

# A Longitudinal Investigation of Drug Use and Work Patterns among Middle-Class, White Adults\*

HELENE RASKIN WHITE  
ANGELA AIDALA  
BENJAMIN ZABLOCKI

*This article explores the relationship between drug use and patterns of living and working for a sample of middle-class, white "baby boomers" who have lived in communal households. A longitudinal investigation was initiated in the mid-1970s with 806 persons and followed up in 1986–1987 with 79% of these subjects. During interviews, the subjects supplied data related to their work and financial status, work-related attitudes and behavior, life status, and histories of drug use (i.e., types of drugs used, and quantity, frequency, and duration of use). The results indicate that neither chronic nor current use of marijuana or alcohol had adversely affected the subjects' occupational status and achievement in middle adulthood, although a relationship was found between daily alcohol consumption and delaying marriage and childbearing. The authors warn against extrapolating the results for this unique sample to the larger population, but note the implications they have for future research.*

Research has seldom focused on the relationship between drug use and the work-related behavior of adults outside a clinical setting. We thus know little about how various levels of drug use affect occupational achievement and stability among adults. Kandel and her colleagues (Kandel, Davies, Karus, & Yama-

guchi, 1986; Kandel & Yamaguchi, 1987) have thus far conducted the most thorough

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\*The preparation of this article was supported in part by grants DA03790 and DA03395 from the National Institute on Drug Abuse, grant AA05823 from the National Institute on Alcohol Abuse and Alcoholism, and grant NSF-SES-82-08581 from the National Science Foundation.

*Helene Raskin White is an associate professor in the Center of Alcohol Studies, Smithers Hall, and Angela Aidala is an assistant professor and Benjamin Zablocki a professor in the Sociology Department at Rutgers University, Piscataway, New Jersey 08854.*

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**The Journal of Applied Behavioral Science**  
Volume 24, Number 4, pages 455–469.  
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ISSN 0021-8863.

studies of this topic, but their sample comprises only young adults with a mean age of 24–25 years. This article reports an effort to replicate and expand on research into the relationship between drug use and work-related behavior, based on a sample of middle-aged adults (33–41 years old) outside a clinical setting.

When Kandel (1980) reviewed the relationship between substance use and adult social roles, she noted that the most consistent findings addressed participation in the labor force. Cross-sectional studies have consistently found that the unemployed have the highest rates for the use of most drugs, particularly for alcohol and drugs other than marijuana (Brunswick, 1979; Cisin, Miller, & Wirtz, 1976; Johnston, 1974; O'Donnell, Voss, Clayton, Slatin, & Room, 1976; Robins, 1974). For example, O'Donnell et al. (1976) determined that, among men aged 20–30 years, the unemployed had the highest rates of drug use and those working full time had the lowest. They suggest that this may be the case either because a regular job restrains the extent to which men use drugs, or because men who use drugs are less likely to seek or obtain full-time employment. Other studies (e.g., Kandel, 1980) have indicated that drug users are more likely than nonusers to have had multiple jobs.

In contrast, a recent study of 150 chronic marijuana users found that long-term daily use was not "linked with maladaptive functioning in any consistent behavioral sense" (Haas & Hendin, 1987, p. 44). The great majority of the subjects functioned adequately with respect to societal standards for occupational and personal success. Furthermore, intensive interviews with 15 subjects revealed that heavy marijuana use did not appear incompatible with career success, and that more than one-third belonged to occupations associated with high levels of achievement. The interview data did reveal, however, that such

heavy use was linked with difficulties in adapting to work or personal relationships, and that the subjects used marijuana to cope with areas in which they felt they did not function adequately.

These cross-sectional studies, however, do not resolve the issue of causality. That is, one may just as plausibly claim that unemployment—and the frustration and depression it produces—causes greater involvement with drugs as the reverse. Hence, longitudinal studies are necessary for determining whether or not drug use per se produces the negative work-related behavior associated with substance abuse. The pharmacological effects of drugs may negatively influence one's performance at work, thus increasing the risk of losing one's job. Similarly, the attitudes and way of life associated with drug use may make a drug user more likely to leave a job or to select one characterized by high turnover rates (Kandel et al., 1986).

