

Body Image and Defensiveness In an LSD-taking Subculture¹

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Summary: This study explores body image and defensiveness in 43 Haight-Ashbury LSD users and 39 matched non-users via the Holtzman Inkblot Technique. It was hypothesized that the body image of LSD users is less clearly defined than that of non-LSD users. Therefore, the LSD users were expected to give a greater number of Penetration responses and fewer Barrier responses than the non-users. It was further hypothesized that the LSD users would be more defensive as a result of having become less aware of their body boundaries. Although no significant differences were found, trends opposite to the hypotheses were observed. Caution should be exercised in generalizing from these data to all LSD users.

There appears to be a general consensus among researchers of psychedelic drugs that body image changes are among the most dramatic symptoms produced by lysergic acid diethylamide (LSD-25). Almost all investigators have remarked on the striking effects of the drug on body image. Most of these investigators consider *body image* synonymous with *body ego*, and the two expressions are frequently interchanged.

Freud recognized that the ego is basically a perceptual ego and most especially a "body ego." In his book, *Ego and Id* (1960), Freud said: "The ego is first and foremost a bodily ego; it is not merely a surface entity, but is itself the projection of a surface [p.16]." Federn (1952) clarifies the integral relationship between ego and body image in his theory of the ego. According to Federn, the ego is the experiencing of one's own thoughts, feelings, and body in their relation to the rest of the world. One's ego is actually felt and this is described as ego feeling. It is ego feeling which differentiates the self from the rest of the world, which distinguishes ego from external reality. The perception of the extension of our ego feeling is designated as the ego boundary, i.e., how far we feel the ego extends. Generally, the individual

is not aware of the ego boundaries of his mind and body, and becomes aware of them only when a change has occurred to them. To sum up, Federn (1952) states:

The bodily ego feeling is a compound feeling including all motor and sensory memories concerning one's person, not identical with these memories but rather a unified feeling of libido investment of the motor and sensory apparatus [p. 9].

Savage (1955) has most clearly characterized the body image changes that occur under LSD:

... With this phase (severe dizziness due to an inability to coordinate the impression of the senses), many changes can be observed in *body ego feeling* (emphasis mine). The unity of the body ego cannot be maintained; the parts of the body seem dislocated. Limbs feel detached and floating. The symmetry of the body is lost, and it assumes enormous plasticity. ... The body outline seems lost. ... The body may become separated from the individual so that he feels himself sitting off in a corner or standing in back or the side of himself. The body may even seem to come apart so that he feels that he can take off his head and hold it in his hands. *With the changes in body ego feeling are associated changes in the ego boundaries of the body* (emphasis mine). Ego feeling is withdrawn from them, and they become weakened, fluid and variable. It becomes increasingly difficult to tell where the body leaves off and the rest of the world begins [Pp. 8 & 9].

The nature of this change in body image or body ego feeling is so profound that Albert Hofmann, the discoverer of LSD, described it as one of his most marked symptoms after having ingested LSD for the first time: "Occasionally I

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felt as if I were outside my body. My 'ego' seemed suspended in space. . . ."²

Most LSD investigators are in general agreement with Savage's description of body image changes occurring under LSD intoxication. While different writers have used varying terminology to describe these changes (e.g., ego loss; dissolution of the ego; body image and body ego changes; breakdown of self-world boundaries, etc.) all, would agree that they are essentially speaking about a "universal" aspect of the LSD experience.

Thus far, all studies relating body image or body ego changes to LSD intoxication have only looked at body image changes while under the direct influence of LSD. No studies have investigated the possible enduring consequences of LSD consumption on body image. The present study is concerned with this question: following LSD consumption, do body image changes, similar to those already reported, persist after the acute phase of the LSD-induced state has passed.

There is some evidence that LSD experiences can result in personality changes which persist after the drug effect has worn off. Klavetter and Mogar (1967) report a nine month follow-up of 119 Ss after one supervised LSD experience. They found that 82 of these Ss reported that they had undergone a peak experience while on LSD, and that they felt more self-actualized after the LSD experience. In other words, these people felt a lasting effect which they could still report nine months later. Another study (Mogar & Savage, 1964) followed-up at 2 and 6 months 70 one-dose LSD Ss. Like the Ss in the present study, these were volunteers who had a median of 2 years of college. They found at both follow-ups that there were significant changes on nine scales of the MMPI.

