INSIGHTS INTO ALCOHOL CONSUMPTION: DOES EDUCATIONAL MISMATCH AFFECT DRINKING BEHAVIORS IN RUSSIA?

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Abstract. Our study innovates over the previous literature on socioeconomic determinants of drinking behaviours by investigating the impact of horizontal educational mismatch (field of schooling not matching with the job) on alcohol consumption. We conduct a longitudinal gender-specific analysis on individual data from the Russia Longitudinal Monitoring Survey (RLMS-HSE) (2011-2014) and estimate correlated random effects probit for alcohol use controlling for state dependence. Our results indicate that educational mismatch is related to drinking behaviors in Russia; in particular, horizontal mismatch tends to trigger alcohol consumption in women, while it increases the probability of becoming a heavy drinker for men.

1. Introduction

Excessive alcohol consumption is an issue of global importance, contributing to the main risk factors for population health. This results in a pronounced increase in alcohol-related deaths, infectious and non-communicable diseases, mental disorders, injuries and significant deterioration of maternal and child health. For instance, Europe is known as the heaviest drinking region in the world, with 10.9 litres of pure alcohol per person. This amount is twice as much as the world's average (European Alcohol Policy Alliance, 2016).

Although the EU countries have shown a persistent decline in the overall per capita alcohol consumption over the past decades (WHO, 2018), this was mainly determined by the trends related to the Southern European countries (e.g. decline in France from 23.95 to 11.50 and in Italy from 17.75 to 7.56 litres of pure alcohol per capita from 1964 to 2014). Meanwhile, Central-Eastern and Eastern Europe remain consistent in consuming the highest levels of alcohol in comparison with the rest of the EU (WHO, 2012; Malisauskaite and Klein, 2018).

Epidemiological research on drinking behaviours has been well-developed, providing evidence that age, gender, educational level, income, ethnicity and other

sociodemographic characteristics significantly affect alcohol consumption (Slade *et al*., 2016). In addition, employment status and occupational characteristics have also been found to determine people's drinking habits (Popovici and French, 2013; Hasegawa *et al*., 2013; Hong *et al*., 2017). However, the possible influence of educational mismatch on drinking habits has never been considered before. Educational mismatch has been observed in both developed and developing countries (Davia *et al*., 2017); for instance, it has been reported that about 30 % of EU adults experience various forms of educational mismatch in the labour market (Morgando et al., 2026). The educational mismatch is likely to occur due to labour market imbalances (e.g. excess labour demand, risk and uncertainty etc.) and/or institutional factors (e.g. technological change, short-term recessions etc.). It is expected to increase in the EU due to a slowdown in job growth, a high unemployment rate and an expansion of low-quality jobs accompanied by tertiary education's prevalence. Our study aims at bridging this gap in the literature by assessing the influence of educational mismatch on alcohol consumption. In particular, we focus on *horizontal* mismatch, which occurs when the field of study of completed education and the actual occupation of an individual do not match.

Previous literature has linked different types of educational mismatch with negative labour market and health-related outcomes, e.g. diminishing returns to education and traps to career progression, deterioration of job satisfaction and mental health (Montt, 2017; Meroni and Vera-Toscano, 2017; Bracke et al., 2014). However, to the best of our knowledge, horizontal mismatch has never been investigated in the context of research on drinking habits. We assume that horizontally mismatched categories of employees may perceive higher levels of stress due to a lack of knowledge and skills (i.e. human capital) required to deal with challenging job requirements, and previous studies indicate that stress and social anxiety are positively related, as an example, to heavy drinking (Rutledge and Sher, 2001; Siegrist and Rodel, 2006).

