

Drug Use in the U.S. Army

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ILLICIT DRUG USE IN THE U.S. ARMY

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THE MILITARY IN THE POST-VIETNAM ERA

The Vietnam War represented an important turning point in American military organization, and in American civil-military relations. The "mass army" model of a career military nucleus supplemented by "citizen-soldiers," i.e., conscripts and reservists (Janowitz, 1975), was dismantled. A decision was made to fight the war in Vietnam without calling up Army reserve units. The reserves were allowed to atrophy, thus shrinking the size of the "citizen-soldier" force. Moreover, the decision not to use the reserves made the armed forces increasingly dependent upon the conscription system for raising military manpower, eventually overloading that system and causing it to be dismantled, abolishing the conscript as a model of "citizen soldier" (Bachman, Blair and Segal, 1977). The conscription-based mass army was replaced by the all-volunteer force.

Through the mass army era, the citizen-soldier had been an important linkage between the military institution and the civilian society it was chartered to defend. His presence in the active duty force presented a vehicle through which civilian sensibilities could be constantly input to the military organization. His return to civilian society after his service provided the population with an experiential tie to the armed forces through members of the community who were honored for their services.

With the advent of the all-volunteer force, American society has become ambivalent toward the veterans of its most recent war. Unlike the veterans of prior wars, the Vietnam returnees did not return to parades

and honors. Rather, they returned to a society critical of the war they had been waging, and somewhat distrustful of the men who had waged it (Ladinsky, 1976).

VIETNAM AND DRUG USE

One of the areas about which concern was expressed was the long-term impact of illicit drug use in the Army. During the later years of the war, there was considerable mass media coverage of allegations of widespread drug use in Vietnam. After the war, among the books that were published describing the Vietnam veteran as brutalized and potentially violent (Levy, 1974), and confused, guilt-ridden and depressed (Lifton, 1973), a related major theme was the drug problem that American society was inheriting from its Vietnam army (see e.g. Helmer, 1974). The model that was suggested was based on five propositions: first, that the incidence of illicit drug use was higher among military personnel than among their civilian age cohorts; second, that the incidence of illicit drug use was higher in Vietnam than in other areas in which there were U.S. troops; third, that Army personnel who had used "soft" drugs prior to service in Vietnam or in Vietnam prior to 1969 progressed to the use of harder drugs in Vietnam after 1969 in a "stepping-stone" pattern as a result of a crackdown on marijuana in Vietnam in that year; fourth, that this progression to harder drugs led to widespread addiction among Army personnel; fifth, that Army-produced drug addicts were subsequently returned to civilian society, adding to the crime and rehabilitation problems of the civilian authorities.

These assertions stand in marked contrast to the growing body of

literature that suggests that on the average, military service has had minimal lasting impact on veterans in general (Barber, 1972; Segal and Segal, 1976), and on Vietnam veterans in particular (Bachman and Jennings, 1975; Jennings and Markus, 1976). They also stand in marked contrast to research on patterns of drug use that suggest little if any empirical support for the "stepping stone" model. The purpose of this paper is to bring several bodies of data to bear on the five propositions of the model suggested above, and to consider the degree to which drug use in the military was affected by the decline of the mass army during the Vietnam War.

John Helmer (1974), one of the leading advocates of the last 3 propositions, suggests that servicemen who had been using marijuana in Vietnam changed to heroin as a result of the crackdown on marijuana by US military commanders beginning in 1969. He cites 1971 data presented by Nelson and Panzarella (1971) which suggest that among six categories of drugs, there were large increases between pre-Vietnam use and use in Vietnam in two: heroin/morphine and opium. In 1969, by contrast, heroin/morphine use was slightly lower in Vietnam than before Vietnam, although opium use was almost three times higher in-country than previously (Stanton, 1972). These data are presented in Table 1. The

Table 1 about here

greatest difference between the 1969 and the 1971 data is clearly the increase in heroin/morphine use in-country in the latter year. Helmer further argues that hard drug use in Vietnam led to addiction. In his own sample of Vietnam veteran drug users, "there (was) only one man who

was a confirmed addict before entry into the service" (Helmer, 1974: 79), and, referring to his addict sample, he claims that their "addiction in civilian society (was) a continuation of the habit picked up in the war zone" (Helmer, 1974: 82).