A longitudinal analysis by Bachman, O'Malley, and Johnston (1978) found that increased drug use was associated with unemployment. Based on a later longitudinal study, however, the same researchers (1984) reported that no clear evidence exists indicating that unemployment causes increased drug use. They found that among young men who were unemployed one to three years after leaving high school, the percentage who used marijuana and other drugs was lower than it had been while they were students; for unemployed women, marijuana use had increased slightly since high school, but the percentage who used other drugs had not changed. An examination of the number of weeks the subjects had been unemployed did not indicate that unemployment after high school causes increased drug use (Bachman et al., 1981).

O'Donnell et al. (1976) reported that the rates of drug use were higher for the unemployed than for students, but Bachman et al. (1984) found that the greatest increases in

heavy drinking and the use of marijuana and other drugs occurred among full-time students. These increases, however, resulted from "catching-up" behavior, as the full-time students had the lowest rates of drug use of all high school students. Subjects employed full time remained relatively stable in their substance use. All three groups (i.e., students, the unemployed, and full-time workers) consumed alcohol, marijuana, and—to a lesser extent—other drugs at similar levels by the follow-up point in the research, although those who later became unemployed had had the highest rates of substance use while in high school. This study underscores the value of longitudinal research over cross-sectional research. Without their baseline data, the researchers might have drawn quite different conclusions from the study.

Bachman et al. (1984) also determined that employment status did not function well as a predictor of subjects' drug use after leaving high school when the researchers controlled for living arrangements. Data from their longitudinal research thus not only refute any claim that unemployment causes one to become more involved with drugs, but also suggest that employment status has only a weak relationship with drug use among young adults.

Based on another longitudinal study, Kandel et al. (1986) concluded that drugs adversely affect one's continuity of employment, and that drug users typically have unstable work histories. After controlling for educational attainment, they found that the cumulative amount of time a subject consumed alcohol daily, used marijuana, and used other illicit drugs during a nine-year period from adolescence to young adulthood was positively correlated with spells of unemployment during that time.

From a longitudinal analysis, Kandel and Yamaguchi (1987) found that the association between drug use and employment primarily

reflects a selection effect. That is, those who use or have used drugs are the types of persons who would likely experience employment instability whether or not they used drugs. The researchers found that among young adults such job characteristics as income and occupation had no significant relationship with drug use behavior. They did, however, find that drug use patterns were related to job loss and turnover, which led them to suggest that if drug users continued to have high rates of job turnover throughout their lives, then drug use might be negatively associated with the status one achieves in later adulthood. An earlier national study (Freeman & Wise, 1982) determined that, in general, unemployment during one's youth does not generally have long-term effects on one's employment status later in life, although it does affect the wages one earns throughout adulthood.

This article discusses the relationship between drug use history and employment during middle age for a sample of white middle-class "baby boomers" who had lived communally in the 1970s. In seeking to replicate the findings of Kandel and Yamaguchi (1987), we investigated the relationship between current and former drug use patterns and the subjects' income, financial security, employment status, job mobility, and job tenure. Based on Kandel and Yamaguchi's conclusion that among young adults the relationship between drug use and employment status results primarily from a selection effect, we studied the ways in which those currently using drugs differ from former users and nonusers in conforming to a traditional work ethic. Specifically, we examined data related to satisfaction with one's job, work effort, and achievement orientation. We also studied the relationship between drug use and nonoccupational indicators of acceptance of the adult role, such as home ownership, educational achievement, marital status, and childbearing.

Finally, although Kandel and Yamaguchi

(1987) argue that a selection effect exists, they did find that current daily alcohol use by men and current monthly marijuana use by women negatively affect job mobility. We thus examined the direct consequences of current drug use on subjects' work-related behavior, such as job loss and loss of productivity attributed to drug use.

## THE STUDY

### Subjects

From 1974–1977, we studied 806 persons living in 60 communal households with public identities throughout the U.S. For this study, we defined a communal household as “any group of five or more individuals (plus children if any), the majority of whose dyads are not cemented by blood or marriage, who have decided to live together without compulsion for an indefinite period of time primarily for the sake of an ideological goal focused upon the achievement of community, for which a collective household is deemed essential” (Zablocki, 1980, p. 7).<sup>1</sup> From 1986–1987, we conducted a follow-up study in which the same subjects were interviewed again. By that time, we had found 88% of the initial study's subjects who were still alive and living in the U.S. or Canada (15 had died following the baseline survey and 12 were living overseas) and interviewed 81% of them.<sup>2</sup> Currently, about 7% of the subjects live in communal household, half of these in the same households as when the initial study was made. We conducted the search primarily by relying on addresses of parents or other relatives that we had previously obtained from the subjects themselves, and by using the friendship networks of each commune. Occupational or educational search techniques—which might bias the results of the follow-up study—were used effectively in fewer than 1% of the cases.