To fill the existing gap in the literature, we conduct a longitudinal gender-specific analysis of the data from the Russia Longitudinal Monitoring Survey (2011-2014) and estimate a dynamic probit model for alcohol use, controlling for unobserved heterogeneity and state dependence. It is worth mentioning that most of the recent studies on sociodemographic and work-related determinants of drinking behaviours have been applied to the context of developed economies (Allen *et al*., 2017), ignoring low- and middle-income countries (LMICs). Our study aims at filling this gap by focusing the analysis on the Russian Federation. The choice of Russia as a "testing ground" for our analysis seems quite reasonable since the Russian population is characterized by a relatively high level of alcohol use/consumption (e.g. alcohol per capita (15+) consumption of 11.7 litres of pure alcohol in Russia vs 9.8 liters for the WHO European Region in 2016) (WHO, 2018). Moreover, Russia

also revealed the highest alcohol-attributable years of life lost score (YLL) in 2016 (WHO, 2018).

Our results indicate that educational mismatch is related to drinking behaviours in Russia; in particular, horizontal mismatch tends to trigger alcohol consumption in women, while for men, it increases the probability of becoming a heavy drinker.

2. Data

We analyse individual data from the Russia Longitudinal Monitoring Survey (RLMS-HSE) (2011-2014)[1]. Our unbalanced sample of the economically active Russian population consists of respondents aged 19-54.[2] Our final sample includes 14,002 observations (i.e. 7,674 and 6,328 observations for women and men, respectively) spread over 4 years.

We consider two dependent variables. The first one is *alcohol use*, a dummy variable based on question "Do you consume alcoholic beverages in general?", and which is equal to one in the case of a respondent giving a positive response, zero otherwise. The second one is *heavy drinking*, a dummy variable which combines data on the quantity consumed (for four types of beverages - beer, dry wine, fortified wine and vodka - mapped into pure alcohol in grams) and the frequency of consumption (how many times per month the respondent consumes the alcoholic beverages). We create gender-specific distributions of alcohol consumption and identify those respondents who exceed the 80th percentile as heavy drinkers (as in Arabadzhyan, 2019). Our dummy variable takes the value of one if the respondent is classified as a heavy drinker, zero otherwise.

Our main explanatory variable, *horizontal mismatch*, is a dummy variable constructed by mapping the International Standard Classification of Occupations (ISCO) code of the respondent's profession with the ISCO code of the qualification

[1] The RLMS-HSE consists of a series of nationally representative annual surveys which contain a wide range of data on health, education, work and welfare related topics collected at both individual and household levels. Although the RLMS-HSE covers the time span of 1994-2022, we are restricted to use the 21st-24th waves since the variables required for construction of the horizontal mismatch dummy are present only in these waves.

[2] Alcohol consumption is strictly prohibited in Russia for those who are younger than 18 years old. Since retired respondents are not the target group of our analysis, we exclude them by cutting the sample at the age of 54 in order to adjust for the differences in retirement age for women and men in Russia in 2010-2014 (i.e. 55 vs 60 years, respectively).

(major) obtained during his/her studies at a two-digit level.[3] If these two codes differ, the respondent is classified as horizontally mismatched (Sellami *et al*., 2018).

Since we assume that the manifestation of the effect of educational mismatch on alcohol use cannot be immediate, we use a one-year lag of horizontal mismatch in our analysis; this also allows us to address possible issues of endogeneity. Indeed, the estimation of the effects of educational mismatch on alcohol use and heavy drinking may raise concerns about the presence of endogeneity bias, unless one can establish that the relationship is unidirectional (Robone et al., 2011).

Table 1 – *Description of variables used as controls*

Variable name	Description
Born in 1960s	This is a set of dummy variables for birth cohorts (being born in the 1950s is used as a reference category)
Born in 1970s	
Born in 1980s	
Born in 1990s	
Gender	Dummy variable for gender (Female=0, Male=1)
Single	Dummy variable for marital status (Never married, divorced/separated, widowood=1, Otherwise=0)
Young children	Dummy variable for presence of children yourger than 18 years old (Yes=1, Otherwise=0)
Years of education	Total number of years of completed education
Middle income group	Dummy variable for self-reported income group (Medium=1, Otherwise=0)
High income group	Dummy variable for self-reported income group (High=1, Otherwise=0)
Rural area	Dummy variable for type of settlement (Urban=0, Rural=1)
Non-Russian	Dummy variable for ethnicity (Russian=0, Otherwise=1)
Smoker	Dummy variable for smoking (Non smoking=0, smoking=1)
Not working (t-1)	Dummy variable for the status of being out of the labour market (one-year lagged) (Not working=1. Otherwise=0)
Non-tertiary sector (t-1)	Dummy variable for non-tertiary sector of employement (one year lagged) (Non-tertiary sector=1, Otherwise=0)
Unofficial job (t-1)	dummy variable for unofficial employement (one-year lagged) (Officially employed=0, Otherwise=1)
Year dummies	A set of year dummies (2011, 2012, 2013, 2014) where a year of 2011 is taken as the reference category
Regional dummies	A set of regional dummies (Centre, North-West, South, North Caucasus, Volga, Ural, Siberia, Far East) where Centre is taken as the reference category

