

Characteristics of Ecstasy Users in São Paulo, Brazil

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The present study was aimed at identifying patterns of Ecstasy (methylenedioxy-methamphetamine—MDMA) use in the city of São Paulo. Ecstasy users were recruited through the snowball technique. Using the same technique, a non-user control group was recruited among individuals that had never tried the drug but shared with users a similar life style. Users (N = 52) and non-users (N = 52) were interviewed in order to obtain data on socio-demographic characteristics and use of psychoactive drugs. In addition, levels of anxiety, depression and impulsiveness were assessed through Spielberger's IDATE Trace Inventory, Beck's Depression Inventory and Barrat Impulsiveness Scale. Both users and non-users revealed similar socio-demographic characteristics: most subjects were middle class young heterosexual single men and women who had a college degree. Multiple drug use was more frequent among users than among non-users. Other features that were significantly more accentuated among users than among non-users were the presence of tattoos and piercings, the frequency of attending raves and the preference for electronic music. Beck Inventory results pointed to significantly lower depression scores among users. No differences were observed between groups regarding anxiety and impulsiveness scores. Although the use of Ecstasy in São Paulo is restricted to a young middle or high social class, their vanguard lifestyle tends to influence youngsters of other social extractions, so that the use of the drug may soon become widespread and thus a legitimate public health concern.

Keywords drug abuse; ecstasy; MDMA; methylenedioxymethamphetamine; psychotropic drugs; snowball

Introduction

Ecstasy is an illegal synthetic substance that has stimulant and hallucinogenic effects. Recent research indicates a tendency towards growing consumption in many countries around the world (1–5). No data are available about the incidence of Ecstasy usage in Brazil, as well as about users characteristics and circumstances in which it is being used. São Paulo was the first Brazilian city to receive clandestine packages of Ecstasy, in 1994. Typically, travellers would bring tablets from Europe and sell them to a select group of acquaintances in nightclubs (6).

According to the Department of Narcotics of the State of São Paulo, seizures of Ecstasy tablets have been increasing since the first apprehension in 1995. The first laboratory for

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Ecstasy production was uncovered in São Paulo in 2000. The visibility of Ecstasy in the media has also been steadily increasing in the last few years. Up to 1999 there were few mentions of the substance, always in cultural newspaper sections in the context of fashion or behavior stories in which MDMA was depicted as a sign of vanguard tendencies. Presently the increasing number of mentions of Ecstasy begins to fill also the newspapers' crime sections. Thus, despite the lack of epidemiological data, the uncovering of the first laboratory and the greater exposure in the media seem to indicate that the use of Ecstasy is increasing in São Paulo. The ease of the consumption procedure and the value attributed to it by the peer group can aid this process.

The aim of this research was to determine characteristics of Ecstasy users in São Paulo. Habitual users were compared to a control group of subjects who had never taken Ecstasy but who shared with users a similar life style.

Method

Recruitment

Participants were recruited through a snowball procedure, during the period May–July, 1999. The initial key contacts were six acquaintances of the researcher who did not know each other. They were contacted and invited to participate in an anonymous research about the use of drugs. These subjects were individuals who might or might not have tried Ecstasy, but who were partners in the dance scene.

Sample

A total of 184 unpaid volunteers participated in the study. Only five individuals refused to participate, and none dropped out in the middle of the interview. The user group (U) comprised subjects who had used Ecstasy at least once in life ($N = 108$). The non-user group (NU) comprised subjects who had never tried the drug ($N = 76$). Participants in this initial set of subjects were excluded if they (1) had used any psychoactive drug except tobacco at least 12 hours before filling out the questionnaire, (2) did not obtain valid scores in at least two of the three self-rating scales, (3) did not have at least one friend that used Ecstasy. In addition, U who had not taken Ecstasy at least 10 times in life and once in the last month were also excluded. Thus, the final analysis comprised 52 subjects in the U group and 52 subjects in the NU group.

Measures

The following instruments were used: (1) a specifically designed self-report questionnaire pre-tested in a pilot study ($N = 5$). It was aimed at assessing background and behavioral characteristics, use of Ecstasy and other drugs in lifetime and in the preceding month, and evaluation of the problems Ecstasy could bring (26 items); (2) self-rating scales for assessment of anxiety, depression and impulsivity: Spielberger's Trait-Anxiety Inventory in its validated Brazilian version (7, 8), Beck's Depression Inventory as translated into Portuguese and validated by Gorenstein and Andrade (1998), and Barrat's Impulsivity Scale (BIS), translated by Tavares (9).

