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Article

# Psychological Stressors Predicting Increased Drinking During the COVID-19 Crisis: A Longitudinal National Survey Study of Workers in Finland

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Received 29 August 2020; Revised 10 October 2020; Editorial Decision 17 October 2020; Accepted 17 October 2020

## Abstract

**Aims:** The global crisis caused by the outbreak of a novel coronavirus rapidly increased working remotely in many countries. The aim of this study was to analyze psychological stressors predicting increased drinking during the COVID-19 crisis. Also, individual and socio-demographic differences were analyzed.

**Methods:** A nationally representative sample of Finnish workers ( $N = 1308$ ) was collected before the crisis in September–October 2019 and 82.02% of them responded to a follow-up survey conducted in March–April 2020. Increased drinking was the outcome variable and it was measured with the AUDIT-C before and during the COVID-19 crisis. Predictors measured before the crisis included cyberbullying victimization at work, psychological distress, burnout and work climate. Additional measures included personality factors, socio-demographic factors and occupational information.

**Results:** One-fourth of Finnish workers (25.37%) reported increased drinking during the COVID-19 crisis. Cyberbullying victimization at work and psychological distress before the crisis predicted increased drinking during the crisis. Conscientious workers and those working in educational and health and welfare sectors were less likely to increase drinking, while increased drinking was most common among workers under 30 years of age.

**Conclusions:** Psychological stressors are risk factors for increased drinking in unusual times such as the COVID-19 crisis. Cyberbullying victimization at work and psychological distress were found as major risk factors. The results suggest that preventive work should be done at workplaces. This is particularly important if alcohol consumption is used as a means of coping during a stressful time.

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## INTRODUCTION

The outbreak of a novel coronavirus (SARS-CoV-2) and coronavirus disease (COVID-19) has changed working conditions for many due to social-distancing policies that were placed within many European countries in March (2020). The crisis became a massive natural experiment for remote work in particular. Eurofound reported a major increase in remote work during March–April 2020. In Finland, for example, 60% of workers switched to working remotely, representing

the highest proportion of remote workers in Europe due to the COVID-19 crisis (Eurofund, 2020).

Switching to remote work and social isolation due to a crisis inevitably changed people's daily habits and routines, and they may have consequences on some leisure activities as well. Hazardous drinking (i.e. problematic alcohol use in terms of excessive number of portions or frequency) is one potential consequence, and a surge in alcohol sales was observed in the beginning of the pandemic in

many countries (Chick, 2020; Da *et al.*, 2020). Researchers have warned about the extensive harms of increased hazardous drinking and the World Health Organization even encouraged governments to restrict alcohol access during the pandemic in an effort to limit alcohol consumption (Clay and Parker, 2020; Lange *et al.*, 2020; Neufeld *et al.*, 2020; World Health Organization, 2020).

Hazardous drinking has numerous negative health effects, including increased risk for diseases such as cardiovascular disease, cancer and type 2 diabetes (Klatsky, 2010; Pelucchi *et al.*, 2011; Knott *et al.*, 2015; Connor, 2017). Hazardous drinking is also a concern for mental health, as previous studies have indicated that increased alcohol consumption is associated with depression, anxiety disorders as well as lower life satisfaction (Boschloo *et al.*, 2012; Keyes *et al.*, 2019; McHugh and Weiss, 2019; Sæther *et al.*, 2019).