In accordance with Savage's account of the progressive changes in the ego boundaries of the body, the present investigators believe that one of the fundamental aspects of body image is related to the manner in which an individual

perceives his body boundaries. There exist degrees of variation in the firmness or definiteness with which individuals perceive their body boundaries. One individual may view his body as clearly and sharply bounded with a high degree of differentiation between self and non-self, while another may regard his body as lacking clear distinction from what is "out there."

In an effort to define body image boundaries operationally, Fisher and Cleveland (1958) developed two inkblot scoring dimensions called *Barrier* and *Penetration*. The concept of *Barrier* refers to any protective covering, membrane shell or skin that might be symbolically related to the perception of body image boundaries. *Penetration* refers to any concept which might be symbolic of an individual's feeling that his body exterior is of little protective value and can be easily penetrated: images that involve the penetration, disruption, or wearing away of the outer surface of things; images that emphasize modes or channels for getting into the interior of things; and images that involve the surface of things as being easily permeable or fragile are scored for penetration.

The following hypotheses were made: Body image changes in terms of a loss of body unity and self, non-self differentiation tend to persist over time after the active effects of LSD have worn off. These changes are generally reflected by related changes in body boundary awareness. Thus, LSD users are expected to give a greater number of *Penetration* responses than non-LSD users. Furthermore, non-LSD users would be expected to give more *Barrier* type responses than LSD users.

Any changes in the ego boundaries of the body as seem to be produced by LSD, are expected to make a person feel somewhat disoriented, confused, vulnerable and out of control. This might result in an attempt to defend the ego against these novel and possibly frightening sensations. It was therefore hypothesized that there is a difference in the degree of defensiveness demonstrated by LSD and non-LSD users. This hypothesis is some-

2 Translated from Albert Hofmann's laboratory report, and quoted in "Discovery of D-lysergic Acid Diethylamide-LSD," Sandoz Excerpta (1955) 1; 1-2; p.1.

what supported by a study by McGlothlin, Cohen, and McGlothlin (1964). They found that after one dose of LSD, the Ss showed a non-significant increase in defensiveness as measured by the Marlowe-Crowne Social Desirability Scale. Due to a decrease in ego integration and body boundary awareness, LSD users are expected to be more defensive than non-users in the sense that they would be more skeptical, suspicious, distrustful, resistant, and less inclined to become involved in things outside of themselves. Such a defensive quality should be reflected by the number of responses given to certain inkblot variables indicative of this type of defensiveness. Thus, LSD users will receive a higher score on an index of defensiveness than will non-LSD users.

The LSD Ss used in the present study were all members of a particular subcultural group. They were people who had taken Lysergic Acid Diethylamide (LSD) and who lived in the Haight-Ashbury district of San Francisco. Just prior to the investigation (June, 1967), the Haight-Ashbury district was one of a number of small communities where LSD users could be found in large numbers. During the summer months of that year, this district grew tremendously in popularity and soon came to be known as a mecca for LSD users. The people who habituated this area have popularly been referred to as "hippies," "flower children," or the "love generation." Within this cultural group, there seemed to prevail a sense of community and common identity. This ranged from identifying with others who used LSD, to a large social movement of enlightenment, peace, love, and brotherhood for all.

Method

The experimental group consisted of 43 Ss (26 males and 17 females) who had consumed LSD twice or more, were living in the Haight-Ashbury district during the summer of 1967, and had been to college for at least one semester. The Haight-Ashbury was defined in terms of the boundaries set by the postal delivery zone for that district (Area Zip Code: 94117). At its widest points, it is 15 blocks long and

18 blocks wide. Only LSD users residing within this area were considered for the experimental group. The LSD Ss' ages ranged from 18 to 38 with a mean age of 21.9 years. Their college experience varied from one semester to 6.5 years (Mean: 2.4 yrs.) of academic work completed with six Ss having received their Bachelor's degrees.

The number of LSD trips ranged from 2 to 200 (Median: 10). One-half of the Ss reported that they had consumed LSD between 2 and 10 times, while only two Ss estimated their use of LSD to have exceeded 100 times. A questionnaire disclosed that the LSD group had also used a variety of hallucinogens, stimulants, depressants, tranquilizers, and narcotics. Of some 50 different drugs, the most commonly used were marijuana (all 43 Ss), hashish (23 Ss), methadone (22 Ss), opium (20 Ss), and DMT (18 Ss). The use of opium ranged from 1 to 50 times with more than half of the users trying it 5 times or less. Eight Ss reported having used heroin between 1 and 4 times. Cocaine had been used by eight of the LSD users, with no Ss having used it more than 3 times. The heroin and cocaine users claimed that they had not used these narcotics for some time.