Most of the interviews were conducted in person and lasted an average length of approx-

imately three hours. The interviews consisted of two parts: one based on an open-ended, semistructured interview schedule, and one using a series of closed-ended, paper-and-pencil questionnaires. A small percentage of subjects was interviewed by telephone because these persons lived out of range of the field interviewers, making in-person interviews unfeasible. The telephone interviews lasted about one hour each, with the subjects sent the paper-and-pencil questionnaires and asked to return them by mail.

For this article's analysis of the relationship between work-related behavior and drug use, we only evaluated those subjects born between 1946–1954. We limited the sample for two reasons. First, these “baby boomers” represent a culturally distinct group that grew up during a period in which marijuana use had become acceptable and respectable and norms for drug use changed rapidly. Second, because we examined variables such as income and marital status that can become confounded by age, we limited the sample to control for the effects of age. These subjects represent persons aged 33–41 years, with the median age for both men and women being 37 years. We collected drug use data for 203 men and 173 women. Nearly all the subjects were white (fewer than 1% were not), and 77% defined themselves as coming from middle- or upper-class homes. Table I compares selected demographic data for the 376 baby boomers examined in the follow-up study with the 575 baby boomers examined in the baseline study. Clearly, with respect to these characteristics, the follow-up sample is nearly identical to the population from which we drew it.

As noted above, the follow-up sample is valuable for studying the consequences of drug use because many of the baby boomers in this sample—as well as many constituting the rest of the sample—had been heavily involved with drugs for the 20 years prior to the follow-up study. Nearly all of the subjects had tried alcohol, and more than 90% had tried marijuana-

Table 1  
Comparison of the Baby Boomers In the Baseline Sample to Those In the Follow-Up Sample

	Baseline sample (N = 575)	Follow-up sample (N = 376)
<i>Demographic characteristics</i>		
Male	56%	54%
Nonwhite	Fewer than 1%	Fewer than 1%
Mothers graduated from college	37%	37%
Fathers graduated from college	46%	46%
Protestant	47%	48%
Catholic	28%	26%
Jewish	22%	22%
Middle- or upper-class background	76%	77%
$\bar{X}$ age in 1987	37 years	37 years

na. Nearly 75% had tried hallucinogens, and about half had tried cocaine and other stimulants. Approximately 25–33% had tried sedatives, tranquilizers, and analgesics, and 10% had tried heroin. These rates are much higher than those reported for the National Institute on Drug Abuse National Household Survey (Miller, Cisin, Gardner-Keaton, Harrel, Wirtz, Abelson, & Fishburne, 1983). For example, our subjects' rate for hallucinogen use was about 3.5 times higher, their rate for marijuana exposure was about 1.5 times higher, and their rate for ingesting cocaine was about 2.5 times higher than the rates Miller et al. cite for comparable age groups. Nearly 50% of our subjects reported using marijuana during the previous year, versus 23% of the 30–34 year-old respondents in the national survey. Our subjects' rates for current use of alcohol, however, were comparable to the national rates: More than 90% reported drinking during the year prior to the study, and more than 70% reported drinking during the past month. Other than alcohol or marijuana, the drug used by the largest number of our subjects during the previous year was cocaine.

With respect to cumulative drug use patterns, approximately 50% of the sample had, at some point, used marijuana daily for at least

one year, and about 75% had used it at least weekly for one year or longer. Furthermore, roughly 50% of the subjects had smoked marijuana for at least 10 of the past 20 years. A large percentage of the sample thus exhibited patterns of heavy drug use for prolonged periods. Their drug use patterns at the time of the follow-up study resembled those of younger adults in their peak periods of substance use rather than those typical of the subjects' own age group.

#### Measures

The measures used in this study were derived from both prospective (i.e., current) and retrospective (overview) self-report data. Overall, self-reports are generally considered reliable and valid indicators of substance use (Radosevich, Lanza-Kaduce, Akers, & Krohn, 1980; Single, Kandel, & Johnson, 1975). Moreover, other researchers have successfully collected reliable retrospective data on drug consumption (e.g., Fillmore, Bacon, & Hyman, 1979; Kandel, 1984; Robins, 1977).

