SUBSTANCE ABUSE IN CONSTRUCTION

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ABSTRACT: A survey was conducted on contractors, labor union officials, owners, and designers to gather data on the extent and cost of substance abuse in the engineering and construction industry. Approximately 10% of the persons in this industry are perceived as having substance abuse problems with a resulting cost to the industry of approximately $10 billion. Alcohol is the primary problem followed by marijuana and cocaine. The respondents perceive the substance abuse problem to be greater in the industry as a whole than it is in their particular firms. Drug testing is becoming more prevalent, particularly for pre-employment situations. Employee assistance programs are being developed to help workers get help to overcome their problem. Many employers still have the attitude of identify the abusers and terminate them.

INTRODUCTION

There are few statistics available on the extent of substance abuse within the construction industry and programs designed to address it. However, attendees at a workshop on alcohol and drug abuse in the work place sponsored by the Construction Industry Institute in July 1986 indicated that substance abuse is a major problem in the construction industry and that a solution for it must be developed.

The use of illegal drugs such as marijuana and cocaine and the misuse of legal drugs such as alcohol and amphetamines are a societal problem that has been perceived as constituting a significant factor influencing employee effectiveness within construction organizations. Substance abuse is not confined to construction craftsmen, but occurs throughout construction organizations from the carpenter in the field to the project manager in the office to the designer at the computer.

The cost of the problem is significant. There are the obvious costs. People under the influence of drugs, including alcohol, have lower productivity. The National Institute on Drug Abuse estimates that the use of drugs reduces a worker's productivity by 30–50%. Impaired workers are not as careful in their work and cause accidents or bring about safety problems as other workers look out for them. They are late or absent because of hangovers or getting high. They get fired or quit because of their behavior. Some of the less obvious costs are those associated with workers' compensation and health care. The cost of drug use and abuse has been estimated at $100 billion for the American economy. If construction is assumed to represent 5% of the workforce and if it is assumed that employees in the construction industry are no different than those in other segments of the economy, the industry has a cost of $5 billion for the drug problem. This probably understates the cost in construction because of the industry's long history of tolerance of alcohol use and abuse.

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Note. Discussion open until May 1, 1989. To extend the closing date one month, a written request must be filed with the ASCE Manager of Journals. The manuscript for this paper was submitted for review and possible publication on February 22, 1988. This paper is part of the ***Journal of Construction Engineering and Management***, Vol. 114, No. 4, December, 1988. ©ASCE, ISSN 0733-9364/88/0004-0614/ $1.00 + $.15 per page. Paper No. 23014.

According to the National Institute on Drug Abuse, the characteristics and cost impact of a typical drug user are:

1. Born between 1948 and 1965.
2. Is late three times as often as other employees.
3. Requests early dismissals or time off 2.2 times more often.
4. Has two-and-a-half times as many absences of eight days or more.
5. Uses three times the normal level of sick benefits.
6. Is five times more likely to file a worker's compensation claim.
7. Is involved in accidents 3.6 times more often than other employees.
8. Performs at 67% of his or her normal ability.
9. Is more likely to be involved in theft of company property.

These statistics are generic in that they are derived from the entire economy. To develop statistics and information that are specific to the construction industry, the Construction Industry Institute contracted with the Center for Construction Engineering and Management at The University of Michigan to conduct a study of substance abuse in the construction industry. The study was conducted by William F. Maloney.

Study Design

The study consisted of work in six main areas:

1. Survey of available knowledge: Substance abuse is not a recent phenomenon in industry. There are a multitude of organizations involved directly or indirectly with the substance-abuse problem in the industry: substance-abusc treatment centers, employers, labor unions, safety organizations, and governmental and quasi-governmental agencies. Many of these organizations conduct research. Two activities were conducted to gather existing statistics on the problem as experienced in the construction industry: (1) A literature review of prior work, and (2) a survey of relevant organizations to solicit statistics that were not uncovered in the literature survey.
2. Survey of the owner community: Because of the relatively stable nature of their work forces, owners likely have had more experience with substance-abuse programs than have contractors. A survey of Fortune 500 firms was conducted to gather information on policies and programs they employ with regard to substance abuse and any statistics they may have gathered on substance abuse on their construction projects.
3. Survey of the contractor community: Prior to this study, few statistics were available on the extent of the drug problem within the construction industry. Only anecdotal information had been found. Therefore, a sample of contractors was surveyed to determine the extent of substance-abuse problems and the existence of drug policies and programs and contractors' experience with them. Samples were drawn from the following:
    a. 1986 *Engineering News Record* list of the top 400 contractors
    b. The membership of contractor associations that are members of the Contractor Association Advisory Committee (CAAC) of the Construction Industry Institute:
        i. Associated General Contractors
        ii. Associated Builders and Contractors

iii. Mechanical Contractors Association of America
iv. National Electrical Contractors' Association
v. National Insulation Contractors' Association
vi. Sheet Metal and Air Conditioning Contractors' National Association
vii. National Constructors' Assocation—the association elected not to participate in the study.