Each of the LSD users was paired with a control S who had never taken LSD, marijuana, or any other hallucinogenic substance. Only non-drug users living in the San Francisco Bay Area outside of the Haight-Ashbury district were used in the control sample. It would have been impossible to obtain a control group from the Haight-Ashbury district, as all the young people screened for the study had tried at least marijuana, and most had tried other drugs. In other words, there were practically no "straight" people in the younger age categories living in the Haight-Ashbury during the summer of 1967. Had they been available, they would have made a much more desirable control group. The two groups were matched on the basis of sex, age, and number of college units. For each LSD user, then, there was a non-user of the same sex, the same age plus or minus one year, and the same number of college

units plus or minus 15 units. For four of the 43 LSD Ss, a matched control could not be found. The number of control Ss was, therefore, 39 (22 males and 17 females).

The control group that was collected was obtained by first soliciting Ss in summer school classes and Peace Corps training at San Francisco State College. From this small group, a list of names of friends and acquaintances was amassed from which the control group was chosen. The control Ss were solicited either personally (in class) or by telephone. The experimental Ss were all solicited in person. Potential Ss were approached on the street, in the park, or in communal living places. If they agreed and met the requirements of the study, they were taken to a quiet room in a home twenty minutes' drive from the Haight-Ashbury. A few were tested in their own homes.

All Ss were tested by one of two examiners, one male and one female. Both Es were second year graduate students in a doctoral program in clinical psychology, and were familiar with the San Francisco Bay Area and the Haight-Ashbury. The Holtzman Inkblot Technique (Holtzman, Thorpe, Swartz, & Heron, 1961) was individually administered to each of the Ss. Twenty-two of the LSD users were given Form A of the test, while the remaining 21 were given Form B. Of the non-LSD users, 14 received Form A and 25 received Form B. Although an attempt was made to give each member of a matched pair the same form of the test, because of unexpected scheduling conflicts between the examiners, four of the pairs could not be matched in this way (i.e., one member of the pair received either Form A or B while the other member received the alternate form).

Only LSD users who had not consumed any of the more potent psychedelic substances (e.g., LSD, mescaline, psilocybin, peyote, STP, DMT, DET) within the preceding 14 hours, were acceptable for testing. It was much more difficult to control for marijuana use as so many of the LSD Ss were found to be regular smokers of this plant. Therefore,

marijuana had been smoked from one (2 Ss) to 24 hours before testing (Mean: 10.8 hrs.).

Results

Eight inkblot variables were independently blind-scored by two experienced scorers. The following interscorer reliabilities (Pearson Product-Moment Correlation) were obtained: Barrier, .86; Penetration, .92; Balance, .94; Popular, .91; and Color Naming, .94. Interscorer reliability for Reaction Time and Rejection was not determined because of the obviously high agreement that was obtained between the two scorers in counting the number of rejected cards and transcribing the recorded reaction time. Space had such a badly skewed distribution due to infrequent occurrence, that a reliability coefficient was not computed. Inspection of Space, however, indicated that agreement was high between scorers when non-zero weightings were assigned.

Barrier, Penetration, Popular, and Reaction Time were each separately analyzed by a three-factor analysis of variance design (2X2X2). The approximate method of unweighted means was used because of unequal cell frequencies (see, for example, Winer, 1962, pages 224-227, 241-244). The S's sex, his group membership (LSD or non-LSD), and the form of the test (Holtzman Form A or B) were the factors being controlled in the present design. No significant results were obtained. There were no interaction effects or significant differences within the factors for any of the four variables.

Due to their markedly skewed and truncated distributions, the remaining variables (Rejection, Balance, Color Naming, Space) were analyzed by multiple Chi-Square tests. Three 2X2 (Sex X LSD; Sex X Variable; LSD X Variable) χ^2 analyses were conducted for each variable ($N=82$; $df=1$). The sample was broken down into those Ss "seeing" vs those "not seeing" balance and space, or those "rejecting" and "color naming" vs those "not rejecting" and "not color naming."