#### Dependent Measures

We used three variables to measure the subjects' current work and financial status: their

employment status (unemployed, employed part time, employed full time), current job tenure (coded as number of months), and annual family income. We examined changes in these variables over time by asking respondents to indicate the occurrence of the following specific events in their lives: financial problems (self-defined), getting a new job, full-time employment, and school attendance at selected ages. For this article, we examined the occurrence of these events during five-year blocks from 20–44 years of age. We thus counted the total number of or number of periods of new jobs, lack of full time employment (not counting periods when respondents attended school full time), and financial problems. For the retrospective analyses, we controlled for the subjects' age at the time of the follow-up study.

We also included several measures for work-related attitudes and behaviors, such as effort expended at work (ranging from "a lot" to "none at all") and satisfaction with one's job (coded from low to high). We developed a work ethic scale composed of the following items: looking forward to quitting time, proud of work, excited by work, need for clear rules at work, importance of job diversity, importance of hard work, and work neglect (coded from low to high). Respondents also ranked the following job characteristics from most important to least important: free time, high income, and chances of advancement. Drug users indicated whether or not three work-related consequences—went to work "high," loss of productivity, and loss of a job—ever occurred, and, if so, whether they occurred during the past year while they used or because they used marijuana. Respondents also indicated whether these consequences had occurred during the past year because they used alcohol.

We used several life status variables often considered to be related to one's acceptance of the role of an adult: marital status, age when

first married, children, age when first child was born, home ownership, and level of education.

### *Independent Measures*

We examined the respondents' current levels and frequency of alcohol and marijuana consumption (i.e., the typical quantity consumed during the month prior to the study multiplied by the frequency of consumption during that month) and frequency of alcohol and marijuana consumption during the previous year, which serve as traditional indicators of current drug use patterns. We also measured the total number of other illicit drugs the respondents had ever tried. To be consistent with other longitudinal research on this subject (e.g., Kandel & Yamaguchi, 1987), we measured the subjects' cumulative number of years of at least monthly marijuana use and at least daily alcohol use, asking respondents to complete a grid indicating the frequency with which they used each substance over a 20-year period. Kandel (1984) used a similar method to collect reliable retrospective drug use data for monthly use over a four-year period.<sup>3</sup>

We also adapted the marijuana user typology developed by O'Donnell et al. (1976), and thus divided the subjects into five groups: nonusers (who had never tried marijuana), experimental users (who had used it fewer than 10 times), light users (who had used it 10–99 times), moderate users (who had used 100–999 times), and heavy users (who had used it 1,000 times or more). Six percent of the subjects were classified as nonusers, 10% as experimental users, 21% as light users, 37% as moderate users, and 26% as heavy users. For some analyses we divided the moderate and heavy users into current users (who had used marijuana during the previous year) and former users (who had not); 65% of the moderate and heavy users fell into the first category, and 35% into the second.

Table 2  
Correlations Between Drug Use and Work Variables for the Total Sample<sup>a</sup>

Variables	Years of monthly marijuana use	Years of daily alcohol use	Quantity/ Frequency of marijuana consumed last month	Quantity/ Frequency of alcohol consumed last month	Frequency of marijuana consumed last year	Frequency of alcohol consumed last year	Total number of illicit drugs used
Current job status	.14**	.07	.03	.14**	.03	.09	.03
Length of time at present job	.04	.08	.09	-.01	.10	-.02	-.03
Income	-.02	-.03	-.02	-.03	-.09	.06	.01
Number of years not employed full time <sup>b</sup>	.21*	-.09	.33***	.10	.30***	.01	.11
Number of job changes <sup>b</sup>	-.01	.11	-.14	.04	-.09	.15	.02
Number of years of having financial problems <sup>b</sup>	-.05	-.06	-.c	.07	-.04	.09	.13
Work ethic	.02	.05	-.08	.05	-.10*	.06	-.01
Effort on the job	.03	.06	.05	.02	.07	.06	-.c
Work satisfaction	-.01	-.c	.04	.01	-.01	-.04	.04
Highest grade completed	-.c	.01	-.04	-.07	-.01	-.c	-.06
Age when first married	.03	.18**	-.03	.17**	.02	.22***	.03
Age when first child born	.06	-.11	.11	-.11	.07	-.01	.10

