifetime.^{5,41} The performing artists' responses show approximately a 21% (12) of nonmedical prescription drug use over the lifetime and 10% (6) over the past year.

Collegiate athletes. When investigating substance use patterns of college students, certain groups such as Greek-life and athletes have been under additional scrutiny for several reasons.¹⁷ Sports are a peer-intensive activity, impose greater demands atop academic success, and have different social norms compared to non-athlete college students.⁴² Performing artists are a similar group to athletes; they manage additional choreographer and peer relationships, attend extracurricular rehearsals and practices, have on and off seasons, experience creative successes and failures, and develop their skills independently and simultaneously within a group. Team sport athletes more often report high-risk drinking patterns than individual event athletes.⁴⁹ The differences in social norms between athletics and performing artists may influence differences seen in substance use patterns across other substances (Table 17).

The majority of research conducted of collegiate athletes drinking behaviors is in terms of binge drinking which makes comparisons between these data sets and the current results a challenge.^{43,49,51} It is important to keep into consideration the smaller

sample size of male performing artists that can bias the representation of this group. This was somewhat expected as there are typically disproportionately more females than males in dance programs. Approximately 91.1% of female collegiate athletes reported alcohol consumption in the past year and 76.6% in the past month. This is similar to the female performing artist sample whom reported 75% consumed alcohol in the past month and 90% in their lifetime.⁸⁴ Past year marijuana use in college athletes ranges between 25% - 37% which is less than the 53% (31) of performing artists that reported marijuana use in the same time frame. Illicit substance use in collegiate athletes ranges from 6% to 25% when considering prescription drugs for non-medical reasons.⁵³ The performing artists fell below or with the same ranges with the exception of club drugs (11, 19%). Prescription drug use for non-medical reasons was approximately 21% (12) in the performing artist sample.

	Performing Artists		Athl	Athletes ⁵³		Nonathletes ⁵³	
	Female (N = 45)	Male (N = 13)	Female (N = 158)	Male (N = 233)	Female (N = 317)	Male (N = 185)	
Alcohol ^{41,53}							
Past Year	93 3% (42)	76 9% (10)	91.1%	93.6%	91.1%	90.6%	
Past Month	84.4% (38)	69.2% (9)	76.6%	85.4%	79.7%	83.0%	
Cigarettes							
Lifetime	55.6% (25)	60.0% (9)	35.4%	39.9%	52.5%	49.7%	
Past Year	35.6% (16)	53.8% (7)					
Marijuana							
Lifetime	68.9% (31)	60.0% (9)	53.8%	54.5%	62.4%	63.8%	
Past Year	55.6% (25)	46.2% (6)	25.0%	37.3%	47.6%	50%	
Past Month	33.3% (15)	23.1% (3)					
Prescription							
Drugs	17.8% (8)	26.7% (4)	10.2%	22.8%	14.7%	24.3%	
Lifetime Past year	8.9% (4)	15.4% (2)	7.1%	17.0%	9.6%	21.7%	
Stimulant							
Lifetime	8.9% (4)	26.7% (4)	3.8%	12.5%	7.4%	15.5%	
Past year	8.9% (4)	15.4% (2)	3.2%	11.7%	4.8%	12.2%	
Hallucinogen							
Lifetime	6.7% (3)	20.0% (3)	9.6%	15.5%	9.7%	23.3%	
Past year	2.2% (1)	7.7% (1)	5.7%	10.8%	4.9%	16.7%	

Table 17. Prevalence of Substance Use in Three Collegiate Population Samples

The prevalence of alcohol consumption of performing artists is similar to athletes and college students. The performing artists reported cigarette smoking at a similar prevalence of college students and more than was found in college athletes. Illicit drug use remains low over the entire American population. For most substances reported this is true that the performing artists report a higher prevalence of substance use than athletes and is more similar to the general college population.

Performance.

Substance use and performance were under investigation because rehearsals and performance are times of increased stress in which coping mechanisms, such as substance use, may be applied to relax, perform better, or to celebrate success. In several variations, our survey asked if performers engaged with substances before, during, or after performance or rehearsal and then were allowed to elaborate in an open-ended answer form. Table 18 reports the response to "Do you consume X substance before performance/rehearsals?"

	Musicians (N = 24)	Dancers (N = 19)	Actors (N = 15)
Alcohol	33% (8)	0% (0)	0% (0)
Cigarettes	4% (1)	5% (1)	6% (1)
Marijuana	25% (6)	5% (1)	6% (1)
Analgesic	29% (7)	42% (8)	12% (2)
Beta-blockers	4% (1)	0% (0)	0% (0)

 Table 18. Substance Use and Performance Responses

Performance and substance use was elaborated on in the open-ended answers. Three participants responded that they have not and would not use drugs during rehearsal or performance. One participant noted using pain medication for an injury while playing. Two wrote of the positive qualities of substance use; "A glass or red wine before singing
is actually very healthy for one's voice!" and "I like to have a glass of wine after rehearsals...to help me unwind and relax." These responses demonstrate that there are contrasting perceptions and beliefs within the performing artist group.

Secondarily, while alcohol, cigarettes, and marijuana have a higher prevalence than other substances, specific questions concerning times and moments of use were asked. Alcohol and cigarettes were reportedly used most while out socializing whereas marijuana was used more at home while socializing. All three substances had the highest rate of use during 'late night' and 'evening'. We asked if they used substances as a part of the creative process and approximately a quarter of the performers used alcohol and marijuana at this time (see Figure 3).

Injury

Eleven total substance influences injuries were reported; the majority (10) of reported substance influenced injuries reported were associated with alcohol and by female (N = 9) and dancer participants. This raises concern because a dancers' medium is their body and if alcohol is a risk factor perhaps there should be additional preventative measures taken in this population. It would be of interest to investigate all injuries in a dance sample to find out what is the prevalence of alcohol-related injuries. This, however, may be biased, as patients may not disclose intoxication for risk of judgment or pride.

Substance Abuse Potential

The SMAST was used to detect potential problems with alcoholism. The majority 47 (81%) of performing artists reported no problems at all. Each group scored in a similar

range in terms of possible or probable problems with alcohol. A similar relationship was seen in the DAST-10 results, no group stood out in terms of reported problems with drug abuse. Approximately 20% of each group reported a moderate level of problems with drug abuse. A moderate level of drug abuse indicated that further assessment is required. An additional 6% (2) performing artists scored at a substantial level of problems with drug abuse.

Limitations

The collegiate performing artist participants may be similar to other collegiate performing artists, however, due to the 14% response rate, a generalization cannot be certain. The data-collection period was shorter than anticipated due to several factors such as department chair responses and recruitment email distribution.

The survey used in this particular study and its creation was reflective of past literature and was modified by content experts. During the data-analysis, minor errors in the display logic coding were identified, which could have affected some comparisons; in particular, the additional questions about one substance was not displayed to subjects that should have otherwise seen them. Additionally, the substance categories could be further defined to minimize crossover between categories to improve the interpretation of results.