So far, research evidence on alcohol use during the ongoing COVID-19 crisis is limited. Little is known, in particular, how the crisis may have impacted drinking habits of adult workers, while some studies exploring the overall impact of the crisis on alcohol consumption have emerged. A study conducted in China, mainly in the Hubei province where the COVID-19 pandemic started, showed an 11% increase in hazardous drinking in conjunction with elevated anxiety, depression and lower mental well-being (Ahmed *et al.*, 2020). According to a German population-based study, nearly 35% reported drinking more or much more, while 19% of the general population consumed less alcohol during lockdown (Koopmann *et al.*, 2020). In a sample of Canadians, 18% reported an increase and 12% a decrease in alcohol consumption, but majority, 70%, reported no change in their drinking habits (NANOS Research, 2020). Among a sample of Polish adults, drinking increased by 14% and decreased by 16%. Increase in consumption was more likely among those individuals who had heavier drinking habits prior to the COVID-19 pandemic, weaker coping skills and depression (Chodkiewicz *et al.*, 2020). Pre-pandemic drinking, along with depression and stress, was also associated with heavier drinking during the crisis among Australians (Neill *et al.*, 2020). A study examining the effect of COVID-19-related campus closure on American university students found that symptoms of depression and anxiety were associated with increased alcohol consumption following the announcement of university closing due to the pandemic (Lechner *et al.*, 2020).

It is likely that some people faced more challenges in the beginning of the crisis. The sudden restrictions and quarantine orders might have forced people to re-structure their everyday life and quickly adapt to a new set of rules and standards. These can be stressful tasks for many and, on top of the uncertainty brought by the public health crisis itself, increase psychological distress. It is possible that the added challenge of quarantine and nation-wide restrictions led to increased alcohol use during the pandemic as a way to relax, self-medicate or alleviate stress (Rehm *et al.*, 2020; Rodriguez *et al.*, 2020). Indeed, quarantine has been associated with negative psychological consequences, such as stress, post-traumatic stress symptoms, anxiety and disrupted sleep (Wu *et al.*, 2009; Brooks *et al.*, 2020; Husky *et al.*, 2020; Rajkumar, 2020).

Under non-crisis situations, alcohol use has been linked to psychological risk-factors at work such as distress (Choi and DiNitto, 2011), burnout, (Jackson *et al.*, 2016; Pedersen *et al.*, 2016; Park *et al.*, 2020) and workplace bullying (Richman *et al.*, 1999; Vartia, 2001; Rospenda *et al.*, 2009; Bartlett and Bartlett, 2011; Nielsen *et al.*, 2018). For some workers, being socially isolated from supportive others and increased remote work during the pandemic may have accentuated the negative experiences of working and communicating with colleagues online. Cyberbullying victimization at work, for

example, has become more commonplace in the digital age and considered to have potential negative impacts on well-being (Farley *et al.*, 2015; Snyman and Loh, 2015; Kowalski *et al.*, 2018; Oksanen, Oksa *et al.*, 2020). Cyberbullying victims as well as those who are heavily burdened by their work or personal life might have had a worse starting point when first faced with the COVID-19 crisis.

Certain individual and socio-demographic factors are also potentially associated with increased hazardous drinking. Under normal circumstances, hazardous drinking is most common among young people (Adan *et al.*, 2017; Foster and Canfield, 2017; World Health Organization, 2018) and men, but the gap between men and women has decreased over the years (Slade *et al.*, 2016). Binge drinking has also been associated with neuroticism and extroversion, but most consistently with low conscientiousness (Friedman *et al.*, 1995; Kubicka *et al.*, 2001; Clark *et al.*, 2012; Adan *et al.*, 2017). Although there are some indications that personality factors impact how people behave during the COVID-19 crisis (Zajenkowski *et al.*, 2020), it is still unclear what role personality factors play in hazardous drinking during the crisis. Other socio-demographic factors potentially impacting increased hazardous drinking include occupational field, as there are major differences in how different occupational fields responded to and have coped with the crisis.

This study analyzed increased drinking during the COVID-19 crisis in Finland. Finland reacted to the crisis fast and recommendations for remote work and cancellation of large public events were issued on 13 March 2020 (Oksanen, Kaakinen *et al.*, 2020). National state of emergency was declared, starting on 16 March, and it was followed by the closure of bars and nightclubs. Restaurants were only allowed to sell food and low-alcohol beverages such as beer to-go. Alcohol home delivery is not permitted in Finland, but monopoly stores and supermarkets were open normally.

Research questions were: (i) Do pre-COVID-19 crisis mental health risks (cyberbullying victimization at work, burnout and psychological distress) predict increased drinking during the COVID-19 crisis? (ii) Are individual and socio-demographic differences associated with increased drinking during the COVID-19 crisis?

