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Special report on the Perceptions of LSD abuse

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ABSTRACT

The past 30 years have seen a focus on substance abuse research in association with the creation of federal agencies specifically mandated to guide that effort. The purpose of this article is to provide a brief outline for the Perceptions of LSD abuse. The brainery on problems of Drug Dependence recognizes the value and importance of such research and affirms its position that, with proper care, such research can be conducted safely and ethically. This paper reveals the National-level drug prevalence studies which indicate the rate of LSD abuse in the past years in different age groups among college students, young adults and other grades. The paper further focuses on percentage of hallucinogens abuse in different age groups their comparison with LSD abuse. The review convenes the abuse of LSD by different age groups and various demographic characteristics which includes the comparison of gender, race/ethnicity and population density.

Keywords: Addictive behavior; Monitoring the Future; Lysergic acid diethylamide abuse; Demographic Characteristics; National-level drug prevalence studies.

INTRODUCTION

Significant investments in basic and clinical science discovery produce a staggering amount of empirical literature intended to alleviate suffering, reduce mortality, and improve the quality of our lives [1].

Drug abuse and addiction are major public health problems and contribute significantly to mortality and morbidity in our society [2-4]. Together they cost society billions of dollars each year and contribute to considerable crime, personal suffering, and family misery [5-6]. At

present, however, drug abuse treatment and prevention are not as effective as they could be and too many people are not being helped by existing interventions.

Clearly, we need to understand these problems better if we are to develop improved methods for treating those who are already addicted or for preventing new people from becoming drug abusers or drug dependent. Human drug research will play a vital role in the acquisition of this knowledge [7].

A limitation to the interpretation of the existing research is that the terms “misuse”, “abuse”, “dependence” and “addiction” are applied in idiosyncratic ways. We propose that definitions be specified in each report, and for this paper, we define prescription drug abuse as any intentional use of a medication with intoxicating properties outside of a physician’s prescription for a bona fide medical condition, excluding accidental misuse. This definition of abuse includes use of medications prescribed for another user, even if for a physical condition, because this behavior can be risky. However, such misuse likely has a different pattern of social, familial and individual predictors than the typical abuse of prescription drugs for their intoxicating properties, and research to describe the different patterns of prescription drug abuse is needed. It should be noted that our use of the term “abuse” is distinct from the abuse diagnosis specified in the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV) [8].

The non-medical use and abuse of prescription hallucinogens has increased substantially in the United States since the mid-1990s. The latest report from the National Survey on Drug Use and Health revealed that approximately 2.2 million persons in the U.S. aged 12 and older reported initiating non-medical use of prescription hallucinogens in 2008, which was equivalent to the number of individuals initiating marijuana use [9]. Among prescription hallucinogens, products containing LSD (lysergic acid diethylamide), psilocybin (mushrooms, "shrooms"), and peyote (a cactus plant containing the active ingredient mescaline) are the most commonly abused. Despite the scope and seriousness of the problem, relatively few studies have examined the pharmacodynamic effects of these commonly prescribed medications.

Other commonly abused hallucinogens include LSD (lysergic acid diethylamide), psilocybin (mushrooms, "shrooms"), and peyote (a cactus plant containing the active ingredient mescaline). Some people have used naturally occurring hallucinogens, especially for religious rites, for centuries. The native people of Mexico used mushrooms containing psilocybin, and peyote use was common among southwestern Native Americans.