At the time of data collection, the primary researcher was one of two athletic trainers in a performing arts clinic at the research university. Although direct influence was avoided to pursue performing arts students to participate, our identities and interest in collecting data from the artists may have influenced the response rate. This reflects a possible response or answering bias; an estimated half of the available population of performing artists had been treated in the clinic for evaluation and may have interacted with the lead researcher.

Significance

Approximately 14 (25%) of the performing artist sample scored at a moderate or substantial level of problems related to drug abuse; according to the DAST-10, these levels are an indication that further assessment is recommended. A health professional working with performing artists could implement this short screen as a part of a preseason or pre-semester effort to prevent problems related to drugs or alcohol. Alcohol was most reported to be involved with sustained injuries in the sample; health professionals could also educate performers about this additional, possibly careereffecting risk of over consumption.

Future Research

In previous literature involving college students and collegiate athletes, bingedrinking was assessed over alcohol consumption because it was found to be the most clinically significant. In future research of performing artists, it would be beneficial to consider binge-drinking along with scales of abuse and overall prevalence to widen the scope and improve comparisons.

Continued research on the subject should also investigate substance use at different levels of performance; looking for potential differences between professional, pre-professional, and community performing artists may provide insight into the progression or culture of drug use in the arts. This sample investigated a fraction of collegiate performers, however, comparing them to local professionals could suggest that their patterns may change or be influenced, such as by Social Learning Theory, if they continue on the same career tracks.^{51,52}

Conclusion

As an initial study, a large amount of information was gained about the substance use and abuse patterns of performing artists. The survey instrument was adequate in capturing the prevalence of substance use and abuse of the performing artists, however, it would benefit to be improved upon. In our opinion, the coding logic within QualtricsTM, recruitment methods, and the grouping and description of substance categories could be improved before being used again. This project provided foundational information about American actors and added to the previous research done of musicians and dancers. The data may be used to enhance clinical care and to further understand the culture of performing artists.

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Appendix A: Survey Instrument

D1.1 You are being asked to participate in research. For you to be able to decide whether you want to participate in this project, you should understand what the project is about, as well as the possible risks and benefits in order to make an informed decision. This process is known as informed consent. This form describes the purpose, procedures, possible benefits, and risks. It also explains how your personal information will be used and protected. Once you have read this form and your questions about the study are answered, you will be asked to sign it. This will allow your participation in this study. You will have access to a copy, which you can print and take with you.

Explanation of Study

This study is being done because there is a lack of similar or substantial reviews of substance use in performing artists. Questions being asked include those of your personal substance use habits. If you agree to participate, you will be given a link to complete a survey in which you will sign this consent form and continue to complete the survey. You will have up to 48 hours after activating the link to return and complete the survey. This can be done in the privacy of your own home.

You should only participate in this study if you meet the inclusion criteria:

At least eighteen [18] years of age or older

A performing artist student (music, dance, or theater) at Ohio University Your participation in this study will last approximately 15 - 30 minutes; there is a minimum of 38 questions and a maximum of 114. How many you need to answer depends on your substance use habits.

You may discontinue the survey at any time without explanation.

Risks and Discomforts

Minimal risks or discomforts are anticipated. You might experience psychological discomfort from disclosing sensitive or illicit behaviors such as substance use information and performance details in relation to substance use. If you feel uncomfortable or concerned about your substance use habits at the end of this survey, you may call the hotline number 1-800-662-HELP (4357).

Benefits

The academic community will gain useful information about performing artists' level of substance use. The population that will benefit from this research includes scientists, medical professionals, and performing art teachers. The results on substance use in performing artists could provide a better outlook of health and risks in the performing arts field.

Confidentiality and Records

Your study information will be kept anonymous through an anonymous link. At no time will you be asked your name or other identifying information. The researcher, your academic institution, or your place of employment will not have the ability to connect you to your responses. Additionally, while every effort will be made to keep your study-related responses confidential, there may be circumstances where this information must be shared with:

Federal agencies, for example the Office of Human Research Protections, whose responsibility is to protect human subjects in research Representatives of Ohio University (OU), including the Institutional Review Board, a committee that oversees the research at OU.

Compensation

There is no compensation for partaking in this survey

By agreeing to participate in this study, you are agreeing that:

you have read this consent form you have been informed of potential risks and they have been explained to your satisfaction.

you are 18 years of age or older your participation in this research is completely voluntary you may leave the study at any time.

If you decide to stop participating in the study, there will be no penalty.

Contact

If you have any questions regarding this study please contact:

Jill Descoteaux at jd577613@ohio.edu

Dr. Chad Starkey at starkeyc@ohio.edu

• Agree to Terms of Consent (1)

O Disagree to Terms of Consent (2)

If Disagree to Terms of Consent Is Selected, Then Skip To End of Survey

D1.2 Directions: Read each question and answer honestly. There is no time limit and you are not being timed Answer all questions Please answer questions in respect to the LAST ONE YEAR, unless otherwise stated Pertinent definitions "Sustained an Injury" : meaning you became physically injured and had to stop your activity (dance, music, theater) for at least one practice/rehearsal/day "Performance" : meaning any time you performed your craft (playing, acting, dancing) in front of an audience (peer or public)

[Blue indicates display logic coding]

- D1.3 What is your primary profession or subject of study?
- O Dancer (1)
- O Musician (2)
- **O** Theater Actor (3)
- D1.4 What is your gender?
- O Male (1)
- O Female (2)
- **O** Other (3)
- D1.5 What is your current age?
- **O** younger than 18 (1)
- **O** 18 20 (2)
- **O** 21 25 (3)
- **O** 26 30 (4)
- **O** 31 35 (5)
- **O** 36 40 (6)
- \bigcirc 40 and older (7)

- D1.6 What year in school are you?
- **O** Undergraduate (1)
- O Graduate (2)
- **O** Doctoral (3)

D1.7 How long have you been working and/or studying as a performing artist?(includes involvement practicing and performing your art prior and during enrollment at Ohio University)

- **O** Less than one year (1)
- **O** 1 5 years (2)
- **O** 6 10 years (4)
- **O** 11 years and more (5)

D1.8 Have you worked in your field as a professional working more than 15 hours a week including rehearsals and performances?

- **O** Yes (1)
- **O** No (2)

D1.9 Region of birth.(If an international student, select international)

- O West (AK, AZ, CA, CO, HI, ID, MT, NM, NV, OR, UT, WA, and WY) (1)
- South (AL, AR, DE, FL, GA, KY, LA, MD, MS, NC, OK, SC, TN, TX, VA, and WV) (2)
- Northeast (CT, MA, ME, NH, NJ, NY, PA, RI, and VT) (3)
- O Midwest (IA, IL, IN, KS, MI, MN, MO, ND, NE, OH, SD, and WI.) (4)
- **O** International (5)

D1.10 In relation to the previous questions: Are you from a rural, urban, or suburban area?