[3] The International Standard Classification of Occupations (ISCO-88) defines occupational categories as follows: 1-Managers, 2-Professionals, 3-Technicians and Associate Professionals, 4-Clerical Support Workers, 5-Services and Sales Workers, 6-Skilled Agricultural, Forestry and Fishery Workers, 7-Craft and Related Trades Workers, 8-Plant and Machine Operators and Assemblers, 9-Elementary Occupations.

Similarly to previous literature, we include a set of sociodemographic covariates in our econometric specification, such as age, marital status, presence of children, education, income, ethnicity, and type of settlement, along with year and regional dummies (Slade *et al*., 2016). In addition, we include work-related controls, such as working in the informal sector or not working in the tertiary sector. Moreover, since our sample is characterized by a considerable number of respondents who report a "not working" status, we construct the corresponding control variable - which equals one if the respondent does not work at the moment of the survey and zero otherwise - and introduce it in our models.[4] Table 1 describes the variables used as controls in our regression model.

Table 2 - *Descriptive statistics stratified by gender*

	Women (n=8,555)				**Men (n=5,524)**			
Variable name	Mean	SD	min	max	Mean	SD	min	max
Born in 1960s	0.264	0.441	0	1	0.244	0.429	0	1
Born in 1970s	0.284	0.451	0	1	0.271	0.444	0	1
Born in 1980s	0.27	0.444	0	1	0.296	0.456	0	1
Born in 1990s	0.117	0.322	0	1	0.135	0.341	0	1
Single	0.320	0.466	0	1	0.290	0.454	0	1
Young children	0.506	0.500	0	1	0.453	0.498	0	1
Years of education	13.087	2.759	8	21	12.359	2.597	8	21
Middle income group	0.616	0.486	0	1	0.622	0.485	0	1
High income group	0.041	0.198	0	1	0.051	0.22	0	1
Rural area	0.295	0.456	0	1	0.296	0.457	0	1
Non-Russian	0.135	0.342	0	1	0.141	0.348	0	1
Smoker	0.168	0.374	0	1	0.560	0.496	0	1
Not working (t-1)	0.299	0.458	0	1	0.286	0.452	0	1
Non-tertiary sector (t-1)	0.138	0.345	0	1	0.260	0.439	0	1
Unofficial job (t-1)	0.028	0.165	0	1	0.048	0.214	0	1
Horizontal mismatch (t-1)	0.444	0.497	0	1	0.494	0.500	0	1
Alcohol use	0.708	0.455	0	1	0.769	0.422	0	1
Heavy drinking	0.021	0.144	0	1	0.085	0.278	0	1

Table 2 displays descriptive statistics stratified by gender since the previous studies have provided evidence in favour of substantial disparities in alcohol

[4] The not working respondents include the unemployed, the students and those who are not disabled, not on a maternity leave and other type of leave.

consumption with respect to gender (Erol and Karpyak, 2015; Slade *et al*., 2016). Around 44% of female and 50 % of male respondents are mismatched by field of study. The shares of alcohol users among women and men equal 71% and 77 %, respectively, while it goes down to 2% and 9% when we consider heavy drinkers.

