Narcotic Use in Southeast Asia and Afterward

An Interview Study of 898 Vietnam Returnees

Lee N. Robins, PhD; John E. Helzer, MD; Darlene H. Davis

From all US Army enlisted men leaving Vietnam in September 1971, a random sample of 943 men was selected. Of these, 470 represented a "general" sample of all enlistees returning at that time, and 493 represented a "drug-positive" sample whose urine samples had been positive for opiates at the time of departure. We attempted to locate and personally interview all of the men in the samples.

Results indicate that before arrival, hard drug use was largely casual, and less than 1% had ever been addicted to narcotics. In Vietnam, almost half the general sample tried narcotics and 20% reported opiate addiction. After return, usage and addiction essentially decreased to pre-Vietnam levels. We discuss the use of non-narcotic drugs, predictors and correlates of drug use in the samples, and the relationship of drugs to post-Vietnam social adjustment.

Concern over drug abuse among American troops in Vietnam grew with our military involvement in that country. By the summer of 1971, drug use had, by all estimates, reached epidemic proportions. It was widely assumed that heroin, opium, and other illicit drugs were freely available to soldiers, and, given the addictive potential of these substances, widespread use might have serious consequences. In June of 1971, the Vietnam military command began a program of mandatory urine screening of servicemen scheduled for departure, with the hope of identifying and detaining for detoxification and treatment those men whose urine samples indicated recent illicit drug use. In September 1971, all returnees were being screened, and the Department of Defense estimated that at least 5% of urine samples were positive for drugs, despite common knowledge that testing would be done. If this 5% represented men who were addicted and unable to stop using drugs even temporarily, and if addiction in the context of Vietnam implied chronicity and poor response to treatment, as does addiction in the States, there was reason for alarm.

Vietnam troop strength at this time was being rapidly reduced and each month thousands of men were returning to the United States from Southeast Asia. Military and civilian officials were concerned that existing drug treatment programs might face a sudden influx of patients. There was also uncertainty about how drug use in Vietnam would effect the veterans' ability to hold jobs and their chances of becoming involved in criminal activity once back in this country. To evaluate these concerns and to learn more about the kind and extent of treatment that might be required, the White House Special Action Office for Drug Abuse Prevention (SAODAP) arranged for and assisted in a follow-up study of Vietnam returnees. The study promised not only to answer questions relevant to planning programs for these soldiers, but also to teach us something about the natural history of drug use when drugs were readily available to young men from a variety of social backgrounds. The follow-up study was conducted in the summer of 1972. A complete presentation of the study methods, the samples, and the accumulated data may be found in a previous publication.† The report represents the highlights of the results.

METHODS

The population selected for study was Army enlisted men and draftees who returned from Vietnam in September 1971. Among the military personnel departing from Vietnam in late 1971, this
group not only had the highest rate of positive urine samples but also constituted the largest group of returnees. Thus, this was the population that should contribute most to veteran candidates for treatment. In order to ensure that the men studied would have similar exposure to drugs in Vietnam, similar opportunities for treatment in the military, and the same period in which to find jobs and to become readdicted after return, we selected our cohort from a single month’s departures. September 1971 was chosen because it was the first month with complete records of urine tests available, and it also was thought to include men whose Vietnam tour had coincided with the time when heroin use by US soldiers was at its height.

Approximately 13,760 Army enlisted men returned to the United States from Vietnam in September 1971. From the names of men made available to us by the Department of Defense, we selected from this group a random sample of 470 persons. This "general sample" of all Army male enlistees and draftees returning from Vietnam to the United States would provide estimates of drug use before, during, and after Vietnam. Of the 13,760 returnees, approximately 1,400 had been found to have urine samples positive for illicit drugs (narcotics, amphetamines, or barbiturates) at the time of departure. From names of those with positive urine samples supplied by the Surgeon General, we selected a random sample of 495 men. This "drug-positive sample" would provide sufficient cases of serious drug use in Vietnam to allow a careful study of its antecedents and consequences. There was an overlap between the "general" and "drug-positive" samples of 22 men.