- Rural (Less than 10,000 people) (1)
- O Suburban (Between 10,000 and 50,000 people) (3)
- Urban (More than 50,000 people) (2)

Answer If What is your primary profession or subject of study? Dancer Is Selected

D1.11 What is your primary genre of dance?(What genre encompasses the majority of your total training)

- O Modern / Contemporary (9)
- Classical Ballet (5)
- Contemp Ballet (6)
- **O** Hip Hop (8)
- **O** Ethnic dance forms (11)
- **O** Tap (1)
- **O** Jazz (2)
- **O** Swing (3)
- **O** Ballroom / Sport (4)
- O Irish / Scottis (7)
- **O** Acro / Competitive (18)

Answer If What is your primary profession or subject of study? Musician Is Selected

D1.12 What is your level of involvement (performance) in the following genres? (Numbers are by percentages of your total performance time)

Reflective/Complex (bluegrass/folk, blues, classical, opera, jazz) (1)

- _____ Upbeat/Conventional (country, gospel/religious, pop, oldies, soundtracks) (2)
 - Intense/Rebellious (alternative, heavy metal, punk, rock) (3)
 - Energetic/Rhythmic (dance, electronic, funk, rap, hip-hop, soul, R&B) (4)

Answer If What is your primary profession or subject of study? Musician Is Selected

D1.13 What is your primary instrument?

- **O** Vocal (1)
- **O** Percussion (2)
- Strings (3)
- **O** Wind (4)
- O Brass (5)
- O Keyboard (6)

Answer If What is your primary profession or subject of study? Theater Actor Is Selected D1.14 What is your primary genre?

- O Classic (1)
- O Classic (1)
- Comedy (2)
- O Drama (3)
- O Mix of above (4)

D2.1 The following is the DAST-10 Questionnaire Drug Abuse Screening Test (10 Questions) Please read the list of questions concerning information about your potential

involvement with drugs, excluding alcohol and tobacco, during the past 12 months. When the words "drug abuse" are used, it means the use of prescribed or over-thecounter medications/drugs in excess of the directions and any non-medical use of drugs. The various classes of drugs may include: cannabis (e.g., marijuana, hash), solvents, tranquilizers (e.g., Valium), barbiturates, cocaine, stimulants (e.g., speed), hallucinogens (e.g., LSD) or narcotics (e.g., heroin). Remember that the questions do not include alcohol or tobacco. If you have difficulty with a statement, then choose the response that is mostly right. You may choose to answer or not answer any of the questions in this section.

D2.2 Have you used drugs other than those required for medical reasons?

- **O** Yes (1)
- **O** No (2)

D2.3 Do you abuse more than one drug at a time?

O Yes (1)

O No (2)

D2.4 Are you unable to stop abusing drugs when you want to?

- **O** Yes (1)
- **O** No (2)

D2.5 Have you ever had blackouts or flashbacks as a result of drug use?

O Yes (1)

O No (2)

D2.6 Do you ever feel bad or guilty about your drug use?

O Yes (1)

O No (2)

D2.7 Does your spouse (or parents) ever complain about your involvement with drugs? • Yes (1)

O No (2)

D2.8 Have you neglected your family because of your use of drugs?

O Yes (1)

O No (2)

D2.9 Have you engaged in illegal activities in order to obtain drugs?

- **O** Yes (1)
- **O** No (2)

D2.10 Have you ever experienced withdrawal symptoms (felt sick) when you stopped taking drugs?

O Yes (1)

O No (2)

D2.11 Have you had medical problems as a result of your drug use (e.g. memory loss, hepatitis, convulsions, bleeding)?

O Yes (1)

O No (2)

D3.1 The following is the SMAST Questionnaire Short Michigan Alcoholism Screening Test (13 Questions) The following questions concern information about your involvement with alcohol during the past 12 months. Carefully read each statement and decide if your answer is "YES" or "NO". Then, check the appropriate box beside the question. If you have difficulty with a statement, then choose the response that is mostly right. You may choose to answer or not answer any of the questions in this section.

D3.2 Do you feel that you are a normal drinker? (by normal we mean do you drink less than or as much as most other people)

O Yes (1)

O No (2)

D3.3 Does your wife, husband, a parent, or other near relative ever worry or complain about your drinking?

O Yes (1)

O No (2)

D3.4 Do you ever feel guilty about your drinking?

O Yes (1)

O No (2)

D3.5 Do friends or relatives think you are a normal drinker?

O Yes (1)

O No (2)

D3.6 Are you able to stop drinking when you want to?

O Yes (1)

D3.7 Have you ever attended a meeting of Alcoholics Anonymous (AA)?

O Yes (1)

O No (2)

D3.8 Has your drinking ever created problems between you and your wife, husband, a parent or other near relative?

O Yes (1)

O No (2)

D3.9 Have you ever gotten into trouble at work because of your drinking?

- **O** Yes (1)
- **O** No (2)

D3.10 Have you ever neglected your obligations, your family, or your work for two or more days in a row because you were drinking?

O Yes (1)

O No (2)

D3.11 Have you ever gone to anyone for help about your drinking?

- **O** Yes (1)
- **O** No (2)

D3.12 Have you ever been in a hospital because of drinking?

- **O** Yes (1)
- **O** No (2)

D3.13 Have you ever been arrested for drunken driving, driving while intoxicated, or driving under the influence of alcoholic beverages?

- **O** Yes (1)
- **O** No (2)

D3.14 Have you ever been arrested, even for a few hours, because of other drunken behaviors?

- **O** Yes (1)
- **O** No (2)

internine.		
	Yes (1)	No (2)
Alcohol (1)	Ο	Ο
Nicotine Cigarettes (2)	Ο	Ο
Cannabinoids (Cannabis/Marijuana) (3)	0	0
Analgesics / Pain killers (4)	Ο	Ο
Beta-Blockers (13)	Ο	Ο
Prescription Medication (for non-medical use only) (5)	Ο	0
Opioids (Heroin, Opium) (6)	Ο	Ο
Club Drugs (MDMA, GHB) (7)	0	Ο
Hallucinogens (LSD, Mescaline, Psilocybin) (8)	Ο	0
Stimulants (Cocaine, Methamphetamine, or Amphetamine) (9)	0	0
Dissociative Drugs (Ketamine, PCP) (10)	0	0
Other Compounds (Anabolic steroids, inhalants) (11)	0	0
Other psychoactive drugs (12)	0	0

D4.1 Have you used or consumed any of the following substances even just once in your lifetime?