In addition, a separate survey was conducted of national contractor associations to determine the associations' perceptions of substance abuse and what actions the association has taken to address the substance-abuse issue.

4. Survey of the design industry: Because substance abuse is not limited to the construction site, a survey was conducted of a sample of design firms drawn from the 1986 *Engineering News Record* list of the top 500 design firms.

5. Survey of labor organizations: In the past year, construction labor organizations at both the local and national levels have begun to address the substance-abuse problem. Secretaries of all local and state building and construction trades councils were surveyed to gather information on their perceptions of the substance-abuse issue, policies, and programs that have been adopted to deal with substance abuse, and available statistical information. A separate survey was conducted of the safety and health directors of the international building and construction trades unions to solicit information on their perceptions of the substance-abuse issue and the actions that their unions have taken with regard to it.

6. Case studies of substance abuse programs: Case studies were conducted of several organizations that have established substance-abuse programs to determine how the programs are organized and how they work. The case studies are presented in the Construction Industry Institute report "Substance Abuse in Construction: The Problem and Its Solution" (Maloney 1987).

Results

Literature Review

A detailed review of the literature uncovered very little pertaining to the issue of substance abuse within the construction industry. No published statistics specific to the construction industry were found. There were many generic articles identified as well as numerous publications from organizations such as the National Institute on Drug Abuse.

The majority of articles that were specific to the construction industry were found in *Builder and Contractor,* the monthly publication of the Associated Builders and Contractors (ABC). The ABC was the first contractor association to initiate a program addressing substance abuse. The monthly articles are written by Bruce Wilkinson, a consultant retained by the association to develop its program. Each article covers a different topic with the objective of the series being to increase the awareness of contractors of the problem and to educate contractors on what can be done to address the problem.

Trade union publications also contained articles. These contained few statistics and were intended to present the unions' position on the substance-abuse issue, particularly in terms of drug screening.

In summary, the literature survey identified no substantive pieces on substance abuse in the construction industry. Those articles that were identified were of a journalistic or popular press nature rather than of a research nature.

TABLE 1. Geographic Distribution of Respondents

Region (1)	Contractor* (2)	Labor* (3)	Designer* (4)	Owner* (5)
Northeast[a]	25/10.0	6/10.3	10/19.2	—
Middle Atlantic[b]	47/18.8	5/8.6	13/25.0	1/5.0
South East[c]	42/16.8	5/8.6	13/25.0	2/10.0
Great Lakes[d]	60/24.0	19/32.7	15/28.8	6/30.0
South Central[f]	24/9.6	5/8.6	12/23.1	1/5.0
Rocky Mountain[g]	27/10.8	3/5.2	7/13.5	—
Pacific[h]	43/17.2	9/15.5	10/19.2	1/5.0
National	26/10.4	—	8/15.4	9/45.0
Sample size	2,000	450	200	200
Total respondents	250	58	52	20
Response (%)	12.5	12.9	26.0	10.0

*Number of respondents/% of group.

[a]Northeast: Maine, Vermont, New Hampshire, Massachusetts, Connecticut, Rhode Island, New York.

[b]Middle Atlantic: Pennsylvania, New Jersey, Delaware, Maryland, Virginia, West Virginia, District of Columbia.

[c]Southeast: North Carolina, South Carolina, Georgia, Florida, Alabama, Tennessee, Mississippi, Kentucky.

[d]Great Lakes: Minnesota, Wisconsin, Michigan, Illinois, Indiana, Ohio.

[e]Central: North Dakota, South Dakota, Iowa, Nebraska, Kansas, Missouri.

[f]South Central: Oklahoma, Texas, Arkansas, Louisiana.

[g]Rocky Mountain: Montana, Idaho, Wyoming, Utah, Colorado, Arizona, New Mexico.

[h]Pacific: Washington, Oregon, California, Nevada, Alaska, Hawaii.

