

Values and Beliefs of Psychedelic Drug Users: A Cross-Cultural Study

Michael Lerner, B.A. (Honours)* & Michael Lyvers, Ph.D.**

Abstract—Psychedelic drugs such as LSD and psilocybin are often claimed to be capable of inducing life-changing experiences described as mystical or transcendental, especially if high doses are taken. The present study examined possible enduring effects of such experiences by comparing users of psychedelic drugs (n = 88), users of nonpsychedelic illegal drugs (e.g., marijuana, amphetamines) (n = 29) and non illicit drug-using social drinkers (n = 66) on questionnaire measures of values, beliefs and emotional empathy. Samples were obtained from Israel (n = 110) and Australia (n = 73) in a cross-cultural comparison to see if values associated with psychedelic drug use transcended culture of origin. Psychedelic users scored significantly higher on mystical beliefs (e.g., oneness with God and the universe) and life values of spirituality and concern for others than the other groups, and lower on the value of financial prosperity, irrespective of culture of origin. Users of nonpsychedelic illegal drugs scored significantly lower on a measure of coping ability than both psychedelic users and non illicit drug users. Both groups of illegal drug users scored significantly higher on empathy than non illicit drug users. Results are discussed in the context of earlier findings from Pahnke (1966) and Doblin (1991) of the transformative effect of psychedelic experiences, although the possibility remains that present findings reflect predrug characteristics of those who chose to take psychedelic drugs rather than effects of the drugs themselves.

Keywords—drug use, LSD, psychedelics, spirituality

Psychedelic drugs are claimed to have the potential to induce profoundly spiritual or mystical experiences (e.g., Hasler et al. 2004; Horgan 2003; Shanon 2003; Strassman 2001; Bakalar 1985; Hofmann 1983; Pahnke 1966; Leary 1965; Watts 1965; Maslow 1964; Huxley 1956). Presumably because of such effects, plant psychedelics such as *psilocybe* mushrooms, peyote, and ayahuasca have been central to the traditional spiritual and healing ceremonies of some indigenous cultures of the Americas. Even today, the Native American Church is permitted to use peyote legally for religious purposes in the United States, and the syncretist religious group Uniao Vegetal is allowed legal

*Teaching Fellow, Department of Psychology, Bond University, Gold Coast, Australia.

**Associate Professor, Department of Psychology, Bond University, Gold Coast, Australia.

Please address correspondence and reprint requests to Associate Professor Michael Lyvers, Department of Psychology, Bond University, Gold Coast, Queensland 4229 Australia; email: mlyvers@staff.bond.edu.au.

use of ayahuasca for similar purposes in both Brazil and the United States (Greenhouse 2006; Shanon 2002). The most potent of all psychedelics, the semisynthetic ergot derivative LSD, was initially regarded as an agent that induces a "model psychosis," but subsequently LSD was utilized sporadically in depth psychotherapy and alcoholism treatment in the 1950s and 1960s (Grof 2001; Grinspoon & Bakalar 1979). Before all use of psychedelics was made illegal in most countries, there were two main models of LSD psychotherapy: "psychoalytic" psychotherapy administered frequent low doses of LSD to facilitate the emergence of material from the personal unconscious and was based on a psychoanalytic paradigm, whereas "psychedelic" psychotherapy administered a limited number of high doses with the goal of inducing a transpersonal, mystical experience that would have long-lasting transformative effects on behavior (such as alcohol abstinence in alcoholics).

However, clinical research on the efficacy of LSD or other psychedelic agents for psychotherapeutic purposes was generally marred by poor research design (Ludwig 1970).

In the only published controlled experiment on the spiritual potential of psychedelics in humans, Pahnke (1966) tested claims that psychedelics are capable of inducing religious experiences. In a Boston chapel on Good Friday, drug-naïve divinity students were given either a high dose of psilocybin or an active placebo in double-blind fashion. Most subjects in the psilocybin group reported profound spiritual insights with transformative effects that persisted for decades, according to a follow-up study by Doblin (1991). However, one subject who received psilocybin suffered a psychotic reaction during the experiment, highlighting one of the major risks of psychedelic drug use. Although psychedelics are not addictive, and frequent use is rare due to the intensity of effects (Grinspoon & Bakalar 1979), these drugs can be dangerous due to the unpredictable and overwhelming mental changes they may induce. Time slows down or stands still, brilliantly colored visions unfold in the mind's eye, and emotions may range from terror and panic to spiritual ecstasy and transcendence. Normal reality may be left far behind as the user seems to enter another dimension, and near-death type experiences are not uncommon. Users often claim to encounter God, to merge with the Cosmos and undergo death and rebirth during a high-dose psychedelic experience.