	Never (1)	Less than Once a Month (2)	Once a Month (3)	2-3 Times a Month (4)	Once a Week (5)	2-3 Times a Week (6)	Daily (7)
Alcohol (1)	0	О	0	О	О	Ο	0
Nicotine Cigarettes (2)	0	О	0	О	0	О	О
Cannabinoids (Cannabis/Marijuana) (3)	О	О	О	О	О	О	О
Analgesics / Pain killers (4)	0	О	О	О	0	О	О
Beta-Blockers (13)	О	О	О	О	О	Ο	0
Prescription Medication (for non- medical use only) (5)	0	О	О	О	О	О	О
Opioids (Heroin, Opium) (6)	0	О	0	О	0	О	О
Club Drugs (MDMA, GHB) (7)	0	О	0	О	О	О	О
Hallucinogens (LSD, Mescaline, Psilocybin) (8)	0	О	О	О	О	О	0
Stimulants (Cocaine, Methamphetamine, or Amphetamine) (9)	0	О	О	О	О	О	О
Dissociative Drugs (Ketamine, PCP) (10)	0	О	О	О	0	0	О
Other Compounds (Anabolic steroids, inhalants) (11)	О	О	О	О	О	О	O
Other psychoactive drugs (12)	0	О	0	О	0	ο	О

D5.1 A drink is defined as: 12-ounces of bee 8-ounces of malt liquor 5-ounces of wine 1.5-ounces or a "shot" of 80-proof distilled spirits or liquor (e.g., gin, rum, vodka, or whiskey)

Answer If Have you used or consumed any of the following substances even just once in your lifetime? Alcohol - Yes Is Selected Or In the past ONE YEAR, how often have you used: Alcohol - Never Is Not Selected

D5.2 How many drinks do you average on a typical weekend?

- **O** 0(1)
- **O** 1 3 (2)
- **O** 4 6 (3)
- O 7 9 (4)
- **O** 10+ (5)

Answer If Have you used or consumed any of the following substances even just once in your lifetime? Alcohol - Yes Is Selected Or In the past ONE YEAR, how often have you used: Alcohol - Never Is Not Selected

D5.3 How many drinks do you average during a typical school/work week?

- **O** 0(1)
- **O** 1 3 (2)
- **O** 4 6 (3)
- **O** 7 9 (4)
- **O** 10+(5)

Answer If In the past ONE YEAR, how often have you used: - Daily Is Selected

D5.4 On average, how many alcoholic drinks do you consume daily?

- **O** 0(6)
- **O** 1 2 (1)
- **O** 3 4 (2)
- **O** 5 6 (3)
- **O** 7 8 (4)
- **O** 9+(5)

Answer If In the past ONE YEAR, how often have you used: Alcohol - Never Is Not Selected

D5.5 What types of alcoholic drinks do you consume most often? (Multiple selection allowed)

- $\Box \quad \text{Beer}(1)$
- $\Box \quad \text{Wine} (2)$
- \Box Liquor (3)

Answer If Have you used or consumed any of the following substances even just once in your lifetime? Alcohol - Yes Is Selected Or In the past ONE YEAR, how often have you used: Alcohol - Never Is Not Selected

D5.6 Did you consume alcohol before the legal drinking age in your respective country? • Yes (1)

O No (2)

Answer If Did you consume alcohol before the legal age in your country? Yes Is Selected D5.7 At what age did you begin drinking alcohol?

- **O** 10 or younger (1)
- **O** 11 13 (2)
- **O** 14 16 (3)
- **O** 17 18 (4)
- **O** 18 20 (5)
- **O** 21 or older (6)

Answer If Have you used or consumed any of the following substances even just once in your lifetime? Alcohol - Yes Is Selected Or In the past ONE YEAR, how often have you used: Alcohol - Never Is Not Selected

D5.8 Have you ever sustained an injury under the influence of alcohol?

- **O** Yes (1)
- **O** No (2)

Answer If Have you used or consumed any of the following substances even just once in your lifetime? Alcohol - Yes Is Selected Or In the past ONE YEAR, how often have you used: Alcohol - Never Is Not Selected

D5.9 Do you ever consume alcohol before a performance (within one hour of showtime)? \bigcirc Yes (1)

Answer If Have you used or consumed any of the following substances even just once in your lifetime? Alcohol - Yes Is Selected Or In the past ONE YEAR, how often have you used: Alcohol - Never Is Not Selected

D5.10 Have you ever been under the influence of alcohol while rehearsing?

O Yes (1)

O No (2)

Answer If In the past ONE YEAR, how often have you used: Alcohol - Never Is Not Selected Or Have you used or consumed any of the following substances even just once in your lifetime? Alcohol - Yes Is Selected

D5.11 Have you ever performed under the influence of alcohol?

- **O** Yes (1)
- **O** No (2)

Answer If In the past ONE YEAR, how often have you used: Alcohol - Never Is Not Selected

D5.12 Which times/moments of the day do you most frequently drink alcohol?(Check all that apply)

- $\Box \quad \text{Morning (4)}$
- $\Box \quad \text{Afternoon} (5)$
- Evening (6)
- \Box Late Night (7)
- □ Before/after performance (8)
- \Box When out socializing (9)
- \Box With other peers/artists at home (10)
- \Box Before going to sleep (11)
- \Box With meals (12)
- \Box As part of the creative process (13)

Answer If Have you ever performed under the influence of alcohol? Yes Is Selected

D5.13 What factors led to you to perform under the influence of alcohol?(Check all that apply)

- \Box To lessen performance anxiety (1)
- □ Because of pressure from others (2)
- \Box "Perform best when I drink" (3)
- □ For performance enhancement (4)
- \Box To experiment (5)
- □ To calm nerves/stop jitters (6)

Answer If Have you used or consumed any of the following substances even just once in your lifetime? Nicotine Cigarettes - Yes Is Selected Or In the past ONE YEAR, how often have you used: Nicotine Cigarettes - Never Is Not Selected

D6.1 At what age did you begin smoking?

- **O** 11 or younger (1)
- **O** 12 15 (2)
- **O** 16 17 (3)
- **O** 18 19 (4)
- **O** 20 29 (5)
- **O** 30+(6)

Answer If In the past ONE YEAR, how often have you used: Nicotine Cigarettes - Daily Is Selected

D6.2 On average, how many cigarettes do you smoke daily?

- **O** Less than 1(7)
- **O** 1 4 (1)
- **O** 5 9 (2)
- **O** 10 14 (3)
- **O** 15 19 (4)
- **O** Between one and two full packs (20 39)(5)
- O More than two packs a day (40 +) (6)

Answer If What age did you begin smoking? 11 or younger Is Displayed

D6.3 Do you normally smoke cigarettes before a performance (within 30 minutes of showtime)

- **O** Yes (1)
- **O** No (2)

Answer If What age did you begin smoking? 11 or younger Is Displayed

D6.4 Do you normally smoke cigarettes after a performance? (within 30 minutes after showtime)

- **O** Yes (1)
- **O** No (2)

Answer If What age did you begin smoking? 11 or younger Is Displayed

D6.5 Do you feel that smoking cigarettes has helped you in your artistic practice? \bigcirc Yes (1)

Answer If At what age did you begin smoking? 11 or younger Is Displayed

D6.6 What times/moments of day do you most frequently smoke cigarettes?(Check all that apply)

- $\Box \quad Morning (4)$
- $\Box \quad \text{Afternoon} (5)$
- **U** Evening (6)
- □ Late Night (7)
- □ Before/after performance (8)
- □ When out socializing (9)
- \Box With other peers/artists at home (10)
- □ Before going to sleep (11)
- \Box With meals (12)
- \Box As part of the creative process (13)

Answer If What age did you begin smoking? 11 or younger Is Displayed

D6.7 Are you currently quitting, or in the past tried to quit, smoking?