Survey of Contractors, Designers, Labor, and Owners

As described in the study design section, a survey of contractors, designers, labor leaders, and owners was conducted to elicit their perceptions of the substance-abuse issue. For contractors, a sample size of 2,000 was employed while samples of 200 were selected for the designer and owner groups. The entire population of 450 secretaries of local and state building and construction trades councils was surveyed. A sampling procedure in which every nth member of the contractor, designer, and owner populations was selected was utilized to establish the samples. The n for each population depended upon the size of the population such that the larger the population the larger the n. A questionnaire was mailed to each firm at the beginning of April 1987 with a follow-up questionnaire being mailed approximately two weeks later. A postcard reminder to complete and return the questionnaire was mailed at the beginning of May 1987. All responses received prior to May 31, 1987, were included in the analysis.

Although the response rates were lower than expected and desired, the respondents constitute a relatively good cross section of the industry. The respondents were asked to indicate their primary areas of operation. As shown in Table 1, there is good geographic dispersion. Tables 2 and 3 indicate a good diversity of contractor respondents by type of construction and by size in terms of dollar volume of business. Large and medium-large contractors, which are more likely to have a substance-abuse problem, are over repre-

TABLE 2. Contractor Respondents by Type of Business

Type (1)	Number (2)
General contractor	98
Mechanical contractor	56
Electrical contractor	27
Insulation contractor	32
Sheet metal contractor	30
Other	24
Total	250

TABLE 3. Contractor Respondents by Volume of Business

Volume (1)	Number (2)
<$500,000	4
$500,000–$1,000,000	21
$1,000,000–$2,500,000	44
$2,500,000–$5,000,000	34
$5,000,000–$10,000,000	28
>$10,000,000	97
Did not answer	22

sented in the study as shown in Table 3. This is true for two reasons: (1) The inclusion of the sample drawn from the *Engineering News Record* 400, and (2) larger contractors are more likely to face the substance-abuse problem and have the staff resources to address it. The average contractor responding employed 498 employees and the range was from 4 to 25,000.

Seriousness and Extent of the Problem

One of the objectives of the study was to assess the perceived seriousness of substance abuse as a problem in the construction industry. To do this, two questions were asked. The first was how serious a problem substance abuse is in the construction industry while the second was how serious a problem substance abuse is in the respondent's company. The respondents were asked to select their answer from one of four potential answers: extremely serious, serious, not very serious, and no problem at all. Each of the potential answers was assigned a point value ranging from 1 for extremely serious to 4 for no problem at all. The number of responses for each answer is presented by group as are the mean response and standard deviation. Means were calculated by summing the values for all responses and dividing by the number of respondents. The smaller the mean, the more serious the substance-abuse problem is perceived to be.

In terms of the construction industry, the owners had a mean of 2.0 indicating that, on average, they considered the problem to be serious (see Table 4). Contractors and labor officials had identical means of 2.4 while designers had an average response of 3.0. The designers indicate that substance abuse is not a very serious problem in the design field. Contractors

TABLE 4. How Serious a Problem is Substance Abuse in the Construction Industry?

Response (1)	Contractors (2)	Labor (3)	Designers (4)	Owners (5)
Extremely serious	11	4	—	2
Serious	136	24	5	14
Not very serious	85	26	38	2
No problem at all	6	1	7	—
Did not answer	12	3	2	2
Mean response	2.4	2.4	3.0	2.0
Standard deviation	0.6	0.7	0.5	0.5

and labor officials perceive the problem to be somewhat more serious in the construction arena. It must be emphasized that these are perceptions of the seriousness of the problem in the entire industry. The mean responses to the second question indicate that the contractors, designers, and owners perceive substance abuse to be less of a problem within their own organizations than it is in the industry (see Table 5). The differences in the mean responses between the two questions may reflect accurate perceptions or may be analogous to the addict's denial of his problems. Further research is needed to establish which of these two potential explanations is the real cause for the differences. There is no difference in the mean responses of the labor officials for the two questions.

A third question on the extent of the problem was asked to assess the seriousness of the substance-abuse problem within construction organizations. Respondents were asked to indicate what percentage of their firm's employees are substance abusers (see Table 6). The contractors and owners indicated that approximately 9–10% of their employees are substance abusers. Consistent with their perceptions that substance abuse is not much of a problem in the design profession, designers report that only 3% of their employees are abusers while labor leaders estimate that 15% of construction personnel are substance abusers. Thus, it may be concluded that somewhere between 9 and 15% of construction personnel are likely to be substance abusers.

TABLE 5. How Serious a Problem is Substance Abuse in Your Company?

Response (1)	Contractors (2)	Labor (3)	Designers (4)	Owners (5)
Extremely serious	2	1	—	—
Serious	51	24	—	9
Not very serious	138	29	33	9
No problem at all	52	1	18	—
Did not answer	7	3	1	2
Mean response	3.0	2.5	3.4	2.5
Standard deviation	0.7	0.6	0.5	0.5

TABLE 6. What Percentage of Your Firm's Employees Would You Say Are Substance Abusers?