Reports from some users resemble classic Buddhist or Hindu descriptions of self-realization or enlightenment (Horgan 2003; Grinspoon & Bakalar 1979; Watts 1965). This mystical experience is said to have a universal aspect that transcends cultural context and may cause lasting and profound changes in the user (but see Horgan 2003, for a critical discussion of this claim). If psychedelic drugs can sometimes induce mystical experiences, as is often claimed, then the values and beliefs of psychedelic users should differ in crucial respects from those endorsed by users of other illicit drugs such as marijuana, amphetamines or heroin, as well as those endorsed by nonusers of illegal drugs. Further, to be truly universal, the values and beliefs of psychedelic users should transcend cultural context. The present exploratory study examined these hypotheses by comparing users of psychedelic drugs with users of nonpsychedelic illegal drugs (as a control for correlates of illicit drug use in general) and nonusers of illegal drugs on values, beliefs, coping ability and empathy. Samples were drawn from two culturally distinctive countries, Israel and Australia. The authors predicted that certain characteristics of psychedelic drug users would distinguish them from the other two groups across the two different nationalities. Mystical beliefs such as oneness with God and the universe, empathy (commonly presumed to follow from such beliefs), confidence in one's ability to handle life stress, and life values such as spirituality, creativity, humility, concern for others, and concern for the environment were all expected

to differentiate psychedelic users from the other groups, irrespective of cultural background. Psychedelic users were also expected to be less concerned with financial prosperity and achievement than the other groups, reflecting a less materialistic value orientation. Two values, belonging and loyalty to group, were expected to be higher in Israelis than in Australians irrespective of drug use, on the basis of the presumed ethnic/religious group identification of Israelis.

METHOD

Subjects

A total of 183 volunteers participated in this study. There were 41 Israeli and 47 Australian users of psychedelic drugs (LSD, psilocybin, mescaline), 18 Israeli and 11 Australian users of other illegal drugs (10 marijuana only, 17 marijuana + amphetamines, one amphetamines only, one marijuana + heroin) who had never tried psychedelics, and 51 Israeli and 15 Australian non-illegal drug-using social drinkers. Mean age was 35 years (range 21 to 70 years). For purposes of this study, participants were classified as psychedelic users only if they reported having had at least one overwhelming high-dose psychedelic experience. This was because some recreational drug users today take low doses of a psychedelic drug (e.g., 50 mcg LSD or 1 gm of *psilocybe* mushrooms) to enhance their appreciation of the music and social scene at dance clubs or "rave" venues. As low-dose psychedelic use is unlikely to induce a mystical experience, prospective participants who only reported this type of psychedelic use were excluded from the study. For similar reasons, use of marijuana or "entactogens" such as MDMA (Ecstasy) or MDE, which are sometimes considered mild psychedelics, was not sufficient for classification into the psychedelic user group. Use of dissociatives such as ketamine or PCP likewise did not qualify as psychedelic drug use in the context of the present study, as the "psychedelic" category was conservatively restricted to the "classic" serotonergic agonist hallucinogens—the drugs most widely cited as capable of inducing mystical experiences. This study was approved by the Bond University Research Ethics Committee and was funded by a grant from the Multidisciplinary Association for Psychedelic Studies (MAPS).

Materials

Drug Use Questionnaire (DUQ; Barker & Lyvers 2002). The DUQ assesses personal history of use of alcohol and illegal drugs such as cannabis/marijuana, MDMA/Ecstasy, cocaine, amphetamines, heroin/opiates, and psychedelics (LSD, psilocybin, mescaline), as well as demographic information. A short qualitative section was added asking if the psychedelic user has ever had a profound or overwhelming high-dose psychedelic experience; an affirmative response was necessary for inclusion in the psychedelic user group (see above).