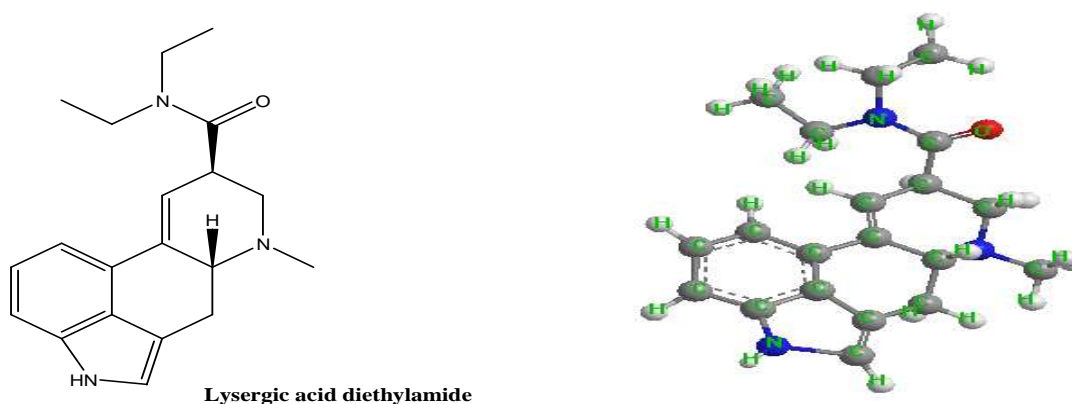
In contrast, LSD is an artificial substance, first developed by a drug company in 1938. Today, most hallucinogens are used experimentally rather than on a regular basis. Most users report only one or a few uses per year. LSD is a very strong hallucinogen. Only tiny doses are needed to produce effects. Compared to LSD, psilocybin is 100 - 200 times weaker, and mescaline (peyote) is about 4,000 times weaker.

Hallucinogens can lead to extreme anxiety and lack of reality at the height of the drug experience ("bad trips"). These experiences can come back as a "flashback," even without using the drug again. Such experiences typically occur during times of increased stress, and tend to occur less often and intensely after stopping the drugs.

LSD (lysergic acid diethylamide) is one of the most powerful hallucinogenic drugs known. (figure1.) LSD stimulates centers of the sympathetic nervous system in the midbrain, which leads to pupillary dilation, increase in body temperature, and rise in the blood-sugar level. LSD also has a serotonin-blocking effect.

The hallucinogenic effects of lysergic acid diethylamide (LSD) are also the result of the complex interactions of the drug with both the serotonergic and dopaminergic systems.

During the first hour after ingestion, the user may experience visual changes with extreme changes in mood. The user may also suffer impaired depth and time perception, with distorted perception of the size and shape of objects, movements, color, sound, touch and the user's own body image.



Lysergic acid diethylamide

Figure1. Structure of Lysergic acid diethylamide

LSD Abuse Assessment- Reviews Focusing on National-level drug prevalence studies:

National-level drug prevalence studies indicates that past year rates of LSD use was higher among twelfth grade students than any other age group. Monitoring the Future (MTF) data for 2003 revealed that the rate of past year abuse for LSD among twelfth grade students (1.9 %) was higher than rate of tenth Graders (1.7 %), eighth grades (1.3 %), young adults (1.2 %), or college students (1.4 %). (Source: Monitoring the Future)

Table1. Percentage of annual LSD abuse by Age Group, 1999-2003

Age Group	1999	2000	2001	2002	2003
College Students	5.4	4.3	4.0	2.1	1.4
Young adults	4.0	3.7	3.4	1.8	1.2
Eighth Graders	2.4	2.4	2.2	1.5	1.3
Tenth Graders	6.0	5.1	4.1	2.6	1.7
Twelfth Graders	8.1	6.6	6.6	3.5	1.9