(1)	Contractors (2)	Labor (3)	Designers (4)	Owners (5)
Mean response	9.7	15.3	3.1	9.1
Standard deviation	13.6	14.5	3.2	4.5
n	211	52	45	14

Problem Drugs

To determine which drugs are being abused, two questions were asked. The first asked which drugs from a list of eight constitute a major problem while the second asked which drug constitutes the largest problem. Multiple responses were permissible for the first question. Responses to the two questions are presented in Tables 7 and 8. Problems are reported with almost all of the drugs that were included in the list. As would be expected, alcohol represents the largest problem followed by marijuana and cocaine.

Impact and Costs of the Problem

Once the seriousness of the problem and the drugs constituting the problem were determined, the costs of the problem were assessed. The partici-

TABLE 7. Which of the Following Drugs Do You Believe Are the Major Problems for You?

Drug (1)	Contractors (2)	Labor (3)	Designers (4)	Owners (5)
Alcohol	211	54	40	18
Amphetamines/Speed	19	11	—	4
Barbiturates	8	3	—	—
Cocaine/Crack	73	22	10	14
Heroin/Morphine	—	1	—	1
LSD/PCP	4	1	—	2
Marijuana	135	53	17	15
Valium	9	4	5	4
Other	2	—	—	—
n	250	58	52	20

TABLE 8. Which Drug Do You Believe Is the Biggest Problem?

Drug (1)	Contractors (2)	Labor (3)	Designers (4)	Owners (5)
Alcohol	140	29	34	12
Marijuana	23	14	—	1
Cocaine	17	6	3	1
LSD/PCP	2	—	—	—
Valium	1	—	—	—
Did not answer	67	9	15	6
n	250	58	52	20

TABLE 9. How Much Would You Estimate (%) That Substance Abuse Has Increased Costs in the Following Areas?

Area (1)	Contractors (2)	Labor (3)	Designers (4)	Owners (5)
	(*a*) Overall Design/Construction Costs			
Mean	8.4	6.8	1.8	6.4
Standard deviation	8.2	6.7	3.2	3.5
n	163	37	23	7
	(*b*) Health Care Costs			
Mean	16.4	13.5	4.7	12.8
Standard deviation	14.5	11.5	6.7	6.2
n	158	38	29	9
	(*c*) Workers' Compensation Costs			
Mean	17.6	12.2	2.8	10.7
Standard deviation	15.9	10.2	4.1	6.9
n	159	35	28	10
	(*d*) Other Insurance Costs			
Mean	14.4	10.0	4.2	7.5
Standard deviation	16.2	10.4	12.4	3.9
n	119	25	23	6

pants were asked to indicate the effect of substance abuse on costs by estimating the percentage by which four types of costs were higher than in the absence of substance abuse. The responses are presented in Table 9.

As seen by the responses, substance abuse has a significant impact upon construction costs. Contractors estimate that overall construction costs are slightly more than 8% higher because of substance abuse while labor officials and owners believe that costs are roughly 6.5% higher. According to the U.S. Dept. of Commerce, the construction volume in 1987 was approximately $400 billion (Bureau of National Affairs 1988). If we assume that approximately one-third of the volume represents labor costs, it is possible to make the argument that substance abuse represents an $8–$11 billion increase in construction costs. This is higher than the $5 billion estimate discussed in the introduction to this report.

Part of the increased construction cost is comprised of increased insurance costs. According to the contractors, labor leaders, and owners, substance abuse has increased the cost of both health care and worker's compensation by more than 10%. Contractors estimate the greatest increase followed by the labor leaders and then the owner respondents. All three groups, however, are estimating increases of the same magnitude. Substance abuse is estimated to have a lesser effect on other insurance costs with estimated increases ranging from 7.5% by the owners to 14.4% by the contractors.

Designers responding to the survey reported a much lesser effect of substance abuse with overall design costs estimated as being 1.8% higher and health care and workers' compensation costs being 4.7% and 2.8% higher, respectively. These estimates are consistent with the designers' perceptions of substance abuse as a not very serious problem in the design industry.

Increased health care, workers' compensation, and insurance costs are not the only contributors to the estimated increase in overall design and construction costs. Substance abuse also influences costs through increased absenteeism and late starts, lower productivity, and other dysfunctional behaviors. Respondents were asked to indicate the effects of substance abuse on these behaviors by estimating how much each of eight behaviors has increased because of substance abuse. The results are reported in Table 10.