\* $p < .05$

\*\* $p < .01$

\*\*\* $p < .001$

<sup>a</sup>N ranges from 253 to 363 because of missing values

<sup>b</sup>Partial correlations for age

<sup>c</sup> $r < .01$

## RESULTS

### Cumulative Effects of Drug Use

Table 2 presents a correlation matrix of the relationship of the drug use variables and the work-related behavior variables for the total sample. We conducted separate analyses for men and women, and found that the results for either gender were approximately the same as those for the sample at large, except for those cases noted below.

The only statistically significant effect of cumulative marijuana use was on current and previous employment status. As we had expected, the subjects with the greatest cumulative use of marijuana had the highest number of periods of less-than full-time employment. The subjects who smoked marijuana at least monthly for the greatest number of years, however, had the lowest rates of current unemployment. Contrary to our expectations, we found no significant relationship between cumulative marijuana use and current level of income, previous financial problems, job mobility, or tenure in one's current job. Furthermore, the number of years in which subjects smoked marijuana at least monthly were not related to current work-related attitudes and behaviors. Finally, we observed no relationship between cumulative marijuana use and acceptance of the adult role.

Cumulative alcohol use was not related to measures of occupational status and achievement, nor was it related to attitudes and behaviors. Cumulative daily use of alcohol was significantly related to only the age at which one first married: The more years subjects used alcohol daily, the older they were when they first married (women's  $r = .29, p < .01$ ; men's  $r = .05, n. s.$ ) (this analysis only examined subjects who had ever been married). For women, we found a positive relationship between cumulative alcohol use and the age

at which they had their first child ( $r = .14, p < .05$ ).

The last column of Table 2 presents findings for the effects of other illicit drugs on work patterns and behavior. These data also fail to confirm our expectations. The only significant finding is that the more illicit drugs subjects tried, the more periods of financial difficulty they faced. This relationship proved stronger for the women than for the men (partial correlation =  $.35, p < .01$  vs.  $.13, n. s.$ , respectively).

Table 3 indicates the work patterns and behaviors of those assigned to the different marijuana typology groups. We conducted chi-square analyses and analyses of variance, depending on the measurement level of the independent variable (nominal versus ordinal and interval, respectively). Separate analyses for men and women produced only minimal differences. We found no statistically significant differences among these groups. When we compared nonusers to all users, we detected some differences, although these were not necessarily statistically significant. Contrary to our expectations, current rates of unemployment were higher and income levels were lower for nonusers compared to current and former users. Nonusers were more likely, however, to have accepted such adult role responsibilities as currently being married, having children, and owning a home.

Thus far, the results do not provide evidence of any significant effects of chronic drug use on current employment status, income level, or job tenure. Indeed, cumulative marijuana use was associated with higher rates of full-time employment. A slight relationship seems to exist, however, between chronic drug use and other measures of adult role attainment, especially current marital status: 83% of the male nonusers were currently married versus only 55% of the men in the total sample.

Table 3  
Current Work and Living Patterns by Drug Use Typology

	<i>Nonuser</i>	<i>Experimental user</i>	<i>Light user</i>	<i>Moderate user</i>	<i>Heavy user</i>	<i>Total sample</i>
Percentage employed full time	44.4	56.7	49.3	63.8	67.9	59.9
Percentage unemployed	16.7	16.7	6.0	7.8	3.7	7.7
$\bar{X}$ number of months on current job	41.3	55.4	42.9	46.9	42.3	45.2
$\bar{X}$ family income level	29K	39K	41K	36K	37K	37K
$\bar{X}$ number of years of having financial problems <sup>a</sup>	1.2	1.5	1.1	1.4	1.0	1.2
$\bar{X}$ number of jobs <sup>a</sup>	2.4	2.7	2.8	2.7	2.9	2.8
$\bar{X}$ years not employed full time <sup>a</sup>	2.0	1.6	1.5	1.8	1.8	1.7
Percentage who feel satisfied with their jobs	92.8	88.5	85.9	87.0	87.8	87.4
Percentage who consider income most important	6.7	7.7	12.3	4.7	9.6	8.0
Percentage who consider free time most important	6.7	14.8	7.7	6.5	14.5	9.6
Percentage who consider advancement most important	0	0	6.2	1.9	4.2	3.2
Percentage who are college graduates	66.6	59.9	63.7	62.9	65.1	63.6
Percentage who own their own homes	60.0	62.1	43.8	40.9	46.7	46.1
Percentage who have ever been married	66.7	60.0	67.2	70.1	65.4	67.1
Percentage who are currently married	66.7	53.3	53.7	53.0	51.9	53.7
Percentage who have children	61.1	53.3	37.3	50.4	48.1	47.9
$\bar{X}$ of age when first married	26.6	25.9	26.7	26.2	27.0	26.5
$\bar{X}$ of age when first child born	29.3	26.2	27.6	27.5	28.8	27.8
(N) <sup>b</sup>	(18)	(30)	(67)	(117)	(81)	(313)