Procedure

All data were collected by the first author (SPA), a psychologist then conducting her M.A. dissertation. The whole procedure took a maximum of 40 minutes and was carried out at a time and a place indicated by the participant. These places were: subject's home, public parks, a shopping gallery, cultural centers, bars and coffee shops. Each participant was first given a written instruction explaining the aim of the research, its anonymous and volunteer nature, the name and institutional address of the researcher. After completing the questionnaire, each subject was asked to fill the Spielberger, Beck and Barrat scales, in this sequence.

Statistical Analysis

The statistical differences were assessed using the *chi*-square test, Student's *t*-test and the nonparametric Mann-Whitney's test. Cronbach's α coefficients for Beck's Inventory, Trait-Anxiety Inventory and BIS were 0.84, 0.81, and 0.79, respectively, thus confirming their internal consistency.

Results

Table 1 presents main socio demographic characteristics of both groups. Table 2 presents the percentual frequency of tattoos and piercings, music style preference and friends who take Ecstasy. Relative frequency of attending at art exhibitions, bars, musical performances, nightclubs, and parties was not different among U and NU. Users, however, show a significantly higher frequency of attending to raves: 65.3% among them go to raves more than once a month, against only 16.7% NU ($p < 0.001$).

Frequency of self-reported drug use in life and in the past month is shown in Table 3. When questioned whether they had ever thought about quitting drugs, 71.2% and 56.0% of the U and NU sample, respectively, asserted they had already thought about it, 28.8% and 18.0% declared that they had never thought about it. Among NU 26.0% declared not taking drugs although 92.0% stated that they had drunk alcohol in the last month. Table 4 shows the evaluation of U and NU as to problems that might be generated by the use of Ecstasy. It should be added that, when NU were asked about the reason for never having tried Ecstasy, the main reasons given were "lack of opportunity" (34.6%), "no wish or curiosity" (23.1%) and "fear" (15.4%).

Of the three psychological assessment scales used in this study only Beck's Depression Inventory yielded a significant difference between Ecstasy U and NU. Mean scores were significantly higher in the NU than in the U group ($t = 2.151$, $p < 0.05$). However, the distribution of U and NU in Beck's low, medium and high depression categories (8) was not significantly different ($\chi^2 = 4,797$, n/s), most U and NU belonging to the low category.

Discussion

Being the first study on Ecstasy conducted in Brazil, the investigation presented in this paper has an exploratory character. Observations made during or after the interviews support the veracity of the data obtained, as they indicated that subjects were confident on the interviewer and carefree about their illegal drug use: (a) little number of refuses, (b) willingness to indicate other subjects, (c) high frequency of spontaneous testimony about use of drugs, after fulfilling the questionnaire (d) requests of information about consequences of drugs, (e) a few

Table 1
Socio-demographic characteristics of 'ecstasy' users (U) and non-users (NU)

		U	N U	Statistics	P
Age (years)	Mean $\pm$ SD	24 $\pm$ 5	22.4 $\pm$ 6	$t = 1.463$	n/s
	Range	15–37	15–40		
Age group (%)	Adolescent (12 $\geq$ 19)	15.7	34.6		
	Young adult (19–21)	45.1	42.3	$\chi^2 = 5.859$	$=0.05$
	Adult (<21)	39.2	23.1		
Gender (%)	Male	61.5	51.9		
	Female	38.5	48.1	$\chi^2 = 0.979$	n/s
Sexual orientation (%)	Heterosexual	66.7	78.0		
	Homosexual	13.7	14.0	$\chi^2 = 2.904$	n/s
	Bisexual	19.6	8.0		
Marital status (%)	Single	86.5	86.5		
	Married	9.6	7.7	$\chi^2 = 0.31$	n/s
	Separated	3.8	5.8		
Study level (%)	Elementary school	5.8	7.7		
	High school	34.6	34.6	$\chi^2 = 0.159$	n/s
	College	59.6	57.7		
Occupation ² (%)	Permanent job	48.1	46.2	$\chi^2 = 0.039$	n/s
	Temporary job	46.2	26.9	$\chi^2 = 4.147$	<0.05
	Study	42.3	63.5	$\chi^2 = 4.669$	<0.05
	Unemployed	7.7	15.4	$\chi^2 = 1.507$	n/s
Economical status ³ (%)	High/middle high	25.5	23.5		
	Middle	51.0	58.8	$\chi^2 = 3.356$	n/s
	Middle low/low	23.5	17.6		
Monthly income (U\$)	Median	556	277		
	Range	0–3333	22–3333	$U = 631.000$	<0.04
Going out spending (U\$/week)	Median	56	28		
	Range	0–166	6–222	$U = 790.000$	<0.01
Relationship with parents (%)	Very good/good	63.5	75.0		
	More or less	30.8	25.0	$\chi^2 = 3.810$	n/s
	Bad/very bad	5.8	0		
Religion believer (%)	Yes	44.2	69.2	$\chi^2 = 6.620$	$=0.01$
Religion relevance (%)	Very important/important	47.0	63.4		
		52.9	36.6		
	Little/not important			$\chi^2 = 2.940$	n/s

