

Journal Pre-proof

Psychological impact of COVID-19 Pandemic: Protocol and Results of first three weeks from an international cross-section survey - focus on health professionals



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Highlights

- Understanding the psychological impact of the COVID-19 pandemic will be vital for service planning and delivery
- Initial results in UK show healthcare professionals report more mild anxiety and depression than non-healthcare professionals
- Increasing age and female gender are associated with higher compliance with government guidelines
- Participants who report suicidal thoughts pre-COVID are less likely to communicate with friends and family, or engage in coping strategies

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**Psychological impact of COVID-19 Pandemic: Protocol and Results of first
three weeks from an international cross-section survey - focus on health
professionals**

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Abstract**Background**

The psychological impact of COVID-19, resultant measures and future consequences to life will be unveiled in time.

Aim

To investigate the psychological impact of COVID-19, resultant restrictions, impact on behaviours and mental wellbeing globally. This early analysis, explores positive and adverse factors and behaviours with focus on healthcare professionals.

Methods

This is a cross-sectional survey, using a questionnaire based on published approaches to understand the psychological impact of COVID-19. The survey will be repeated at 6 months because of rapidly changing situation.

Results

We have presented results from first 3 weeks of the survey. Conclusions may change as more individuals take part over time.

7,917 participants completed the survey in the first 3 weeks; 7,271 are from the United Kingdom. 49.7% of the participants are healthcare professionals. There is high representation of female participants. Participants reporting suicidal thoughts is 32%. Healthcare professionals have reported mild depression and anxiety in higher proportions. Increasing age and female gender report higher compliance with government advice on COVID 19 whereas higher education, homeowners, key

worker status, high alcohol, drug use and participants with pre-existing suicidal thoughts reported low compliance with government advice. Participants who reported suicidal thoughts pre-COVID are less likely to communicate with friends and family, or engage in coping strategies.

Conclusions

Evidence has shown an adverse psychological impact of previous pandemics on the population, especially wellbeing of healthcare professionals. Research should focus on identifying the need, preparing services and determining the factors that enhance and build resilience.

Funding: This survey is linked to a MRC global health research program of the Portsmouth-Brawijaya Centre for Global Health, Population, and Policy, (MR/N006267/1), University of Portsmouth.

Keywords: COVID-19, Healthcare professionals, psychological impact

Background

The COVID-19 pandemic has threatened the health and lives of millions of people across the globe. On 30th January 2020, the World Health Organization declared a public health emergency of international concern, and governments were urged to prepare for the global spread of COVID-19 from East Asia (World Health Organisation, 2020). The United Kingdom (UK) government and its advisers initially had a four-pronged plan (of 3rd March 2020) to contain, delay, research, and mitigate (Department of Health and Social Care, 2020). Subsequently, on 23rd March 2020, the UK went into lockdown. In early May, there was some easing for hardware and home improvement stores, and on 11th May 2020, a report on the impact of the pandemic in England was published.

While the primary focus has been on preventing transmission of the virus, finding vaccines and a cure, there is a realisation that the effects and aftermath of this crisis, especially for mental health globally, could be unprecedented. These may range from the understandable anxiety related to health, life and global uncertainty (Yao et al., 2020), to the effects of restrictions that have been placed on lives in the form of social distancing (Bedford et al., 2020), self-isolation and quarantine regimes (Reynolds et al., 2007; Memish et al., 2020). A recent review reported negative psychological effects, including post-traumatic stress symptoms, confusion, and anger. Stressors reported in quarantine included longer quarantine duration,

infection fears, frustration, boredom, inadequate supplies, inadequate information, financial loss and stigma (Brooks et al, 2020). Vindegaard, and Benros (2020) completed a systematic review of 43 studies measuring psychiatric impact associated with COVID-19 and concluded that further research is needed for preventive measures during potential subsequent pandemics.