Between May and September 1972 (8 to 12 months after return), an attempt was made to locate and interview all men in the two samples. At the conclusion of the interview, each respondent was also asked to contribute a urine specimen for drug testing. In addition, information was sought from military records and from Veterans Administration claims files. Of the combined samples of 943 persons, interviews were obtained for 95%, urine specimens for 92%, and military records for 99%. Information from these various sources was compared to check validity. On this basis, validity appeared good. Ninety-seven percent of those whose records showed use of heroin in Vietnam admitted it at interview. Interviewers, of course, did not know beforehand which of their respondents had used drugs or even who was in the drug-positive sample. Validity rates were lowest for what results urine samples taken at interview would show. Only 16% of those with a drug-positive urine specimen had expected that it would be positive, and only 42% of those who expected a positive result actually had one. This may have reflected poor question design as much as willful concealment. We neglected to inform the respondents which drugs would be tested for and how long after the last dose urine samples would likely remain positive. Ninety-seven percent of those interviewed provided a specimen sufficient in quantity to be tested.

Confidentiality was maintained by use of a link file system similar to that described by Astin and Boruch. Completed interviews were sent to the Addiction Research Foundation in Canada with a randomly assigned case number but without the respondent’s name or other identifying data. In Canada a new number was assigned to each interview, the first digit of which identified the sample from which the case came (general, drug-positive, or both), and the remaining digits of which were randomly chosen. The interview was then returned for coding and analysis with only the new number as identification. All that remained in Canada was a list of paired numbers. Thus, it was impossible for anyone in Canada or in the United States to link the interview’s contents to the proper respondent. The same system was used to maintain confidentiality of urine analysis reports and abstracts of military records while allowing the association of these records with the interview given by the same respondent.

RESULTS

Unless otherwise noted, we will present results for the general sample, as this represents a random sample of enlistees and draftees leaving Vietnam in late 1971. At designated points, drug-positive and general samples will be combined in order to expand the number of drug users.

Pre-Vietnam Profile

The following tabulation lists the characteristics of the general sample (N=470) at arrival in Vietnam. Status code, age, and education data were obtained from military records.

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Status code</td>
<td></td>
</tr>
<tr>
<td>Draftee</td>
<td>46</td>
</tr>
<tr>
<td>Regular army</td>
<td>54</td>
</tr>
<tr>
<td>Age, yr</td>
<td></td>
</tr>
<tr>
<td>≥24</td>
<td>15</td>
</tr>
<tr>
<td>22-23</td>
<td>17</td>
</tr>
<tr>
<td>21</td>
<td>18</td>
</tr>
<tr>
<td>20</td>
<td>34</td>
</tr>
<tr>
<td>&lt;19</td>
<td>16</td>
</tr>
<tr>
<td>Race</td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>80</td>
</tr>
<tr>
<td>Black</td>
<td>13</td>
</tr>
<tr>
<td>Spanish</td>
<td>5</td>
</tr>
<tr>
<td>Oriental</td>
<td>1</td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
</tr>
<tr>
<td>Education</td>
<td></td>
</tr>
<tr>
<td>No high school</td>
<td>5</td>
</tr>
<tr>
<td>Some high school</td>
<td>28</td>
</tr>
<tr>
<td>High school graduate</td>
<td>47</td>
</tr>
</tbody>
</table>
At arrival in Vietnam, half the men in the sample were under 21 years old and half 21 or older. Thirteen percent were black, 5% Spanish-American, 1% Oriental, 80% white, and 1% of other ethnic backgrounds. Sixty-seven percent had at least a high school diploma, 68% were single, and 90% had held a full time civilian job. As a group, the general sample did not differ in preservice drug experience from a national sample of comparable ages. Most of the inductees had experience with alcohol, but less than half had ever tried an illicit drug. Four fifths had been drunk at least once in the year before induction, and one third had been drunk weekly that year. Four percent had a history of "problems" with alcohol such as job trouble, arrests, or accidents. About one half of the general sample had tried some illicit drug (marijuana, amphetamines, barbiturates, or narcotics) before arrival in Vietnam. Forty-one percent had tried a cannabis derivative (marijuana or hashish), and 17% this was the only illicit drug tried before Vietnam. Eleven percent had tried a narcotic, but this was largely experimental use of orally taken codeine or codeine cough syrup. Only 2% had ever used heroin, and less than 1% had used any narcotic more than five times. Only 13% had used any illicit drug at all more than a few times, and this was almost always marijuana.