## MATERIALS AND METHODS

### Participants

Participants of the study took part in the longitudinal *Social Media at Work in Finland* Survey. The study was designed as a representative survey of Finnish workers and it was targeted at Finnish employees. Data collection was conducted in collaboration with a data solutions provider Norstat whose online research panel was used to recruit participants. The sample does not have any major bias in comparison to official census figures of workers in Finland. The sample includes participants from all regions of mainland Finland and from all major occupational areas (Oksa *et al.*, 2020; Oksanen, Oksa *et al.*, 2020b).

A pre-COVID-19 crisis survey was collected between 16 September and 15 October 2019 (Time point 1, T1). The participants ( $N = 1308$ ) were re-contacted during the COVID-19 crisis and 82.65% of them responded to the follow-up survey ( $N = 1081$ ) between 16 March and 9 April 2020 (Time point 2, T2). Analysis included those participants who completed all the measures used in this study ( $n = 1042$ ). The participants were 48.22% female and aged 19–65 during the first survey (Mean [ $M$ ] = 43.07; Standard deviation [ $SD$ ] = 12.67). There was no bias due to nonresponse, and population weights were used to correct minor biases in age and gender in the sample.

The Academic Ethics Committee of Tampere region, Finland, stated in December 2018 that the survey study did not involve any ethical problems. All participants agreed to voluntarily participate in the online surveys, and they were informed about the purpose of the study. The survey was in Finnish, it was designed by the research group and data collection was carried out by Norstat. The dataset only includes those respondents who filled out the whole survey.

## Measures

**Hazardous drinking** The Alcohol Use Disorders Identification Test (AUDIT-C) was used to measure drinking. This test has been widely used in previous studies for hazardous drinking (Babor *et al.*, 2001; Kaarne *et al.*, 2010; Higgins-Biddle and Babor, 2018). The measure includes three items pertaining to frequency of drinking ('How often do you drink beer, wine or other alcoholic beverages? Include the times when you only had a small amount, e.g. a bottle of medium beer or a sip of wine.'). units per drinking occasion ('How many drinks containing do you have on a typical day when you are drinking?') and to frequency of heavy drinking ('How often do you have six or more drinks on one occasion'). Each question has response options giving risk points from 0 to 4 and the scale has a range from 0 to 12. Higher score in AUDIT-C signifies higher level of drinking. The scale showed good internal consistency at both time points 1 and 2 (T1 and T2; T1:  $\alpha = 0.72$ , T2:  $\alpha = 0.73$ ). A dummy variable indicates whether AUDIT-C points had increased between T1 and T2 (0 = no increase or decrease, 1 = increase). Results also report findings on those who did not show any difference between T1 and T2 drinking and those who decreased their drinking (Table 1). In addition, the proportion of hazardous drinkers is reported from those participants who showed increased drinking. A cut-off of  $\geq 5$  points was used for hazardous drinking (Fat *et al.*, 2020).

**Cyberbullying** Cyberbullying victimization at work was measured at T1 with 10 items adapted from the Cyberbullying Behaviour Questionnaire (Forssell, 2016; Oksanen, Oksa *et al.*, 2020). Items included statements on defaming, insulting and receiving threatening comments on social media, such as 'Assaults on social media have been made on you as a person, your values, or your personal life', 'Rude messages have been sent to you via social media' and 'False statements about you have been spread on social media'. Answer options for the statements were 'never', 'now and then', 'monthly', 'weekly' and 'daily'. Internal consistency of the scale was excellent ( $\alpha = 0.94$ ). A dummy variable was created to distinguish those who reported being victims of cyberbullying at least on a weekly basis (0 = not a cyberbullying at work victim, 1 = cyberbullying at work victim).