¹Answers exclude missing values; ²More than one alternative allowed; ³Self-attributed.

suggestions that the researcher should try Ecstasy (e) lack of contradictory statements on the questionnaires.

Habitual Ecstasy U in this sample displayed background characteristics similar to those in the control group of NU. Given the similarities between both groups, the possibility of easy access to the drug, and the lack of opportunity referred by 34% among NU as the reason for having not tried the drug, it is quite probable the many NU will experiment Ecstasy within a short time. Sexual orientation was not different between U and NU. Yet, the percentage of homo- and bisexuals among both U and NU was quite high (33.3% among

Table 2
Other characteristics of 'ecstasy' users (U) and non-users (NU).

	U (%)	NU (%)	χ^2	P
Tattoos				
Yes	68.6	27.5	17.321	<0.01
Piercings				
Yes	60.8	40.4	4.286	<0.05
Musical preference				
Electronic music* among preference	84.0	46.2	20.650	<0.01
Electronic music not among preference	4.0	40.4		
No musical preference	12.0	13.5		
Friends who take Ecstasy				
All or most of them	63.5	17.3	38.642	<0.01
About a half	25.0	11.5		
A few	11.5	71.2		

*Also called "techno music" encompassing drum'n'bass, trance, techno trance.

U and 22.0% among NU). This result may reflect the permissive attitude towards sexual behavior, which features vanguard life styles and particularly the dance music scene. The increased sexual desire attributed to Ecstasy (10) could lead to experimenting new patterns of sexual behavior specially in an unprejudiced environment.

There were significantly less U declaring they believed in any religion. However, there was no difference between the two groups as to the importance of religion in life, so that there is no indication that religion is a factor against the use of Ecstasy. As to the quality of relationship with parents, no differences were found between U and NU. Considering that 69.3% of the total sample was made up of adolescents and young adults, it is relevant

Table 3
Last month and lifetime frequency of drug use among 'ecstasy' users (U) and non-users (NU)

Drug	Last month (%)			Lifetime (%)		
	U	NU	P	U	NU	P
<i>Cannabis</i>	92.3	54.0	<0.001	100	88.2	<0.05
LSD	51.9	8.0	<0.001	100	35.0	<0.001
Alcohol	86.5	92.0	n/s	98.1	96.1	n/s
Tobacco	84.6	68.0	<0.05	98.1	84.3	<0.05
Inhalants	34.8	14.0	n/s	88.5	54.9	<0.001
Cocaine	34.8	14.0	<0.05	78.8	35.3	<0.001
Amphetamine	21.2	10.0	n/s	75.0	37.3	<0.001
Mushrooms/Datura	7.7	0	*	55.8	25.5	<0.01
Benzodiazepines	9.6	8.0	n/s	50.0	25.5	<0.01
Other drugs	7.7	3.8	n/s	23.1	9.8	n/s
Heroin	5.8	0	*	34.6	5.9	<0.001
Crack	3.8	0	*	29.4	5.9	<0.01

*Insufficient frequency.

Table 4

Relative frequency of answers to the question: “*Do you think Ecstasy could bring people who uses it any problems?*”

	U	NU
Number of problems (%)		
No problems	5.8	2.0
1–3	57.7	58.0
4–6	21.2	28.0
7–10	15.4	12.0
Problems (Mentioned by at least 30%)		
Pills adulteration	55.8	46.0
Health hazard	46.2	54.0
Produces addiction	40.4	42.0
Because is illegal	38.5	24.0
Psychological problems	38.5	52.0
Inforseareable effects	32.7	34.0

to note that the majority of participants in the two groups judged their relationship with parents as “good or very good.”

