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by [Olkinuora M](#)

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Alcoholism and occupation

by Martti Olkinuora, MD¹

OLKINUORA M. Alcoholism and occupation. *Scand J Work Environ Health* 10 (1984) 511—515. Occupational roles are a dominant force in many aspects of social life. Occupation signifies a complex of social and psychological factors that reflect intelligence, education, personality, ambition, social status, and life-style. The consumption of alcohol and alcoholism have many correlations with occupational roles. Mortality from cirrhosis of the liver reflects the per capita consumption of alcohol. In certain occupations such mortality rates are clearly above average. The highest risk is found in occupations associated with the serving of food and beverages. A Finnish study has shown that the alcohol-related use of health services among males is the highest among unskilled workers, painters, seamen, and construction workers and the lowest among executives and farmers. Many population studies have shown that blue-collar workers and laborers have the highest level of drinking. This pattern is not necessarily true among females. The risk factors associated with occupation include the availability of alcohol at work, social pressure to drink on the job, separation from normal social relationships, and freedom from supervision. The opportunity to obtain alcoholic beverages relatively inexpensively, when combined with social pressure by peers to drink heavily, is an especially powerful explanation for high rates of alcoholism within an occupation.

Key terms: heavy drinking, problem drinking, social class.

Alcoholism is widely seen as a multietiological phenomenon to which genetic, biological, social, and psychological factors contribute. Occupation means a complex of social and psychological factors that reflect intelligence, education, personality, ambition, social status, and life-style.

The relationship between occupation and alcoholism received considerable attention during the 1970s, mainly because of the ascendancy of the idea that the potentially most favorable intervention with a problem drinker could take place through identification at the workplace. Occupational roles are a dominant force in many aspects of social life in both Western and other societies. As this force is associated with a number of social concerns that range from population dynamics and divorce rates to suicide rates and other forms of self-destructive behavior, understanding the role of occupation in the etiology of social problems is both important and useful (14).

Mortality statistics

Despite certain inaccuracies, it is widely accepted that variation in the prevalence of death from cirrhosis of the liver reflects the true variation in the prevalence of alcohol consumption.

Countries with a high per capita consumption of alcohol have a high mortality from liver cirrhosis (eg, France, Italy, Portugal, and Spain). The opposite is true for countries with a low per capita consumption of alcohol (eg, Sweden, The Netherlands, Finland, and Norway) (2).

The 20 occupations with the highest rates of liver cirrhosis in England and Wales are shown in table 1. The table shows that the mortality rates of the occupations in the table range from 2.7 to 15.8 times the average. Occupations concerned with the service of food and beverage account for 6 of the top 20 occupations. Another six occupations with a high stan-

Table 1. Standardized mortality ratio (SMR) for liver cirrhosis according to occupation — England and Wales, 1970—1972 (7).

Occupation	SMR
Average occupation	100
Publicans, innkeepers	1 576
Deck, engineering officers and pilots, ship	781
Barmen, barmaids	633
Deck and engine room ratings, barge and boatmen	628
Fishermen	595
Proprietors and managers, boardinghouses and hotels	506
Finance, insurance brokers, financial agents	392
Restaurateurs	385
Truck drivers' mates, van guards	377
Cooks	354
Shunters, pointsmen	323
Winders, reelers	319
Electrical engineers (so described)	319
Authors, journalists and workers in related occupations	314
Medical practitioners (qualified)	311
Garage proprietors	294
Signalmen and crossing keepers, railroads	290
Maids, valets, and workers in related services	281
Tobacco preparers and product makers	269
Metallurgists	266

¹ Department of Occupational Medicine, Institute of Occupational Health, Helsinki, Finland.

Reprint requests to: Dr M Olkinuora, Institute of Occupational Health, Haartmaninkatu 1, SF-00290 Helsinki, Finland.

dardized mortality ratio concerned transport. White-collar occupations are also represented.

Mortality statistics from the United States for 1959 revealed that the occupations with standardized mortality ratios (SMR) above average for liver cirrhosis were waiters, bartenders, and counter workers (SMR = 392), longshoremen and stevedores (SMR = 342), transport laborers (SMR = 314), cooks (SMR = 278), and musicians (SMR = 278) (3).