- **O** Yes (1)
- **O** No (2)

Answer If What age did you begin smoking? 11 or younger Is Displayed

D6.8 When you smoke cigarettes, is it typically in conjunction with other substances? (e.g. when also drinking alcohol)

- **O** Yes (1)
- **O** No (2)

Answer If Have you used or consumed any of the following substances even just once in your lifetime? Cannabinoids (Cannabis/Marijuana) - Yes Is Selected Or In the past ONE YEAR, how often have you used: Cannabinoids (Cannabis/Marijuana) - Never Is Not Selected

D7.1 At what age did you begin using/smoking marijuana?

- **O** 11 or younger (1)
- **O** 12 15 (2)
- **O** 16 17 (3)
- **O** 18 19 (4)
- **O** 20 29 (5)
- **O** 30 39 (6)
- **O** 40+(7)

Answer If In the past ONE YEAR, how often have you used: Cannabinoids (Cannabis/Marijuana) - Daily Is Selected

D7.2 How many times do you use/smoke marijuana daily? (individual instances)

- **O** 1(1)
- **O** 2 (2)
- **O** 3+(3)

Answer If What age did you begin using/smoking marijuana? 11 or younger Is Displayed D7.3 What times of the day do you most frequently smoke/use marijuana? (Check all that apply)

- $\Box \quad \text{Morning}(1)$
- $\Box \quad \text{Afternoon} (2)$
- $\Box \quad \text{Evening (3)}$
- □ Late Night (4)
- □ Before/after performance (5)
- \Box When out socializing (6)
- \Box With other peers/artists at home (7)
- □ Before going to sleep (8)
- \Box With meals (9)
- \Box As part of the creative process (10)

Answer If What age did you begin using/smoking marijuana? 11 or younger Is Displayed D7.4 Have you been under the influence of marijuana while rehearsing and/or during performance?

- O Yes (1)
- **O** No (2)

Answer If What age did you begin using/smoking marijuana? 11 or younger Is Displayed D7.5 Do you normally use/smoke marijuana before a performance (within 30 minutes of showtime)

- \mathbf{O} Yes (1)
- **O** No (2)

Answer If What age did you begin using/smoking marijuana? 11 or younger Is Displayed D7.6 Do you normally use/smoke marijuana after a performance? (within 30 minutes after showtime)

O Yes (1)

Answer If What age did you begin using/smoking marijuana? 11 or younger Is Displayed D7.7 When you smoke marijuana, is it typically in conjunction with other substances? (e.g. with alcohol or cigarettes) • Yes (1)

O No (2)

Answer If A drink is defined as: 12-ounces of bee 8-ounces of malt liquor 5ounces of wine 1.5-ounces or a "shot" of 80-proof distilled spirits or liquor (e.g., gin, rum, vodka, or whiskey. . . Is Displayed Or At what age did you begin smoking? 11 or younger Is Displayed Or At what age did you begin using/smoking marijuana? 11 or younger Is Displayed

D8.1 A Reminder: Read each question and answer honestly Answer all questions Please answer questions in respect to the LAST ONE YEAR, unless otherwise stated Pertinent definitions "Sustained an Injury" : meaning you became physically injured and had to stop your activity (dance, music, theater) for at least one practice/rehearsal/day "Performance" : meaning any time you performed your craft (playing, acting, dancing) in front of an audience (peer or public)

Answer If Have you used or consumed any of the following substances even just once in your lifetime? Analgesics / Pain killers - Yes Is Selected Or In the past ONE YEAR, how often have you used: Analgesics / Pain killers - Never Is Not Selected

D9.1 The following section is about analgesics / pain killers. Analgesic: is any member of the group of drugs used to relieve pain. NSAIDs: Ibuprofen (Motrin, Advil), Aspirin (Ecotrin), Naproxen (Naprosyn). Paracetamol: Acetaminophen (Tylenol, Panadol, Mapap) Opiates: such as Codeine or Morphine Morphinomimetics: synthetic derivatives whose pharmacological properties are close to those of morphine.

Answer If Have you used or consumed any of the following substances even just once in your lifetime? Analgesics / Pain killers - Yes Is Selected Or In the past ONE YEAR, how often have you used: Analgesics / Pain killers - Never Is Not Selected

D9.2 What types of analgesics / pain killers have you used/taken?

- □ Paracetamol / NSAIDs (1)
- Opiates and Morphinomimetics (2)

Answer If Have you used or consumed any of the following substances even just once in your lifetime? Analgesics / Pain killers - Yes Is Selected Or In the past ONE YEAR, how often have you used: Analgesics / Pain killers - Never Is Not Selected

D9.3 When you experience pain, do you use analgesic medications?

O Yes (1)

Answer If Have you used or consumed any of the following substances even just once in your lifetime? Prescription Opioids / Pain-Killers - Yes Is Selected Or In the past ONE YEAR, how often have you used: Prescription Opioids / Pain-Killers - Never Is Not Selected

D9.4 Have you used/consumed an analgesic medication to lessen pain during past performances?(Ingested either before or during a performance)

- **O** Yes (1)
- **O** No (2)

Answer If Have you used or consumed any of the following substances even just once in your lifetime? Analgesics / Pain killers - Yes Is Selected Or In the past ONE YEAR, how often have you used: Analgesics / Pain killers - Never Is Not Selected

D9.5 Have you used/consumed an analgesic medication to lessen pain during past practices/rehearsals?(Ingested either before or during rehearsal/practice)

- **O** Yes (1)
- **O** No (2)

Answer If What types of analgesics / pain killers have you used/taken? Opiates and Morphinomimetics Is Selected

D9.6 Have you used opiates / morphinomimetics without a prescription or under medical supervision?

- **O** Yes (1)
- **O** No (2)
- **O** Not sure (3)

Answer If What types of analgesics / pain killers have you used/taken? Paracetamol / NSAIDs Is Selected

D9.7 What type of Paracetamol / NSAIDs do you most commonly consume?

- Aspirin (Bayer, Bufferin, Excedrin) (4)
- **O** Ibuprofen (Advil, Motrin IB) (5)
- Naproxen (Aleve) (6)

Answer If What types of analgesics / pain killers have you used/taken? Paracetamol / NSAIDs Is Selected

D9.8 Do you usually take less than or equal to the suggested dose (found on the packaging) of Paracetamol / NSAIDs?(e.g. Advil notes to take two tablets for your body weight so you take either one or two tablets at a time)

- **O** Yes (1)
- **O** No (2)

Answer If Do you ever take pain relievers for the pain during a performance? Yes Is Displayed

D9.9 Have you ever sustained an injured while using, or under the effect of, an analgesic medication?