3. Estimation Strategy

We estimate panel data probit for alcohol use, stratifying the analysis by gender. To purge the data from unobserved heterogeneity, we apply the Mundlak (1978) correction - which accounts for correlated individual effects - by including the function of within-individual means of time-varying regressors in our model. In addition, since a substantial share of variability in drinking behaviours seems to be determined by state dependence/addiction (Knight *et al*., 2002), we control for state dependence and address the issue of the initial condition by including both the one-year lag and the initial value of our dependent variables in the model, following the procedure proposed by Wooldridge (2005). The general specification of our models can be expressed as follows:

$$y_{it} = \beta mm_{it-1} + \gamma sec_{it} + \lambda work_{it-1} + \delta y_{it-1} + \eta y_{it=0} + \theta_i + \theta_t + \alpha_i + \varepsilon_{it} \quad (1)$$

i = 1, . . . , N (number of individuals in the sample)
t = 2, . . . , T (number of waves of the survey)

where: y_{it} is the outcome of interest (alcohol use, heavy drinking); mm_{it-1} is the explanatory variable (horizontal mismatch observed in the previous period); sec_{it} is the set of socioeconomic controls; $work_{it-1}$ is the set of work-related covariates observed in the previous period; y_{it-1} is the respondent's drinking behavior observed in the previous period; $y_{it=0}$ is the initial value of the respondent's drinking behavior; θ_i and θ_t are regional and year dummies, respectively; α_i is an individual-specific and time-invariant random component; ε_{it} is a time and individual-specific error term which is assumed to be normally distributed, uncorrelated with α_i and uncorrelated across individuals and waves.

4. Results

Table 3 reports the results obtained from the panel probit model described in Section 3, considering as dependent variables alcohol consumption and heavy drinking behaviours. Our results indicate that birth cohorts do not differ in terms of

alcohol use in the female sub-sample, while in the male sub-sample, the youngest cohort (born in the 1990s) tends to be the most prone to alcohol use and the least prone to heavy drinking. Moreover, age does not appear to affect significantly the heavy drinking behaviours. Respondents of both gender groups are less likely to consume alcohol if they are single, perhaps, due to being at lower risk of adopting positive attitudes towards alcohol from their partners. While female respondents with young children are more prone to alcohol use, no effect is observed for the same variable in the male sub-sample. Both gender groups reveal a positive and statistically significant relationship between years of education and alcohol use, but a negative (although not statistically significant) relationship with regard to heavy drinking.[5] Women who are settled in rural areas are less likely to be involved in drinking when considering both alcohol consumption and heavy drinking. In addition, the protective effect of migrant status against alcohol use can be observed in both gender groups, indicating that foreign respondents are less prone to consume alcohol than the natives. Finally, the positive and statistically significant effect of smoking on alcohol use and heavy drinking is found for both women and men. While work-related variables do not seem to contribute to female alcohol use in Russia, men employed in the non-tertiary sector tend to be more likely to consume alcohol.

As far as the educational mismatch is concerned, the positive and statistically significant coefficient for horizontal mismatch for women indicates that those who were horizontally mismatched in the previous period are more at risk of consuming alcohol in the current period than their matched counterparts; however, no statistically significant effect is reported for men for this variable. On the contrary, being horizontally mismatched increases the chance of heavy drinking for men, while it has no statistically significant effect for women.

To provide some information about the magnitude of the impact of horizontal mismatch on the drinking behaviours of the respondents, we have computed average partial effects for the model described in Section 3. The effects are computed for an individual with average characteristics and are stratified by gender. Women who were horizontally mismatched in the previous period were about 2% points more likely to consume alcohol, while men were about 2% points more likely to become heavy drinkers. The magnitude of these results is small but not negligible. The full set of results on average partial effects is available upon request.

[5] Our result is in line with previous literature showing that higher education (such as having a university degree) is positively associated with drinking more frequently or increasing the quantity of alcohol used (Bingham et al., 2005; Casswell et al., 2003; Jacobsen, 1989), but negatively associated with the likelihood of developing an alcohol use disorder (Sher and Gotham, 1999). White et al. (2006) noted that college attendees who remain in their parents' home experienced notably lower alcohol use frequencies than their counterparts living off campus. Therefore, it is possible that individuals attending college/university get involved in social drinking and they keep this habit even later on in their life.