<sup>a</sup>Age covaried in analyses of variance

<sup>b</sup>N varies because of missing values

### Effects of Current Drug Use

Table 2 indicates the correlations between measures of current drug use and work-related variables. We now address the quantity and frequency with which subjects used marijuana and alcohol in the month prior to the follow-up study and frequency during the previous year. Analyses conducted separately for men and women indicated some important differences, which we discuss below.

Although current patterns of marijuana use were positively related to the number of periods of less-than full-time employment, they were not related to current levels of full-time employment. We found a negative relation-

ship between current marijuana use and the level of work ethic, although the correlation coefficient is relatively low. We also found a significant relationship between alcohol consumption during the month prior to the data collection and the subjects' likelihood of holding a full-time job at the time of the study. This correlation moved in a positive direction, indicating that subjects who were employed full-time were more likely to drink than were their unemployed counterparts. No other significant relationship exists between current alcohol and marijuana use and measures of occupational status and achievement. Moreover, we found no relationship between the subjects' current drug use and work-related atti-

tudes and behavior. As we found in the cumulative effects analysis, those who currently used alcohol heavily tended to be older at the time of their first marriage.

Although Table 3 indicates that no significant differences occurred between heavy and light users of marijuana, we decided to examine the data for the heavy users more closely to uncover any differences between former and current users. For these analyses, we divided the moderate and heavy users into current users (those who had smoked marijuana during the previous year) and former users (those who had not) and conducted chi-square analyses and analyses of variance to test for significant differences between these groups (see Table 4).

We again found no support for claims that current marijuana use directly affects work-related behavior. No significant differences occurred between current and former users with respect to unemployment, financial status, or job tenure. Furthermore, no significant differences occurred with respect to current work-related attitudes and behavior. Indeed, only one significant difference emerged in all of the analyses: A greater percentage of the former users than of the current users were currently married ( $X^2 = 7.78$ , d.f. = 2,  $p < .05$ ). One could conclude either that marital discord results from heavy drug use, or that the depression and sudden freedom caused by divorce causes one to continue using drugs. Although this finding was not statistically sig-

Table 4  
Patterns of Work and Living Habits for Subjects who Formerly and  
Currently Used Marijuana at Moderate and Heavy Levels

	Former Users	Current Users
<i>Patterns</i>		
Employed full time	63.1%	65.8%
Unemployed	3.1%	6.7%
$\bar{X}$ number of months in current job	42.4%	45.7%
$\bar{X}$ amount of annual family income	\$38,000	\$34,000
$\bar{X}$ years of having financial problems*	1.3	1.2
$\bar{X}$ number of jobs*	2.7	2.8
$\bar{X}$ years working less than full time*	1.7	1.9
Considers job satisfying	90.2%	86.7%
Considers high income most important	6.6%	5.3%
Considers free time most important	8.1%	10.4%
Considers advancement most important	1.7%	2.7%
College graduate	65.6%	63.4%
Home owner	43.5%	41.4%
Has ever been married	69.2%	67.8%
Currently married	63.1%	47.1%
Has children	58.5%	43.8%
$\bar{X}$ age when first married	26.1	27.0
$\bar{X}$ age when first child was born	27.9	28.3
<i>N**</i>	65	120

\*Age covaried in the analyses of variance

\*\**N* varies because of missing values

nificant, the data indicate that former users were more likely than current users to have children.