A few behavioral styles are conspicuous characteristics of the U group: the use of piercings and tattoos, the preference for electronic music and the higher frequency at raves. The pattern of drug use reported by U and NU is strikingly different. First, the percentage of U that took each drug at least once in life is higher than that of NU for every listed drug, the same occurring in the last month with exception of alcohol. Besides, it is noteworthy that (a) although opioids are hard to find in Brazil, its lifetime and last month use by U was very high, exceeding even the inexpensive and largely available crack; (b) every U tried LSD at least once in life, thus giving it along with marijuana the highest rank in experimentation (c) there were more U consuming marijuana than alcohol or tobacco in the last month, an inverse result of that obtained in the NU group. The polydrug pattern in Ecstasy users was already observed elsewhere (11–14).

The vast majority of subjects in both groups declared to believe the use of Ecstasy might be harmful. The number of problems they think could result from Ecstasy is strikingly similar, but the main concern of U is the adulteration of tablets, whereas NU worry specially about potential health hazards brought about by the drug. This could reflect the myth of Ecstasy as a safe drug (15), its only eventual danger being adulteration.

Both groups of participants did not show symptoms of depression, anxiety, or impulsiveness, as measured by assessment scales. Existing data show an association of chronic use of MDMA with depression, anxiety and impulsiveness that could be due to brain serotonergic damage induced by the drug (16–22). Nevertheless, review articles conclude that further studies are needed to confirm and extend currently available data on MDMA neurotoxicity (23, 24). It is also possible that Brazilian U have not taken Ecstasy long enough for neurophysiological consequences to appear. Anyway, the unexpected result showing lower Beck scores among U as compared to NU and normal and not different scores in Barrat and Spielberger’s scales is intriguing.

A last point should be made concerning a social phenomenon that makes the use of Ecstasy quite different from the use of other drugs. The frequent consumption of crack, for instance, leads the person to adopt a socially marginal life style, whatever his or her

behavior used to be in the pre-crack phase (25). On the other hand, the use of Ecstasy emerges rather frequently as an outcome of a peculiar young middle or high class lifestyle. This lifestyle has been embraced by privileged young people who probably stand in the forefront of social change. It is thus probable that they will influence other young people of other social extractions making the use of Ecstasy widespread. So, it is important to highlight that an epidemiological study about the use of Ecstasy and other dance drugs in Brazil is urgent. Ecstasy use cannot, to this moment, be considered harmless, either because the pill may contain all sorts of substances, including or not MDMA, or because its consequences are not thoroughly known. Thus, we need to investigate whether Ecstasy use in Brazil is following the increasing tendency observed in other countries and start planning on how to deal with it in a responsible and ethical manner.

RESUMEN

El presente estudio tenía como objetivo identificar los padrones en el uso de ecstasy en la ciudad de São Paulo. Los usuarios de ecstasy y el grupo control, compuesto por individuos que compartían el estilo de vida de los usuarios pero que nunca habían experimentado la droga (no usuarios), fueron reclutados a través de la técnica de muestreo snowball. Los usuarios (52) y no usuarios (52) fueron entrevistados en relación a las características socio-demográficas y al uso de drogas psicotrópicas. A través de la Escala de Impulsividad de Barratt y de los Inventarios de Depresión de Beck y de Ansiedad: Rasgo-Estado (IDARE—rasgo) fueron medidas la impulsividad, depresión y ansiedad de ambos grupos. Los dos grupos presentaron características socio-demográficas semejantes: la mayoría pertenecía a la clase media, era joven, heterosexual, soltera y con estudios universitarios. El consumo de otras drogas psicotrópicas fue significativamente mayor para el grupo de los usuarios. Otras características más frecuentes en el grupo de los usuarios fueron la presencia de tatuajes y piercings, la frecuencia de raves y la preferencia por la música electrónica. En el inventario de Depresión de Beck los usuarios tuvieron una puntuación significativamente menor en relación a la depresión. Los dos grupos no presentaron diferencias significativas en las escalas de impulsividad y ansiedad. Aunque el uso de ecstasy en São Paulo sea hasta el momento restringido a jóvenes de clase media y alta pertenecientes a la vanguardia cultural, el uso está difundiéndose, lo que justifica una legítima preocupación desde el punto de vista de la Salud Pública.