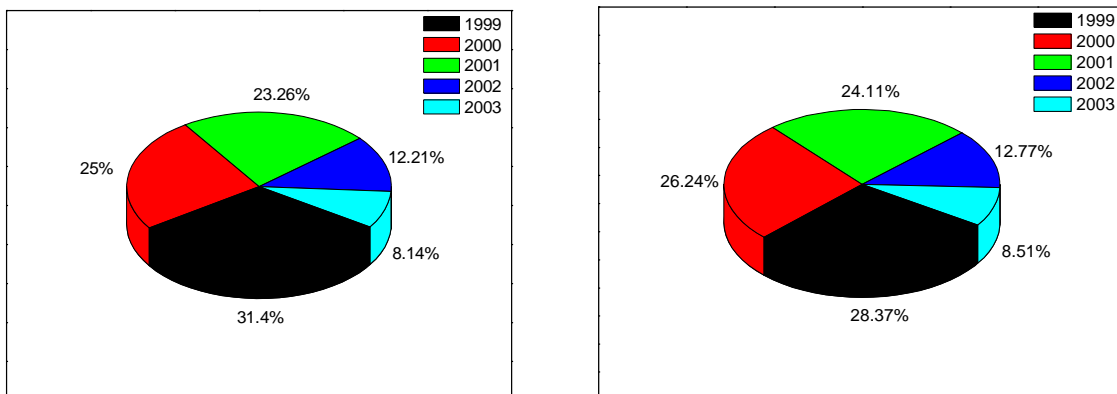


Figure2. Percentage of annual LSD use by college students and Young adults

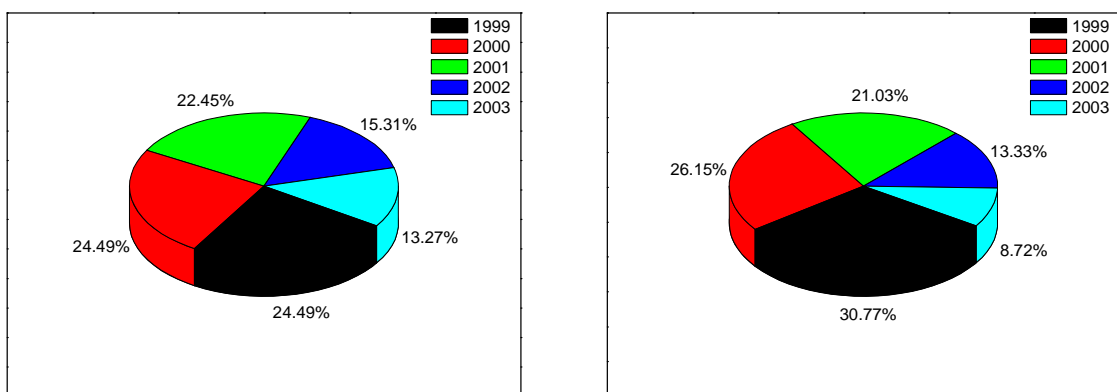


Figure3. Percentage of annual LSD use by Eighth Graders and tenth Graders

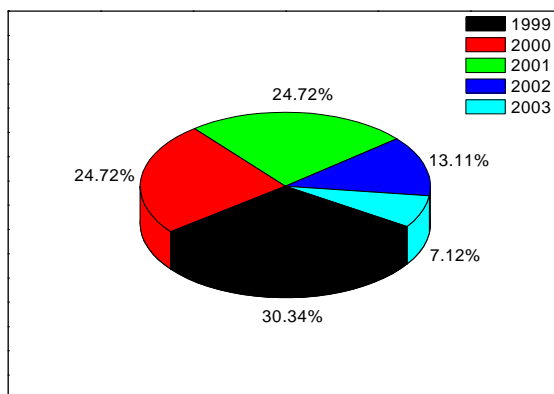


Figure4. Percentage of annual LSD use by Twelfth Graders

Graphic presentation of other Hallucinogens and LSD abuse in Lifetime (in %), by Age Group: 1997
 Comparing the life time abuse of any hallucinogen with LSD abuse, it was observed that the maximum consumption was in the age group of 18-34 for any hallucinogen as well as LSD having fifteen and twelve to thirteen percent abuse respectively. On average in the younger age group in general for both any other hallucinogen and LSD abuse five to seven percent. The total life time abuse of any hallucinogen and LSD falls between eight to ten percent. Thus it is inferred that young adults are serious victims of drug abuse.