Substance abuse is reported as having a significant influence on each of

TABLE 10. How Much Would You Estimate (%) That each of the Problem Areas Listed below has Increased because of Substance Abuse?

Area (1)	Contractors (2)	Labor (3)	Designers (4)	Owners (5)
		(*a*) Absenteeism		
Mean	18.8	13.6	10.3	10.0
Standard deviation	18.6	10.9	11.5	6.1
n	167	44	26	9
		(*b*) Late Starts		
Mean	16.4	13.8	9.0	8.3
Standard deviation	18.9	12.9	10.9	6.8
n	145	39	25	6
		(*c*) Early Quits		
Mean	13.6	11.0	6.2	5.0
Standard deviation	16.0	11.9	7.2	3.5
n	126	33	21	5
		(*d*) Safety Incidents		
Mean	17.2	9.4	3.6	8.8
Standard deviation	17.9	10.5	6.3	5.8
n	131	32	21	6
		(*e*) Accidents		
Mean	17.1	9.2	4.8	8.1
Standard deviation	18.2	12.5	8.2	7.4
n	144	37	22	8
		(*f*) Injuries		
Mean	14.9	8.0	3.6	6.6
Standard deviation	17.0	9.3	5.9	3.9
n	136	36	21	8
		(*g*) Reduced Productivity		
Mean	16.3	11.9	9.4	9.7
Standard deviation	15.7	11.3	11.2	5.1
n	165	36	25	7
		(*h*) Turnover		
Mean	15.0	13.9	4.3	4.3
Standard deviation	17.5	15.1	5.5	3.6
n	130	37	23	6

the eight behaviors. Contractors estimate that substance abuse increases, on average, these negative behaviors by 13.6%–18.8%. This represents a significant cost impact. The Business Roundtable, in its Construction Industry Cost Effectiveness Project (CICEP) report on absenteeism and turnover (Business Roundtable 1982a) states:

> A conservative estimate of the direct cost effects of absenteeism and turnover, based only on clearly identifiable costs, indicates that a 9% reduction in project labor costs is attainable on a typical job.

The contractors in this study estimate that absenteeism and turnover are approximately one-sixth greater because of substance abuse. Given a $400 billion construction market, the cost savings through reduced absenteeism and turnover by eliminating substance abuse would be $400 billion $\times$ 1/3 $\times$ .09 $\times$ 1/6 = $2 billion. Contractors estimate that productivity is reduced by one-sixth. This translates into an approximate cost of $20 billion. The Business Roundtable in its CICE report on safety (Business Roundtable 1982b) estimated that the cost of accidents is approximately 6.5% of total construction costs. In this study, contractors report that there are 17% more accidents because of substance abuse. This translates into a cost of $4 billion ($400 billion $\times$ 0.065 $\times$ (1 − 1/1.17)). Similar calculations can be performed for each of the behaviors. To paraphrase former Senator Everett Dirksen, a billion here and a billion there and pretty soon we're talking about real money. The point that must be made here is that the costs of substance abuse are substantial.

Labor leaders report increases similar to those of the contractors with the exception of those that are safety related, for which they report increases of approximately one-half those reported by the contractors. This raises an interesting question. Are contractors overstating the impact of substance abuse or are labor leaders understating the effects? Many labor leaders argue that contractors have inadequate safety programs and that, as a result, workers must work in unsafe conditions with the result being more accidents. The issue thus becomes one of whether the safety record is more a function of substance abuse or of inadequate safety programs. The information gathered in this study does not allow conclusions to be drawn.

Owners report increases similar to those of the labor leaders while the designers, for the first time, report similar increases. The one general conclusion that can be drawn from the responses is that substance abuse does have a significant influence on increasing dysfunctional behaviors and, consequently, construction costs.

Responses to the Problem

With the costs of substance abuse being significant, it is necessary to ask what is being done to address the problem. Eleven potential responses to the substance abuse problem were identified and are listed below:

1. Employee Assistance Program—programs that can be run internally by organization personnel or through an outside contractor that are designed to enable troubled employees to receive help for a variety of personnel problems, ranging from alcohol and drug abuse to gambling addition to eating disorders;
2. Company Policy—A specific company policy statement on substance abuse that spells out the company's policy, typically a prohibition on the use of alcohol

and drugs during work hours, and what the company will do to enforce its policy such as the use of drug screening;

3. Supervisory Training—programs designed to train supervisors to identify employees with performance problems and/or substance problems and assist them in getting help;

4. Labor/Management Agreements—agreements negotiated between contractors and labor unions that specifically address substance abuse;

5. Health Promotion—programs designed to promote healthy living and wellness. These programs would address dietary and exercise considerations, smoking, etc.;