Other scholars argue that both drug use and addiction (the two terms are not equivalent) are patterns carried into the Army from civilian life. Hauser (1973: 129) for example cites data from Germany indicating that "65 percent of drug users had begun before entering the Army," and from Vietnam showing that of 200 addicts in a rehabilitation center, "60 percent had used heroin before entry." Indeed, Helmer (1974: 82) cites data from a study of Vietnam heroin addicts in a Boston drug treatment program showing that 46.3% were addicted prior to service. He argues that these data are not representative of veterans in general.

A panel survey of the high school class of 1969 revealed that the percentage of students using drugs after high school was higher among those members of the sample who went into the military (41%) than among those who went into civilian employment (32%), trade school (31%) or college (37%). However, the percentage using drugs during high school was also greater among those who later went into the military (Johnston, 1973). Thus, there seem to be differential selection factors as well as environmental factors operating on the level of military drug use. More importantly for our purposes, the differential between the military and other environments in these panel data was accounted for by the cumulation of small differences in the use of marijuana, hallucinogens, amphetamines, and barbiturates. The use of heroin did not increase from

high school to military service.

During the period from October 1973 to January 1974, a survey was conducted of 1564 enlisted personnel and non-commissioned officers in US Army Commands in the United States and in West Germany. Among the questions asked of them were levels of drug use before and during military service. Table 2 presents the response distributions for these

Table 2 about here

questions. In three cases, reported drug use in present unit was lower than reported use prior to service. There was a slight increase in reported level of marijuana use, and even here, the relative similarity of pre-service and current use levels was more impressive than the difference. The largest in-service increase involved the use of opiates.

The data presented in Table 2 reflect aggregate distributions, and while the figures are similar, they might reflect two different user populations--one pre-service and one in-service--of the same size but including different people. We therefore studied the intercorrelations of reported use of the five categories of drug during the pre-service and present units periods. These correlations are presented in Table 3. It

Table 3 about here

is notable that all of these correlations are large and significant. The intercorrelations within a specific time frame (the two triangular areas in the matrix) tend to be higher than those between periods (the square area in the matrix). In this latter area, the highest correlations are those indicating carry-over of the same drug between the two periods (cells marked by squares). From these data we infer that in the

aggregate, there was considerable, and interrelated, use of drugs prior to service, some carryover of this pattern into military life, and the emergence of a similar pattern once in the Army. That use not observed prior to service emerged is not necessarily an indictment of the military. Some of the men in our sample who did not use drugs before coming of military age would undoubtedly have eventually tried them even if they had not entered the Army. It is difficult to partial out the effects due to aging versus those due to institutional setting.

While these data indicate the initiation of use of all drugs considered while in the military, they do not address the specific impact of the Vietnam War experience. This question is addressed with data from another survey.

In 1973, interviews were conducted with a stratified random sample of Army personnel in pay grades E1 to E5, located at six posts in the continental United States (n=262). A large proportion of the interview was devoted to drug-use histories. For all the drugs except opiates, the modal period of first reported use was high school, and, with the additional exception of depressants, the second most common time for drug starts was between high school and the Army. A considerable degree of initiation of hallucinogen use, stimulants, depressants, and opiates was reported at the respondents current post. Both stimulant initiation and opiate initiation were reported in Vietnam, and for the latter class of drugs, Vietnam was cited as the modal location for initiation of use. This is consistent with the data in Table 2 and provides at least some basis for Helmer's assertion that service in Vietnam contributed to the

use of potentially addictive drugs. The case becomes stronger when we consider that only 18.9 percent of the user subsample (or about 6 percent of the total sample) had served in Vietnam. About two-thirds of the users who served in Vietnam first used opiates in that theater.

This finding notwithstanding, an analysis of drug use pre-Vietnam and in Vietnam by returning Army personnel yielded much the same pattern as our analysis of pre-service and in-service use (Fisher, Nelson and Panzarella, 1972). Considerable, and interrelated, use of drugs prior to Vietnam among some soldiers, and the emergence in Vietnam of the same pattern among other soldiers, were the dominant patterns, with some carryover of the pattern between time frames, but little indication of a progression from soft to hard drugs between the pre-Vietnam and in-country periods, with the exception of a possible progression from cocaine pre-Vietnam to the use of heroin in-country. This use of heroin, however, did not necessarily indicate addiction.

