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Drug Flashbacks: Reported Frequency in a Military Population

BY M. DUNCAN STANTON, PH.D., AND ALEXANDER BARDONI

An anonymous drug questionnaire was administered to 2,256 men enlisted in the Army who were either entering or leaving Viet Nam. The percentage of respondents who reported flashbacks arising from the use of "acid" (LSD and STP) was 23 percent; amphetamines, five percent; and marijuana, one percent. The majority of men attributing flashbacks to drugs other than acid had also used acid. No relationship was found between reports of flashbacks and frequency of acid use, exposure to a combat zone, or birth order.

THE CHARACTERISTICS, symptoms, and dynamics of "flashbacks" following the use of psychedelic and other drugs have been discussed by a number of authors (1-12). However, little research has emerged that accurately documents the prevalence of such experiences in a more or less normal population. The studies that have taken such an approach have produced a variety of different estimates, due partly to differences in sampling. To date, surveys of "normal" groups of subjects who had used LSD or related hallucinogens have yielded the following percentages of reports of flashback: Blumenfield (1), 20 percent (N=422); Horowitz (6), 28 percent (N=25); and Owens and associates (13), approximately 25 percent (N=395). McGlothlin and associates (14) obtained reports that 58 percent of their 24 subjects experienced some "lasting effect" from LSD, although it is unclear whether these were flashbacks or attitude changes. Studies of nonnormal populations include research by McGlothlin and Arnold (9) on 247 subjects, half of whom were psychotherapy patients. Of the subjects, 15 percent reported having had flashbacks. Among 34 patients admitted to the hospital for LSD problems, Robbins and associates (15) estimated that 32 percent had had flashbacks. Ungerleider and associates (16) surveyed adverse reactions to LSD among patients in Los Angeles County but provided no figures on the extent of total drug use from which the frequency of flashbacks could be estimated. With the exception of Blumenfield (1), none of the research efforts mentioned here has taken a statistical approach to flashbacks that have been attributed to drugs other than hallucinogens.

The purpose of the present study was to obtain estimates of flashback occurrences among a normal population of young adult men. Most of the major drugs of abuse were surveyed, and the relationships between "acid" (LSD and STP) flashbacks and such variables as frequency of use, birth order, and experience in a combat zone were also investigated. It should be noted that the high prevalence of drug use in this population (especially marijuana [17]) affords data on

At the time this paper was written, Dr. Stanton was Assistant Chief, Psychology Service, Walter Reed General Hospital, Washington, D.C. Currently, he is Assistant Professor of Psychology in Psychiatry, Department of Psychiatry, University of Pennsylvania, Philadelphia, Pa. His address is 423 Spruce St., Apt. H, Philadelphia, Pa. 19106. Mr. Bardoni is Psychology/Social Work Specialist, Mental Hygiene Consultation Service, Ft. Meade, Md.

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Opinions expressed herein are those of the authors and do not necessarily reflect the views of the Department of the Army or of the Department of Defense.

TABLE 1
Number of Subjects Who Attributed Flashbacks to One or Two Drugs (N = 88)

CATEGORY	ACID	SPEED	MARIJUANA	OPIUM	MESCALINE, PEYOTE, AND PSILOCYBIN	HEROIN/ MORPHINE	BARBITURATES	OTHER
One drug	48	11	9	4	3	3	1	2
Two drugs:								
Acid plus—		3		1	1			
Speed plus—			1					
Marijuana plus—				1				

the recent controversy over the occurrence of flashbacks among users of nonhallucinogenic drugs (1, 7, 8, 12, 16, 18).

Method

An anonymous drug questionnaire was administered [1] to 2,256 men (grades E-1 through E-6) enlisted in the Army. The questionnaire was given at a replacement station in South Viet Nam during November 1969. Approximately half (1,151) of the respondents were leaving Viet Nam after completing a tour of duty, and the remainder (1,105) were entering the country to begin an assignment. An age criterion of 26 or younger was employed in order to exclude the few older men in the groups and to make the sample more homogeneous. Of the questionnaires for the outgoing men, 150 were rejected for incompleteness, blatant inconsistencies, or failure to meet the age criterion; 105 of those for the incoming men were similarly rejected. The final sample consisted of 1,001 outgoing and 1,000 incoming men, for a total of 2,001. The number of users for each drug was also determined.

The questionnaire asked for the history of drug use of the respondents, along with basic demographic information such as age, birth order, etc. The important question for this study was: "Have you ever had 'flashbacks' from drug use? If so, please name these drugs." A more detailed discussion of the methodology employed in administering the questionnaires has been presented elsewhere (17). Suffice it to say that considerable precaution was taken to ensure anonymity and to convince the respondents of the credibility of the investigators.

[1] The data were gathered while Dr. Stanton was with the 98th Medical Detachment in Viet Nam.