Palabras Claves: ecstasy, metilenodioximetamfetamina, MDMA, drogas psicotrópicas, snowball, abuso de drogas

RÉSUMÉ

La finalité de cette étude a été d'identifier les différents modèles dans l'usage de ecstasy dans la ville de São Paulo. Les usagers d'ecstasy et le groupe controle, celui-ci composé d'individus qui partageaient de la même façon de vivre des usagers mais qui eux n'avaient jamais utilisé la drogue (non usagers), ont été recrutés en utilisant la technique d'échantillonnage connue comme "snowball." Les usagers (52) et les non usagers (52) ont été interrogés sur leurs caractéristiques socio-demographiques ainsi que sur leur usage des drogues psychotropiques. L'utilisation de l'Echelle d'Impulsivité de Barrat et des Inventaires de Dépression de Beck et d'Anxiété Trait-État Spielberger ont permis de mesurer l'impulsivité, la dépression et l'anxiété de deux groupes. Les deux groupes ont présenté des caractéristiques socio-demographiques assez similaires: la majorité faisait partie de la classe moyenne, était composée des individus jeunes, hétérosexuels, célibataires et avec un niveau

d'étude élevé. Parmi les usagers la consommation d'autres drogues psychotropiques a été particulièrement élevée. Certaines caractéristiques qui se sont présentées plus fréquemment dans le groupe des usagers ont été la pratique des tatouages et des piercing, l'habitude de fréquentes des raves et une prédilection pour la musique électronique. Dans l'Inventaire de Depression de Beck les usagers ont présenté une gradation sensiblement plus basse par rapport à la depression. Les résultats des échelles d'impulsivité et anxiété n'ont pas présenté des différences significantes entre les deux groupes. Même si, jusqu'à présent, l'usage d'ecstasy dans la ville de São Paulo, soit resté limité à une population jeune, issue des classes moyenne et haute et appartenant en quelque sorte à l'élite culturelle, son usage doit s'étendre, ce que justifie une légitime préoccupation de la Santé Publique.

Mots clés: ecstasy, methylenedioxymethamphetamine, MDMA, drogue psychotropes, snowball, abus de drogue

RESUMO

O presente estudo teve como objetivo identificar os padrões de uso de ecstasy na cidade de São Paulo. Usuários de ecstasy e grupo controle, composto de indivíduos que compartilhavam do estilo de vida dos usuários mas que nunca haviam experimentado a droga (não usuários), foram recrutados através da técnica de amostragem snowball. Usuários (52) e não usuários (52) foram entrevistados quanto às características sócio-demográficas e quanto ao uso de drogas psicotrópicas. Através da Escala de Impulsividade de Barrat e dos Inventários de Depressão de Beck e de Ansiedade Traço-Estado (IDATE-traço) foram medidas impulsividade, depressão e ansiedade de ambos os grupos. Os dois grupos apresentaram características sócio-demográficas semelhantes: a maioria pertencia à classe média, era jovem, heterossexual, solteira e com nível superior. Entre os usuários o consumo de outras drogas psicotrópicas foi expressivamente superior. Outras características mais frequentes no grupo de usuários foram a presença de tatuagens e piercings, a frequência a raves e a preferência pela música eletrônica. No Inventário de Depressão de Beck os usuários apresentaram pontuação significativamente menor quanto à depressão. Os resultados das escalas de impulsividade e ansiedade não apresentaram diferenças significativas entre os dois grupos. Embora o uso de ecstasy em São Paulo seja até momento restrito a jovens de classe média e alta pertencentes à vanguarda cultural, o uso tende a se difundir, o que justifica legítima preocupação do ponto de vista da Saúde Pública.

Palavras Chave: ecstasy, metilenodioximetamfetamina, MDMA, drogas psicotrópicas, snowball, abuso de drogas

THE AUTHORS



Stella Pereira de Almeida has concluded her M.A. dissertation studying the use of Ecstasy and its effects in Brazilian users. Currently she is a PhD student conducting a research related to a Harm Reduction Program in the dance scene. She also works in a NGO that takes care of young mothers at risk, mostly crack users, and their children.



Maria Teresa Araujo Silva is a psychologist who enjoys studying drug effects both in rats and humans. She is specially attracted to the addictive effects of drugs, which she likes to frame in a behavioral analytical approach. She is also collaborating with studies on gambling, on the same addiction perspective.

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