O Yes (1)

O No (2)

Answer If Have you used or consumed any of the following substances even just once in your lifetime? Beta-Blockers - Yes Is Selected Or In the past ONE YEAR, how often have you used: Beta-Blockers - Never Is Not Selected

D10.1 Beta blockers, also known as beta-adrenergic blocking agents, are medications that reduce your blood pressure. Beta blockers work by blocking the effects of the hormone epinephrine, also known as adrenaline. ** Commonly used by musicians to reduce performance anxiety jitters. Examples of beta blockers include:Acebutolol (Sectral), Atenolol (Tenormin), and Bisoprolol (Zebeta).

Answer If Have you used or consumed any of the following substances even just once in your lifetime? Beta-Blockers - Yes Is Selected Or In the past ONE YEAR, how often have you used: Beta-Blockers - Never Is Not Selected

D10.2 Do you struggle with anxiety during performance?

O Yes (1)

O No (2)

Answer If Do you struggle with anxiety during performance? Yes Is Displayed

D10.3 Have you been diagnosed by a medical professional with a performance anxiety or general anxiety disorder?

O Yes (1)

O No (2)

Answer If Do you struggle with anxiety during performance? Yes Is Displayed

D10.4 Have you been prescribed Beta-Blockers by a medical professional?

- **O** Yes (1)
- **O** No (2)

Answer If Have you been prescribed Beta-Blockers by a medical professional? Yes Is Selected

D10.5 Do you follow the prescription directions when you use Beta Blockers?

O Yes (1)

Answer If Have you been prescribed Beta-Blockers by a medical professional? No Is Selected

D10.6 Do you use Beta-blockers without a prescription or while under medical supervision?

O Yes (1)

O No (2)

Answer If Do you struggle with anxiety during performance? Yes Is Displayed D10.7 Have you been under the influence of Beta-Blockers while rehearsing or performing?

 \mathbf{O} Yes (1)

O No (2)

Answer If Do you struggle with anxiety during performance? Yes Is Displayed D10.8 Have you ever sustained an injury while under the influence of Beta-Blockers? • Yes (1)

O No (2)

Answer If Have you used or consumed any of the following substances even just once in your lifetime? Prescription Medication (for non-medical use only) - Yes Is Selected Or In the past ONE YEAR, how often have you used: Prescription Medication (for non-medical use only) - Never Is Not Selected

D11.1 Have you used prescription medication without a prescription or not under medical supervision?

O Yes (1)

O No (2)

Answer If Have you used or consumed any of the following substances even just once in your lifetime? Prescription Medication (for non-medical use only) - Yes Is Selected Or In the past ONE YEAR, how often have you used: Prescription Medication (for non-medical use only) - Never Is Not Selected

D11.2 Have you used a prescription medication in a way other than directed by prescription instructions of use?

O Yes (1)

Answer If Have you used prescription medication in a way that was not directed by the prescription? Yes Is Displayed

D11.3 When was the first time you used prescription medication for non-medical use?

- **O** 11 or younger (1)
- **O** 12 15 (2)
- **O** 16 17 (3)
- **O** 18 19 (4)
- **O** 20 29 (5)
- **O** 30+(6)
- **O** Click to write Choice 7 (7)

Answer If When was the first time you used prescription medication for non-medical use? 11 or younger Is Displayed

D11.4 When you take prescription medication, is it for non-medical reasons more times than not?

O Yes (1)

O No (2)

Answer If When was the first time you used prescription medication for non-medical use? 11 or younger Is Displayed

D11.5 Have you been under the influence of prescription medication (for non-medical reasons) while rehearsing and/or during performance?

- **O** Yes (1)
- **O** No (2)

Answer If When was the first time you used prescription medication for non-medical use? 11 or younger Is Displayed

D11.6 Have you sustained an injury while under the influence of prescription medication for non-medical reasons?

- **O** Yes (1)
- **O** No (2)

Answer If Have you used or consumed any of the following substances even just once in your lifetime? Prescription Medication (for non-medical use only) - Yes Is Selected Or In the past ONE YEAR, how often have you used: Prescription Medication (for non-medical use only) - Never Is Not Selected

D11.7 What types of non-prescribed prescription medications have you used? (This includes either taking more than is prescribed dose or having taken someone else's prescription medications)
Answer If Have you used or consumed any of the following substances even just once in your lifetime? Opioids (Heroin, Opium) - Yes Is Selected Or In the past ONE YEAR, how often have you used: Opioids (Heroin, Opium) - Never Is Not Selected

D12.1 At what age did you being using opioids (heroin/opium)?

- **O** 11 or younger (1)
- **O** 12 15 (2)
- **O** 16 17 (3)
- **O** 18 19 (4)
- **O** 20 29 (5)
- **O** 30+(6)

Answer If In the past ONE YEAR, how often have you used: Opioids (Heroin, Opium) - Daily Is Selected

D12.2 How many times per day do you use Heroin or Opium?

- **O** 1(1)
- **O** 2 (2)
- **O** 3+(3)

Answer If What age did you being using opioids (heroin/opium)? 11 or younger Is Displayed

D12.3 Have you been under the influence of Heroin and/or Opium while rehearsing or performing?

- **O** Yes (1)
- **O** No (2)

Answer If What age did you being using opioids (heroin/opium)? 11 or younger Is Displayed

D12.4 Have you ever sustained an injury under the influence of Heroin, Opium, or any other opioid?

- **O** Yes (1)
- **O** No (2)

Answer If In the past ONE YEAR, how often have you used: Club Drugs (MDMA, GHB) - Never Is Not Selected Or Have you used or consumed any of the following substances even just once in your lifetime? Club Drugs (MDMA, GHB) - No Is Not Selected

D13.1 At what age did your first use club drugs (MDMA, GHB)?

- **O** 11 or younger (1)
- **O** 12 15 (2)
- **O** 16 17 (3)
- **O** 18 19 (4)
- **O** 20 29 (5)
- **O** 30+(6)

Answer If What age did your first use club drugs (MDMA, GHB)? 11 or younger Is Displayed

D13.2 How many times per day do you use club drugs (MDMA, GHB)?

O 1(1)

- **O** 2 (2)
- **O** 3+(3)

Answer If In the past ONE YEAR, how often have you used: Club Drugs (MDMA, GHB) - Never Is Not Selected Or Have you used or consumed any of the following substances even just once in your lifetime? Club Drugs (MDMA, GHB) - Yes Is Selected D13.3 Have you been under the influence of club drugs (MDMA, GHB) while rehearsing and/or during performance?

O Yes(1)

O No (2)

Answer If What age did your first use club drugs (MDMA, GHB)? 11 or younger Is Displayed

D13.4 Have you sustained an injury while under the influence of club drugs (MDMA, GHB)?

O Yes (1)

O No (2)

Answer If Have you used or consumed any of the following substances even just once in your lifetime? Hallucinogens (LSD, Mesaline, Psilocybin) - Yes Is Selected Or In the past ONE YEAR, how often have you used: Hallucinogens (LSD, Mesaline, Psilocybin) - Never Is Not Selected

D14.1 At what age did you first use hallucinogens (LSD, Mescaline, Psilocybin)?

