

**TOWARD THE RESOLUTION OF THE CONTROVERSY  
SURROUNDING THE EFFECTS AND SOCIAL HEALTH  
IMPLICATIONS OF MARIJUANA USE<sup>1</sup>**

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**ABSTRACT**

The controversy over marijuana continues unabated because of two primary factors: 1) the widespread lack of knowledge and understanding among the general public concerning many of the lesser known effects of marijuana, and 2) the failure to deal with basic issues concerned with the value of individual and social health and society's role in safeguarding the health of the individual and the nation. Problems in communication which have impeded resolution of the controversy and social policy implications of the effects of marijuana use are discussed.

The history of the controversy over the use and control of marijuana in America has been a pendulous one. The views of many in the early half of this century who spoke out vociferously against marijuana reflected strong moralistic biases typically uninformed by scientific evidence. Even though much significant research has been done in the past 10 to 15 years, many persons have reacted so strongly to the previous moralistic and unscientific stance of the early prophesiers of death and moral denegration that they are disinclined to believe any claims that significant evidence exists or could exist which would prove that marijuana has harmful effects. Convinced that there is a dearth of definitive evidence or confused by a plethora of contradictory opinion or of what appears to be conflicting evidence, many educated persons seem to be holding fast to the view that

<sup>1</sup> In this article "social health" refers to the health of the entire society.

marijuana is either innocuous in its effects, or at least is no more harmful than alcohol.

The resolution of the controversy seems to turn not only on the acknowledgment of the actual effects of the drug, but also on understanding the implications that these effects have for personal and social health. The central issues in the marijuana controversy will be viewed in a context that is typical of neither of the extremes alluded to above, a context in which social and psychological health, common sense as well as research findings, and other developments in the field are considered. The problems in communication which have clouded the central issues will also be discussed along with the social policy implications of some of the lesser known effects of marijuana.

### Marijuana—The Question of Effects

The following is a summary of the less widely known, yet critically important, psychological and social effects of marijuana use. The focus here has been limited to hazards posed to psychological and social health because of the importance of such hazards to individuals and to society. All of the findings have been reported on in the extensive literature on marijuana and all are dealt with to some extent in recent secondary research efforts.<sup>2,3</sup> (Reasons for the tentativeness of the conclusions reached by persons involved in these and other primary and secondary research efforts—including many of those cited here—will be offered elsewhere in this article.)

The significant findings are still unknown to many, including persons in medicine and in the field of marijuana research itself. Such findings include the serious side effects of marijuana use: spontaneous recurrences of the drug-intoxicated state, the "flash-

<sup>2</sup>See pages 15-67 as most pertinent to the concerns of the present article in the most notable of these research efforts, Volume 1 of the *Appendix to Marijuana: a Signal of Misunderstanding—the Technical Papers of the First Report of the National Commission on Marijuana and Drug Abuse* (hereafter referred to as the "Marijuana Commission Report"). The Appendix to the Marijuana Commission Report (1972) is available in a two volume set from the U.S. Government Printing Office, Stock Number Y3,M33/2:2M33/Appendix 1 and 2, \$10.75.

<sup>3</sup>Also see pages 111-137 of the effects of marijuana in man in the DHEW report, *Marijuana and Health Second Annual Report to Congress from the Secretary of Health, Education, and Welfare*. This 1972 report is available from the U.S. Government Printing Office, Stock Number HE 20.2402:M33/33/972, \$2.25.

back" and the "contact high," the continuing propensity for uncanny experience, and other little understood effects.<sup>4</sup>

The most notable effects are summarized here along with other significant findings.

1. *Delta 9 THC and Psychotomimetic effects in man.* Delta 9 THC is regarded as being the major active component of cannabis. Since the successful synthesis of delta 9 THC in the mid-1960s [10], experiments on humans and on animals have become practicable, increasing the number of research studies on the effects of marijuana. Perhaps the most significant findings bearing on psychological health were those published in 1967 in which delta 9 THC was shown to be capable of producing psychotomimetic effects (psychosis-like experiences) in human subjects [18, 29].