The similarity between this analysis of pre-Vietnam and in-country use patterns, and our own findings on pre-service and in-service patterns suggest that much of the concern with drug use specific to the Vietnam environment was a myth--a finding supported by other research as well (Ingraham, 1974). Patterns of drug use in Vietnam seem to have been similar to patterns in other Army environments, with some differential attributable to the greater availability of heroin in Vietnam. Patterns in Army environments, in turn, seem to be similar to pre-service drug use patterns. We now turn to an attempt to specify these patterns to a greater degree.

PATTERNS OF MULTIPLE DRUG USE

The indication of Table 3 is that people who used one drug, either before or in the Army, tended to use other drugs as well. Two important questions remain unanswered. We have not yet determined if there is a temporal progression from the use of soft to hard drugs, and if so, we do not know if this progression leads to addiction.

Analysis of the drug use history data revealed that multiple drug users in the Army frequently changed their pattern of use and found little basis for an addiction model (Cook, Hostetter and Ramsay, 1975). The progression of soft to hard drug use was tested on these data using a unidimensional Guttman scaling model, on the assumption that if there were a progression, then a scale with a high reproducibility coefficient would be produced. The coefficient achieved (.85) was below the conventional criterion of .90, suggesting that the patterns of multiple drug use did not involve sufficiently strong relations among drugs used for a progression to be inferred. Other researchers have similarly derived reproducibility coefficients in the .85-.89 range (Sinnet, Wampler and Harvey, 1972; Loiselle and Whitehead, 1971).

What is lacking, however, is a convergence of empirical results and a consensus on interpretation. Sinnett et al. infer unidimensionality from a reproducibility coefficient of .89; Loiselle and Whitehead refute unidimensionality on the basis of a coefficient of .84. Other scholars have found reproducibility coefficients in excess of .90 (Goldstein, Gleason and Korn, 1975; Stone, 1972; Single, Knadel and Faust, 1975). In all of this research, the reproducibility coefficient is highly deter-

mined by the marginal distributions of the drug use questions. Moreover, none of the research directly confronts either the temporal order in which the drugs were used, or the degree to which the users were addicted to hard drugs.

In an attempt to address these issues more directly, a series of scaling analyses were undertaken on the use data from our sample of 1564 Army personnel. The periods of drug use were varied to test for temporal ordering. Separate analyses were run for use of all drugs before service, use of all drugs in the service, use of soft drugs prior to service and hard drugs in service, and use of hard drugs prior to service and soft drugs in service. The comparison of these last two series is especially crucial in testing for temporal ordering. If there is indeed a temporal progression from soft to hard drug use, then the use of soft drugs prior to service and hard drugs in service should produce a stronger scale than the reverse ordering.

The points at which the drug use data were dichotomized for scaling purposes were also varied. In one set of analyses, the variables were dichotomized into never used vs. ever used categories. In the second set, the cutting point was established at once or twice a week or more. Respondents who were addicted, and who answered the questions honestly, would fall in this later category. The results of these analyses are summarized in Table 4. The following patterns emerge from these

Table 4 about here

analyses.

1. All reproducibility coefficients are in excess of .90.

2. Minimum marginal reproducibility is in general higher, and scalability lower, when cut points are at once or twice a week or more than an "ever used" level.

3. The highest scalability coefficients are observed for drug use in a single time-frame, i.e., pre-service or in-service.

4. The next-highest scalability coefficients are for hard-drug use pre-service and soft drug use in-service, reversing the temporal order of the progression model.

5. The only two scalability coefficients that fail to achieve a level of .60 are those reflecting use of soft drugs pre-service and hard drugs in-service at an addictive level.

In brief, these data suggest that hard drug users are likely to use soft drugs as well. However, this is less true at high levels of use than at the level of occasional use. Most importantly, temporal progression from soft to hard drugs is not demonstrated. Marijuana is not necessarily the first drug used--a datum uncovered in other research as well (Duncan, 1975). Neither are addictive drugs necessarily the terminal points (Campbell and Freeland, 1974). Indeed there is some evidence in our Army data of a "regression" from hard drug use at non-addictive levels prior to military service to the use of marijuana once in the Army. At a minimum, the data suggest strongly that even among soldiers who used "hard" drugs, there were large numbers of non-addicts. This inference is supported as well by attempts to estimate the level of illicit drug use in the Army. The most common method used by the Army, particularly during the Vietnam era, was random urinalysis. Urinalysis

assumes an addiction model of drug use, since only recent use is likely to show up laboratory positive. If a person does not use drugs daily (i.e., at an addiction-sustaining level), he is unlikely to be identified by urinalysis.