An index of defensiveness was developed by pooling Reaction Time, Popular, Space, Balance, Rejection, and Color

Naming to form a composite score. Critical limits, based upon the means and standard deviations of Holtzman's college norms, were set for each of the six variables. The limits set for Reaction Time ranged from less than ten seconds to greater than 30 seconds. The critical limit for Popular responses was 13 or more. The remaining four variables were scored only if the *S* gave more than one response of each kind. An index value was then obtained for each *S* by summing the number of times his scores on these variables exceeded their critical limits. Using the same analysis of variance design described above, no significant results were found.

Table 1 presents the means and standard deviations of the LSD users, the non-LSD users, and Holtzman's 1958 college norms. Contrary to expectation, the LSD users had a slightly higher Barrier score than the non-users. There was a similar reversal in the Index of Defensiveness, with the non-LSD users being somewhat more defensive. Neither of these trends, however, are statistically significant.

Discussion

The hypothesis that the LSD users would give significantly more Penetration and significantly fewer Barrier type responses than the non-LSD users, was not upheld by the data. Therefore, the present study has not given any real support to the belief that a history of LSD consumption would result in a decreased sense of body unity or self, non-self differentiation. This, however, does not "prove" that there are no differences in body image between LSD and non-LSD users, as the LSD users did receive a slightly higher Barrier score. Moreover, the type and amount of clothing worn by the Haight-Ashbury LSD users suggests that their attire may have been a compensation for a lessened sense of body boundary awareness. For example, members of the Haight-Ashbury group were usually heavily adorned with very colorful and uncommon clothes and artifacts worn in sometimes odd combinations to reflect highly individualized tastes. It is possible that this apparent emphasis on clothing and appearance

served to enhance an individual's feeling that his body was more sharply bounded with a higher degree of differentiation between self and non-self. Perhaps this preoccupation with body boundaries is reflected in the higher Barrier score of the LSD users.

The finding that the LSD users appear to have an adequate sense of body boundary awareness (they are in fact closer than the non-users to Holtzman's college norms) supports Fisher's (1966) conclusion that the maintenance of body boundaries is related to the existence of a clear identity, regardless of how bizarre this identity might appear to others. He goes on to state that:

... Individuals from different cultures who regard each other's cultures as strange and even bizarre, develop an adequate sense of identity as long as they feel that they have a meaningful role within the context of their own cultures [p. 98].

The Haight-Ashbury culture seemed to foster a clear sense of identity among its members by giving group support to a general "let-be" philosophy of life that reflected the individual's disaffiliation with authority and American middle class values. The stereotype "hippie" role thus consisted of allowing others to be themselves in the sense that one did not tell another person what to do or how to think. This interpersonal philosophy was often expressed in the cliché "You do your thing and I'll do mine." The existence of a definite identity and role expectation among these LSD users may therefore have offset any possible effects of LSD on body boundary awareness.

That the LSD users would be more defensive than the non-users was not substantiated by the data. In fact, the LSD users were somewhat less defensive than the non-users. There are also qualitative differences in the type of defense used by each group. While the LSD users were higher in Balance and Color Naming, the non-users more typically used Rejection and Space. This seems to suggest that the two groups attempted to avoid involvement with the blots in two rather distinct ways. For example, the LSD users made more use of the stimulus properties of the blots by referring to the

Table 1
Group Differences in Means and Standard Deviations

HOLTZMAN Inkblot Variables		LSD USERS (N 43)	Non-LSD USERS (N 39)	HOLTZMAN College Norms (N 206)
REACTION TIME	Mean	21.29	20.18	23.26
	S.D.	11.73	10.43	9.86
BARRIER	Mean	7.76	6.88	8.86
	S.D.	3.51	3.09	4.19
PENETRATION	Mean	4.40	4.66	6.16
	S.D.	3.36	3.14	3.65
POPULAR	Mean	10.45	10.28	11.03
	S.D.	2.78	2.44	2.82
REJECTION	Mean	1.60	2.51	0.88
	S.D.	3.68	3.44	2.03
SPACE	Mean	0.41	0.64	0.58
	S.D.	0.63	0.65	0.92
BALANCE	Mean	1.15	0.83	1.47
	S.D.	1.80	1.29	2.00
COLOR NAMING	Mean	1.23	0.76	—
	S.D.	2.39	1.43	—
DEFENSIVENESS INDEX	Mean	1.28	1.51	
	S.D.	0.95	1.03	

Note: Holtzman does not present norms for Color Naming.

color characteristics and symmetrical aspects, while the non-users either rejected the cards outright or made reference to ground rather than figure characteristics. Thus, the LSD users express their defensiveness in a more subtle way as opposed to the non-users who are more open and direct about their disinclination to become involved. Contrary to the original hypothesis, the LSD users seem somewhat more inclined to become involved in things outside of themselves.