Results

A total of 95 respondents reported experiencing flashbacks. Eighty-eight of them listed one or two drugs as sources; these data are presented in table 1. Four respondents reported having flashbacks but did not name the drugs, and two men named three drugs, listing either marijuana or opium in addition to amphetamines (speed) and acid; the data on these six men were excluded from table 1. In addition, one man who reported an acid flashback but no drug use of any kind was excluded from the study, bringing the total number of men who reported having had flashbacks to 94.

When viewed alone, these data are not particularly instructive. One must, of course, know something about the extent of drug use itself before making assertions as to the extent of flashbacks among users. Consequently, reports of flashbacks were compared with the overall reported use of certain drugs (table 2). In addition, since acid has been the drug of major concern in research on flashbacks, table 2 includes the percentage of men who attributed flashbacks to drugs other than acid but who had also had at least one experience with acid.

Among the 115 outgoing men who were acid users, 28.6 percent reported flashbacks that they attributed to acid or any other drug. The percentage for incoming acid users was 29.6 percent. A chi-square analysis between these two groups was not significant. This would indicate that exposure to a combat zone did not appreciably change the prevalence of reporting flashbacks among acid users since nearly all of the outgoing men had spent at least a year in Viet Nam.

Of the group of outgoing acid users, a somewhat higher percentage of flashback was reported (37.5 percent) among those who had used acid both before and during their

tour of duty in Viet Nam as compared with those outgoing acid users who had taken it either only before coming to Viet Nam (25.3 percent) or only during their tour there (28.5 percent). Chi-square analysis among these three groups yielded a value that was not statistically significant. The same group who had used acid before and during their tour was also compared separately with each of the other groups, again without significant results.

Three different analyses were performed to determine if a relationship existed between the extent (frequency) of acid use and the tendency to report flashbacks from any drug. First, three chi squares were calculated for the acid users within the outgoing (N = 115,) incoming (N = 125), and combined incoming and outgoing groups (N = 240). To allow direct comparison with the study by McGlothlin and Arnold (9), the analysis was made across two levels of acid use, those who used it from one to ten times and those who used it 11 or more times. The results were not significant. The second analysis compared reports of flashbacks for all acid users (N = 240) across six levels of usage (1-5 times, 6-10 times, 11-20 times, etc.); outgoing and incoming users were combined because there were too few of them at the various levels to allow separate comparisons. The chi-square value obtained was not significant. Finally, point biserial correlations were computed for the outgoing, incoming, and combined groups between reports of flashbacks and the extent of acid use, in an attempt to determine whether a linear relationship existed between these two variables. The highest of these correlations was .08, and none of them was significant.

Three other analyses were performed that were identical to the three just described, with one exception: These subsequent analyses compared the extent of acid use and the tendency to attribute flashbacks specifically to acid, as opposed to any drug including acid. Once again, however, no significant relationships of any kind emerged from the data. In summary, then, these six analyses provided no evidence that frequent acid use increases the likelihood of reporting flashbacks.

In order to ascertain whether birth order was in some way associated with the tendency to report flashbacks, a chi-square analysis was performed between firstborn and laterborn acid users. Failure to indicate their birth order led to the exclusion of two respondents. Analysis was done on the combined group of 238 incoming and outgoing acid users. The difference was not significant.

Discussion

It is felt that the data reported here provide a fairly consistent representation of the percentage of youthful drug users who report flashback phenomena for each of the several drugs surveyed. Partial support for this is provided by the close similarity between our own figure among acid users of nearly 23 percent and the estimates of 20 percent and 25 percent obtained by Blumenfield (1) and Owens and associates (13), respectively, from samples comparable as to number and age of respondents. This suggests that slight differences in methodology may not be crucial in surveys of flashback phenomena.

Some of the percentages of flashbacks, e.g., that for speed, were greater than we had anticipated from our clinical experience. Although heavy use of amphetamines has occasionally been known to bring about such recurrent effects as paranoid thoughts, auditory hallucinations, and disorientation (2, 5), these are more frequently viewed as manifes-

TABLE 2
Comparison of Acid Use, of Other Drug Use, and of Flashbacks

DRUGS	TOTAL NUMBER OF USERS	THOSE WHO REPORTED FLASHBACKS		ACID USERS AMONG THOSE WHO REPORTED FLASHBACKS	
		NUMBER	PERCENT	NUMBER	PERCENT
Acid (LSD, STP)	240	55	22.9	55	100.0
Speed (amphetamines)	319	17	5.3	10	58.8
Marijuana	877	12	1.3	3	25.0
Opium	236	7	2.9	4	57.1
Mescaline, peyote, and psilocybin*	—	4	—	3	75.0
Heroin/morphine	76	3	3.9	0	—
Barbiturates	254	1	0.3	0	—

*Information on use of these drugs was not requested of the subjects. Nonetheless, four attributed flashbacks to them

tations of psychosis and do not have the "drug" quality usually associated with flashbacks (11). Conversely, the attention given in recent years to flashback-type effects attributed to marijuana (1, 7, 8, 12, 16) initially led us to speculate that along these lines, our sample would certainly yield a figure higher than 1.3 percent, especially when one considers that half of the sample was leaving a milieu notorious for its high incidence of marijuana use (17). In fact, our results are in line with those of Tennant and Groesbeck (18), who could not document the occurrence of flashbacks among subjects who had used only cannabis. These findings demand that reconsideration be given to the entire issue of marijuana aftereffects, with special attention to the personalities and possible psychotic predispositions of those who report such phenomena.