Key workers, younger adults, those living in over-crowded households, and individuals with health conditions (especially mental health conditions) have reported more daily stressors (Fancourt et al, 2020). Changes in behaviour and adaptations determine perceived levels of stress, depression and anxiety. Emerging evidence suggests that individuals with pre-existing psychiatric disorders have experienced worsening of psychiatric symptoms (Vindegaard and Eriksen Benros, 2020).

Given this unprecedented situation, health and social care workers on the frontline are directly involved in the treatment and care of patients with COVID-19, which has led to an overwhelming workload. The working environment and lack of personal protection equipment (PPE) emphasize the need to investigate the psychological impacts of COVID-19 on health and social care workers. Recent studies investigating health care workers found increased depression/depressive symptoms, anxiety, psychological distress, and poor sleep quality (Vindegaard and Eriksen Benros, 2020; Lai et al., 2020). Previous studies on the outbreaks of other infectious diseases, such as severe acute respiratory syndrome (SARS) and Middle East respiratory syndrome (MERS), have consistently showed adverse psychological impacts on health care workers. These impacts include a high level of anxiety and

depression and stress that resulted in meeting the diagnosis of post-traumatic stress disorder (Lee et al., 2018; Tam et al., 2004). Other studies have shown that the potential to transmit the disease to families and friends have been a fear weighing in healthcare professionals minds (Rubin et al. 2020; Wingfield et al. 2020; Brooks et al. 2020).

Despite the rapidly building evidence on the impact of COVID 19, there are significant gaps due to the unprecedented nature of the pandemic and the resultant changes across the globe. Each study makes a unique contribution and adds a different perspective, thereby improving generalisability and our understanding of the landscape.

Given the unique situation we face, we sought to explore, via an international study, the psychological impact of COVID-19, the resultant restrictions and impact on emotions, behaviours and changes in mental health and wellbeing.

Main purpose of this study

To investigate the psychological impact of COVID-19, the resultant restrictions and impact on behaviours and changes in mental wellbeing across the global population.

We also aim to explore what pre-COVID-19 factors and behaviours may support

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The study is designed to explore the psychological impact of COVID-19 on the following groups though they are not mutually exclusive:

- General population
- Individuals with pre-existing vulnerabilities such as mental health conditions
- Individuals with families of COVID-19
- Healthcare professionals (HCP)

For interim analysis in first three weeks of the study we wanted to investigate:

1. Are families with experience of COVID-19, healthcare workers, and people with pre-existing mental health conditions or other co morbid conditions or vulnerabilities more likely to experience mental health consequences compared to others?
2. Are there differences in psychological impact of COVID 19 for different demographics

Null hypothesis: There will be no difference in the psychological impact of COVID-19 between the different groups or by demographics.

Methodology

This is a repeated, cross-sectional study. The survey will be repeated at 6 months because of rapidly changing situation and potential of second wave of the pandemic, predicted in the winter. We devised an online questionnaire, based on published approaches, to understand the psychological impact of COVID-19 and the resultant restrictions. Five standardised measures have been included to explore levels of depression (Patient Health Questionnaire-9; Kroenke and Spitzer, 2002), anxiety

(GAD-7; Generalised Anxiety Disorder Assessment; Spitzer et al., 2006) impact (The Impact of Event Scale- Revised; IES . R; Weiss and Marmar, 1997), loneliness (a brief loneliness scale, Hughes, et al; 2004) and social support (The Multidimensional Scale of Perceived Social support; MSPSS, Zimet et al, 1988)

The questionnaire has several versions. The first version has been implemented in the UK, and the other versions have been adapted based on cultures and landscapes of different countries. The adaptations are culturally informed and translated into local languages to make them relevant and sensitive to local populations. The questions have been investigated for face and content validity with a limited relevant sample before using them in the survey.

We have reviewed other questionnaires currently being implemented and found that each is unique and different in what it is trying to measure. For an unknown entity like COVID-19, over-inclusiveness and repetition improves validity.