Table 2. Days of alcohol-related hospital care and visits to outpatient clinics per year among men in proportion to every 1 000 representatives (over the age of 15 years) of their respective occupational group (11).

Occupational group	Days of hospital care	Visits to outpatient clinics
Unskilled workers	5 376	904
Painters	2 400	533
Seamen	2 175	323
Construction workers	2 033	490
Forestry and floating workers	1 946	125
Operators	1 919	655
Artists, authors, journalists	1 634	268
Dockers and warehouse workers	1 404	313
Shopkeepers	1 348	275
Textile workers	1 281	154
Molders	1 172	188
Salesmen	889	137
Woodworkers	847	176
Architects, engineers, technicians	836	111
Iron and metal ware workers	806	225
Policemen and guards	643	133
Transport service personnel	615	64
Agricultural workers	532	32
Electrical workers	528	178
Shop personnel	452	84
Chauffeurs and railroad engineers	448	132
Administrative and technical executives	320	129
Farmers and farm managers	311	39

Table 3. Sum of days of alcohol-related hospital care and visits to outpatient clinics per year among women in proportion to 1 000 representatives (over the age of 15 years) of their respective occupational group (11).

Occupational group	Days of hospital care + visits to outpatient clinics
Unskilled workers	431
Architects, engineers, technicians	284
Iron and metal ware workers	148
Construction workers	116
Artists, authors, journalists	108
Electrical workers	69
Dockers and warehouse porters	46
Housekeepers	27
Shopkeepers	25
Waiters	23
Operators	16
Workers in the fields of hygiene and cleaning	14
Shop assistants	12
Clerks	12
Textile workers	11
Transport service personnel	10
Health care personnel	7
Teachers	7
Farmers' wives	6

An exhaustive literature review of mortality statistics has been presented by Whitehead & Simpkins (14).

Use of health services

Several studies have shown that individuals from certain occupations (executives, seamen, service personnel, and commercial travelers) are overrepresented among those referred to alcoholism treatment agencies (8). In Finland an extensive study (11) on the alcohol-related use of health services revealed that, for men, the number of days of hospital care due to alcohol and the number of visits to outpatient clinics for the same reason were the highest among unskilled workers, followed by painters, seamen, and construction workers, and the lowest among administrative and technical executives and farmers (table 2). Unskilled workers were also the highest ranking group for women; the lowest ranking groups were health workers, teachers, and farmers' wives (table 3). The total use of health services for this reason was considerably lower among women. (Because of the low number of cases the days of hospital care and the number of visits to outpatient clinics have been combined for the women.)

Population studies

In a national survey of drinking practices throughout the United States in 1964–1965 with a random sample representative of the adult household population, the highest proportion of abstainers was farm owners. Professional families had a slightly higher proportion of drinkers than did business people, the latter having relatively higher proportions of both heavy drinkers and heavy-escape drinkers. Operative (semiskilled workers), semiprofessional, technical, and service workers (including domestics) were somewhat above average in their proportions of heavy and heavy-escape drinkers (1) (table 4).

Job characteristics and drinking practices were studied in the Boston metropolitan area (4). Among the men, blue-collar workers and laborers had the highest levels of drinking (table 5). The differences between laborers and blue-collar workers and the rest of the sample remained even when men under the age 25 years were considered separately. No evidence was found to support the contentions that social isolation predisposed workers to heavy drinking or that people with flexible work schedules drank more.

The Finnish Foundation for Alcohol Studies has carried out a study to determine changes in Finnish drinking habits since 1969, when more liberal legislation was enacted on alcohol distribution. Nearly 3 000 persons from 15 to 69 years of age, who represented the entire Finnish population, were inter-

Table 4. Drinkers, heavy drinkers, and heavy-escape drinkers by occupation (1).