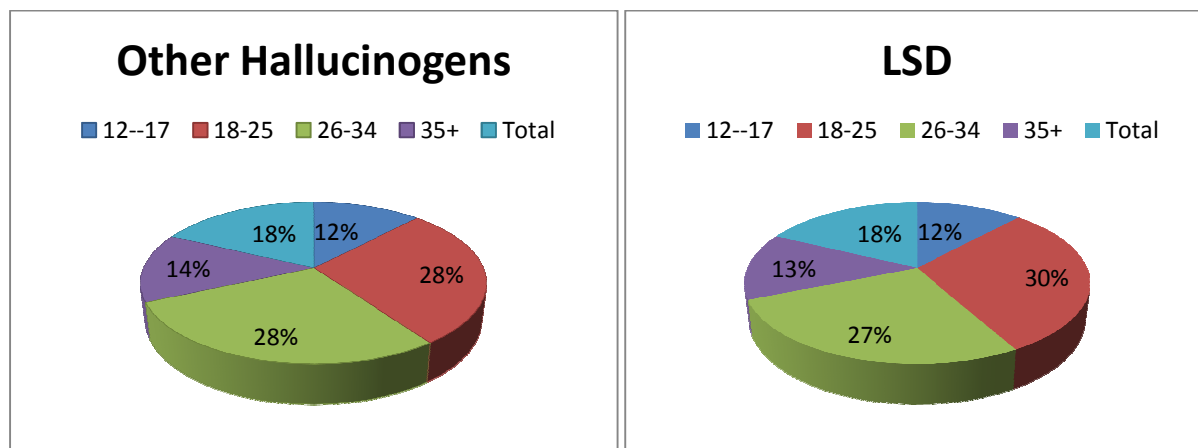


Figure5. Percentage of Any Hallucinogen and LSD Used

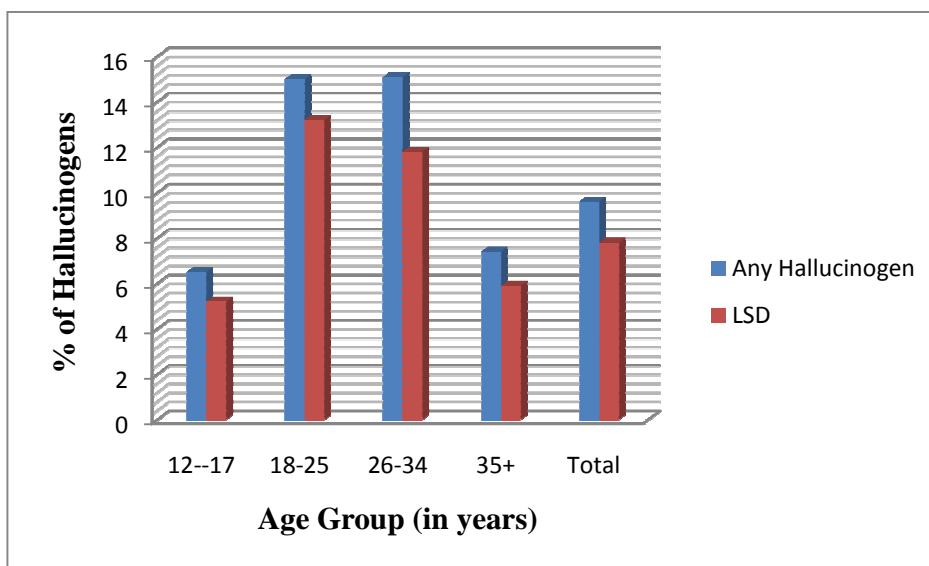


Figure6. Comparison of Percentage of Any Hallucinogen and LSD abuse in Their Lifetime, by Age Group

Table2. Percentage of other Hallucinogens and LSD abuse in Lifetime

Age Group (In years)	Hallucinogen	
	Other Hallucinogens (%)	LSD (%)
12-17	6.5	5.2
18-25	15.0	13.2
26-34	15.1	11.8
35 +	7.4	5.9
Total	9.6	7.8

Graphic presentation of LSD abuse in Lifetime (in %), by Age Group and Demographic Characteristics: 1997

Demographical studies of race/ethnicity reveals some interesting and logical statistic showing higher percentage of LSD abuse in white non-Hispanics (Spanish origin) to the extent of about sixteen percent compare to a black non-Hispanics and Hispanics between three to five percent in the age group of 26-34 years. The highest percentage of LSD abuse in life time in the age group of 18-25 years was eighteen percent in white non-Hispanics and seven percent in Hispanics and it is remarkable to note that in black non-Hispanics it was one percent. (Figure8.)

Considering the gender, the highest percentage of LSD abuse between the age group of 18-25 years was seventeen percent in male and about ten percent in female. Following this in the age group of 26-34 years it was fifteen and nine percent in male and female respectively. In the lower age group it is not much alarming and was about five to six percent in both the genders (Figure7.).