It is noteworthy that, except for marijuana, the majority of respondents who attributed flashbacks to drugs other than acid also reported having used acid at some point in their lives. Whether they experienced the flashbacks before, shortly after, or a long time after using acid could not be determined from our questionnaire and is a question deserving further study. Nonetheless, it is possible that in some cases other drugs are being blamed for aftereffects that actually arise from the use of LSD and similar hallucinogens. Further, multidrug use and the frequent impurities, mixtures, and mislabelings that characterize many of the substances used illicitly today tend to cloud the issue of just what drugs a person may have used. A case in point is the recent discovery in California that a popular substance being sold to youths as peyote turned out, under analysis, to be nothing less than LSD.

A number of authors have claimed that frequent use of LSD is more predisposing to flashbacks than rare or occasional use of this drug (1, 6, 9, 10, 11, 15). Blumenfield (1) found that flashbacks were reported more frequently among heavier users. McGlothlin and Arnold (9) also presented data to support this point. Of their subjects who had used LSD fewer than ten times, 12 percent reported LSD-like recurrences; of those who had used it ten times or more 24 percent reported these recurrences. On the other hand, several different analyses of our own data did not support this finding. The figures we obtained were 28 percent for those who had used LSD one to ten times and 30 percent for those who had used it 11 times or more; the two figures did not differ significantly.

There appears to have been an increase during recent years in the number of infrequent drug users who report flashbacks in that many of the subjects in McGlothlin and Arnold's study were exposed to LSD only before 1961, while our data were gathered in late 1969. Whether this increase is due to 1) heightened awareness and expectation of flashbacks, 2) more accurate reports of flashbacks, 3) changes in the pharmacological composition of present-day hallucinogens, 4) multidrug use, or 5) some other factor is difficult to ascertain.

Despite the belief of some researchers that LSD flashbacks tend to increase under stressful conditions (1, 6, 10, 11), we found that exposure to a combat zone did not appreciably change the number of acid users reporting flashbacks. The low prevalence of marijuana flashbacks also tends to weigh against the stress theory. Thus, in contrast to Blumenfield's (1) assertion that "stresses of adjusting to the military setting" evoke flashback phenomena, our results indicate that the Viet Nam war experience, like birth order, is not correlated with the frequency of flashbacks.

We inevitably arrive at the question of defining what exactly a flashback is. There has been some debate on this issue (6, 9, 10, 11, 12, 15). The term may be overinclusive considering the difference in pharmacologic effects of the several drugs to which flashback phenomena have been attributed. However, it is doubtful that the respondents in our own or others' research have read the recent scientific and professional literature on flashbacks. They may not be in a position to critically evaluate the subjective experiences to which they assign the term "flashback." Thus, in the present study and elsewhere we are dependent upon the consumer and left with definitions that have been set forth and elaborated on primarily by a subgroup known as the "drug culture."

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The Psychology of Hallucinogenic Drug Discontinuers

BY CARL SALZMAN, M.D., JONATHAN LIEFF, M.D., GERALD E. KOCHANSKY, PH.D., AND RICHARD I. SHADER, M.D.

Psychological test data from individuals who had discontinued using hallucinogens with those from individuals who were still using them were compared. While the continuers had a tendency toward higher risk-taking behavior, the two samples could not be otherwise psychologically differentiated. Between two subsamples with moderate drug experience, the continuers showed a greater trend toward psychiatric impairment than the discontinuers. The authors do not believe that drug experiences impaired the discontinuers.

MOST STUDIES concerning users of illicit hallucinogenic drugs focus upon the period of drug use. We became interested in the phenomenon of drug discontinuance through a growing awareness that increasing numbers of young people in the Boston-Cambridge community were no longer using hallucinogenic drugs. We wondered whether the discontinuers represented a subsample of the drug-taking population and whether they differed from non-drug users. We wondered, if hallucinogenic drug use produces psychopathological consequences, whether such

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Drs. Salzman, Kochansky, and Shader are with the Psychopharmacology Research Laboratory, Massachusetts Mental Health Center, Boston, Mass. 02115, where Dr. Salzman is Assistant Professor of Psychiatry, Dr. Kochansky is Assistant Professor of Psychology, and Dr. Shader is Associate Professor of Psychiatry. Dr. Lieff is Resident Psychiatrist, Boston State Hospital, Boston, Mass.

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