Chief breadwinner's occupation	Total sample (N)	Drinkers		Heavy drinkers ^a (%)	Heavy-escape drinkers ^{a, b} (%)
		N	Percent		
Professional	288	234	81	11	6
Manager, proprietor, official	512	382	75	20	10
Semiprofessional, technician	81	60	78	21	11
Farm owner	134	54	42	14	5
Clerk	217	155	70	16	9
Sales person	141	113	79	14	7
Craftsman, foreman	558	366	66	17	8
Operator	471	287	62	24	14
Service worker	179	106	61	23	10
Laborer (including farm labor)	149	83	57	18	11

^a Base: total number of drinkers.

^b The respondent was classified as an escape drinker if he chose two or more of five items reflecting "escape reasons" (eg, "I drink when I want to forget everything").

Table 5. Percentage of abstainers and mean number of drinks per day by sex and occupational group (4).

Occupational group	Number		Abstainers (%)		Mean number of drinks per day	
	Men	Women	Men	Women	Men	Women
Professionals, technical workers	519	447	47	51	1.1	0.7
Self-employed, managerial personnel	229	110	36	42	1.3	0.8
Clerical and sales personnel	247	660	44	53	1.0	0.6
Skilled workers	272	24	31	50	1.4	0.6
Semiskilled workers	182	87	34	31	1.3	0.6
Service personnel	182	247	35	39	1.3	0.6
Unskilled workers	71	6	21	50	1.8	0.4
Total	1 772	1 581	16	26	1.2	0.7

viewed in the autumn of 1976 (12). Some of the results are presented in table 6.

It was revealed that the consumption of alcohol and the proportion of consumption for intoxication varied greatly in different occupational groups among both men and women (tables 7 & 8). Whereas male professionals consumed 506 cl of absolute alcohol yearly and the proportion of consumption for intoxication was 44 %, the corresponding figures for blue-collar workers were 760 cl and 74 %. Among women consumption was the highest among professionals, but blue-collar workers still had a higher proportion of consumption for intoxication.

Studies of social class factors in alcoholism often yield contradictory results. Some well-planned and well-executed studies have shown a higher incidence of heavy drinking at the higher socioeconomic levels; there are equally solid studies which have produced opposite results (6).

In any case, the annual incidence of alcoholism among men in a Swedish community cohort (N = 2 550), prospectively observed between 1957 and 1972, was found to be the highest for blue-collar workers (340 per 100 000). The rate was much higher than for self-employed businessmen, artisans, and farmers (230 per 100 000) or for white-collar employees (190 per 100 000). The findings support earlier suggestions that class creates alcoholics at different rates (5).

Table 6. Changes in Finnish drinking habits from 1969 to 1976 (12).

	1969	1976
Abstainers (percentage of total)		
Women	35	20
Men	9	9
Consumption for intoxication (percentage of total consumption)		
Women	26	39
Men	58	65
Amount consumed by women (percentage of total)	17	21
Female users' annual consumption (percentage of male users' consumption)	27	29

Risk factors in occupations

After a review of the extensive literature on the subject, the following eight factors emerged as the most commonly suggested explanations of why certain occupations have high rates of alcohol-related problems (8): (i) availability of alcohol at work (eg, the drink trade), (ii) social pressure to drink at work (eg, servicemen, seamen), (iii) separation from normal social or sexual relationships (eg, servicemen, seamen, commercial travelers), (iv) freedom from supervision (eg, executives, doctors, lawyers), (v) very high or very low income levels (eg, professionals, the unemployed, unskilled workers), (vi) col-

Table 7. Annual consumption of alcohol (centiliters of absolute alcohol) among urban men over 20 years of age according to their occupation in 1976 (12).

Occupational status	N	Consumption for intoxication (cl)	Other consumption (cl)	Total consumption (cl)	Proportion of consumption for intoxication (%)
Self-employed	62	434	145	579	75
Professionals	231	223	283	506	44
Workers	299	562	198	760	74
Others	74	489	219	708	69
Total	666	424	226	650	65

Table 8. Annual consumption of alcohol (centiliters of absolute alcohol) among urban women over 20 years of age according to their occupation in 1976 (12).