**Psychological distress** The 12-item General Health Questionnaire (GHQ-12) was used to measure psychological distress at T1. GHQ-12 is one of the most extensively utilized screeners of general psychological mood across the world (Goldberg and Hillier, 1979; Banks *et al.*, 1980; Goldberg *et al.*, 1997; Kalliath *et al.*, 2004). All 12 items have four answer options ranging from very positive (0) to negative (3). For example, an item asking 'Have you recently felt constantly under strain' has the answer options: 'not at all' (0), 'no more than usual' (1), 'rather more than usual' (2) and 'much more than usual' (3). Internal consistency of the scale was excellent ( $\alpha = 0.91$ ). Likert scoring (0-1-2-3) was applied, resulting in a scale from 0 to 36, with higher scores indicating higher psychological distress (Banks *et al.*, 1980; Goldberg *et al.*, 1997).

**Burnout** The 16-item Maslach Burnout Inventory General Survey (MBI-GS) was used to measure burnout (Maslach *et al.*, 2018) at T1. MBI-GS is widely used and validated with various occupational groups across nations (Schutte *et al.*, 2010). The items of MBI-GS consist of statements on work exhaustion, work cynicism and professional efficacy, such as 'I feel tired when I get up in the morning and have to face another day on the job'. The answer scale ranged from 0 'never' to 6 'every day'. The potential range of the scale is from 0 to 96. The scale had internal consistency of  $\alpha = 0.89$ .

**Work climate** Work climate at T1 was measured with 4 items on work climate and psycho-social resources gained from workplace. These were drawn from the second version of the Copenhagen Psychosocial Questionnaire (Pejtersen *et al.*, 2010). The items were: (i) 'How often do you get help and support from your nearest superior?', (ii) 'How often do you get help and support from your colleagues?', (iii) 'Is there a good atmosphere between you and your colleagues?' and (iv) 'Do you feel part of a community at your place of work?' Response options ranged from 'never/hardly ever' (0) to 'always' (5). The items had acceptable internal consistency of  $\alpha = 0.75$ . The scale ranged from 4 to 20.

**Personality factors** The 15-item Big Five Inventory was used to measure personality traits (Hahn *et al.*, 2012). For each of the five personality traits, a 3-item sum variable ranging from 3 to 21 was created. Internal consistency of the traits ranged from 'good' to 'acceptable': extroversion ( $\alpha = 0.87$ ), neuroticism ( $\alpha = 0.73$ ), openness ( $\alpha = 0.68$ ), conscientiousness ( $\alpha = 0.67$ ) and agreeableness ( $\alpha = 0.55$ ). Personality was measured only in T2 in this study. Personality traits are considered to be relatively stable over short period of time among working-age population (Specht *et al.*, 2011; Cobb-Clark and Schurer, 2012).

**Socio-demographic information** Age, gender and education were included as standard socio-demographic factors. Age was categorized into groups of under 30, 30–45 and 46–65 due to nonlinearity. Information on education was inquired through seven categories that we then recategorized into three: primary/secondary degree, degree from the university of applied science (usually bachelor level) and university degree (usually master's level or higher). Other socio-demographic information included whether respondents were married or in another type of close relationship at T2 (0 = no, 1 = yes) and whether they had children from ages 0 to 17 living at home at T2 (0 = no, 1 = yes). Occupational factors included managerial position at T2 (0 = no, 1 = yes) and T2 occupational field, which was asked using the list of International Standard Industrial Classification of All Economic Activities. For the purposes of the analysis, these were categorized into seven broader categories. Remote work was measured from T1 as most of the workers were working remotely when the crisis started. Those working at least 2 days per week at home at T1 were categorized as remote working (0 = no, 1 = yes).

## Statistical analyses

Stata 16 software was used for the analysis. Descriptive statistics including proportion of respondents with increased drinking are reported first. The main analysis was based on logistic regression predicting an increase in drinking during the COVID-19 crisis. Main independent variables were cyberbullying, psychological distress, burnout and work climate at T1, but the models show results for personality traits and sociodemographic factors also. Models 0 report

