

Thus, there are clinical descriptions as well as basic research indicating that there may be long-term changes following chronic amphetamine intoxication.

Senator NELSON. What is the effect of that, of whatever long-term changes that may occur?

Dr. ELLINWOOD. You mean in humans?

Senator NELSON. Yes.

Dr. ELLINWOOD. Well, it is very difficult to document this, but there are many, many cases, reports, and histories of individuals, which report emotionally apathetic, fatigue states involving long-term use of amphetamines, at times some difficulty remembering.

Now, I need to add, however, that critical studies of individuals with neurological tests have not demonstrated intellectual deficits, so I think one needs to consider that also.

Perhaps the major issue relating to impact on society is that of criminal activity.

Obviously, the drug marketplace is an unstable arena in which crimes against property can become a part of the stimulant abuse pattern—Smith, 1972.

One crucial question is whether stimulants specifically induce violence in abusers.

In order to obtain a perspective of the effects of amphetamine on aggressive and violent behavior, one should compare them with the effects of other drugs.

The consensus among those who work closely with problems of abuse is that opiates do not induce unwarranted violence and, in fact, are likely to inhibit tendencies toward violence, even though addicts are frequently involved in potentially explosive criminal situations—Kolb, 1925.

On the other hand, for years alcohol and sedatives have been associated with an increase in violence which is thought to be secondary to a lowering of impulse control—Guize, and others, 1962.

Reports from law enforcement personnel and psychiatrists, as well as from drug users themselves, have indicated that high dose amphetamine use may also be related to aggressive behavior—perhaps more specifically than some of the other groups of drugs.

That is, such high dose use may actually facilitate aggressive behavior rather than just lowering impulse control—Ellinwood, 1969, 1971a; Kramer, 1969; Smith, 1972.

Chronic high-dose use of amphetamines, which leads to behavioral aberrations including psychosis, is considered by clinical observers to be a volatile state and is the one not infrequently implicated in violent or assaultive behavior.

In contrast, several survey studies, where arrestees are interviewed concerning their drug use—that is, the spectrum of low-dose and high-dose use—indicate that amphetamine use per se is not specifically related to violent crimes—Blum, 1969; Eckerman, and others, 1971; Greene, and others, 1973; Tinklenberg, and others, 1974.

Thus, it appears that the violent activity most frequently appears not with low or moderate doses of amphetamine, but with the chronic high dose stage of unstable and/or psychotic behavior.

Often the amphetamine-induced paranoid ideation or emotional lability leads to the violent act or even overt homicide—Ellinwood, 1971b.