

DRUG USE AND HYPNOTIC SUSCEPTIBILITY

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Abstract: 47 undergraduate male volunteers were asked 2 questions relating to their use of marijuana and/or psychedelic drugs (e.g., LSD, mescaline, psilocybin) and were administered the Harvard Group Scale of Hypnotic Susceptibility, Form A (HGSHS:A). The HGSHS:A scores of Ss who had, at some time, taken any of these drugs averaged 2 points higher than scores of Ss who had not. Further research is needed to determine whether or not the relationship between drug use and hypnotizability is a causal one.

On the basis of extensive interviews with hypnotic Ss, Josephine Hilgard (1965, 1970) observed that Ss who were drawn toward the use of psychedelic drugs tended to be among the more hypnotizable. Hilgard proposed that there are multiple paths, or configurations of personality variables, by which one may enter hypnosis. Among the multiple paths leading into hypnosis, she hypothesized that compelling interests in areas such as reading, dramatic arts, esthetic involvement, religious dedication, and adventure function as specific-path models related to susceptibility. With respect to adventure, she found that it is the travelers of mental space, rather than physical space, who tend to be highly hypnotizable. The mental-space travelers seek excitement through adventures of the mind, exploring with such devices as science fiction, ESP, Ouija boards, marijuana, and LSD. In the original theoretical presentation of her theory, Hilgard (1965) did not, however, present any statistical evidence to support her observations.

McGlothlin and Cohen (1965) indirectly lend some statistical support to Hilgard's hypothesis. They reported that Ss who indicated a desire to take LSD in a drug experiment were more susceptible to hypnosis than Ss with either neutral or negative attitudes toward taking LSD. Most of the Ss who were both susceptible to hypnosis and indicated a positive desire to take LSD had no prior experience with drugs at all. However, hypnotic susceptibility was measured rather indirectly in their study through use of the Ås Experience Inventory (1963), a 60-item self-report inventory of naturally occurring, non-hypnotic, subjective experiences found to be related to hypnotizability.

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The present study attempted a statistical confirmation of Hilgard's clinical impression that drug users tend to be among the more hypnotizable.

METHOD

Subjects

Forty-seven male undergraduates at the University of Michigan participated as paid volunteers. Their ages ranged from 18 to 23 years, with a mean age of 20 years. The *Ss* were drawn from a pool of students who had signed up at registration to participate in paid psychological research. They were contacted by telephone and asked which of the following types of psychological experiments they would be willing to participate in: (a) drug research, (b) sensory deprivation research, (c) verbal conditioning research, (d) hypnosis research, and (e) personality research. Those *Ss* who included hypnosis research as one of their choices were selected for the study. However, they were not told the experiment involved hypnosis until the end of the first experimental session. Only three *Ss* had ever been hypnotized before.

Procedure

The research reported here was a small part of a large study on hypnotic susceptibility and individual differences in attention (Van Nuys, in press). Two experimental sessions were involved. At the beginning of the first session, an experimental assistant² asked *S* to fill out a background questionnaire which contained, among others, the following two items:

Have you used marijuana or hashish?

never only once several times periodically regularly

Have you taken psychedelic drugs (LSD, mescaline, psilocybin, etc.)

never only once several times periodically regularly

The *Ss* were assured that their answers would be kept confidential. At the end of the first session, *S* was told that the next session would involve a hypnotic induction in a small group of *Ss*. If *S* wished to complete the experiment, he was asked to sign a waiver indicating his consent to be hypnotized.

In the second session, *Ss* were tested in small groups of four to eight *Ss*. They were seated at desks in a large carpeted classroom. After introducing himself, *E* administered the Harvard Group Scale of Hypnotic Susceptibility, Form A (HGSHS:A), of Shor and Orne (1962).

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The hypnotic induction was tape-recorded, using *E*'s voice, to keep procedures constant across groups. The *Ss* recorded their own responses to the induction in the standard response booklets.

RESULTS

Table 1 presents data on hypnotic susceptibility and the use of drugs by *Ss* in this sample. Information on two classes of drugs is considered: (a) cannabis, i.e., marijuana and/or hashish and (b) psychedelic drugs, i.e., LSD, mescaline, peyote, psilocybin, etc.

A series of *t* tests was performed to see if drug use was related significantly to hypnotic susceptibility. Table 2 indicates that all three of the mean differences achieve an acceptable level of significance. One-tailed tests of significance were deemed appropriate since the original hypothesis was directional. However, it is important that the comparisons presented in Table 2 be regarded as three different ways of looking at the data rather than three independent findings, since the

TABLE 1
HGSHS:A MEANS FOR DIFFERENT LEVELS OF CANNABIS AND PSYCHEDELIC
DRUG USE

Amount of use	Cannabis		Psychedelic drugs	
	<i>N</i>	HGSHS:A	<i>N</i>	HGSHS:A
Never	11	5.45	26	6.00
Only once	6	6.83	6	8.85
Several times	8	6.38	10	7.40
Periodically	12	7.83	4	7.50
Regularly	10	7.50	1	8.00

TABLE 2
HGSHS:A MEANS AND *t* TESTS FOR NON-USERS AND USERS OF CANNABIS AND/OR
PSYCHEDELICS

Drug class	Non-Users		Users		<i>t</i>
	<i>N</i>	HGSHS:A	<i>N</i>	HGSHS:A	
Cannabis and/or psy- chedelics	10	5.20	37	7.27	1.93*
Cannabis	11	5.45	36	7.25	1.75*
Psychedelics	26	6.00	21	7.86	2.22**

* $p < .05$, one-tailed.