**Table 1.** Descriptive statistics of study variables

Categorical variables	<i>n</i>	%		
Increased drinking during the COVID-19 crisis	264	25.37		
Decreased drinking during the COVID-19 crisis	277	26.62		
No change in drinking during the COVID-19 crisis	500	48.02		
Cyberbullying at work victim	84	8.07		
Female	502	48.22		
Age				
18–29	204	19.61		
30–45	359	34.46		
46–65	479	45.93		
Education				
Primary/secondary degree	569	54.63		
University of applied science degree	232	22.26		
University degree	241	23.11		
Married or in close relationship	651	62.51		
Children ages 0–17 at home	306	29.32		
Remote work at least 2 days/week	84	8.09		
Managerial position	198	19.02		
Occupational area				
Industrial sector	295	28.27		
Service	194	18.57		
Business, communication and technology	152	14.62		
Public administration	76	7.29		
Education	97	9.28		
Health and welfare	157	15.05		
Unknown	72	6.91		
<b>Continuous variables</b>	<b>Range</b>	<b><i>M</i></b>	<b><i>SD</i></b>	<b><math>\alpha</math></b>
Psychological distress	0–36	12.25	5.74	0.91
Burnout	2–96	37.05	16.38	0.89
Work climate	4–20	14.62	2.87	0.75
Openness	3–21	14.62	3.28	0.68
Conscientiousness	3–21	15.67	3.04	0.67
Extroversion	3–21	13.40	4.34	0.87
Agreeableness	3–21	14.55	3.01	0.55
Neuroticism	3–21	11.94	3.76	0.73

effects by controlling only for age and gender. Full models include all target variables. Tables report odds ratios (ORs) and their standard errors (SEs), statistical significance (*P*) and average marginal effects (AMEs), which provide us with reliable, comparable and easily understandable predictions from the model, while taking into account other independent variables (Mood, 2020). For example, AME of 0.255 means that a one-unit increase in the independent variable increases the likelihood of outcome by 25.5%.

## RESULTS

Results based on comparison of AUDIT-C scores before and during COVID-19 crisis showed that 25.37% of Finnish employees had increased drinking, 48.02% showed no change and 26.62% had decreased drinking (Table 1). The mean comparison between T1 (before COVID-19 crisis) and T2 (during COVID-19-crisis) showed no statistically significant change in AUDIT-C scores within the whole population (*M*, T1 = 3.71, *SD* = 0.74, *M*, T2 = 3.69; *SD* = 0.75, *t*-test, *P* = 0.852). Those reporting an increase in drinking had higher AUDIT-C scores than those who did not report an increase (*M* = 4.97, *SD* = 2.35 vs. *M* = 3.26, *SD* = 2.29, *t*-test, *P* < 0.001). More than half

(53.37%) of those who increased their drinking during the COVID-19 crisis were hazardous drinkers (AUDIT-C  $\geq$  5).

Logistic regression models focused on increased drinking at T2 (see Table 2). Models 0 first show age- and gender-adjusted effects. Cyberbullying victimization at work (AME 0.159; 95% CI: 0.037, 0.282) and psychological distress (AME 0.007; 95% CI: 0.002, 0.011) predicted increased drinking. This means, to demonstrate, that among cyberbullying victims, increased drinking was 15.94% higher than among non-victims. The likelihood of cyberbullying victims to increase drinking was 39.99% compared with 24.06% of non-victims. Also, we found that conscientiousness predicted lower likelihood of increased drinking (AME  $-0.013$ ; 95% CI:  $-0.022$ ,  $-0.003$ ), meaning that a one-point increase on a scale from 3 to 21 in conscientiousness decreased the likelihood of increased drinking by 1.3%. Of socio-demographic factors, age and occupational field predicted increased drinking. Increased drinking was most common among under 30-year-old workers. Notable differences were also shown in occupational fields. For example, 31.32% of business, communication and technology sector and 30.41% of public administration workers reported increased drinking, while only 14.55% in educational sector and 21.08% in health and welfare sector did so.

