

# Type of Employment and Occupational Demands: Association with Alcohol, Tobacco and Cannabis Use among Working Men and Women

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## INTRODUCTION

Temporary employment is increasing in the developed world. In 2005, 14.5% of workers in the EU25 countries had a temporary job [1]. Temporary employment is associated with erosion of income, job insecurity, lack of prospects for promotion, and exposure to hazardous work conditions. It often results in psychological morbidity, occupational injury, and antidepressant use, particularly among men in lower grade occupations [2]. Freelance employment may mean freedom and independence, but also brings isolation. There is very little research in this occupational group, but an increased risk of alcohol abuse has been reported [3]. Furthermore, job-related strains and stress may directly contribute to poor health [4-6] and favour harmful behaviours such as use of tobacco, alcohol or cannabis [7-9].

Men and women differ greatly in their occupations, domestic activities, social roles, and the associated physical and psychosocial risk factors for substance use [10-13]. As the employment rate among women has increased over recent decades in France, gender inequalities in income and occupation are slowly narrowing [14]. Against that background, gender differences in occupational health and drug abuse have been little explored. A better understanding of the role of these factors among men and women might help prevent tobacco, alcohol and cannabis use, and the morbidity with which they are related.

The present study explores the association between working conditions and alcohol abuse, daily tobacco use, and previous-year cannabis use in a representative sample of the French national working population with the objectives of (1) distinguishing, on one hand, between short-term employment, freelance occupation and permanent employment, and on the other hand, between various job-related strains and demands, and (2) assessing the associated risks in men and women separately.

## METHODS

### Study Design

The Health Barometer 2005 was a nationwide telephone survey conducted from December 2004 to January 2005 among French speaking people aged 12-75 years. The focus here is on 13,241 subjects aged 18-59 years who were working at the time of the survey.

The investigation was approved by the *Commission Nationale de l'Informatique et des Libertés*. The complete methodology has been published elsewhere [15].

### Measures

Outcome variables were current daily tobacco use, previous-year cannabis use and alcohol abuse defined using the Audit-C test [16] with a score of 5 or over for women and 6 or over for men. Independent variables were: type of employment (long term, short term including interim, freelance) and occupational demands derived from the Karasek Job content questionnaire [6,17]. The following covariates were considered as potential confounders: occupational type of employment, age, gender, educational level, marital status, and income.

### Data analysis

The relationships between each outcome variable and the independent variables and covariates were first assessed with the  $\chi^2$  independence test then with logistic regression models, separately for men and women. All analyses were conducted using the SAS V9.1 statistical package.

## RESULTS

The sample included 6094 men and 7147 women. Men are over represented among craftsmen and executive and managerial occupations as well as manual workers. 11.1% of men and 14.8% of women were in short-term employment, and 8.5% and 5.8%, respectively, were freelance professionals. About one quarter of subjects reported being exposed to physical occupational demands (26.3% of men and 27.1% of women), time pressure (24.4% and 23.4%, respectively) or lack of rest (23.1% of both sexes). About 17% of subjects suffered from psychological occupational demands (17.3% of men and 16.4% of women) and from job dissatisfaction (17.8% and 16.9%, respectively). Not learning new things affected 17.6% of men and 19.2% of women. Alcohol abuse was recorded in 20.4% of men and 7.5% of women ( $p < 0.001$ ), daily tobacco use in 32.1% and 24.2% ( $p < 0.001$ ), and previous-year cannabis use in 9.2% and 3.3% ( $p < 0.001$ ). The prevalence of daily tobacco use decreased steadily with increasing age, and previous-year cannabis use occurred overwhelmingly more often among younger workers.

As shown in Table 1, the risk patterns of occupational demands varied greatly with the substance and differed between men and women. Controlling for socioeconomic confounders had varying effects on the odds ratios. Alcohol abuse related only to job dissatisfaction, with a similar odds ratio of 1.2 for both men and women. That did not change when controlling for socioeconomic confounders. Among men, daily tobacco use related to physical demands, psychological demands and job dissatisfaction, and the odds ratios did not change when controlling for confounders. Among women, daily tobacco use related to physical demands, time pressure and lack of rest in the week, and the odds ratios did not change when controlling for confounders. Previous-year cannabis use related to time pressure and, particularly, to job dissatisfaction among men, but to time pressure and lack of rest among women. It also related to physical demands among men and to psychological demands among women, but with odds ratios  $< 1$ .

Short-term employment was associated with a 2.2-fold higher risk for previous-year cannabis use in men, and with a 1.3-1.4-fold higher risk for alcohol abuse and daily tobacco use in both sexes. Adjusting for socioeconomic covariates did not change the odds ratios. Freelance occupation was associated with a 1.5-1.9-fold higher risk for daily tobacco use and previous-year cannabis use in men when adjusting for socioeconomic covariates.

## DISCUSSION

Alcohol abuse, daily tobacco use and previous-year cannabis use related differently to different types of employment and occupational demands, and the risk patterns clearly varied between working men and women. Workers in short-term or freelance employment, or exposed to a number of occupational demands are at increased risk of alcohol, tobacco and cannabis consumption. These behaviours may be used to cope with job insecurity [2]. These issues particularly affect young adults (aged under 30) who are more likely to live alone and to suffer from adverse working conditions and exhibit unhealthy behaviours [4, 7]. Freelance work was associated with a 1.3-fold increase in risk of daily tobacco use and previous-year cannabis use only among men, and controlling for socioeconomic covariates increased the risk to 1.5- and 1.9-fold, respectively. In common with Pazarlis et al. in Greek adults [3] we found an excess of alcohol abuse among freelance professionals compared with workers with permanent jobs in univariate analysis, but the effect disappeared when controlling for socioeconomic covariates.

