

## Objective

Non-standard work arrangements are becoming an increasingly important determinant of health and safety among workers.

The main objective of our study is to examine the relationships between non-standard work arrangements indicators including contract type, long working hours, multiple jobs, shift work, and injuries, taking into account several sociodemographic and work characteristics.

## Study design

Organization

Eurofound

Questionnaire

5<sup>th</sup> European working condition survey (EWCS) 2010

Sample number

From 43816 persons in EWCS only 26839 workers included

For the purpose of this analysis, the analytical sample was restricted to a subgroup of 26839 respondents from the 27 countries of the European Union, who were all workers with either a permanent contract, a temporary or a fixed contract.

## Results

### Characteristics of the study population (n =26839)

Individual and work-related factors	Total study sample n (%)
Mean age (SD)	40.00 (12.0)
<b>Gender:</b> n = 26839	
Male	14324 (53.37)
Female	12515 (46.62)
<b>Injured:</b> n = 26799	
No	24537 (91.55)
Yes	2262 (8.44)
<b>Contract type:</b> n = 26839	
Precarious contract	3849 (14.3)
Permanent contract	22990 (85.7)
<b>Long hours:</b> n = 26271	
Never	18561 (70.65)
Yes	7710 (29.34)
<b>Multiple jobs:</b> n = 26721	
No	24868 (93.06)
Yes	1853 (6.93)
<b>Shift work:</b> n = 26653	
No	21245 (79.70)
Yes	5408 (20.29)

Calculated according to the percentage of the valid count

### Results from the multilevel binary regression analysis for long hours, multiple jobs, precarious work and shift work simultaneously in relation with injuries.

Non-standard work arrangement indicators	Reference category: No injury			
	Step 2	OR	[95%CI]	P-value
				VPC 6.85%
Contract type Precarious Vs. permanent <sup>a</sup>		0.91	[0.78- 1.07]	0.27
Long hours Yes Vs. never <sup>a</sup>		<b>1.29</b>	[1.15- 1.44]	< 0.001
Multiple jobs Yes Vs. no <sup>a</sup>		<b>1.23</b>	[1.03- 1.47]	0.02
Shift work Yes Vs. no <sup>a</sup>		<b>1.35</b>	[1.18- 1.54]	<0.001

OR: Odds ratios, [95%CI]: 95% Confidence Interval, VPC: Variance of Partiton Coefficient.

<sup>a</sup> Reference category

Significant associations are in bold.

Adjusted for gender, age, experience, education, company size, economic activity, self-rated health, stress, overall fatigue, sleep difficulties, Sunday work and work-life balance.

## Conclusions

- This study confirms that indicators of non-standard work arrangements, with the exception of contract type, were significantly associated with injuries.
- More attention should be paid to workers with non-standard work arrangements.
- Further efforts on the workplace, the organizational and political level are needed to avoid non-standard work arrangements in order to improve workers' health and safety.