Table3. Percentage of LSD abuse in Lifetime, by Age Group and Demographic Characteristics (Gender & Race/Ethnicity)

Age Group (In years)	Demographic Characteristics				
	Gender		Race/Ethnicity		
	Male (%)	Female (%)	White, Non Hispanic (%)	Black, Non Hispanic (%)	Hispanic (%)
12-17	4.9	5.5	6.3	1.5	4
18-25	16.9	9.4	17.5	0.9	6.7
26-34	15.1	8.6	15.2	2.7	4.5
35 +	8.1	4.1	6.8	1.9	3.8
Total	10.1	5.6	9.3	1.8	4.5

Table4. Percentage of LSD abuse in Lifetime, by Age Group and Demographic Characteristics (Population Density)

Age Group (In years)	Demographic Characteristics		
	Population Density		
	Large Metro	Small Metro	Non Metro
12-17	4.9	6.2	4.2
18-25	12.9	14.0	12.4
26-34	10.2	14.9	10.6
35 +	6.5	6.6	4.0
Total	7.8	8.8	6.0

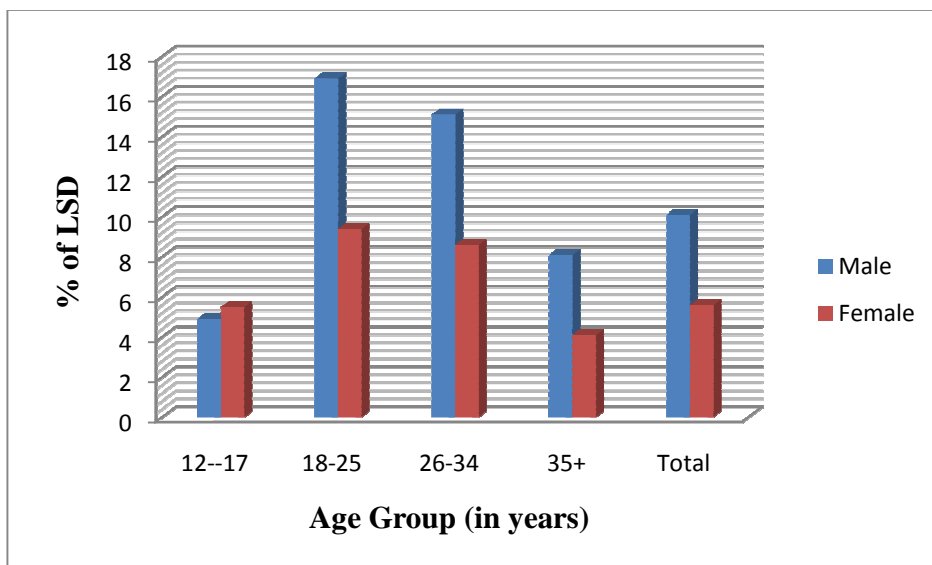


Figure7. Comparison of Percentage of LSD Use in Their Lifetime, by Age Group (In Gender)