The gender differences may be explained by the lower physical strength of women although many jobs can be done by either sex, or by the overloading of social roles held by women, who are far more involved in domestic activities than men [14]. Fifth and finally, job dissatisfaction was associated with a particularly high risk (1.9-fold) of cannabis use among men, independent of all study covariates. This study shows that job dissatisfaction among men is associated with use of all three substances, whereas among women dissatisfaction is associated only with alcohol abuse. Specific studies are needed to explore this issue.

This work has some limitations. First, because of the cross-sectional design, no formal conclusions can be drawn about the causality of the associations. Current drug use may result from habits acquired in adolescence which have limited job opportunities in adulthood. Adults who use drugs may find more difficulty getting better jobs, and people forced to endure hard conditions or uninteresting work may use drugs to cope. The contexts in which substances were used were not considered: people may use them alone, with their peers, or with colleagues at job-related events. Second, this study focused on French-speaking people with a fixed phone line. However, selection bias would be small because that group represented 86% of the French population in the year 2005.

**Table 1** Occupational demands as risk factors of alcohol abuse, daily tobacco use and previous-year cannabis use: adjusted odds ratios and 95% confidence intervals computed with logistic regression models

	Men (n=6094)						Women (n=7147)					
	Alcohol abuse		Daily tobacco use		Previous-year cannabis use		Alcohol abuse		Daily tobacco use		Previous-year cannabis use	
Physical demands (1)	0.97	0.84-1.13	<b>1.16</b>	1.01-1.32	<b>0.71</b>	0.57-0.89	0.97	0.78-1.19	<b>1.37</b>	1.20-1.56	1.09	0.81-1.47
	(2)	0.96	0.82-1.12	<b>1.22</b>	1.07-1.40	0.85	0.67-1.07	0.93	0.75-1.15	<b>1.43</b>	1.25-1.63	1.19
Time pressure (1)	1.04	0.89-1.21	1.08	0.95-1.23	<b>1.30</b>	1.06-1.60	1.10	0.89-1.36	<b>1.29</b>	1.13-1.47	<b>1.34</b>	1.00-1.80
	(2)	1.06	0.91-1.23	1.04	0.91-1.19	1.11	0.89-1.37	1.10	0.89-1.36	<b>1.28</b>	1.12-1.46	1.22
Psychological demands (1)	1.06	0.90-1.26	<b>1.35</b>	1.16-1.56	1.05	0.82-1.34	1.25	0.97-1.60	1.04	0.89-1.22	<b>0.63</b>	0.42-0.95
	(2)	1.06	0.89-1.25	<b>1.31</b>	1.12-1.52	1.03	0.79-1.33	1.28	0.99-1.64	1.01	0.86-1.18	<b>0.65</b>
Lack of rest each week (1)	1.03	0.89-1.20	1.03	0.90-1.18	1.22	0.99-1.50	0.99	0.80-1.23	<b>1.23</b>	1.08-1.40	<b>1.47</b>	1.11-1.96
	(2)	1.04	0.89-1.20	1.00	0.87-1.14	1.11	0.89-1.37	0.99	0.80-1.23	<b>1.15</b>	1.01-1.31	1.25
Job dissatisfaction (1)	<b>1.23</b>	1.04-1.45	<b>1.26</b>	1.09-1.46	<b>1.71</b>	1.38-2.13	<b>1.26</b>	1.00-1.60	1.01	0.87-1.18	1.19	0.85-1.67
	(2)	<b>1.22</b>	1.04-1.44	<b>1.29</b>	1.11-1.49	<b>1.93</b>	1.52-2.43	1.23	0.97-1.55	1.02	0.88-1.19	1.23
Not learning new things (1)	1.06	0.90-1.25	1.10	0.95-1.27	0.81	0.63-1.04	0.93	0.73-1.18	1.08	0.93-1.24	0.89	0.63-1.27
	(2)	1.03	0.87-1.22	1.10	0.95-1.28	0.90	0.69-1.16	0.96	0.75-1.22	1.06	0.92-1.23	1.07
Short-term employment <sup>a</sup> (1)	<b>1.27</b>	1.05-1.55	<b>1.40</b>	1.18-1.67	<b>2.20</b>	1.74-2.78	<b>1.37</b>	1.08-1.73	<b>1.25</b>	1.07-1.46	1.29	0.91-1.82
	(2)	<b>1.26</b>	1.04-1.54	<b>1.25</b>	1.05-1.50	<b>1.57</b>	1.22-2.03	<b>1.35</b>	1.07-1.72	<b>1.21</b>	1.03-1.41	1.06
Freelance <sup>a</sup> (1)	1.15	0.88-1.49	<b>1.31</b>	1.03-1.65	1.26	0.88-1.79	0.95	0.63-1.44	0.97	0.74-1.28	0.80	0.43-1.49
	(2)	1.18	0.91-1.54	<b>1.50</b>	1.18-1.91	<b>1.89</b>	1.30-2.76	0.94	0.62-1.41	1.11	0.84-1.48	1.29

Bold type: significant odds ratios.

<sup>a</sup> vs. permanent employment.

(1) Model 1: Included the 6 items of occupational demands, occupational category and type of employment.

(2) Model 2: additionally adjusted for age, educational level, living alone and income.

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