Life Values Inventory (LVI; Crace & Brown 1996). The quantitative section of the LVI used in this study measures 14 life values by means of 42 items rated for importance to one's life on four-point Likert scales. For purposes of the present study, only nine of the 14 values were analyzed as they were deemed most relevant to the psychedelic experience and/or to cultural differences between Israel and Australia: Spirituality, Concern for Environment, Concern for Others, Financial Prosperity, Creativity, Belonging, Loyalty to Family or Group, Achievement, and Humility.

Emotional Empathic Tendency Scale (EETS; Mehrabian 1994). The EETS measures one's perceived ability to identify and feel the emotions of others, using 33 items rated on a five-point Likert scale.

Mystical Beliefs Questionnaire (MBQ). Based on Pahnke's (1966) Peak Experience Profile, the MBQ is a 21-item scale developed for the present study. Five-point Likert scales are used to rate mystical beliefs such as universal soul, the unity of all things, having no fear of death, the illusory nature of physical existence, the existence of a transcendental reality, and oneness with God, nature and the universe. Cronbach's alpha coefficient in the present study was .94, indicating high internal consistency of this exploratory measure.

Sense of Coherence Scale (SOCS; Antonovsky 1987). The SOCS measures subjective coping ability in terms of beliefs that stressful events are comprehensible and that one has the resources necessary to cope with them. We expected that psychedelic users would score higher on this than the other groups, due to the presumed buffering effect of a mystical or spiritual perspective against stress. There are 29 items rated on a seven-point Likert scale.

Procedure

Participants were recruited by posters in counterculture areas frequented by members of contra-cultural groups and drug users and by word of mouth (snowball method) in Israel (Tel Aviv, Haifa, Jerusalem) and Australia (Nimbin, Byron Bay, Melbourne, Gold Coast). Interested persons contacted the researcher, who sent them a questionnaire packet and a self-addressed stamped envelope for return of the completed forms. Of 212 packets initially returned, 14 were discarded as incomplete, and 22 were discarded because although psychedelic use was reported the respondent denied ever having had an overwhelming or high-dose experience.

RESULTS

Initial examination of groups revealed differences in gender and age composition. There was a significant association between drug group and gender, $\chi^2(2, N = 183) = 10.15, p = .006$. There were relatively more males in the psychedelic group (51 males, 37 females) compared to the users of other illegal drugs group (nine males, 20 females)

and the nonuser group (24 males, 42 females). There were also group differences in age, $F(2, 178) = 4.21, p = .016$. Tukey's HSD post-test ($p < .05$) revealed that the nonpsychedelic illegal drug user group was younger on average ($M = 30$ years) than the psychedelic group ($M = 36$ years) and the nonuser group ($M = 38$ years). Therefore age and gender were used as covariates in all analyses reported below.

Mystical Beliefs

Two-way (drug group X nationality) analysis of covariance (ANCOVA) indicated a significant effect of drug group on the MBQ, $F(2, 171) = 73.33, p = .000$. As predicted, psychedelic drug users scored significantly higher on the MBQ ($M = 64.22$) than nonpsychedelic illegal drug users ($M = 34.84$) and nonusers ($M = 34.05$), as revealed by pairwise comparisons using the Bonferroni correction. There was no difference between Israelis and Australians on the MBQ, and no interaction.

Life Values

MANCOVA indicated an overall multivariate effect of nationality on the LVI, $F(9, 164) = 2.51, p = .01$. Univariate analyses were significant for Belonging, $F(1, 172) = 6.70, p = .01$, Humility, $F(1, 172) = 5.72, p = .02$, and Loyalty to Family or Group, $F(1, 172) = 5.82, p = .02$. On Belonging, Israelis ($M = 10.80$) scored significantly higher than Australians ($M = 9.59$). Israelis also rated the value of Humility more highly ($M = 9.59$) than Australians did ($M = 8.71$). Further, Israelis scored higher on Loyalty to Family or Group ($M = 10.80$) than Australians did ($M = 9.74$). There was an overall multivariate effect of drug group on the LVI, $F(18, 328) = 4.73, p = .000$. Univariate analyses revealed significant effects of drug group on Spirituality, $F(2, 172) = 21.29, p = .000$; Concern for Environment, $F(2, 172) = 7.72, p = .001$; Concern for Others, $F(2, 172) = 7.04, p = .001$; Creativity, $F(2, 172) = 3.42, p = .03$; and Financial Prosperity, $F(2, 172) = 7.35, p = .001$. Pairwise comparisons using the Bonferroni correction revealed that psychedelic users scored significantly higher on Spirituality and Concern for Others, and lower on the value of Financial Prosperity, than the other groups (see Table 1). Psychedelic users also scored significantly higher than users of other illegal drugs on Concern for Environment and Creativity, but only marginally ($p < .10$) higher than nonusers on these values (see Table 1).