6. Prevention/Education—programs designed to prevent workers from engaging in substance abuse by making them aware of the negative effects of substance abuse;

7. Search & Seizures—programs designed to prevent the use of legal and illegal drugs on the job site by searching workers and seizing prohibited items;

8. Testing—the use of drug screening to identify individuals using substances prohibited by company policy;

9. Safety Programs—programs designed to increase workers' awareness of safety in terms of unsafe acts and conditions. These programs would include an attempt to increase awareness of the safety consequences of substance abuse;

10. Law Liaison—programs in which the employer establishes a liaison with local law enforcement agencies such that prohibited items are turned over to the agencies or the agencies notified of workers suspected of substance abuse; and

11. Employee Rehabilitation—programs designed to rehabilitate substance abusers, which may include inpatient and/or outpatient care. These programs would typically be included within health insurance programs.

Each of the respondents was asked to indicate whether they have the particular program, whether they are developing it, or if it is not applicable to their organization. The labor officials were requested to answer in terms of actions being taken by contractors in their area. The responses are presented in Table 11.

For the sake of this analysis, the responses dealing with safety programs will be ignored because of a lack of clarity in the phrasing and a consequent lack of understanding by the respondents. Discussions with some of the respondents revealed that they answered the question by indicating that they have a safety program even though it contains nothing directly related to substance abuse.

The responses reveal that a variety of approaches are being utilized to address the substance abuse problem. Establishment of a company policy is the most widely used approach. Other approaches are indicated as being used independently or in combination. Search & seizure and liaison with local law enforcement officials are the least frequently used approaches. This is most likely due to the fact that search & seizure is extremely confrontational and liaison with local law enforcement agencies carries the possibility of criminal actions. The general conclusion from these responses is that employers are beginning to take positive steps to address the substance abuse problem.

Drug Testing

One of the most controversial approaches to the substance abuse problem is drug testing or screening. Drug screening carries with it some significant

TABLE 11. Please Indicate if You Now Have or Are Considering Any of These Ways of Dealing with Substance Abuse in the Work Place (Please Indicate All that Apply)

(1)	Have (2)	Developing (3)	Not have (4)	Not applicable (5)	DNA[a] (6)
			(*a*) Contractors		
Internal EAP	23	26	129	9	62
Contracted EAP	19	15	132	16	68
Company policy	117	48	43	3	39
Supervisory training	64	48	77	4	57
Labor/management agreements	50	30	75	40	55
Health promotion	36	39	108	6	61
Prevention/education	38	50	99	5	58
Search and seizures	20	12	147	10	61
Testing	35	31	124	9	51
Safety programs	147	15	39	3	46
Law liaison	22	15	143	9	61
Employee rehabilitation	35	25	124	7	59
			(*b*) Labor		
Internal EAP	8	9	21	1	19
Contracted EAP	5	2	29	1	21
Company policy	20	10	12	2	14
Supervisory training	11	8	19	1	19
Labor/management agreements	14	15	14	1	14
Health promotion	7	10	19	1	21
Prevention/education	10	6	23	1	18
Search and Seizures	5	5	27	2	19
Testing	8	13	23	3	11
Safety programs	32	3	7	1	15
Law liaison	5	4	27	1	21
Employee rehabilitation	8	8	24	1	17
			(*c*) Designers		
Internal EAP	5	3	28	6	10
Contracted EAP	4	6	25	4	13
Company policy	13	7	21	4	7
Supervisory training	8	7	22	4	11
Health promotion	7	8	19	4	14
Prevention/education	4	5	25	4	14
Search and seizures	—	—	34	5	13
Testing	1	2	31	5	13
Safety programs	10	2	23	5	12
Law liaison	—	—	35	4	13
Employee rehabilitation	5	2	30	5	10
			(*d*) Owners		
Internal EAP	12	—	4	—	4
Contracted EAP	9	2	4	—	5
Company policy	14	3	1	—	2
Supervisory training	14	3	—	—	3
Health promotion	12	1	3	—	4
Prevention/education	10	—	6	—	4
Search and seizures	2	1	11	—	6
Testing	9	4	4	—	3
Safety programs	14	1	—	—	5
Law liaison	6	—	8	—	6
Employee rehabilitation	12	—	4	—	4

legal questions. When asked whether they are using testing, 35 contractors responded in the affirmative while 8 labor officials responded that contractors in their area are using it, 1 designer reported employing it, and 9 owners. Numerous respondents reported that they are considering implementing a testing program.