Drug-experienced men at induction differed from drug-naive men in having had more delinquency, being younger, having first become drunk at a younger age, more coming from a large city, more being black, more having a history of truancy, and more having parents who had separated, drunk excessively, or been arrested. However, the correlations between each of these variables and drug experience were not powerful. There was also an association between preservice heavy drinking and drug experience. Among men who drank heavily before service, about 45% had tried at least one kind of illicit drug before induction. This dropped to 30% in those who had not drunk heavily. In the first group, drinking usually began before drug use.

Drug Use in Vietnam

The following tabulation reports the rates of use (at least once) of various drugs in Vietnam by men in the interviewed general sample (N = 451). Alcohol, of course, was most commonly used (92%) and marijuana was next (69%) (estimate for marijuana based on assumption that those using it before continued in Vietnam).

<table>
<thead>
<tr>
<th>Drug Use in Vietnam</th>
<th>% Using at Least</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol</td>
<td>92</td>
</tr>
<tr>
<td>Marijuana</td>
<td>69</td>
</tr>
<tr>
<td>Any drug: narcotics, amphetamines, or barbiturates</td>
<td>46</td>
</tr>
<tr>
<td>Narcotics</td>
<td>43</td>
</tr>
<tr>
<td>Amphetamines</td>
<td>25</td>
</tr>
<tr>
<td>Barbiturates</td>
<td>23</td>
</tr>
</tbody>
</table>

Combinations of drug types:
- All three: narcotics, amphetamines, & barbiturates | 18%
- Narcotics & amphetamines | 6%
- Narcotics & barbiturates | 5%
- Narcotics only | 16%
- Amphetamines only | 2%
- Barbiturates only | <0.5%

The figures for narcotic use are perhaps of greatest interest. Almost half had taken some narcotic at least once. About one third tried heroin, and about one third tried opium, and most who tried either, tried both. Whereas narcotic use before Vietnam was nearly always casual, most of those who used narcotics in Vietnam used them repeatedly during a considerable period. The following tabulation gives the frequency and duration of use among men in the general sample who tried narcotics in Vietnam (N = 196).

Frequency and Duration | % of Users
------------------------|---------|
<5 times                | 24      |
≥5 times, not more than weekly | 9 |
More than weekly        |         |
<6 mo                   | 20      |
6-8 mo                  | 23      |
≥9 mo                   | 25      |
Addicted to narcotics   |         |
By self-report          | 46      |
By symptoms of dependence | 47   |

Translating these figures into percentages for the general sample as a whole, 20% used narcotics more than weekly for at least six months, and only 11% gave up narcotics after trying them less than five times. Twenty percent of the general sample reported they had been addicted to narcotics while in Vietnam, and about the same percentage (21%) met our criteria for addiction. (Criteria were based on frequency and length of use and occurrence of withdrawal symptoms. Three of the following criteria were met: (1) used more than weekly for more than one month; (2) had at least two of the following withdrawal symptoms: chills, stomach cramps, insomnia, muscle pain; (3) withdrawal symptoms lasted at least two days if unmodified or at least 12 hours if modified; (4) believes he was addicted.) For the most part, use of narcotics in Vietnam was not via intravenous injection. The available opiates were very pure and were effective when used in a
number of ways. The preferred method of use was smoking. Frequency of injection increased with prolonged use, however, and 40% of all who used drugs for nine months or more had injected them.