** $p < .025$, one-tailed.

use of psychedelics and of cannabis are known to be related. It can be seen in Table 2 that when HGSHS:A scores were grouped according to whether any drug was used at all, regardless of which class it belonged to, the mean difference was significant ($t = 1.93$, $df = 45$, $p < .05$). When the two classes of drug use were considered separately, the strongest relationship was found with the psychedelic group ($t = 2.22$, $df = 45$, $p < .025$). A similar t test comparison of HGSHS:A scores grouped on the two levels of cannabis usage was also significant ($t = 1.75$, $df = 45$, $p < .05$).

These data also raise the question of how susceptibility may vary according to the degree of drug use. The data in Table 1 are suggestive, but simple analyses of variance were performed and the differences between means for the finer levels of usage (i.e., never, only once, several times, etc.) were not statistically significant.

DISCUSSION

The significant finding to emerge from this research is that subjects who have, at some time, taken either a form of cannabis or a psychedelic drug score, on the average, two points higher on the HGSHS:A than those who do not use drugs. This finding constitutes a statistical confirmation of Hilgard's (1965) impression based on clinical interviews that many of those who take LSD and other psychedelics fall into a class of "mental space adventurers," who tend to be highly hypnotizable.

The present study is limited, however, because the HGSHS:A was used as the sole criterion of hypnotizability. The HGSHS:A was developed primarily as a screening device (Shor & Orne, 1963). To obtain the best estimate of hypnotizability it is generally advisable to supplement the HGSHS:A with the individually administered Stanford Hypnotic Susceptibility Scale, Form C (Weitzenhoffer & Hilgard, 1962), which is a far more suitable criterion measure.

While this research suggests a relationship between drug use and hypnotizability, it provides no evidence of a causal relationship. At least three possibilities exist: (a) personality factors may predispose some persons to be both hypnotizable and attracted to drug use; (b) drug use itself may actually increase hypnotizability; or (c) an interaction of personality and drug use may be involved. It does seem likely that drug taking and hypnotic susceptibility both stem from some other factor or factors of personality, e.g., interest in mind-manifesting experience, tolerance for unrealistic experience, or hunger for regressive experience. Certainly, Hilgard (1965) takes this view when she links hypnotizability and drug use to the personality attribute of "mental

space adventurer." Moreover, the previously cited study by McGlothlin and Cohen (1965) supports this notion, since Ss who wanted to take drugs, but had never done so, were more hypnotizable than those with no desire to take drugs.

On the other hand, the possibility that drug taking might alter a person's hypnotic susceptibility cannot be discarded without further research. Sjöberg and Hollister (1965) found that LSD and/or mescaline produced an average enhancement in primary suggestibility comparable to that produced by a hypnotic induction. More startling is the finding of Sanders and Reyher (1969) that scores on the Stanford Hypnotic Susceptibility Scale were increased an average of almost five points when the hypnotic induction followed up to 6 hours of sensory deprivation, and, furthermore, these gains in hypnotizability still held in a follow-up session 1 week later. Although hypnotic susceptibility is generally regarded as relatively unchangeable, such a finding suggests that a single, strong regressive experience may bring about a lasting change in ego structure in which the threshold for regressive experience is lowered. A similar process may occur in the often observed phenomenon that most marijuana smokers have to learn to get high (Becker, 1966). They may initially require several sessions and massive doses, but once they have had the experience of "turning-on," a much smaller dose is sufficient, and they may even experience "contact highs" by merely being around others who are smoking marijuana or using a psychedelic drug (Becker, 1966). A possible transfer of learning effect is also suggested by a number of studies which indicate that hypnosis can lead to drug-like states (e.g., see Fogel & Hoffer, 1962a, 1962b; Aaronson, 1968; Tart, 1969). Reports of "flashback" experiences (e.g., Rosenthal, 1964; Horowitz, 1969) also underline the possibility that LSD may bring about a lasting change in the threshold for regressive experience. Certainly, this question is one which needs to be settled by further research.

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Susceptibilidad a la Hipnosis y Uso de Drogas

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Resumen: Se administró la Escala Harvard de Susceptibilidad a la Hipnosis a grupos en su forma A, a 47 sujetos voluntarios hombres, a los que se les preguntó por el uso previo que habían hecho de drogas v.gr., LSD, mescalina, psilocibina. Aquellos sujetos que, alguna vez habían usado drogas demostraron una respuesta promediamás alta a la prueba (2 puntos), que aquellos que no lo habían hecho. Requerirían más datos para concluir algo en este tema.

Rauschgiftgebrauch und Hypnoseempfänglichkeit

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Abstrakt: 47 jungen, männlichen Studenten wurden 2 Fragen vorgelegt, die sich auf ihren Gebrauch von Marihuana und/oder psychodelischen Rauschgiften (z. B. LSD, Mescaline, Psilocybin) bezogen. Sie wurden dann

mit dem Harvard Gruppenmaszstab für Hypnoseempfänglichkeit, Form A (HGSHS:A) gemessen. Die Ergebnisse des HGSHS:A waren durchschnittlich 2 Punkte höher bei den *Vpn.*, die zu irgend einer Zeit eines dieser Rauschgifte gebraucht hatten, als bei denen, die sie nicht genommen hatten. Weitere Forschung ist notwendig, um zu bestimmen, ob die Beziehung zwischen Rauschgiftgebrauch und Hypnotisierbarkeit nur eine zufällige ist.