These findings are obscured by the massive quantity of other recently published research in the field and their significance is likely to elude those who do not have a basic knowledge of the methodology involved in ascertaining the effects of a drug of natural origin. In addition, there is an apparent failure of many of those capable of understanding the significance of such research to communicate its importance to the public.

2. *Idiosyncratic nature of reactions to marijuana.* The study done by Isbell [18] in 1967 showed that an untoward reaction to delta 9 THC was not solely the function of a high dose level, for some individuals can experience psychosis mimicking reactions at relatively low dose levels. Hypersensitive reactions may be related to any or all of a wide variety of factors, including individual variations in biochemistry, mood, psychological predisposition, mental and physical health histories of the individual, history of use of other drugs, set and setting of use, dose level, etc. Because of the idiosyncratic nature of reactions to marijuana, there is no guarantee

<sup>4</sup>The propensity for uncanny experiences which can be precipitated by the use of marijuana and other psychotomimetic drugs and the hazardous nature of the cultivation of such experiences are not discussed here. For those interested in pursuing this subject the following reading is recommended: Manly P. Hall, "Drugs of Vision," *PRS Journal*, Winter 1966, Vol. 26, No. 3, pp. 1-15, The Philosophical Research Society, Inc., (3910 Los Feliz Blvd) Los Angeles; Meher Baba's *God in a Pill?* (1966), and "The Place of Occultism in Spiritual Life" in Vol. II, *Discourses*, 1967, Sufism Reoriented, Inc. (1290 Sutter St.) San Francisco; Allan Y. Cohen, "The Journey Beyond Trips," *The ARE Journal*, Vol. III, Fall 1968, No. 4, pp. 26-33, Association for Research and Enlightenment, Virginia Beach, Va.; Ivy O. Duce, *What I Am Doing Here?* 1967, Sufism Reoriented Inc. (1290 Sutter St.) San Francisco.

that any naive or even veteran user will escape experiencing a psychosis mimicking reaction as a result of its use.

3. *Symptomatic reactions similar to those occurring with other psychotomimetic agents.* Marijuana, a psychotomimetic agent, can produce symptomatic reactions similar to those symptoms which can accompany or follow the use of stronger psychotomimetic agents such as LSD, mescaline, psilocybin, etc. While the degree of severity may be less with marijuana than with the stronger agents, the significance of these effects cannot be overlooked. Uncontrollable and unanticipated alterations in mood and mental disfunctioning or disorientation, fundamental alterations in perception—cannot be taken lightly by anyone who places a value in mental health and sanity. Research and case studies link marijuana use to the most notable symptoms:

*Flashbacks.* “Flashbacks,” defined in the Marijuana Commission Report, are “spontaneous recurrences of all or part of the drug-intoxicated state when not under the influence of the drug.” Such phenomenon are discussed in Keeler [21], Weil [41], Smith [39], Bialos [5], Blumenfeld [6], and Milman [32]. Aside from these researchers, former users and sensitive occasional users are best acquainted with the flashback phenomenon. The chronic user would not be in a position to ascertain the causal effect relationship of marijuana use to such symptoms as he would be perpetually under the influence of the drug. Others who experience flashbacks and who are only occasional users may either look upon the flashback as a trick of the mind or accept it as a purely natural phenomena. Possibly some individuals increase the frequency of use so that flashbacks could be attributed to recent highs rather than to some possibly permanent dysfunction. Weil [41] and others indicate that such spontaneous recurrences decrease in frequency and intensity the longer a person abstains from using the drug.