In 1973, a survey was conducted of 17,141 Army personnel, consisting of all personnel in grades E1 to E5 in 398 TO&E units available for duty on the day that the instrument was administered (Hurst, Cook and Ramsay, 1975). The units had been randomly drawn from each of six divisions in Germany, from each of six posts in the U.S., and from Korea. Table 5 presents data on daily use vs. other use of drugs during the thirty-days

Table 5 about here

prior to the survey. It is obvious that far more people were using drugs occasionally than at a level sufficient to sustain physiological or psychological dependence.

We were able to compare the drug survey results with laboratory-reported drug positives for three U.S. installations and for one division in Germany. Gross discrepancies between the two measurement methods appeared in every instance, with self-report data consistently showing higher use levels. This is consistent with other research showing survey data to yield rates about 10 times greater than urinalysis (Reaser, Richards and Hartsock, 1973), and, to the extent that the latter technique effectively detects addicts, supports the assertion that there were more users than addicts in the Army.

THE CARRY-OVER TO CIVILIAN LIFE

Most drug users in the Army appear not to have been addicted. Nonetheless, both because of apparent differential selection for military service and because of higher availability of drugs in service, particularly in the Vietnam environment, drug use might well have been higher among Army personnel than among their civilian age cohorts. And since we have already seen a carry-over of use patterns from pre-service civilian life into the Army, it is not unreasonable to expect patterns observed in the Army to be carried into post service civilian life.

This expectation is supported by the major research effort carried out on Vietnam returnees, which reports other patterns consistent with our results as well. Robins, Davis and Goodwin (1974) studied 470 Vietnam returnees representative of the returnee population, and 495 returnees who had been laboratory positive for opiates at the time of departure from Vietnam. Almost half of the representative sample had used heroin or opium while in Vietnam. The majority of these had developed neither physiological nor psychological dependence. In the year after their return, about 10 percent had some experience with opiates, but less than 1 percent showed signs of dependence.

Among the drug positive sample, about one-third had had some experience with opiates in the year since return from Vietnam, but only 7 percent showed signs of dependence, and there was some evidence of "regression" to softer drugs. Perhaps most interestingly for our purposes, the strongest predictor of post-service drug use was pre-service use. That is, the civilian drug problem was more an Army

throughput than an output.

Another set of data come from the panel survey of the high school class of 1969, discussed above. This panel was resurveyed in March, 1974. Data on use levels during high school, highest annual use during the 1970-1974 period, and 1974 use, are presented in Table 6. These

Table 6 about here

percentages reflect any use of the drug in question during the time frame specified.

Several interesting patterns emerge from these data. First, with regard to use in high school, respondents who went into the reserve components or national guard consistently had lower use rates than those who went into the active forces or who had no military experience. Within the latter two groups, those who went into the active forces had higher use rates in high school of marijuana, amphetamines, and barbiturates. Those who were on active duty and who served in Vietnam had higher pre-service use rates of hallucinogens and of heroin than did those who did not serve at all, or did not serve in Vietnam.

The 1974 use rates were also higher for those who had served on active duty than for those who had not, and among those who served on active duty, 1974 use rates were higher for those who served in Vietnam than for those who did not. Thus, there was clearly a "Vietnam" effect.

Most importantly, use rates for the highest year in the 1970-1974 period are higher among those who served on active military duty than among those who did not, and among those who did serve, were higher among those who served in Vietnam than those who did not. The likelihood is

that this use took place in the Vietnam theater. However, although the highest level of heroin use is reported by Vietnam veterans during the 1970-1974 period, this level was not sustained in 1974.

DISCUSSION

The sociological bias is to assume that people who come into contact with social institutions are affected in major ways by that contact, and that the effects of such contact are lasting. We have learned with regard to other institutional contexts, such as education and the communications media, that these effects are neither as large nor as lasting as we would have thought. We have more recently begun to learn the same lesson with regard to the effects of military service: their diminutive magnitude or absolute absence has repeatedly been demonstrated.