### Direct Consequences of Drug Use

Finally, we analyzed the percentage of drug users who attributed negative work-related consequences to their consumption of substances. Table 5 presents the findings for those who consumed marijuana and alcohol. Forty percent of these persons reported that they had ever been less productive at work because of smoking marijuana, but only 3% had ever lost a job because of this. Marijuana use thus affected the work-related behavior of a significant number of our subjects.

With respect to the negative work-related consequences of substance use suffered during the previous year, more than 25% of the users reported going to work intoxicated from marijuana, whereas only 5% had gone to work intoxicated from alcohol. Not quite half as many of the users reported being less productive at work because of alcohol (9%) as be-

cause of marijuana (21%). Finally, no subjects reported losing a job during the previous year because they had used drugs. A higher percentage of the men than the women reported experiencing negative work-related consequences from their drug use.

Because of the lack of significant findings and patterns resulting from the bivariate analyses we conducted, we did not conduct any of the multivariate analyses we had originally intended to perform.

### CONCLUSIONS

The results of this study suggest that, for our nonrepresentative sample of predominantly white, middle-class baby boomers who have lived communally, we did not find that chronic or current levels of marijuana or alcohol use had any adverse effects on the subjects' occupational status and achievement in middle adulthood. The difference between our findings for employment status in middle adulthood and those of Kandel and her col-

Table 5  
Self-Attributed Consequences of Marijuana and Alcohol Use

	<i>Male Employees</i>	<i>Female Employees</i>	<i>Total</i>
<i>Marijuana Users</i>			
Have ever gone to work "high"*	58.9%	46.7%	53.5%
Went to work "high" during previous year**	31.9%	23.3%	28.0%
Were ever less productive at work because of marijuana*	47.7%	31.4%	40.4%
Were less productive at work because of marijuana during the previous year**	25.7%	15.5%	21.2%
Have ever lost a job because of marijuana*	3.3%	1.6%	2.6%
Lost a job during the previous year because of marijuana**	0	0	0
<i>Alcohol users</i>			
Went to work "high" during the previous year***	7.1%	1.6%	4.6%
Were less productive at work because of alcohol during the previous year***	11.7%	4.8%	8.6%
Lost a job during the previous year because of alcohol***	0	0	0

\*Based on the number of subjects who had ever used marijuana

\*\*Based on the number of subjects who currently used marijuana

\*\*\*Based on the number of subjects who currently used alcohol

leagues (1986; 1987) for young adults may reflect several factors. First, drug use may not have any negative effects on employment status in middle adulthood, even if it does in early adulthood. Indeed, Bachman et al. (1984) found no evidence of such a relationship even among young adults. Haas and Hendin (1987) also found that a large majority of the heavy, daily users of marijuana in their sample were gainfully employed. Of course, we are aware of the literature suggesting that drinking problems have negative effects on employment stability (e.g., Trice & Roman, 1972). Yet even these research reports suggest that job turnover and job loss are not especially frequent among heavy drinkers, especially within white-collar occupations, because the impaired employees—sometimes with help from others—can often cover up their alcohol abuse. Furthermore, the measures of alcohol use intensity employed in our analyses were not intended to detect drinking problems.

Our study relies on a unique, nonrepresentative sample, which consists primarily of middle- and upper-class, highly motivated persons who experimented heavily with drugs during their late adolescence and early adulthood. Some of them continued to use drugs heavily into middle adulthood. Although our subjects may not differ much from their white, middle-class counterparts in the general population with respect to family background, educational experiences, and occupational achievement, they are unique because of their involvement in communal living, search for alternative ways of living, and participation in tight, highly supportive peer group living environments during their late adolescence and early adulthood.

Using such a sample has both advantages and disadvantages. The advantages, which stem from the subjects' almost universal exposure to and experimentation to some extent with alcohol and marijuana, are discussed

above. The disadvantages lie in the sample's nonrepresentative nature, which limits the degree to which we can extrapolate our findings to the larger population of Americans in middle adulthood. Therefore, one should not extrapolate our findings to the larger population, however tentatively, even to those the same age as our subjects. Instead, as this article makes clear, one should use them to indicate that some conditions—however unusual—exist in which the frequency of marijuana use is not correlated with occupational impairment.

Perhaps our subjects are representatives of a generation that has learned to moderate its drug use—that is, to use drugs responsibly. Kandel's sample was more heterogeneous with respect to social class of origin and drug use patterns. Perhaps for a sample of upper- and middle-class, predominantly college-educated drug users, work orientation and achievement are two important matters the subjects do not allow their drug use to disrupt. Furthermore, our subjects' rates for marriage and parenthood are lower than the national rates, a difference that may mask any effects of marijuana use.