Occupational status	N	Consumption for intoxication (cl)	Other consumption (cl)	Total consumption (cl)	Proportion of consumption for intoxication (%)
Self-employed	28	23	98	121	19
Professionals	351	75	139	214	35
Workers	212	85	87	172	49
Others	90	29	86	115	25
Total	681	70	114	184	38

lusion by colleagues (fear of dismissal or exploitation of a colleague's incapacity), (vii) strain and stress [eg, danger (seamen, servicemen), responsibility (doctors, lawyers, executives), job insecurity (actors), boredom, etc], and (viii) recruitment of "unusual people" predisposed to heavy drinking (eg, the Merchant Navy).

In an attempt to ascertain whether a high-risk occupation attracts individuals who are already heavy drinkers or "alcoholics" or who appear likely to become such and to examine the effects of "high-" and "low-risk" work situations over time on drinking habits, the alcohol-related problems of 150 new recruits to a "high-risk" industry (alcohol production) were compared with a reference group of 150 men newly recruited to "low-risk" jobs. Initial data (at the start of employment) indicated that the former were significantly heavier drinkers with poorer employment records. Follow-up interviews one year and two to three years later indicated that the current type of job was closely associated with alcohol consumption and alcohol-related problems.

Roman & Trice (10) have pointed out that most adult males who are deviant drinkers occupy work roles throughout most of the period during which their drinking turns into alcohol addiction. There are two general categories of risk factors relevant to their work organizations, absence of supervision and low visibility of job performance. The nine occupational risk factors are: (i) nebulous production goals, (ii) flexible work hours, (iii) low visibility of work performance, (iv) work addiction, (v) occupational obsolescence, (vi) novel work status, (vii) drinking as part of the regular work role, (viii) mutual benefits, and (ix) reduced social control.

According to Von Wiegand's studies (13) about alcoholism in industry in the United States only three variables have been found that affect the prevalence of alcoholism in any given company. They are: (i) the male-female sex ratio of the employee population (the prevalence increasing of course as the ratio of the male population rises); (ii) the average age of the employee population (the incidence rising with the average age); and (iii) the company's degree of permissiveness in tolerating incidents of unsatisfactory attendance, behavior, or job performance before discharging problem employees (the incidence rising with the degree of permissiveness).

A thorough analysis of 39 structural characteristics of occupations specified in the literature as associated with elevated rates of alcoholism revealed that the opportunity to obtain alcoholic beverages relatively inexpensively is one of the most important factors affecting the rate of alcoholism and the consumption of alcohol (14). However, this factor, in combination with social pressure by peers to drink heavily — especially in a work milieu tolerant of heavy drinking and characterized by a preponderance of young workers, is an especially powerful explanation of high rates of alcoholism and consumption within an occupation.

Discussion

Alcoholism — no matter how it is defined — is an enormous problem in worklife. The National Council of Alcoholism in the United States conducted a study that revealed alcoholism in at least 5.3 % of the total labor force, ie, approximately 4 million em-

ployed alcoholics in the United States (13). From the studies reviewed, it seems that certain occupations entail a greater risk of alcoholism than others. Whether these "risk occupations" attract people predisposed to become alcoholics or whether these occupations "cause" alcoholism is an open question. Plant's study (8) lends support to both directions. Major changes in drinking habits occurred with changes in job status; and levels of consumption, perceptions of the use of alcohol at work, and alcohol-related problems were largely determined by current occupational circumstances.

Heavy drinking and alcoholism as a problem of worklife call for preventive efforts and treatment. As Von Wiegand (13) says, industry provides the single most effective tool to motivate the alcoholic to accept treatment. However, greater proscription against heavy drinking and drinking on the job, as well as a decreased accessibility to alcoholic beverages, go a long way toward reducing the prevalence of heavy drinking and alcoholism in occupational categories associated with high rates of drinking and health damage (14). One attempt to solve this problem has been the building up of systems for the referral of problem drinkers to treatment, based on agreements at each workplace. This kind of system, based on the recommendations of central worker and employer organizations, was established in Finland in 1972 (9).

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