*Contact highs.* A “contact high” is a type of recurring phenomena in which a drug-intoxicated state is experienced as a result of being in the vicinity of someone who is high.<sup>5</sup> The contact high can be experienced by marijuana and other drug users, by former users who have rendered themselves sensitive to the drug-intoxicated state, and perhaps more significantly because of its far reaching implications for social policy—by sensitive nonusers, including

<sup>5</sup>The contact high effect is discussed on page 53 of Volume I of the Appendix to the Marijuana Commission report. It is also described in Kinneberg [26].

children, pregnant and recently pregnant women, or women in menopause, highly intuitive and emotionally sensitive persons, and persons with mental and emotional problems. This phenomena, similar to the flashback, is familiar to users and former users [26] but has been ignored, overlooked or even avoided by those studying marijuana. The result is that few have recognized the importance of the effect; few have considered its implications for social policy, particularly the civil liberties questions involving the infringement of the rights of individuals to be free from being subjected to such externally imposed alterations in mood, perception, and mental functioning.

Survey research conducted by those knowledgeable concerning the contact high effect has yielded a startling result. The results of an unpublished survey of 29 former marijuana users showed that 22 have experienced contact highs as a result of being around persons who are high on marijuana [11]. It should be noted that both the flashback and the contact high effect may be explained at least in part by the recent finding that two active constituents of marijuana, delta 9 and delta 11 THC both "remain in the plasma of human subjects for several days and are excreted in the urine and feces for more than eight days" (Lemberger [33, 34], as cited in Woodhouse's report [45], which confirms evidence of delta 11 THC in the urine of marijuana smokers.)

*Creation of new or aggravation of latent or manifest psychological problems and pathology.* A propensity for paranoid feelings and a diminished ability to cope with stressful situations have been noted among users of marijuana, particularly sensitive or long terms users [22, 37]. Kleber [27] and Kaplan [20] cite cases in which marijuana use exacerbated existing psychoses. Wikler [46], Janowitz [19], and Wurmser [46] have also written of chronic paranoid symptoms and thought disorders in users of marijuana. The contention that psychotomimetic drug use only aggravates preexisting problems or pathology (however amoral the assumptions implicit in such a contention) is refuted by Glass and Bowers [17], who note that untoward reactions to psychotomimetic drugs are not necessarily dependent upon the psychological predisposition of the user.

*Hallucinatory phenomenon.* Various researchers have cited cases in which the experiencing of hallucinatory phenomenon was linked to marijuana use. These include Keeler [23], Wurmser [46, 47], Keup [24] and Dally [14]. Because of the idiosyncratic nature of the effects, dose level need not necessarily be high for

hallucinations to occur. (This is not to imply anything concerning the frequency of this effect.)

4. *Marijuana use and amotivation.* Marijuana use has been widely cited in international literature as being a major factor contributing to an amotivational syndrome of behavior. (This syndrome is characterized by diminishing will power, loss of previously held goals, values, and ambitions.) Recent Western researchers linking marijuana use and amotivation include Smith [39], West [43], Kolansky and Moore [28], Brill [7], Farnsworth [16], and Wurmser [46].

5. *Marijuana and distortion of judgment; impairment of mental functioning, short term memory, synthetic reasoning, concentration, information retrieval; and difficulties in speech.* Long term subtle side effects including the distortion of judgment and difficulty in synthetic reasoning have been noted as occurring as a result of continuing marijuana use. Impairment of mental functioning, concentration, and short term memory have been demonstrated in clinical testing as well as documented in case studies [1-4, 9, 15, 37, 40, 42]. Impairment of decision-making processes, synthetic reasoning and problem-solving capabilities, including information retrieval have been cited in other studies [1, 9, 30, 31]. Disorders in focal attention and thinking are also noted in Wurmser [47].

The most subtle but nonetheless detrimental side effects accruing to the user of marijuana are not always recognized or admitted when recognized. One reason for this is that as the use of marijuana can distort a user's judgment, the user is not always able to perceive that his powers of judgment have been distorted. The researcher who is unfamiliar with these effects is not likely to know what to look for; when he does know, he may fail to discern when the user is deluding himself or consciously trying to delude others. Perceptive former users who have been intimately involved with drug users are perhaps most familiar with such stratagems and self-delusionary tactics.