One fourth of the general sample reported taking amphetamines in Vietnam and a like number reported taking barbiturates. Rarely did men use these latter two drugs without using narcotics as well. Moreover, multiple use of all three drugs was the rule rather than the exception among drug users.

If a man was going to use narcotics at all in Vietnam, he usually began early in his tour. One fifth of all users began within the first week of arrival and three fifths within the first two months. Only one fourth of those who had ever tried narcotics waited more than four months to begin. This early use might suggest that the particulars of the Vietnam experience with respect to danger, combat experience, and experiencing deaths of friends must not have been critical factors in trying narcotics, since first use generally preceded extensive exposure to these hardships. This assumption is supported by the fact that there was no correlation between drug use and assignments, danger, or death of friends.

Among narcotic users, the most common reason given for use was the drug's euphoric-producing effects. Other reasons included improved tolerance of Army regulations and reduction of homesickness, boredom, depression, and fear. Some of the bad effects volunteered by users were damage to health, irritability, anxiety, and apathy. Users and nonusers alike feared addiction to narcotics and both groups thought heroin the worst drug available in Vietnam.

We made an attempt to assess preservice predictors of Vietnam drug use. In order to provide large groups for analysis, the general and drug-positive samples were combined, with the drug-positive sample weighted to represent their proportion in the general sample. This composite group was then submitted to multivariate analyses using automatic interaction detector and multiple classification analysis techniques paralleling multiple regression but appropriate to qualitative data. The best preservice predictors of narcotic use in Vietnam were preservice drug use (especially multiple drug use), heavy drinking, arrests, failure to complete high school, being reared in a large city, and being under 20 years of age at arrival in Vietnam. First-term enlistees (volunteers) exceeded draftees in drug use by almost two to one. They continued to exceed exceed draftees even when we controlled for all other predictors of drug use. The variable best predicting avoidance of drugs in Vietnam was being 24 years or older at the time of arrival.

While the preservice predictors of trying some illicit drug in Vietnam were rather powerful, they were not very useful in attempting to predict which men who tried drugs would become heavy users. Indeed, no demographic characteristics—race, age, city size, education—predicted an ability to try narcotics without becoming heavily involved. At least half of all groups who tried narcotics in Vietnam used them heavily—even those least likely to use them heavily, i.e., men who had no prior experience with narcotics or amphetamines. Only two striking correlates of experimentation without heavy use of narcotics in Vietnam were found and both described behavior after arrival in Vietnam, not before: first trying narcotics late in the Vietnam tour and continuing heavy alcohol use after trying narcotics. Apparently some men experimented with drugs but found they preferred drinking, while their fellow soldiers who gave up heavy drinking in Vietnam apparently substituted heavy narcotic use for their previous use of alcohol.

**Drug Use After Vietnam**

At the time of interview, 8 to 12 months after return, we asked these men, 43% of whom had used narcotics while overseas: "After your experience in Vietnam, do you feel that using heroin in Vietnam is okay? Do you feel that using it in the States is okay?" Only 7% of the respondents thought use in Vietnam was acceptable, and only 3% believed that using it in the United States was acceptable. The decline in narcotic use after return from Vietnam reflects these attitudes. Table 1 compares reported drug usage in the three time periods: before Vietnam, in Vietnam, and during the 8 to 12 months after return. After Vietnam, use of particular drugs and combinations of drugs decreased to near or even below preservice levels. The choice of which hard drug to use reverted to the pre-Vietnam pattern. Only in Vietnam were narcotics used more than amphetamines and barbiturates. Both before and after Vietnam, amphetamines were the most commonly used of the three, and barbiturates were second. Furthermore, on return to the United States, the susceptibility to addiction among those who continued to use narcotics declined dramatically. About one half of all narcotics users in Vietnam had become addicted, whereas only 7% of users after return became addicted at any time during the post-Vietnam period. This decline in addiction susceptibility on return to the United States produced addiction remission rates of 95% for those who had been addicted in Vietnam, rates of remission unheard of among narcotics addicts treated in the United States. The Figure contrasts remissions for men first addicted in Vietnam with typical results for young (under 30 years old) addicts treated at Lexington, Ky, and Fort Worth, Tex, federal hospitals and reexamined six months later.