There are five instances when drug testing may be employed:

1. Pre employment—when the worker has applied for the job. Passing the drug screen is a requirement for employment;
2. Random—a drug screen is administered on a random basis to all members of the organization;
3. Accident—individuals involved in an accident are tested;
4. Cause—a drug screen is administered when company supervision has reason to believe that a person may be under the influence of a drug; and
5. Annually—a drug screen is administered as part of an annual medical examination or physical.

To determine the extent of drug testing, the respondents were asked to indicate when they test and which groups of employees they test. The responses are presented in Table 12 by group.

The results indicate that testing is more prevalent in owner organizations and that pre-employment testing is the primary testing being done in all these types of organizations. This is because, as applicants, the individuals are not company employees, which eliminates some of the employee relations problems that may accompany testing. Pre-employment drug testing also allows the identification of drug users and prevents them from being hired by the firm. Testing for cause and for accidents are the next most frequently used instances for drug testing. Random testing is used in some companies but the instances of its utilization are less frequent. Annual testing is the least frequently performed, most likely because of the transient nature of the construction industry.

If pre-employment testing is used, the natural question is what percentage of people test positive. The responses to this question are presented in Table 13.

The responses from the contractors and owners are almost identical in saying that approximately 10% of the people tested test positive. Labor leaders report a slightly higher percentage. These figures are consistent with those reported in other studies.

The respondents were asked to indicate what happened to persons testing positive for drugs. In general, after the positive tests were confirmed, applicants were not hired and employees were directed to EAP or rehabilitation programs.

One last question on testing was asked and it dealt with the levels in nanograms used to screen for marijuana usage. The lower the level, the more stringent the screen. The levels used are reported in Table 14.

Employment Consequences

The last two questions asked whether the respondent would hire a person who was a known alcohol and/or drug abuser and whether they would hire a recovering alcoholic or drug addict (see Tables 15 and 16). All four groups overwhelmingly indicated that they would not hire a known alcohol/drug

TABLE 12. If You Use Drug Testing, Please Indicate when You Test and Which Groups of Employees are Tested

Employees (1)	Preemployment (2)	Random (3)	Accidents (4)	Cause (5)	Type of Testing: Annual (6)	Type of Testing: None (7)
(*a*) Contractors, $n = 250$						
All	24	14	22	19	4	8
Craft	17	11	12	12	3	6
Professional and Managerial	13	7	7	10	2	8
Clerical	13	7	7	9	2	8
(*b*) Labor, $n = 58$						
All	10	3	4	6	1	10
Craft	6	5	2	3	1	9
Professional and Managerial	5	2	1	2	—	9
Clerical	4	2	—	1	—	9
(*c*) Designers, $n = 52$						
All	2	—	—	—	—	11
Managerial	—	—	—	—	—	11
Professional	—	—	—	—		11
Clerical	—	—	—	—	—	11
(*c*) Owners, $n = 20$						
All	10	—	6	7	—	—
Production	5	—	3	3	—	—
Professional and Managerial	5	—	3	3	—	—
Clerical	5	—	3	3	—	—

abuser. However, if the person is a recovering alcoholic or drug addict, the great majority of respondents indicated that they would hire him.

Several people made a distinction between alcoholics and drug addicts in that they would hire a recovering alcoholic but not a recovering drug addict. Even though alcohol is a drug and there is no difference in the nature of the chemical dependency, some people believe drug addiction is more serious than alcoholism and that people using drugs are somehow lower class human beings than people using alcohol. This may be a function of alcohol being a legal drug.

TABLE 13. If You Do Pre-employment Testing, What Percentage of People Test Positive?

(1)	Contractors (2)	Labor (3)	Designers (4)	Owners (5)
Mean	10.7	14.0	2.0	11.0
Standard deviation	7.4	17.1	—	8.2
n	25	7	1	10

TABLE 14. At What Level (in nanograms) Do You Test for Marijuana Use?

(1)	Contractors (2)	Labor (3)	Designers (4)	Owners (5)
20	4	—	—	2
50	6	—	—	—
70	1	—	—	—
100	6	—	—	—

International Union and Contractor Association Survey

The fifteen building and construction trades unions as well as the Teamsters union and forty-five contractor associations were surveyed to obtain answers to the following questions:

1. Do you believe substance abuse, which for the purposes of this study is defined as the abuse of alcohol and legal drugs and the usc of illegal drugs, is a problem within the construction industry?
2. Do you have any statistics that may indicate the extent of the problem?
3. What is your organization doing about substance abuse? Have you established formal programs dealing with it? Have you established employee assistance programs? What specific actions has your organization taken?

Three of the sixteen unions and nine of the forty-five contractor associations responded to the survey. The responses to the survey are presented below.

Is Substance Abuse a Problem?