Those interested in further study of detrimental effects of marijuana usage should take particular note of the following studies: Campbell [8], indication of a possible linkage between marijuana use and cerebral atrophy; Kew [25], possible hepatotoxicity resulting from marijuana use; Neu [36], marked decrease in the rate of cellular division when delta 9 or delta 8 THC is added to white blood cell cultures. Other research concerned with the effects of marijuana can be found in the two government reports cited earlier. Selected

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references can also be found in the Congressional Record for March 17, 1970 and November 16, 1970 [12, 13].

### Factors Impeding the Resolution of the Marijuana Controversy

The emotionally charged nature of the controversy makes communication of the meaning or significance of research findings exceedingly difficult.

One obstacle involves the typical value free approach taken in assessing and evaluating effects. While the pure scientist might show a reluctance to deal with the social implications of his research, the applied scientist as well as the policy maker are both (at least in theory) concerned with the social implications. The role of value judgments is critical in applying knowledge to the solution of social problems.<sup>6</sup> They play a similarly important role in personal decision making, in the wielding of parental discipline and guidance, and in the formulation and implementation of social policy. As with so many other areas of scientific inquiry, basic values as far as effects from marijuana usage have not been clarified because of the highly emotional character of the marijuana controversy.

Some persons who show concern over the discovery of toxic levels of mercury in fish, impurities in processed foods, defects in cars, dangerous toys, etc., fail to be equally concerned over the demonstrated risks involved in marijuana use. A well developed capacity to rationalize negative aspects, coupled with an absence of independent thinking informed by positive values, can make rational discussion of the subject of marijuana use, its effects and its implications impossible. A breakdown in basic values which are concerned with the preservation of life, the sustenance and enhancement of health and well being to oneself, and a lack of concern; and a dearth of common sense and wisdom are obviously not conducive to the acceptance or application of knowledge concerning the detrimental effects of marijuana. Other factors impeding the resolution of the controversy are:

<sup>6</sup> Individuals making a case for the normative character of social action, policy and research include: Michael Scriven, "Value Claims in the Social Sciences," Publication 123 of the Social Science Education Consortium, Purdue University, Lafayette, Indiana, 1966; Max F. Millikan, "Inquiry and Policy: The Relation of Knowledge to Action," in *Human Meaning of the Social Sciences* (Daniel Lerner, ed.) Meridan, New York, N.Y., pp. 158-180, 1959; and R.G.H. Siu, *The Tao of Science: An Essay on Western Knowledge and Eastern Wisdom*, The M.I.T. Press, Cambridge, Mass., 1957.

1. *Social and cultural pressures.* They can help foster a skeptical attitude toward the studies which report negative effects of marijuana use.<sup>7</sup>
2. *Cognitive dissonance.* In a social milieu in which marijuana use has become so socially acceptable in certain circles, implications of negative findings can be expected to cause considerable cognitive dissonance and be rejected without even being investigated.
3. *Believing what one wishes to believe.* People often believe what they want to believe without necessarily substantiating their view with evidence. Selective bias,<sup>8</sup> or accepting the opinion of those "experts" whose views corroborate one's own beliefs.
4. *Maintaining a viewpoint in order to save face.* There can be considerable ego involvement in changing one's mind. Face saving may be one of the major reasons some persons steadfastly refuse to acknowledge the significance of new information. Adherence to the "hang loose," "do your own thing" ethic of the youth drug culture can similarly result in a failure to acknowledge any negative side effects and untoward social health consequences of marijuana use.
5. *Generalizing on the basis of personal biases and narrow personal experience.* There is a common tendency to generalize from one's own experience, or lack of it. Such individuals often reject totally the possibility of or importance of idiosyncratic effects or untoward side effects in themselves or others.
6. *Accepting views of "experts" as being infallible.* There is a tendency on the part of many otherwise intelligent persons to accept the opinion of "respected experts." Persons with credentials can be as fallible as those without and also ignorant of research findings.
7. *Time lag and the difficulty of assimilating new information.* As with other areas of scientific endeavor, there is a time lag between the time a discovery is made, and the time it becomes available to others. In addition, it takes time for new insights and knowledge to be accepted and assimilated.