Men highly dependent on narcotics in Vietnam who said they had been detected as users at departure because they were too addicted to quit had a relatively high risk of use and readidcation after return. But even among these, half stopped narcotic use entirely on return, and only 14% became readmitted (Table 2). Of course, men had been back from Vietnam an average of only ten months at interview, and it is possible that increasing numbers of men will return to narcotic use as time goes on. This seems unlikely, however, since resumption of narcotics generally began within the first four months after return with the median date between the second and third month. Furthermore, of all the men who had used narcotics after return, 84% found a source of supply within eight weeks after return, and men living in all geographical locations in the United States reported ready availability of narcotics. Thus, men who wished to resume their use did not appear to have been unable to locate a source of drugs.
than unavailability, deterrents cited most frequently were expense, fear of addiction, and fear of arrest.

While there was a striking decline in susceptibility to addiction after return to the United States, as compared to Vietnam, and a return to overall levels of use not very different from before Vietnam, it is noteworthy that heavy use of each drug type did not show the same decline to pre-Vietnam levels. In the short time since Vietnam, 3% had had a period of more than weekly use of narcotics, 6% had had a period of regular use of amphetamines, 8% had had regular use of barbiturates, and 28% had used marijuana heavily. Comparable figures before Vietnam were less than 0.5% for narcotics, 8% for amphetamines, 2% for barbiturates, and 12% for marijuana. While most of the narcotics use that occurred after Vietnam was casual, as it had been before Vietnam, these shifts to heavier use may be important. In addition, the usual method of administration of narcotics changed from smoking in Vietnam to injection in the United States, where injection became the preferred method among 68% of the frequent users. Last, the type of narcotic most commonly used shifted from codeine before Vietnam to heroin after return. These trends toward heavier use, injection, and preferring heroin to codeine were confirmed in the drug-positive sample, which provides a much larger sample of current drug users.

In determining which variables might predict who continued narcotic use after return from Vietnam, we again combined the general and drug-positive samples as outlined above. The strongest of the in-service predictors was injection of narcotics while in Vietnam. This one variable increased the chances of later use from 9% (overall proportion) to 32%. Other less powerful predictors were dependence on narcotics, both in Vietnam and earlier in the military, the heavy use of barbiturates or amphetamines in Vietnam, and use of narcotics in Vietnam for more than six months. Low rank was the only substantial nondrug predictor, and it was not very powerful. Preservice predictors of narcotic use after return were less powerful than in-service predictors, suggesting that the service experience did contribute directly to narcotic use after Vietnam. As among in-service predictors, the strongest preservice predictor was the experience of injection, which increased the rate from 9% to 24%. Additional preservice predictors were heavy or multiple drug use, truancy, and failure to graduate from high school. The best predictors of heavy use among those who used narcotics at all after Vietnam were as follows: injecting drugs before Vietnam, having parents who had drinking problems or arrests, drug use in or before Vietnam, dependence on barbiturates, and being an enlistee rather than a draftee.

**Drug Use and Post-Vietnam Adjustment**

At the time of interview, we inquired about the occurrence of various problems since return other than drug use. These included excessive drinking, arrests, unemployment, depression, and psychiatric care. Without a general sample including nonveterans and veterans who had not been in Vietnam, we cannot tell if the frequency of these problems was greater than expected in young men in this age range and this moment in history. We do, however, have some information regarding the association of these problem outcomes with drug use.