Table 3 – *Probit model, estimated coefficients and standard errors for alcohol consumption and heavy drinking*

	Alcohol use		Heavy drinking	
	Women (n=8,555)	Men (n=5,524)	Women (n=8,555)	Men (n=5,524)
	coef/se	coef/se	coef/se	coef/se
Horizontal mismatch (t-1)	0.111*	0.006	-0.183	0.256**
	-0.064	-0.097	-0.158	-0.107
Born in 1960s	0.022	0.354**	0.295	0.106
	0.104	0.156	0.247	0.185
Born in 1970s	-0.037	0.442**	-0.009	0.129
	0.112	0.172	0.262	0.195
Born in 1980s	-0.145	0.272*	0.129	-0.059
	0.111	0.161	0.255	0.194
Born in 1990s	-0.050	0.546***	-0.102	-0.691***
	0.123	0.188	0.287	0.267
Single	-0.096*	-0.236**	-0.443	0.026
	0.058	0.107	0.289	0.120
Young children	0.152**	0.322	0.033	-0.063
	0.062	0.202	0.128	0.098
Years of education	0.019*	0.042**	-0.031	-0.009
	0.011	0.016	0.023	0.018
Middle income group	-0.032	0.016	0.144	-0.084
	0.070	0.071	0.104	0.080
High income group	-0.123	0.016	0.212	-0.169
	0.109	0.149	0.230	0.181
Rural area	-0.133**	-0.134	-0.388***	-0.163
	0.063	0.088	0.144	0.103
Non-Russian	-0.295***	-0.300***	-0.089	0.163
	-0.079	-0.113	-0.173	-0.115
Smoker	0.588***	0.937***	0.947***	0.503***
	-0.080	-0.191	-0.142	-0.094
Unofficial job (t-1)	-0.186	0.2	0.553***	-0.248
	-0.140	-0.174	-0.213	-0.227
Non-tertiary sector (t-1)	0.016	0.359**	-0.251	-0.022
	-0.076	-0.162	-0.187	-0.094
Not working (t-1)	0.121	0.194	0.325*	0.297**
	-0.128	-0.178	-0.174	-0.13
Outcome (t-1)	0.409***	0.661***	0.145	0.522***
	-0.076	-0.119	-0.215	-0.148
Outcome (t=0)	1.429***	1.751***	1.638***	1.338***
	-0.111	-0.207	-0.275	-0.206
Constant	-0.682***	-1.306***	-3.133***	-2.298***
	-0.229	-0.312	-0.526	-0.36
Log-pseudolikelihood	-3690.072	-1867.988	-657.66	-1207.101

Note: Coefficients were also estimated for regional and year dummies, and within-individual means of time-varying regressors (available on requests). Robust standard errors are clustered at an individual level. *p<0.10, **p<0.05, ***p<0.01

5. Discussion

Our paper contributes to previous literature by estimating the impact of horizontal educational mismatch on alcohol consumption and heavy drinking. Our findings provide evidence that horizontal mismatch tends to trigger alcohol use in women, while for men, it increases the probability of becoming a heavy drinker. Overall, our results suggest substantial gender differences related to the quantity and frequency of alcohol consumption in Russia.

Our study has some limitations. Firstly, we cannot control for neighbourhood effects (e.g. access to alcohol in the respondent's settlement area, drinking habits of the respondent's personal and professional network) due to the lack of data. These effects have been shown to be important determinants of drinking behaviors (Tucker et al., 2013). Secondly, our heavy drinking variable is constructed based on respondents' self-reported data on alcohol consumption, and this may cause measurement error and downward bias in our estimates (Livingston and Callinan, 2015). Moreover, we are not able to control for a specific company's characteristics (due to the data limitations), which may be related to the potential employment of mismatched employees and alcohol consumption. Finally, in our study we do not provide a theoretical or sociological explanation for the empirical relationship we find between horizontal mismatch and alcohol use and heavy drinking. The investigation of the factors which might mediate this relationship is left for future research.