<sup>7</sup>See Solomon E. Asch, "Opinions and Social Pressure," *Scientific American*, Nov. 1955, pp. 31-34 in which some startling findings are reported which concern the role that social pressure can play in shaping the opinion of an individual.

<sup>8</sup>The exercise of a selective bias in policy making is discussed in Irving L. Janis in "Groupthink Among Policy Makers," in *Sanctions for Evil: Sources of Social Destructiveness* (Nevitt Sanford, Craig Comstock and Associates, eds.) Jossey-Bass Inc.: San Francisco, pp. 71-89.



8. *Information overload.* Another problem in the transfer of knowledge is that of information overload. It can be exceedingly difficult for a researcher to keep abreast of all the developments which pertain to his own specialized concerns. The lay public is at a greater disadvantage because lacking the requisite understanding of the field and the disciplines involved, judgments as to what is pertinent, and what is not, may be impossible to make. The time factor alone makes it difficult for any given person who does possess the knowledge to track down the research, study it, synthesize the findings, follow out the implications of the findings, and then perhaps record or translate these for the information of other researchers or laymen.
9. *The tendency to overlook hard to explain phenomenon.* For a variety of reasons a majority of researchers have failed to adequately identify and assess some of the more subtle side effects which do occur as a result of using marijuana. The contact high phenomenon is an example. Its very oddity may well keep researchers from admitting to its existence, let alone trying to understand it or come to terms with its rather far-reaching implications for psychological and social health.
10. *Lack of imagination concerning viable policy options.* Another factor impeding resolution of the marijuana controversy is lack of imagination regarding policy options if one accepts as fact that marijuana is harmful. Viable alternatives to *laissez faire* or punitive legalistic approaches to marijuana users (as well as users of other drugs) are discussed at greater length elsewhere.<sup>9</sup> These approaches which are gaining in acceptance are based on diversionary policies. Such policies can entail the diverting of marijuana users out of the justice system into appropriate services and programs aimed at dissuading them from using marijuana and other drugs and designed to help them channel their energies along personally and socially constructive lines. Legalization is not required in order for there to be decriminalization of those who use a drug and it does not merit serious consideration because of the great likelihood it would result in the unwanted increased use of marijuana.

<sup>9</sup>See Bureau of Narcotics and Dangerous Drugs, U.S. Department of Justice, *Proceedings Alternatives to Drugs Conferences May 16-18, 1972, Santa Barbara California and Airlie, Virginia, January 9-12, 1973*, and Paula D. Gordon, "The Promulgation of Promising Approaches to Prevention and Early Intervention," *Drug Forum*, 2(1) 1972.

### Conclusion

The resolution of the marijuana controversy depends on the recognition, acceptance, and understanding of the effects of marijuana, and of the implications of those effects for psychological and social health. Such determinations cannot be made in a vacuum free of all consideration of value. The valuing of psychological and social health and the valuing of life itself should make clear viable options for personal and social action.

While the resolution of the controversy over marijuana should contribute substantially to a decrease in use by persons who value mental and social health, it cannot in itself be expected to lead to a curtailment of marijuana use among those whose use has other than rational bases (e.g., social pressure and conformity, psychological dependency, desire for euphoric experiences and sensations, etc.) Neither can the resolution of the controversy be expected to automatically lead to an amelioration of the underlying causes and conditions contributing to the use of marijuana. In order to make real inroads into the problem of drug use, a comprehensive approach is required which is aimed at addressing underlying causes as well as responding humanely to symptoms which arise from use.<sup>10</sup>

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<sup>10</sup>See Paula D. Gordon, "Alternatives to Drugs as a Part of Comprehensive Efforts to Ameliorate the Drug Abuse Problem," *J. Drug Education*, 2(3), 289, 1972 and Paula D. Gordon, "Promulgation of Promising Approaches to Prevention and Early Intervention," *op. cit.*

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- *Note: The Committee for Psychedelic Drug Information is the former name of the Committee on Alternatives to Drugs, Berkeley, California.*

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