We did not originally intend to study occupational stability and achievement. Therefore, several of our indicators are not ideal for assessing the negative effects of drug use. For example, our cumulative work pattern variables were coded in terms of five-year periods, rather than in terms of the number of years employed or the number of new jobs. We used no measure for the number of years unemployed, but instead measured the years one was employed less than full time.

Despite the potential sources of bias in our analysis, our results consistently suggest, at least for the current generation of middle-aged adult drug users with communal living experience, that work stability and achievement are not necessarily disrupted by drug use. That is, we found no significant differences with re-

spect to income or job tenure between current and former marijuana users or between users and nonusers, nor did these occupational variables become affected by the intensity of the subjects' alcohol or marijuana consumption. Furthermore, in contrast to the findings of other studies (e.g., Kandel, 1980; O'Donnell et al., 1976), no relationship apparently exists between the subjects' current unemployment rates and their past and present drug use. Indeed, those currently using marijuana heavily were more likely to be employed full time than were those who had never used it. Although the subjects' current and cumulative patterns of drug use seem to be related positively to previous periods of less-than full-time employment, by middle adulthood the adverse effects of drug use on employment status had dissipated, regardless of their current drug use patterns. Moreover, drug use history and current patterns of drug use apparently had no effect on the subjects' conformity to a work ethic.

We did find a significant relationship between alcohol use and nonoccupational indicators of traditional adult role involvement, such as marriage and childbearing. Daily alcohol use seems to have raised the age at which subjects first got married and lowered the age at which they first had children. Marijuana use, however, had no such effects. The subjects who used marijuana daily apparently married and had children at the same ages as their peers who used marijuana less often or not at all. Nevertheless, current marijuana users apparently had higher rates of divorce and separation than did nonusers and former users.

Although the data do not support the existence of a negative relationship between drug use and occupational achievement, that 40% of the subjects who consumed marijuana reported that this had reduced their productivity at work (at least once) suggests the need for a

further examination of these data, one incorporating more fully the respondents' subjective reports of their experiences with marijuana.

## NOTES

1. For detailed information on the study design and sample selection, see Zablocki (1980).

2. Of the 791 subjects still alive and living in the U.S. or Canada, we cannot locate 93, and have not yet interviewed 54 because of either scheduling problems or their reluctance to participate in the follow-up study. The 632 subjects interviewed in the follow-up study represent 79% of the original sample, and 81% of the sample after correction for death and emigration. Only 468 of these persons, however, have thus far sent us the full inventory of information on drug use. Of those who have not, approximately 5% have refused to do so, 17% are late in returning their responses, and 4% were not asked to provide information on drug use.

Preliminary analyses have revealed no differences with respect to occupation, education level, and family class background between those who have submitted drug use data and those who have not. Those who have supplied this information, however, apparently are more likely to be married than those who have not. Information obtained during the search for the subjects indicates that those who have not yet been interviewed for the follow-up study are polarized at the two tails of distribution for the respondents. At one extreme, we find busy, highly successful professionals and entrepreneurs who do not wish to take the time to be interviewed. At the other extreme, we find chronic drifters and "losers" who have not participated in any but the more rudimentary data collection efforts since the project began in 1974, and who probably constitute a disproportionate number of the emotionally disturbed, unemployed, homeless, and institutionalized members of the sample. However important the latter subgroup may be, information from other members of these persons' communes indicates that they represent less than 2% of the entire sample, a figure that is not highly significant statistically.

3. To check the reliability of the our retrospec-

tive data, we compared responses to the drug use grid to responses given in 1974–1975 about marijuana use. Of 118 randomly selected cases, we found only one inconsistent response. (In this case, a subject who in 1975 had denied using marijuana that year later claimed to have done so; perhaps his initial response was affected by his commune's having been raided by police searching for drugs just one week prior to the original interview.) Moreover, other retrospective data unrelated to drug use was compared to data gathered in 1974–1975, and a clear pattern emerged: The respondents were able to accurately recall events and the order in which they occurred. They did tend, however, to shift the time of occurrence forward or backward by one or two years. Such a tendency would not affect the analyses presented in this article.

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