We did indeed find relationships between drug use in and after Vietnam and these other measures of post-Vietnam adjustment. Still, we could not necessarily assume that the Vietnam drug experience caused these problems. The critical factor might not have been drug use in Vietnam, but rather factors antecedent to drug use in Vietnam that led both to drug use there and to these other problems after return. As far as the association between drug use after return and these problems, it might be rather that experiencing these problems after their return drove men who had used narcotics in Vietnam to fall back on narcotics again.

To learn whether or not narcotic use in Vietnam had a direct effect on post-Vietnam problems independent of the continuation of drug use on return, we selected men who

<table>
<thead>
<tr>
<th>Table 1.—Drug Use Before, In, and After Vietnam*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drug</td>
</tr>
<tr>
<td>Marijuana, any</td>
</tr>
<tr>
<td>Any drug: narcotics, amphetamines, barbiturates</td>
</tr>
<tr>
<td>Narcotics</td>
</tr>
<tr>
<td>Addiction to narcotics</td>
</tr>
<tr>
<td>By self-report</td>
</tr>
<tr>
<td>By symptoms of dependence‡</td>
</tr>
<tr>
<td>Amphetamines</td>
</tr>
<tr>
<td>Barbiturates</td>
</tr>
<tr>
<td>Combinations of drug types</td>
</tr>
<tr>
<td>All 3: narcotics, amphetamines, barbiturates</td>
</tr>
<tr>
<td>Amphetamines &amp; barbiturates</td>
</tr>
<tr>
<td>Narcotics &amp; amphetamines</td>
</tr>
<tr>
<td>Narcotics &amp; barbiturates</td>
</tr>
<tr>
<td>Narcotics only</td>
</tr>
<tr>
<td>Amphetamines only</td>
</tr>
<tr>
<td>Barbiturates only</td>
</tr>
</tbody>
</table>

* Data from the interviewed general sample (N = 451).
† Estimate based on assumption that those who used marijuana before continued in Vietnam.
‡ Criteria given on p. 957.
§ Less than 0.5%.

<table>
<thead>
<tr>
<th>Table 2.—Narcotic Use After Vietnam*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use and Addiction at Departure</td>
</tr>
<tr>
<td>Still addicted; used at departure because could not stop</td>
</tr>
<tr>
<td>Previously addicted</td>
</tr>
<tr>
<td>Still using at departure</td>
</tr>
<tr>
<td>No use in last 3 days</td>
</tr>
<tr>
<td>Nonaddicted users</td>
</tr>
<tr>
<td>Still using at departure</td>
</tr>
<tr>
<td>No use in last 3 days</td>
</tr>
<tr>
<td>Nonusers in Vietnam</td>
</tr>
</tbody>
</table>

* According to use and addiction at departure.
Table 3.—Post-Vietnam Drugs and Other Problems

<table>
<thead>
<tr>
<th>Post-Vietnam Drug Used</th>
<th>Amphetamine or Barbiturate, % (40)</th>
<th>Marijuana, only, % (71)</th>
<th>Nons, % (33)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived drug-related problem†</td>
<td>23 7 11 6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-traffic arrest†</td>
<td>49 22 25 15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychiatric treatment†</td>
<td>26 12 6 12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depressive syndrome</td>
<td>16 14 10 3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unemployed, those out 6 mo or more†</td>
<td>38 14 19 10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Divorced, of those ever married‡</td>
<td>42 36 20 7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alcoholism</td>
<td>12 6 13 6</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Data from men who used narcotics in Vietnam: general sample, N = 196.
† Narcotics users significantly higher than users of other drugs or nonusers.
‡ Drug users significantly higher than nonusers.