**Table 2.** Logistic regression models predicting increased drinking during the COVID-19 crisis

	Models 0				Full model			
	OR	SE	P	AME	OR	SE	P	AME
Cyberbullying at work victim	2.12	0.57	0.005	0.159	2.03	0.61	0.019	0.143
Psychological distress	1.04	0.01	0.007	0.007	1.05	0.02	0.015	0.008
Burnout	1.00	0.00	0.644	0.000	0.99	0.01	0.154	-0.002
Work climate	1.01	0.03	0.675	0.002	1.06	0.03	0.096	0.010
Openness	1.00	0.02	0.978	0.000	1.01	0.02	0.593	0.002
Conscientiousness	0.93	0.02	0.010	-0.013	0.94	0.03	0.034	-0.011
Extroversion	0.98	0.02	0.192	-0.004	0.98	0.02	0.371	-0.003
Agreeableness	0.96	0.03	0.138	-0.007	0.98	0.03	0.617	-0.003
Neuroticism	1.03	0.02	0.265	0.005	1.00	0.03	0.966	0.000
Female	0.84	0.13	0.272	-0.032	0.91	0.17	0.594	-0.018
Age (ref. under 30)								
30–45	0.52	0.12	0.007	-0.128	0.50	0.12	0.004	-0.128
46–65	0.63	0.15	0.050	-0.094	0.72	0.17	0.161	-0.064
Education (ref. primary/secondary)								
University of applied sci. degree	0.95	0.19	0.782	-0.010	0.98	0.20	0.912	-0.004
University degree	0.87	0.17	0.468	-0.026	0.93	0.19	0.716	-0.013
Married or in a close relationship	0.91	0.15	0.569	-0.017	0.93	0.16	0.674	-0.013
Children ages 0–17 at home	1.30	0.22	0.123	0.049	1.27	0.23	0.187	0.043
Remote work at least 2 days/week	1.39	0.34	0.178	0.061	1.22	0.32	0.448	0.037
Managerial position	0.99	0.19	0.979	-0.001	0.94	0.20	0.758	-0.012
Occupational area (ref. education)								
Industrial sector	1.92	0.65	0.052	0.100	2.06	0.73	0.043	0.108
Service	2.22	0.78	0.022	0.128	2.32	0.84	0.020	0.129
Business, communic. and techn.	2.70	0.96	0.005	0.168	2.75	1.00	0.006	0.163
Public administration	2.59	1.03	0.017	0.159	2.53	1.02	0.022	0.146
Health and welfare	1.57	0.58	0.218	0.065	1.72	0.65	0.151	0.077
Unknown	2.37	1.02	0.044	0.141	2.40	1.08	0.052	0.136

The full model, including all the variables in the model, did not change the main line of the results: cyberbullying victimization at work (AME 0.143; 95% CI: 0.012, 0.273) and psychological distress (AME 0.008; 95% CI: 0.002, 0.015) predicted increased drinking. Burnout and work climate were not statistically significant. The effect of conscientiousness remained statistically significant (AME -0.011; 95% CI: -0.021, -0.001), but other personality traits were not associated with increased drinking. Of sociodemographic controls, younger age and occupational field differences remained statistically significant. For example, 30–45 year olds were less likely to increase drinking compared with those under 30 years of age (AME -0.128; 95% CI: -0.219, -0.036). Regarding occupational fields, there were no statistically significant differences between educational sector and health and welfare sector, but other fields reported higher likelihood for increased drinking than educational sector and health and welfare sector.

## DISCUSSION

### Principal results

This study investigated increased drinking of workers during the COVID-19 crisis in Finland during Spring 2020. About one-fourth of Finnish workers reported increased drinking, one-fourth decreased drinking and, within half of the participants, the situation had

remained the same. More than half of those whose drinking increased were hazardous drinkers. Our study focused on factors explaining the increase in drinking during the crisis. Cyberbullying victimization at work and psychological distress before the crisis predicted increased drinking. However, burnout was not related to increased drinking.

Conscientious individuals were less likely to report increased drinking. No connection was found among other personality traits (extroversion, neuroticism, openness and agreeableness). We also found that increased drinking was most common among younger workers aged 18–29 and those working in business, communication and technology sector and in public administration. Workers in educational and health and welfare sectors were less likely to report increased drinking compared with workers in other fields.