Empathy

ANCOVA indicated significant effects of the covariate gender, $F(1, 172) = 62.12, p = .000$, and drug group, $F(2, 172) = 14.99, p = .000$, on emotional empathy as measured by the EETS. As expected based on past research, females scored higher overall on emotional empathy ($M = 45.87$) than males ($M = 24.96$). According to pairwise comparisons using the Bonferroni correction, psychedelic users

TABLE 1
Life Values of Psychedelic Drug Users Compared to
Nonpsychedelic Illegal Drug Users and Nonusers of Illegal Drugs

Life Value	Users of		
	Psychedelics	Other Drugs	Nonusers
Spirituality	12.15	7.59	9.28
Concern for environment	12.16	10.24	11.40
Concern for others	12.25	11.38	11.58
Creativity	11.97	10.59	10.97
Financial prosperity	8.68	10.38	10.92

scored nonsignificantly higher ($M = 44.92$) on empathy than users of other illegal drugs ($M = 36.53$), with both groups of drug users scoring significantly higher than nonusers ($M = 24.42$). There was no effect of nationality and no interaction.

Coping Ability

SOC total scores were subjected to a two-way (drug group X nationality) ANCOVA. The main effect of drug group was significant, $F(2, 173) = 6.47, p = .002$. Post-test (Bonferroni) showed that users of nonpsychedelic illegal drugs scored significantly lower on the SOC ($M = 116.78$) than both users of psychedelics ($M = 133.73$) and nonusers ($M = 130.88$). Neither the main effect of nationality nor the interaction were significant.

DISCUSSION

The findings, though tentative due to the self-selected nature of the samples, were largely consistent with predictions based on the notion that many users of psychedelic drugs have undergone a mystical or transcendental experience that led to major changes in orientation. Regardless of culture of origin, users of psychedelic drugs scored significantly higher than users of other illegal drugs and nonusers on mystical beliefs, such as oneness with God and the universe, the illusory nature of physical existence, and the presence of a transcendental reality. Psychedelic users also scored higher on emotional empathy than the other groups, although only the comparison with nonusers was significant. The higher mean empathy score of psychedelic users was consistent with predictions based on the compassionate qualities attributed to those who have had enlightenment experiences according to the mystical traditions of Buddhism and Hinduism. Nevertheless, such claims should be tempered by the fact that, as Horgan (2003) noted, no obvious "psychedelic saints" have yet emerged from the counterculture. Life values that are said to naturally follow from mystical experience—spirituality and concern for others—were rated significantly more highly by psychedelic users than both of the other groups, and concern for the environment and creativity were rated significantly more

highly by psychedelic users than by users of other illegal drugs. The value of financial prosperity was rated significantly lower by psychedelic users than by the other groups, indicating a less materialistic orientation in the psychedelic users. However, contrary to predictions, differences were not found on the values of humility or achievement between psychedelic users and the other groups. On the SOC, a measure of belief in one's ability to cope with life stress, users of nonpsychedelic illegal drugs such as marijuana and amphetamines scored significantly lower than both users of psychedelics and nonusers of illegal drugs. This suggests that in contrast to psychedelic drug use, nonpsychedelic illegal drug use may more often reflect maladaptive attempts to cope with stress. Alternatively, use of such drugs may impair the subjective coping ability of some users.

A question that naturally arises from the present findings is whether the above characteristics of psychedelic drug users preceded psychedelic use or resulted from such use. Those who decide to take a psychedelic drug may in some cases do so as part of a personal spiritual quest, based on the reputation such drugs have for inducing mystical experiences; thus the tendency to endorse more spiritual, less materialistic values may have preceded use of psychedelics. However, present results are generally consistent with the earlier findings of Pahnke (1966) and Doblin (1991) of a profound and enduring spiritual influence of the psychedelic experience. The most likely possibility, in our interpretation, is that both predrug factors and psychedelic drug effects may have contributed to the distinctive characteristics of psychedelic drug users observed in the present study. That is, people on a spiritual quest may be more inclined to use psychedelics as part of that quest, but in addition the drugs themselves may on occasion have powerful effects on values and spirituality even in those who did not initially take psychedelics for spiritual purposes. Present findings also suggest that the effects of psychedelic drugs may be more important than the cultural differences between Israel and Australia in influencing the life values and spirituality of drug users in these two countries, consistent with the claim of a universal aspect to psychedelic mystical experiences. As

predicted, Israelis scored higher on Belonging and Group Loyalty than Australians overall, but also on the value of Humility, which was not predicted.