We assume that our results can be generalized to the countries of Eastern Europe which experienced the Soviet regime in the past since their populations tend to reveal similarities in drinking habits (Malisauskaite and Klein, 2018) and labor force characteristics concerning educational level (Morgado et al., 2016). Furthermore, this study can be extended to a comparative analysis between the Eastern European countries and the Western developed economies. Moreover, it would also be important to understand the exact transmission mechanisms between educational mismatch and drinking behaviours. In the future, we plan to perform some mediator analysis to investigate the possible role of variables such as mental health and job satisfaction as a transmission mechanism between educational mismatch and drinking behaviours.

Our study provides some guidelines for policymakers. We believe that the Russian system of higher professional education requires reforms to remove the low-quality educational institutions from the market of educational services and revise entry requirements to the educational institutions. In addition, the outcomes of the Russian post-secondary and higher professional education system should align with the requirements of the Russian labor market. This may help avoid the expansion of horizontally mismatched employment in the labour market. Finally, human

resources managers in the companies are suggested to make more considered decisions while recruiting and appointing personnel.

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References

ALLEN L., WILLIAMS J., TOWNSEND N., MIKKELSEN B., ROBERTS N., FOSTER C., WICKRAMASINGHE K. 2017. Socioeconomic Status and Non-Communicable Disease Behavioural Risk Factors in Low-Income and Lower-Middle-Income Countries: a Systematic Review, *Lancet Global Health,* Vol. 5. pp. 277-289.

ARABADZHYAN A. 2019. On a Highway to Hell: Establishing Causal Links Between Alcohol Abuse and Depression, In *Proceedings of the 4th RLMS-HSE USER Conference,* Moscow, May 2019.

BINGHAM C.R., SHOPE J.T., TANG X. 2005. Drinking behavior from high school to young adulthood: Differences by college education, *Alcoholism, Clinical and Experimental Research*, Vol. 29, pp. 2170–2180.

BRACKE P., VAN DE STRAAT V., MISSINNE S. 2014. Education, Mental Health, and Education-Labor Market Misfit, *Journal of Health and Social Behavior,* Vol. 55, No. 4, pp. 442-459.

CASSWELL S., PLEDGER M., HOOPER R. 2003. Socioeconomic status and drinking patterns in young adults, *Addiction*, Vol. 98, pp. 601–610.

DAVIA A.M., MCGUINNESS S., O'CONNELL PJJ. 2017. Determinants of regional differences in rates of overeducation in Europe, Social Science Research, Vol. 63, pp. 67-80.

EUROPEAN ALCOHOL POLICY ALLIANCE. 2016. *European Report on Alcohol Policy: A Review.* Belgium, Brussels.

EROL A., KAPRYAK V.M. 2015. Sex and Gender-Related Differences in Alcohol Use and its Consequences: Contemporary Knowledge and Future Research Considerations, *Drug and Alcohol Dependence,* Vol. 156, pp. 1-13.

HASEGAWA T., MURATA C., NINOMIYA T., TAKABAYASHI T., NODA T., HAYASAKA S., NAKAMURA M., OJIMA T. 2013. Occupational Factors and Problem Drinking among a Japanese Working Population, *Industrial Health,* Vol. 51. pp. 490-500.

HONG J.W, NOH J.H, KIM D-J. 2017. The Prevalence of and Factors Associated with High-Risk Alcohol Consumption in Korean Adults: The 2009-2011 Korea National Health and Nutrition Examination Survey, *PLoS ONE,* Vol. 12, No. 4, e0175299. doi.org/10.1371/journal.pone.0175299.

KNIGHT J.R., WECHSLER H., KUO M., SEIBRING M., WEITZMAN E.R., SCHUCKIT M.A. 2002. Alcohol Abuse and Dependence among the US College Students. *Journal of Studies on Alcohol,* Vol. 63. pp. 263-270.

LIVINGSTONE M., CALLINAN S. 2015. Underreporting in Alcohol Surveys: Whose Drinking Is Underestimated? *Journal of Studies on Alcohol and Drugs,* Vol. 76, No. 1, pp. 158-164.

MALISAUSKAITE G., KLEIN A. 2018. Drinking Under Communism: Why do Alcohol Consumption Habits in Eastern Europe Differ from the West in the Long-Run?, *Journal of Comparative Economics,* Vol. *46*. pp. 821-837.