With respect to the hypothesis that the LSD users are more suspicious and distrustful, McKenna, Hartung, and Baxter (1969), present data on this same group of LSD users which indicates that at the self-descriptive level, they seem to be more suspicious and distrustful of others than the non-users. They found that the LSD users were significantly more rebellious-distrustful on the Leary Interpersonal Checklist. Comparing the Leary results with that of the Holtzman findings, one could conclude that the LSD users see themselves as being defensive with respect to certain others, when in fact they may not be particularly defensive at a more dynamic level of the personality (i.e., projective level measured by the Holtzman inkblots). Such a conclusion is also in accordance with an observation made by Shick, Smith, and Meyers (1968) about this group: "Among the Haight-Ashbury community there was a well-known mistrust of the 'straight' society . . . [p. 50]."

In generalizing from the above results to all LSD users, the reader is reminded that the present sample consisted of a unique group of LSD users. They were all members of a particular subculture that apparently ceased to exist after the summer of 1967. Right after the summer during which this study was done, the population of the Haight began changing. Shick, et al., (1968) describe the change as follows:

By September 1967, when our survey was conducted, the well-publicized hippie group had been diluted by a large number of transient youths who were exploring rather than committed to the hip philosophy. And to describe the people of the neighborhood at that time as being "hippies" is to deny the diversity

of people who came to the Haight with differing backgrounds, motivations, expectations, and degree of drug experience. Furthermore, the community subsequently changed to include a substantial proportion of compulsive methamphetamine users, and the beginnings of that group were evident at the time of our survey [p. 50].

For example, by September the inhabitants of the Haight community were already somewhat younger and more experienced with methadone and a number of the "hard-core" type drugs. Although consideration should be given to the possibility that the personality characteristics and drug-taking patterns of the present sample (Summer, 1967) may bear little resemblance to current LSD users or drug-taking cults, the data of this study do, nevertheless, shed some light on certain personality variables of a very select group of LSD users.

REFERENCES

- Federn, P. *Ego psychology and the psychosis*. New York: Basic Books, 1952.
- Fisher, S. Body image in neurotic and schizophrenic patients. *Archives of General Psychiatry*, 15, 1966, 90-101.
- Fisher, S. & Cleveland, S. *Body image and personality*. Princeton, N.J.: Van Nostrand Co., 1958.
- Freud, S. *The ego and the id*. New York: Norton & Company Inc., 1960.
- Holtzman, W. H., Thorpe, J.S., Swartz, J.D., & Herron, E.W. *Inkblot perception and personality: Holtzman Inkblot Technique*. Austin: University of Texas Press, 1961.
- Klavetter, R. E. & Mogar, R. E. Peak experience: Investigation of their relationship to psychedelic therapy and self-actualization. *Journal of Humanistic Psychology*, 1967.
- McGlothlin, W. H., Cohen, S., & McGlothlin, M.S. Short-term effects of LSD on anxiety, attitudes and performance. *Journal of Nervous and Mental Disease*, 1964, 139, 266-273.
- McKenna, S., Hartung, J., & Baxter, J. Self and ideal self-image in an LSD-taking subculture. Unpublished manuscript. University of Houston, 1969.
- Mogar, R. E. & Savage, C. Personality change associated with psychedelic therapy. *Psychotherapy*, 1964, 1, 154-163.
- Savage, C. Variations in ego feeling induced by D-Lysergic Acid Diethylamide (LSD-25). *Psychoanalytic Review*, 42, 1955, 1-16.
- Shick, J. F., Smith, D. E., & Meyers, F. H. Use of marijuana in the Haight-Ashbury subculture. *Journal of Psychedelic Drugs*, 2, 1968, 49-66.

Silverstein, A. & Klee, G. A psycho-pharmacological test of the "Body Image" hypothesis, *Journal of Nervous and Mental Diseases*, 1958, 328-329.

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Winer, B. J. *Statistical principles in experimental design*. New York: McGraw-Hill, 1962.

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