- **O** 11 or younger (1)
- **O** 12 15 (2)
- **O** 16 17 (3)
- **O** 18 19 (4)
- **O** 20 29 (5)
- **O** 30+(6)

Answer If In the past ONE YEAR, how often have you used: Hallucinogens (LSD, Mesaline, Psilocybin) - Daily Is Selected

D14.2 How many times per day do you use hallucinogens (LSD, Mescaline, Psilocybin)? • 1 (1)

- **O** 2 (2)
- **O** 3+(3)

Answer If What age did you first use hallucinogens (LSD, Mesaline, Psilocybin)? 11 or younger Is Displayed

D14.3 Have you been under the influence of hallucinogens (LSD, Mescaline, Psilocybin) while rehearsing and/or during performance?

- **O** Yes (1)
- **O** No (2)

Answer If What age did you first use hallucinogens (LSD, Mesaline, Psilocybin)? 11 or younger Is Displayed

D14.4 Have you sustained an injury under the influence of hallucinogens (LSD, Mescaline, Psilocybin)?

- **O** Yes (1)
- **O** No (2)

Answer If Have you used or consumed any of the following substances even just once in your lifetime? Stimulants (Cocaine, Methamphetamine, or Amphetamine) - Yes Is Selected Or In the past ONE YEAR, how often have you used: Stimulants (Cocaine, Methamphetamine, or Amphetamine) - Never Is Not Selected

D15.1 What type of stimulants have you consumed?(check all that apply)

- □ Amphetamine (common in treatment of ADHD) (1)
- \Box Cocaine (2)
- □ Methamphetamine (3)

Answer If Have you used or consumed any of the following substances even just once in your lifetime? Stimulants (Cocaine, Methamphetamine, or Amphetamine) - Yes Is Selected Or In the past ONE YEAR, how often have you used: Stimulants (Cocaine, Methamphetamine, or Amphetamine) - Never Is Not Selected

D15.2 At what age did you first start using stimulants (cocaine, methamphetamine , amphetamine)?

- **O** 11 or younger (1)
- **O** 12 15 (2)
- **O** 16 17 (3)
- **O** 18 19 (4)
- **O** 20 29 (5)
- **O** 30+(6)

Answer If Have you used or consumed any of the following substances even just once in your lifetime? Stimulants (Cocaine, Methamphetamine, or Amphetamine) - Yes Is Selected Or In the past ONE YEAR, how often have you used: Stimulants (Cocaine, Methamphetamine, or Amphetamine) - Never Is Not Selected

D15.3 Have you been under the influence stimulants (cocaine, methamphetamine , amphetamine) while rehearsing or performing?

O Yes (1)

O No (2)

Answer If Have you used or consumed any of the following substances even just once in your lifetime? Stimulants (Cocaine, Methamphetamine, or Amphetamine) - Yes Is Selected Or In the past ONE YEAR, how often have you used: Stimulants (Cocaine, Methamphetamine, or Amphetamine) - Never Is Not Selected

D15.4 Have you ever sustained an injury while under the influence of stimulants (cocaine, methamphetamine, amphetamine)?

O Yes (1)

O No (2)

Answer If In the past ONE YEAR, how often have you used: Stimulants (Cocaine, Methamphetamine, or Amphetamine) - Daily Is Selected

D15.5 How many times per day do you use stimulants (cocaine, methamphetamine amphetamine (also known as, Adderall))?

- **O** 1(1)
- **O** 2 (2)
- **O** 3+(3)

Answer If In the past ONE YEAR, how often have you used: Dissociative Drugs (Ketamine, PCP) - Never Is Not Selected Or Have you used or consumed any of the following substances even just once in your lifetime? Dissociative Drugs (Ketamine, PCP) - Yes Is Selected

D16.1 What age did you first use dissociative drugs (Ketamine, PCP)?

- **O** 11 or younger (1)
- **O** 12 14 (2)
- **O** 15 17 (3)
- **O** 18 19 (4)
- **O** 20 29 (5)
- **O** 30+(6)

Answer If In the past ONE YEAR, how often have you used: Dissociative Drugs (Ketamine, PCP) - Daily Is Selected

D16.2 How many times per day do you use dissociative drugs (Ketamine, PCP)?

- **O** 1 (1)
- **O** 2 (2)
- **O** 3+(3)

Answer If What age did you first use dissociative Drugs (Ketamine, PCP)? 11 or younger Is Displayed

D16.3 Have you been under the influence of dissociative drugs (Ketamine, PCP) while rehearsing and/or during performance?

- **O** Yes (1)
- **O** No (2)

Answer If What age did you first use dissociative Drugs (Ketamine, PCP)? 11 or younger Is Displayed

D16.4 Have you sustained an injury while under the influence of dissociative drugs (Ketamine, PCP)?

O Yes (1)

O No (2)

Answer If In the past ONE YEAR, how often have you used: Other Compounds (Anabolic steroids, inhalants) - Never Is Not Selected

D17.1 At what age did you first use compounds such as anabolic steroids or inhalants? O 11 or younger (1)

- **O** 12 15 (2)
- **O** 16 17 (3)
- **O** 18 19 (4)
- **O** 20 29 (5)
- **O** 30+(6)

Answer If In the past ONE YEAR, how often have you used: Other Compounds (Anabolic steroids, inhalants) - Daily Is Selected

D17.2 How many times per day do you use compounds such as anabolic steroids or inhalants?

- **O** 1 (1)
- **O** 2 (2)
- **O** 3+(3)

Answer If What age did you first use compounds such as anabolic steroids or inhalants? 11 or younger Is Displayed

D17.3 Have you been under the influence of compounds such as anabolic steroids or inhalants while rehearsing and/or during performance?

- **O** Yes (1)
- **O** No (2)

Answer If What age did you first use compounds such as anabolic steroids or inhalants? 11 or younger Is Displayed

D17.4 Have you sustained an injury while under the influence of compounds such as anabolic steroids or inhalants?

O Yes (1)

O No (2)

Answer If In the past ONE YEAR, how often have you used: Other psychoactive drugs -Never Is Not Selected

D18.1 What other kinds of recreational substances have you consumed not mentioned previously?

Answer If What other kinds of recreational substances have you consumed not mentioned previously? Text Response Is Displayed

D18.2 Have you been under the influence of other recreational substances while rehearsing and/or during performance?

U Yes (1)

□ No (2)

Answer If Have you been under the influence of other recreational substances while rehearsing and/or during performance? Yes Is Displayed

D18.3 Have you sustained an injury while under the influence of other recreational substances?

O Yes (1)

O No (2)

D18.4 Is there anything else about drug use and your role as a performer you'd like to confidentially share within this research?

End of Survey Message:

Thank you for participating in this survey!

If you find yourself feeling concerned about your drug or alcohol use, you can direct questions to the national hotline.