used no narcotics after their return and compared those who had used narcotics in Vietnam with those who had not, holding constant their use of other drugs since returning. More of the Vietnam narcotics users had arrests after their return, but otherwise showed no statistically significant differences in demographic data of their return. Table 3 compares men who continued using narcotics after their return to those who either stopped drugs altogether or shifted from narcotics to nonnarcotic drugs. Those who continued narcotics after their return had substantially higher rates of drug-related problems, arrests, and psychiatric treatment, and exceeded other Vietnam narcotics users in depression and divorce rates. Men who shifted from narcotics in Vietnam to other drugs after their return tended to have slightly higher rates of problems than those who gave up all drugs, but differences were not statistically significant except for their higher rates of divorce. Alcoholism was the only post-Vietnam problem that seemed unaffected by continuing or stopping narcotics.

To examine whether or not drug use in and before Vietnam was strongly predictive of post-Vietnam problems or whether it was trivial compared with other predictors, such as school completion, broken home, and prewar arrests, we used a multivariate analysis (AID and MCA) in which use of various drugs competed with these other predictors and with each other as correlates of problem outcomes after return. Use of drugs in Vietnam and before was the strongest predictor of post-Vietnam arrests, depression, unemployment, and divorce, and among all four drug types, narcotics were the strongest of the drug predictors except with respect to arrests since return, which were more closely associated with earlier amphetamine use. Considering these results along with the findings concerning the good outcomes with discontinuation of drugs in the post-Vietnam period suggests that drug use in and before Vietnam was indeed a powerful factor in poor post-Vietnam adjustment, but that its effects were contingent on continuing drug use after Vietnam. Thus, whatever factors led to the massive discontinuation of drug use on departure from Vietnam should probably be credited with preventing gross maladjustment in post-Vietnam veterans.

**COMMENT**

The results of this investigation show that concern about drug abuse in Vietnam was not misplaced. The high rates of narcotic use and addiction there were truly unlike anything prior in the American experience. The men we interviewed shared the popular conception of heroin as a dangerous and damaging drug. Yet when given the opportunity to experiment with narcotics, almost half of them did, and most who did so continued to use the drugs regularly for most of their Vietnam tour. Equally dramatic was the surprisingly high remission rate after return to the United States. Numerous previous investigations of narcotic addicts in this country utilizing both short- and long-term follow-up indicate that abstinence from opiates is very hard to achieve. The cohorts in these previous studies differ from ours in having been long-term addicts hospitalized for treatment. But relapse rates of 80% to more than 90% and readmission rates of over 70% for hospitalized addicts in this country have led to the impression that opiates are among the most addictive substances known, and that once narcotic addiction begins, it is very persistent.

On the basis of background variables, such as education, employment, and previous drug use, Nace and Meyers predicted a favorable prognosis for addicted Vietnam returnees. Results here confirm that prediction. But whether the background variables that distinguish Vietnam returnees from the typical US addict or the change in the social context of use between Vietnam and the United States is responsible for the high remission rates remains a question.

We attempted to identify predictors and correlates of drug use and of heavy drug use for three time periods—before, in, and after Vietnam. If they had been sufficiently powerful, these predictors could have provided clues as to the cause of drug abuse or at least helped in describing the target group most in need of preventive efforts. The variables that were associated with drug use before entering service were arrests, unemployment, race, early drunkenness, truancy, large city size, age, and a history of parental problems. Each of these was positively correlated with drug use before service, but the combined explanatory contribution of all these variables was not very high. Together they explained only 10% of the variance. Any of these variables taken alone explained far less. Thus, we conclude that while deviance increases the risk of drug use, it is difficult to find any subgroup truly immune if generously exposed to drugs. In a study of young black men, Robins and Murphy previously found that delinquency did predict drug use, while occupational status, broken home, and school problems were not predictive. Moreover, 36% of the delinquents reported no drug use at all and 43% of the nondelinquents did use drugs. Similar findings are reported in a national follow-up study of drug use in young men. There, too, explanatory power of background variables was low. While this latter study also found drug use to be associated with deviance, it was asso-
lated with good intelligence and high social status as well.