MERONI E.C., VERA-TOSCANO E. 2017. The Persistence of Overeducation Among Recent Graduates. *Labour Economics,* Vol. 48, pp. 120-143.

MONTT G. 2017. Field-of-Study Mismatch and Overqualification: Labour Market Correlates and Their Wage Penalty, *Journal of Labor Economics,* Vol. 6, No. 2, pp. 1-20.

MORGADO A., SEQUEIRA T.N., SANTOS M., FERREIRA-LOPES A., REIS A.B. 2016. Measuring Labour Mismatch in Europe, *Social Indicators Research, Vol.* 129, pp. 161-179.

MUNDLAK Y. 1978. On the Pooling of Time Series and Cross Section Data, *Econometrica,* Vol. 46, No. 1, pp. 69-85.

POPOVICI I., FRENCH M.T. 2013. Does Unemployment Lead to Greater Alcohol Consumption?, *Industrial Relations,* Vol. 52, No. 2, pp. 444-466.

ROBONE S., JONES A.M., RICE N. 2011. Contractual Conditions, Working conditions, Health and Well-Being in the British Household Panel Survey, *The European Journal of Health Economics,* Vol. 12, No. 5, pp. 429-444

RUTLEDGE PC, SHER KJ. 2001. Heavy Drinking from the Freshman Year into Early Young Adulthood: The Roles of Stress, Tension-Reduction Drinking Motives, Gender and Personality, *Journal of Studies on Alcohol,* Vol. *62*. pp. 457-466.

SELLAMI S., VERHAEST D., VAN TRIER W. 2018. *How to Measure Field-of-Study Mismatch? A Comparative Analysis of the Different Methods*. doi: 10.1111/labr.12129.

SHER K.J., GOTHAM H.J. 1999. Pathological alcohol involvement: A developmental disorder of young adulthood, *Development and Psychopathology*, Vol. 11, pp. 933–956.

SIEGRIST J., RODEL A. 2006. Work Stress and Health Risk Behavior, *Scandinavian Journal of Work, Environment & Health,* Vol. 32, No. 6, pp. 473-481.

SLADE T., CHAPMAN C., SWIFT W., KEYES K., TONKS Z., TEESSON M. 2016. Birth Cohort Trends in the Global Epidemiology of Alcohol Use and Alcohol-Related Harms in Men and Women: Systematic Review and Metaregression, *BMJ Open,* Vol. 6: e011827. doi:10.1136/bmjopen-2016-011827.

TUCKER JSS, POLLARD MSS, HAYE K., KENNEDY DPP, GREEN JR. HD. 2013. Neighborhood Characteristics and the Initiation of Marijuana use and Binge Drinking, *Alcohol Use and Dependence*, Vol. 128, No. 1-2, pp. 83-89.

WHITE H.R., MCMORRIS B.J., CATALANO R.F., FLEMING C.B., HAGGERTY K.P., ABBOTT R.D. 2006. Increases in alcohol and marijuana use during the transition out of high school into emerging adulthood: The effects of leaving home, going to college, and high school protective factors, *Journal of Studies on Alcohol*, Vol. 67, pp. 810–822.

WORLD HEALTH ORGANIZATION (WHO). 2012. *Alcohol in the European Union: Consumption, Harm and Policy Approaches*. Geneva, Switzerland.

WORLD HEALTH ORGANIZATION (WHO), 2018. *Fact Sheet on Alcohol Consumption, Alcohol-Attributable Harm and Alcohol Policy Responses in European Union Member States, Norway and Switzerland*, Geneva, Switzerland.

WORLD HEALTH ORGANIZATION (WHO), 2018. Global Status Report on Alcohol and Health, Geneva, Switzerland.

WOOLDRIDGE J.M. 2005. Simple Solutions to the Initial Conditions Problem in Dynamic, Nonlinear Panel Data Models with Unobserved Heterogeneity, *Journal of Applied Econometrics,* Vol. 20, No. 1, pp. 39-54.

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