1-800-662-HELP (4357)

Appendix B: SMAST and DAST-10

Short Michigan Alcoholism Screening Test

- 1. Do you feel that you are a normal drinker? (by normal we mean do you drink less than or as much as most other people)
- 2. Does your wife, husband, a parent, or other near relative ever worry or complain about your drinking?
- 3. Do you ever feel guilty about your drinking?
- 4. Do friends or relatives think you are a normal drinker?
- 5. Are you able to stop drinking when you want to?
- 6. Have you ever attended a meeting of Alcoholics Anonymous (AA)?
- 7. Has your drinking ever created problems between you and your wife, husband, a parent or other near relative?
- 8. Have you ever gotten into trouble at work because of your drinking?
- 9. Have you ever neglected your obligations, your family, or your work for two or more days in a row because you were drinking?
- 10. Have you ever gone to anyone for help about your drinking?
- 11. Have you ever been in a hospital because of drinking?
- 12. Have you ever been arrested for drunken driving, driving while intoxicated, or driving under the influence of alcoholic beverages?
- 13. Have you ever been arrested, even for a few hours, because of other drunken behaviors?

Drug Abuse Screening Test

- 1. Have you used drugs other than those required for medical reasons?
- 2. Do you abuse more than one drug at a time?
- 3. Are you unable to stop abusing drugs when you want to?
- 4. Have you ever had blackouts or flashbacks as a result of drug use?
- 5. Do you ever feel bad or guilty about your drug use?
- 6. Does your spouse (or parents) ever complain about your involvement with drugs?
- 7. Have you neglected your family because of your use of drugs?
- 8. Have you engaged in illegal activities in order to obtain drugs?
- 9. Have you ever experienced withdrawal symptoms (felt sick) when you stopped taking drugs?
- 10. Have you had medical problems as a result of your drug use (e.g. memory loss, hepatitis, convulsions, bleeding)?
 - * Permissions for reuse granted by copyright owners, see Appendix C

Appendix C: Copyright Permissions

Figure 1: Photographs by Bryan Saunders

Email communication between researcher and Bryan Saunders

<b

July 8, 2014 9:09 PM

Dear Bryan Lewis Saunders,

I am writing a thesis as a part of my masters program at Ohio University. My subject is looking at the prevalence of psychoactive substances in performing artists. In a section of my literature review I would like to include some of your self-portraits - this is what I've done:



This is the only section where I show your work and mention you. I am just wondering if you will give me permission to use this as it will be published in my school library and available online.

Best wishes,

Jillian Descoteaux Athletic Trainer (603) 714-9480

July 9, 2014 2:14 AM

Nice to meet you Jillian. Yeah sure you can use them. Have a great day. -b

Short Michigan Alcoholism Screening Test (SMAST) Online Invoice from Copyright Clearance Center

Journal of studies on alcohol and drugs					Billing Status N/A
Order detail ID:	65696460	Permission Status: 🗸 Granted			
ISSN: Publication Type: Volume:	1937-1888 Journal	Permission type: Type of use:	Republish or display content Republish in a thesis/dissertation Order License Id: 3443851378327		
Issue: Start page:		Hide details			
Publisher:	Alcohol Research Documentation Rutgers Center of Alcohol Studies	Requestor type		Academic institu	ition
Author/Editor:		Format Portion		Electronic chapter/article	

Drug Abuse Screening Test – 10

Email communication with Andrew Johnson of the Center for Addiction and Mental Health (formerly the Addiction Research Foundation)

From: Andrew Johnson <<u>Andrew.Johnson@camh.ca</u>> Date: August 7, 2014 at 5:30:46 PM EDT To: "Descoteaux, Jillian" <<u>jd577613@ohio.edu</u>> Subject: RE: DAST-10 Permissions

Yes, CAMH grants you permission to use the DAST-10 for the purposes of completing your academic requirements.

Good luck with your project!

Andrew

Andrew Johnson Manager, Client and Family Education & CAMH Publications Education Centre for Addiction and Mental Health 33 Russell Street Toronto, Ontario M5S 2S1 CANADA 416 535.8501 x36664

Appendix D: Recruitment Email and Department Chair Communications

Dear Professor Example,

Very similar to Kandis, I would like to ask if you could please forward the message below with the link to my survey to your theater performance majors. If you could CC me that would be great. Thank you for your help with my research project.

-Jillian

Dear Performing Artist,

You are invited to participate in a research project that the Master Athletic Training Program at Ohio University is conducting on substance use in performing artists. We are asking for your participation in a survey to collect data on this subject.

Substance use in performing artists is often addressed in the media. The literature of performing artists' substance use habits is somewhat outdated or missing. Actors have the least amount of health-related research on their profession. This initial study will provide information that is missing from the literature in actors, dancers, and musicians. Data on substance use in performing artists could provide a better picture of the health and health risks in the performing arts field.

All students, male or female, are eligible and may participate. We ask that as many performing arts students as possible participate by completing the 15 - 30 minute survey.

If you choose to participate, you can do so by clinking this link https://ohiochsp.qualtrics.com/SE/?SID=SV_eQjBZ9HWmhWdt0p and accepting the informed consent form on the first page. Your participation is voluntary. You may discontinue and exit the survey at any time without explanation.

Your assistance with completing the data collection process is greatly appreciated. If you are interested in participating please check out our research website at <u>http://jd577613.wix.com/artist-research</u>. Here you can email questions, read abstracts, and find helpful hotlines. Thank you for your time.

Best,

Jillian Descoteaux, MSc, AT Clinic for Science and Health in Artistic Performance (SHAPe) Ohio University jd577613@ohio.edu

Theater

Dear Jill, Happy to forward. I will need to do it through faculty advising center to get all the majors. -Michael

Michael Lincoln Associate Professor, Lighting Design Director, Theater Division

Dance

Hello everyone,

Please read the email from Jillian from the SHAPe Clinic. I strongly encourage you to participate in these types of surveys as they will benefit future research and services that will be available to you through the clinic.

Thanks,

Travis [Dance Department]

Music

The Music department CC'ed us when sending out the recruitment email and verbally communicated with the researcher that it was okay to send out.

14X028 UNIVERSIT Office of the Vice Presid Office of Research Compliance RTEC 117 Alters, OH 45701-2979 The following research study has been approved by the Institutional Review Board at Ohio University for the period listed below. This review was conducted through an expedited review T. 740.593.0664 F: 740.583.9835 procedure as defined in the federal regulations as Category(ies): www.research.chiou.edu 7 **Project Title:** Substance Use Habits in the Performing Artist Population Primary Investigator: Jillian Marie Descoteaux Co-Investigator(s): Faculty Advisor: Chad Starkey (if applicable) Department: Athletic Training March 7, 2014 Approval Date March 6, 2015 oben Stack Robin Stack, CIP, Human Subjects Research Coordinator Office of Research Compliance Expiration Date This approval is valid until expiration date listed above. If you wish to continue beyond expiration date, you must submit a periodic review application and obtain approval prior to continuation.

Appendix E: IRB Approval

Adverse events must be reported to the IRB promptly, within 5 working days of the occurrence.

The approval remains in effect provided the study is conducted exactly as described in your application for review. Any additions or modifications to the project must be approved by the IRB (as an amendment) prior to implementation.

В



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