Two of the three union respondents indicated that substance abuse is not a problem in the construction industry. To quote one of the respondents:

> The Building and Construction Trades Department has hit the nail right on the head when it correctly points out that more accidents, injuries, and fatalities occur on job sites as a result of OSHA safety violations

TABLE 15. Would You Hire a Person Who is a Known Alcohol/Drug Abuser?

(1)	Contractors (2)	Labor (3)	Designers (4)	Owners (5)
Yes	14	3	—	1
No	206	9	44	16

TABLE 16. Would You Hire a Person Who Is a Recovering Alcoholic or Drug Addict?

(1)	Contractors (2)	Labor (3)	Designers (4)	Owners (5)
Yes	157	11	29	11
No	50	1	12	4

and lack of education and training than will ever be caused by 'substance abuse' or impairment.

The third union respondent, a representative of the Sheet Metal Workers indicated that substance abuse is a problem.

The contractor association respondents reported that their associations either perceived substance abuse as a problem or did not have enough information to draw a conclusion.

Statistics on Substance Abuse

None of the union or contractor respondents reported that they had any statistics on the extent of substance abuse in the construction industry.

Specific Actions

All three unions reported that they have worked with the Building and Construction Trades Department in the establishment of the Department's Safety, Health and Substance Resolution (adopted January, 1987), Substance Impairment Policy Statement (January, 1987), and a proposed Safety and Health Agreement, which contains Article II—Alcohol and Drug Policy. In addition, the three unions conduct education programs and provide access to an employee assistance program. The Sheet Metal Workers International Association (SMWIA) has formalized its actions by creating a new division within the international union to address substance abuse issues. The SMWIA's actions with the Sheet Metal and Air Conditioning Contractors National Association (SMACNA) are reported below.

Six of the nine contractor associations responding to the survey reported that they have not taken any specific actions other than some of them holding a session at their annual conventions to increase the awareness of substance abuse. The three remaining associations were the Associated General Contractors of American, Inc. (AGC), the Mechanical Contractors Association of America (MCAA), and the SMACNA. These associations have taken positive actions.

The MCAA established a Substance Abuse Task Force to compile information on what chapters are doing. The MCAA issued a policy statement of substance abuse in the construction industry and recommends that local labor/management groups: (1) Issue a joint statement which addresses substance abuse and how it adversely affects safety and job site performance; and (2) develop drug and alcohol treatment programs within existing health and welfare benefit plans. In addition, five of the association's 70 state and local chapters have established employee assistance programs to provide counselling for workers. Ten more chapters are considering developing such programs.

The AGC developed a 54 page guide titled "Guide to Drug-Free Job sites" to provide assistance to AGC members desiring to establish a company substance abuse program. The guide has six sections: (1) Background of the substance abuse problem; (2) the substance abuse problem and management options in dealing with it; (3) legal aspects of a drug-free environment and specifically drug testing; (4) elements of a drug program; (5) substance abuse and collective bargaining; and (6) a list of resources. An appendix to the guide contains sample company policies, job site notices, authorization forms and supervisory guidelines. In addition, the association has produced a one

and one-half hour videotape on the drug free work place. Convention sessions have been held to highlight what local chapters and contractors have done to address the problem.

SMACNA together with the Sheet Metal Workers has developed an Alcohol/Substance Abuse program that operates with the policy "to eliminate alcohol/chemical substance abuse in the work environment by lending a helping hand to our members/employees." The parties have produced a manual and a videotape to foster the development of the program. The objective of the program is to develop local employee assistance programs. The SMWIA and SMACNA are at the forefront in labor-management cooperation in addressing the problem of substance abuse.

Other contractor associations have or may have taken specific actions to address the substance abuse problem, but did not respond to the request for information about what they have done. For example, the Associated Builders and Contractors was the first contractor association to take action on substance abuse, but the association failed to provide any information on what it was doing.

Conclusion

The study reported here is an initial study of the issue of substance abuse in the construction industry. Because of the response rate, conclusions should only be drawn with great care. However, the data do indicate that substance abuse is a problem and a costly problem within the construction industry. Alcohol is the largest problem. Employers in the construction industry need to develop programs to identify and rehabilitate individuals with substance abuse problems. The United States Department of Labor indicates that the construction industry will have a shortage of approximately one million workers in the early 1990's. This shortage can be reduced by rehabilitating substance abusers and returning them to the industry as productive employees.

Acknowledgments

The work reported here was performed under a grant from the Construction Industry Institute to The University of Michigan. The findings and conclusions reported here are those of the writer and do not necessarily represent the views of the Construction Industry Institute.

Appendix. References

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