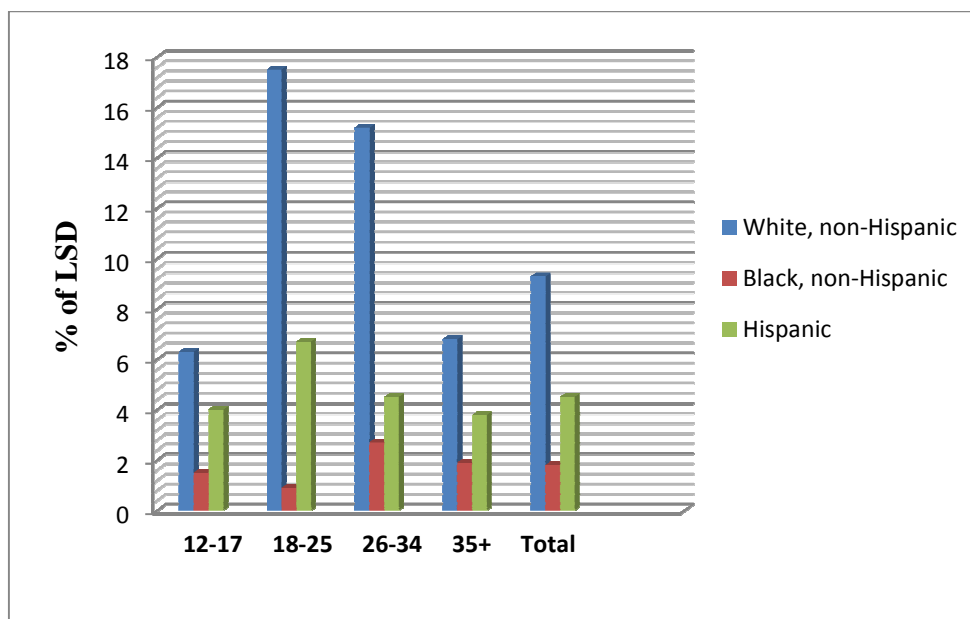


Figure8. Comparison of Percentage of LSD Use in Their Lifetime, by Age Group (In Race/Ethnicity)

Comparing the abuse of LSD among different age groups, according to the population density it was again found that the highest rate of consumption was in small metro fifteen percent in the age group of 26-34 years as compared to large metro and non-metro were equal to the extent of ten to eleven percent in the same age group. The percentage of abuse deteriorates at higher and lower age groups. (Table4.)

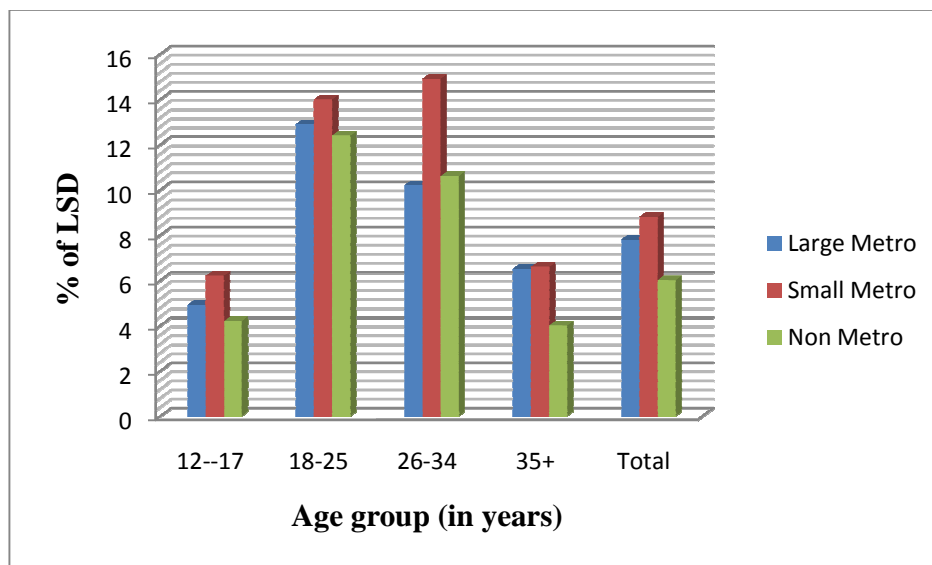


Figure9. Comparison of Percentage of LSD Use in Their Lifetime, by Age Group (In Population Density)

CONCLUSION

Drug abuse is a complex problem thought to result from a combination of hereditary, psychological, and environmental factors. It affects people from the neonatal stage to old age. Infants of abusers may suffer from neglect or the effects of parental drug use. As they grow into childhood, they may demonstrate antisocial behavior, and signs of malnutrition, poor self-esteem, depression, or attention deficit disorder. This may lead an adolescent to use drugs, have unwanted pregnancies, and drop out of school.

Finally we can conclude that the according to National-level drug prevalence studies past year rates of LSD abuse were higher among twelfth grade students than any other age group. When we compare the other Hallucinogens and LSD abuse in Lifetime, by Age Group: 1997, the maximum consumption was in the age group of 18-34. Thus it is inferred that young adults are serious victims of drug abuse. According to demographical studies of race/ethnicity higher percentage of LSD abuse was in white non-Hispanics between the age group of 18-25 years and also was seventeen percent in male and about ten percent in female. According to the population density it was again found that the highest rate of consumption was in small metro.

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