With regard to drug use, it is clear that during the Vietnam era, use levels were somewhat higher in the Army than in the age-eligible civilian population. This was due in part to overselection for military service of people who had used drugs in high school, and who continued their use in the Army. Under the press of military manpower requirements during the Vietnam War, and in the context of a decision not to use the reserves or the National Guard, selection standards were lowered, and larger numbers of people who were in the lower categories on the Army's mental tests, or who had not graduated from high school, or who had been in trouble with legal or school authorities, were accepted for military service. Drug use in the Army has been shown to be associated with such characteristics (Robbins et al., 1974), and it is not surprising that

their increased representation in the service led to increased use levels.

There is evidence of somewhat higher drug use initiation within the military, as well as a carry-over of civilian patterns. Again, some of this increase may reflect use by people who had not used drugs in high school, but might well have done so in their post-high school years even if they had not entered the Army. Nonetheless, there is in all likelihood an additional effect due to being in the Army, driven both by drug availability and by peer pressure to use drugs. Had the reserves been mobilized, dependence on the Selective Service System been reduced, and higher mental test and educational standards been maintained for draftees and volunteers, the magnitude of drug use in the Army might have been less. What the data do not show is widespread use of hard drugs in the Army at levels sufficient to sustain addiction.

Vietnam use seem to have been higher than use in other Army theaters, particularly with regard to heroin. There is an empirical basis to reports of high rates of opiate use in that theater. We do not find evidence, however, that a majority of the opiate users in Vietnam became physiologically or psychologically dependent on drugs, that heroin use in Vietnam was part of a progression of drug use that started with marijuana before Vietnam, or that drug patterns initiated in Vietnam have become unique problems for American society in the post-Vietnam era.

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Table 1. Total Drug Users in Vietnam and Before Vietnam

| | <u>1969</u> | | <u>1971</u> | |
|-----------------|-----------------------|-------------------|-----------------------|-------------------|
| | <u>Before Vietnam</u> | <u>In Vietnam</u> | <u>Before Vietnam</u> | <u>In Vietnam</u> |
| Marijuana | 31.4% | 50.1% | 45.8% | 58.5% |
| Amphetamines | 12.4% | 16.2% | 14.0% | 16.4% |
| Barbiturates | 11.4% | 11.6% | 11.3% | 15.5% |
| Opium | 6.3% | 17.4% | 7.8% | 19.6% |
| Heroin/Morphine | 2.5% | 2.2% | 6.2% | 22.7% |
| Hallucinogens | 8.7% | 5.3% | 12.7% | 9.5% |

Source: 1969, Stanton, 1972
1971, Nelson and Panzarella, 1971

Table 2. Total of Users Before and After Joining Present Unit

| | Percent Ever Using Drug | |
|---------------|-------------------------|------------------------|
| | <u>Prior to Entry</u> | <u>In Present Unit</u> |
| Marijuana | 46.1 | 47.5 |
| Stimulants | 29.6 | 24.9 |
| Depressants | 24.8 | 23.6 |
| Opiates | 13.6 | 17.8 |
| Hallucinogens | 22.4 | 19.6 |

Table 3. Intercorrelations of Frequency of Drug Use Pre-Service and in Present Unit^a

| | <u>2</u> | <u>3</u> | <u>4</u> | <u>5</u> | <u>6</u> | <u>7</u> | <u>8</u> | <u>9</u> | <u>10</u> |
|-----------------------------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|
| 1. Previous Marijuana Use | .70 | .66 | .43 | .60 | .66 | .51 | .49 | .34 | .44 |
| 2. Previous Stimulant Use | | .81 | .53 | .70 | .48 | .54 | .49 | .32 | .48 |
| 3. Previous Depressant Use | | | .59 | .71 | .45 | .53 | .58 | .40 | .47 |
| 4. Previous Opiate Use | | | | .50 | .30 | .38 | .42 | .43 | .39 |
| 5. Previous Hallucingen Use | | | | | .44 | .49 | .48 | .38 | .56 |
| 6. Present Marijuana Use | | | | | | .68 | .64 | .48 | .59 |
| 7. Present Stimulant Use | | | | | | | .82 | .65 | .75 |
| 8. Present Depressant Use | | | | | | | | .70 | .74 |
| 9. Present Opiate Use | | | | | | | | | .63 |
| 10. Present Hallucingen Use | | | | | | | | | |

^aThe question asked was "Prior to entering the service/since you joined your present unit, how often did you use (drug) for other than medical reasons?" All correlations are significant at $p < .001$.