In recent years a "psychedelic renaissance" seems to be underway, both at the societal level and in terms of renewed scientific interest in these remarkable compounds. In the early 1960s, psychedelics were regarded by many as miracle drugs with the potential to positively transform

individuals and society. But the ensuing controversies and problems associated with uncontrolled use quickly led to the illegalization of psychedelics and cessation of scientific research on their clinical and spiritual potential. Given the recent resurgence of scientific interest, and government approval of limited human studies of psychedelic effects (e.g., Strassman 2001), a less hysterical assessment of psychedelics is likely to emerge in the coming years.

REFERENCES

- Antonovsky, A. 1987. *Unraveling the Mystery of Health: How People Manage Stress and Stay Well*. San Francisco: Jossey-Bass.
- Bakalar, J.B. 1985. Social and intellectual attitudes toward drug-induced religious experience. *Journal of Humanistic Psychology* 24: 45-66.
- Barker, B. & Lyvers, M. 2002. Neuropsychological performance in human Ecstasy users: A test of the Serotonin Neurotoxicity Hypothesis. Paper presented at the Australian Psychological Society Convention, Gold Coast, Queensland, Australia, September.
- Crace, R.K. & Brown, D. 1996. *Life Values Inventory*. Ann Arbor, Michigan: Aviat.
- Doblin, R. 1991. Pahnke's "Good Friday Experiment": A long-term follow-up and methodological critique. *Journal of Transpersonal Psychology* 23 (1): 1-28.
- Greenhouse, L. 2006. Sect allowed to import its hallucinogenic tea. *New York Times* February 22.
- Grinspoon, L. & Bakalar, J.B. 1979. *Psychedelic Drugs Reconsidered*. New York: Basic Books.
- Grof, S. 2001. *LSD Psychotherapy. Third Edition*. Sarasota, Florida: MAPS.
- Hasler, F.; Grimberg, U.; Benz, M.A.; Huber, T. & Vollenweider, F.X. 2004. Acute psychological and physiological effects of psilocybin in healthy humans: A double-blind, placebo-controlled dose-effect study. *Psychopharmacology (Berlin)* 172: 145-56.
- Hofmann, A. 1983. *LSD: My Problem Child*. Los Angeles: Tarcher.
- Horgan, J. 2003. *Rational Mysticism: Dispatches from the Border Between Science and Spirituality*. Boston, Massachusetts: Houghton Mifflin.
- Huxley, A. 1956. *The Doors of Perception/Heaven and Hell*. New York: Harper.
- Leary, T. 1965. The religious experience: Its production and interpretation. In: G.M. Weil; R. Metzner & T. Leary (Eds.) *The Psychedelic Reader*. Secaucus, New Jersey: Citadel Press.
- Ludwig, A.M. 1970. LSD treatment in alcoholism. In: J.R. Gamage & E.L. Zerkin (Eds.) *Hallucinogenic Drug Research: Impact on Science and Society*. Beloit, Wisconsin: Stash Press.
- Maslow, A. 1964. *Religions, Values and Peak Experiences*. New York: Viking Press.
- Mehrabian, A. 1994. *Manual for the Emotional Empathy Tendency Scale (EETS)*. Available from Albert Mehrabian, 1130 Alta Mesa Road, Monterey, CA 93940.
- Pahnke, W. 1966. The contribution of the psychology of religion to the therapeutic use of psychedelic substances. In: H. Abramson (Ed.) *The Use of LSD in Psychotherapy and Alcoholism*. New York: Bobbs-Merrill.
- Shanon, B. 2002. *The Antipodes of the Mind: Charting the Phenomenology of the Ayahuasca Experience*. Oxford: Oxford University Press.
- Strassman, R. 2001. *DMT: The Spirit Molecule*. Rochester, Vermont: Park Street Press.
- Watts, A. 1965. *The Joyous Cosmology*. New York: Random House.