### Limitations

Our study was limited to Finland and it only concerned the working population. It would be important to investigate increased drinking during the COVID-19 crisis cross-nationally. The results are also limited to the beginning of the crisis. Our data collection period however was the deepest point of the crisis in Finland so far. Nevertheless, it is equally important to estimate the change in drinking over the time as the crisis prolongs. The study is also limited to self-reported information on drinking and it is possible that some individuals misreport their usage of alcohol.

## Comparison with prior work

Studies in various countries, e.g. Canadian, German, Greek and Polish studies, showed both increases and decreases in alcohol consumption (Koopmann *et al.*, 2020; NANOS Research, 2020; Panagiotidis *et al.*, 2020; Chodkiewicz *et al.*, 2020). The COVID-19 crisis has had a significant impact on social circumstances in which alcohol is typically consumed. In addition to restricting people's ability to hold gatherings and cancellation of large events, the availability of alcohol became limited due to the closure of bars and restaurants (Neufeld *et al.*, 2020; Oksanen, Kaakinen *et al.*, 2020).

Our finding that it was previous hazardous drinkers who tended to increase their drinking further is particularly important because heavy drinkers are more likely to become ill if they contract the coronavirus (Testino, 2020).

Our findings support prior studies which have indicated that cyberbullying victimization at work can have negative consequences on employee well-being (Farley *et al.*, 2015; Snyman and Loh, 2015; Kowalski *et al.*, 2018; Oksanen, Oksa *et al.*, 2020). Our analysis demonstrated that victims of cyberbullying at work had about 15% higher likelihood for increased drinking compared with non-victims. This implies that cyberbullying victimization is a major risk factor for heavier alcohol use, thus posing a further serious risk for employee well-being during the crisis. Therefore, organizations need to take actions such as establish clear procedures and systems to report and tackle cyberbullying, educate and support employees, and develop an anti-bullying organization culture.

Our findings also indicated that psychological distress predicted increased drinking during the COVID-19 crisis. Some prior studies have also associated alcohol use with psychological distress during the COVID-19 crisis (Ahmed *et al.*, 2020; Chodkiewicz *et al.*, 2020; Lechner *et al.*, 2020; Neill *et al.*, 2020). Moreover, prior research on drinking in non-crisis situations has made this link (Choi and DiNitto, 2011; Park *et al.*, 2020). In our study, however, burnout did not predict increased drinking, although the link between burnout and alcohol consumption has been established before (Jackson *et al.*, 2016; Pedersen *et al.*, 2016). Future studies should continue investigating the role of burnout during the prolonged crisis.

We additionally found that conscientious people had a lower likelihood for increased drinking. This finding is not surprising per se, as low conscientiousness has been generally associated with heavy drinking (Stewart *et al.*, 2001; Kuntsche *et al.*, 2006). In addition, we found that younger workers increased their drinking more than others. Occupational field differences were also major predictors, which reflect the situational factors people have had during the crisis. Considering, it is a rather positive finding that essential workers in health and welfare sectors were less likely to report increased drinking.

## CONCLUSIONS

Our findings indicate a need to pay attention to alcohol use habits during crisis situations. Pre-crisis negative experiences and feelings were risks for increased drinking during the COVID-19 crisis in Spring 2020. In particular, our results underline the role of cyberbullying at work, which has long-lasting negative effects on individuals. Furthermore, psychological distress predicted increased drinking. Results suggest that preventive work should be done already at the workplaces. Employers and organizations should screen for cyberbullying and psychological distress and provide support for individuals facing these risks. This is particularly important if alcohol

consumption is used as a means of coping during a stressful time, as increased alcohol drinking for the purpose of coping may persist even after the stressor is gone (Keyes *et al.*, 2011), increasing health risks and societal burden of alcohol use.

## FUNDING

This research has received funding from the Finnish Work Environment Fund (Professional Social Media Use and Work Engagement Among Young Adults Project, project number 118055, principle investigator: Atte Oksanen).

## CONFLICTS OF INTEREST STATEMENT

None declared.

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