In the UK, the questionnaire was implemented on 1st May 2020 with Southern Health NHS Foundation Trust as the sponsor. Since then, 50 National Health Service (NHS) Trusts, Universities and The Centre for Applied Research and Evaluation International Foundation (CAREIF) have collaborated and are advertising the survey to their staff, patients and public. Organisations joined slowly as in the first week there were 18 organisations, 37 in the second week and 42 in the third week of this analysis paper. Of the 42 NHS organisations, 26 were mental health and community

Table 3: Summary statistics of attitudes and health outcomes in coronavirus time by healthcare professional

	N	Non-healthcare Professional		Healthcare Professional		Mean Diff.	p-value
		Mean	SD	Mean	SD		
Followed government advice (N=7,917; missing=0)							
Very few time	683	0.140	0.347	0.032	0.177	-0.107	0.000
Some of the time	135	0.016	0.124	0.019	0.135	0.003	0.303
Several time	1,336	0.153	0.360	0.185	0.388	0.032	0.000
Most of the time	5,763	0.692	0.462	0.764	0.424	0.072	0.000
Did risky activities (N=7,917; missing=0)							
Rare	7,587	0.964	0.186	0.952	0.213	-0.012	0.009
Very few time	312	0.034	0.181	0.045	0.207	0.011	0.011
Some of the time	8	0.001	0.027	0.001	0.036	0.001	0.468
Several time	2	0.000	0.016	0.000	0.016	0.000	0.993
Most of the time	8	0.001	0.032	0.001	0.032	0.000	0.985
Patient health questionnaire (PHQ9) (N=7,917; missing=0)							
None (0-4)	3,501	0.463	0.499	0.421	0.494	-0.042	0.000
Mild (5-9)	2,202	0.255	0.436	0.302	0.459	0.047	0.000
Moderate (10-14)	1,146	0.138	0.345	0.152	0.359	0.014	0.077
Moderately Severe (15-19)	618	0.074	0.262	0.082	0.275	0.008	0.180
Severe (20-27)	450	0.070	0.256	0.043	0.203	-0.027	0.000
Generalised anxiety disorder (GAD7) (N=7,917; missing=0)							
None (0-4)	4,545	0.580	0.494	0.569	0.495	-0.011	0.320
Mild (5-9)	1,942	0.235	0.424	0.256	0.436	0.020	0.035
Moderate (10-14)	816	0.100	0.301	0.106	0.308	0.005	0.432
Severe (15-21)	614	0.085	0.279	0.070	0.255	-0.015	0.015
Impact of events scale revised (IES-R) (N=7,917; missing=0)							
None (0-23)	5,892	0.741	0.438	0.747	0.435	0.006	0.572
PTSD may be concern (24-32)	757	0.095	0.293	0.096	0.295	0.001	0.882
Probably PTSD diagnosis (33-38)	352	0.042	0.202	0.047	0.211	0.004	0.375
High PTSD (39 and above)	916	0.121	0.326	0.110	0.313	-0.011	0.139
Drinking alcohol changed (N=5,459; missing=2,458)							
Decreased	725	0.130	0.336	0.136	0.343	0.006	0.497
Unchanged	2,925	0.557	0.497	0.517	0.500	-0.041	0.003
Increased	1,809	0.313	0.464	0.348	0.476	0.034	0.007
Drug use changed (N=152; missing=7,765)							
Decreased	41	0.286	0.454	0.241	0.432	-0.045	0.553
Unchanged	64	0.439	0.499	0.389	0.492	-0.050	0.554
Increased	47	0.276	0.449	0.370	0.487	0.095	0.229
Mental health support changed (N=1,396; missing=6,521)							
Decreased	260	0.203	0.403	0.168	0.374	-0.035	0.090
Unchanged	970	0.694	0.461	0.695	0.461	0.001	0.966
Increased	166	0.102	0.303	0.137	0.344	0.034	0.048
Mental health affected (N=2,629; missing=5,288)							
No	729	0.264	0.441	0.291	0.454	0.026	0.129
Some of the time	1,118	0.418	0.493	0.433	0.496	0.014	0.455
Most of the time	395	0.152	0.360	0.148	0.355	-0.004	0.750
All of the time	387	0.165	0.372	0.129	0.335	-0.036	0.008
Mental health changed (N=2,611; missing=5,306)							
Decreased	1,479	0.565	0.496	0.567	0.496	0.002	0.917
Unchanged	928	0.351	0.477	0.360	0.480	0.009	0.623
Increased	204	0.084	0.277	0.072	0.259	-0.011	0.285
Suicidal thoughts changed (N=232; missing=7,685)							
Yes	188	0.815	0.390	0.802	0.401	-0.012	0.824
No	44	0.185	0.390	0.198	0.401	0.012	0.824
Worried about corona virus (N=7,917; missing=0)							
Not at all	773	0.151	0.358	0.044	0.205	-0.107	0.000
A little bit	859	0.098	0.298	0.119	0.324	0.020	0.004
Moderately	2,596	0.294	0.456	0.363	0.481	0.069	0.000