Also, we do not know to what extent the relatively short
tour of duty in Vietnam may account for the high rate of
remission, since addicts in this country typically come
treatment only after several years of addiction. Despite
all these qualifications, it does seem clear that the opiates
are not so addictive that use is necessarily followed by ad-
diction nor that once addicted, an individual is necessarily
addicted permanently. At least in certain circumstances,
individuals can use narcotics regularly and even become
addicted to them but yet be able to avoid use in other so-
cial circumstances.

The validity of these conclusions depends on the ac-
curacy of our results and their generalizability. It is, of
-course, possible that our respondents concealed their cur-
cent drug use. The cooperativeness and apparent candor
of the respondents, the fact that the men freely discussed
their drug use in Vietnam, the low rate of urine specimens
positive for opiates, and the high interview completion
rates all seem to render this unlikely. How generalizable
these results are is currently unknown. No previous study
has had so large and so unbiased a sample of heroin users.
Previous large studies of addiction have been based on
treated or arrested users in whom the natural history of
drug abuse is confounded by factors leading to detection
and treatment. This is a natural consequence of the rarity
of heroin use in this country. One of the few studies of
the general population, undertaken for the National Com-
mission on Marijuana and Drug Abuse, obtained yields of
only about 80 persons who had ever tried narcotics in a
sample of 2,400 American adults, too small a group to al-
low studying the risks of addiction and its probabilities
of remission.

The study cohort in the current investigation is a rea-
nonsbly large, representative sample of one group of
American veterans whose acquaintance with drugs before
they went into service was similar to that of their contem-
poraries. In Vietnam, they were exposed to inexpensive
sources of relatively pure narcotics in a situation devoid of
the direct influence of a disapproving family. Since large
numbers of these men did avail themselves of the opportu-
nity to use narcotics, we have a large enough sample of
users to allow statistically valid investigations of their li-
ability to addiction, of the likelihood of remission once ad-
dicted, and problems of relapse. Because the original co-
hort was not presel ected on any variable that is known to
 predispose to drug use, the predictors and correlates of
abuse and addiction may be of general relevance. On the
other hand, there are other factors that limit the usefulness
of our findings. All were in Vietnam, a locale atypical
in many respects, especially with regard to the presence
of physical danger and death and the quality, price, and
availability of its drugs. In addition, our sample during its
Vietnam sojourn was homogeneous with respect to age,
sex, occupation, and historical period. Thus, our findings
may not apply to other places, other times, and different
population groups. Some current studies in progress (L.
Johnston, PhD; J. O'Donnell, PhD, and R. Room, MA, un-
published data) will explore use and addiction to opiates in
general samples, and our own current follow-up of these
same veterans includes a matched nonveteran comparison
group. As a result, we should shortly be much better able
to estimate how generalizable our findings are.

If returning veterans reverted to narcotics, they usually
did so soon after their return. But new cases did emerge
throughout the post-Vietnam period. Therefore, the ques-
tion still remains as to what the long-term outcome of this
cohort will be. Our second follow-up survey at approxi-
mately three years after return from Vietnam (currently
being conducted) will tell us how many have now returned
to narcotics. We will then learn whether or not our find-
ings are consistent over a period of time, as well as across
various samples.

References

1. Robins LN: The Vietnam Drug User Returns, special action office
2. Astin AW, Boruch RF: A "link" system for asuring confidentiality
3. Johnston L: Drugs and American Youth. Ann Arbor, The Institute for
5. Stephens R, Cottrell E: A follow-up study of 200 narcotic addicts
committed for treatment under the Narcotic Addict Rehabilitation Act
Washington, DC, Public Health Service, US Government Printing Office,
1969.
8. Hunt GH, Odoroff ME: Follow-up study of narcotic drug addicts after
10. Robins LN, Murphy GE: Drug use in a normal population of young
Drug Use in America: Problem in Perspective. Washington, DC, Superin-