Table 4. Scale Analyses of Drug Use

| <u>Pre-Service</u> | <u>In-Service</u> | <u>Cut</u> | <u>Reproducibility</u> | <u>MMR</u> | <u>Scalability</u> |
|--------------------|-------------------|------------|------------------------|------------|--------------------|
| 1-5 | - | Ever | .9604 | .7217 | .9576 |
| - | 1-5 | Ever | .9604 | .7096 | .8483 |
| 1-5 | - | 1-2/week | .9690 | .8833 | .7344 |
| - | 1-5 | 1-2/week | .9624 | .8696 | .7116 |
| 1 | 2-5 | Ever | .9418 | .7102 | .7991 |
| 1 | 2-5 | 1-2/week | .9551 | .8715 | .6506 |
| 1-2 | 3-5 | Ever | .9269 | .7044 | .7526 |
| 1-2 | 3-5 | 1-2/week | .9455 | .8734 | .5692 |
| 1-3 | 4-5 | Ever | .9251 | .7062 | .7449 |
| 1-3 | 4-5 | 1-2/week | .9414 | .8740 | .5349 |
| 2-5 | 1 | Ever | .9461 | .7168 | .8096 |
| 2-5 | 1 | 1-2/week | .9625 | .8813 | .6840 |
| 3-5 | 1-2 | Ever | .9288 | .7184 | .7471 |
| 3-5 | 1-2 | 1-2/week | .9582 | .8793 | .6538 |
| 4-5 | 1-3 | Ever | .9502 | .7182 | .8232 |
| 4-5 | 1-3 | 1-2/week | .9683 | .8773 | .7419 |

Key

1. Marijuana
2. Stimulant
3. Depressant
4. Opiate
5. Hallucinogen

Table 5. Drug Use Rates for Enlisted Personnel (N=17,141)
in Percents

| | <u>Any Use in Last 30 Days</u> | <u>Daily Use</u> |
|-------------------|------------------------------------|----------------------|
| Marijuana-Hashish | 40.2% | 11.3% |
| Hallucinogens | 13.3% | 0.5% |
| Amphetamines | 14.9% | 0.7% |
| Barbiturates | 10.4% | 0.6% |
| Other Sedative | 7.1% | 0.6% |
| Cocaine | 7.7% | 0.8% |
| Methadone | 3.2% | 0.4% |
| Opiates | 8.2% | 0.9% |

Table 6. Percent Using Drug at Least Once During Period, by Military Experience

| | Reserves, Nat'l Guard R.O.T.C. (n=75) | | No Military Experience (n=1133) | | Active Forces No Vietnam (n=206) | | Served in Vietnam (n=58) | | | | | |
|-------------------|--|----------------|--|-------------|---|-------------|-----------------------------------|----------------|-------------|------|------|------|
| | <u>h.s.</u> | <u>highest</u> | <u>1974</u> | <u>h.s.</u> | <u>highest</u> | <u>1974</u> | <u>h.s.</u> | <u>highest</u> | <u>1974</u> | | | |
| Marijuana | 6.7 | 52.0 | 46.7 | 19.5 | 58.3 | 50.9 | 24.8 | 60.2 | 52.9 | 20.7 | 72.4 | 65.5 |
| Ampheta- mines | 4.0 | 23.0 | 13.3 | 8.9 | 26.4 | 19.5 | 11.7 | 30.1 | 24.3 | 10.3 | 36.2 | 32.8 |
| Barbit- urates | 0.0 | 10.9 | 5.3 | 5.7 | 14.5 | 9.8 | 6.8 | 19.9 | 14.6 | 8.6 | 22.4 | 15.5 |
| Halluc- inogen | 1.4 | 10.8 | 4.0 | 5.9 | 19.8 | 11.6 | 5.4 | 20.4 | 14.6 | 8.6 | 29.3 | 24.1 |
| Heroin | 0.0 | 0.0 | 0.0 | 1.1 | 4.3 | 2.4 | 1.0 | 3.9 | 3.4 | 3.4 | 17.2 | 6.9 |

Source: O'Malley, 1975