	N	Non-healthcare Professional (Healthcare Professional (Mean Diff.	p-value
		Mean	SD	Mean	SD		
Quite a bit	2,466	0.302	0.459	0.321	0.467	0.018	0.081
Extremely	1,223	0.155	0.362	0.154	0.361	-0.001	0.923

Note: Mean is a proportion of individual in a category. If we multiply means by 100, we will get percentages. SD is standard deviation.

Table 4: Summary statistics of coping mechanisms in coronavirus time by healthcare professional

	N	Non-healthcare Professional (N = 3,984)		Healthcare Professional (Mean Diff.	p-value
		Mean	SD	Mean	SD		
Communicated with friends/family (=7,917; missing=0)							
Not at all	1,026	0.182	0.386	0.076	0.265	-0.106	0.000
Every few days	1,595	0.200	0.400	0.203	0.403	0.004	0.669
Daily	4,057	0.471	0.499	0.555	0.497	0.084	0.000
Several times a day	1,239	0.147	0.354	0.166	0.372	0.018	0.024
Relationships impacted(=6,796; missing=1,121)							
Isolated	2,912	0.408	0.492	0.446	0.497	0.038	0.002
No change	1,300	0.205	0.404	0.179	0.384	-0.026	0.007
Feeling closer	1,177	0.177	0.381	0.170	0.376	-0.007	0.473
Having more arguments	209	0.032	0.175	0.030	0.171	-0.002	0.690
Talking more	1,198	0.179	0.383	0.174	0.379	-0.004	0.641
Did good/coping activities(=7,917; missing=0)							
Not at all	1,007	0.180	0.384	0.073	0.261	-0.107	0.000
Every few days	2,811	0.339	0.474	0.371	0.483	0.032	0.003
Daily	4,051	0.473	0.499	0.550	0.498	0.077	0.000
Several times a day	48	0.007	0.084	0.005	0.071	-0.002	0.266
Good/coping activities changed (=7,917; missing=0)							
Decreased	790	0.097	0.295	0.103	0.304	0.006	0.347
Unchanged	1,706	0.260	0.439	0.170	0.376	-0.090	0.000
Increased	5,421	0.643	0.479	0.727	0.446	0.083	0.000
Amount of activity time impacted (=6,794; missing=1,123)							
None at all	327	0.046	0.210	0.050	0.217	0.003	0.512
A little	727	0.105	0.307	0.109	0.311	0.003	0.644
A moderate amount	1,724	0.248	0.432	0.259	0.438	0.010	0.322
A lot	1,695	0.249	0.433	0.250	0.433	0.001	0.951
A great deal	2,321	0.351	0.477	0.333	0.471	-0.018	0.118
Confident on coping(=6,851; missing=1,066)							
Not at all	50	0.012	0.109	0.003	0.055	-0.009	0.000
A little bit	454	0.080	0.271	0.054	0.227	-0.025	0.000
Moderately	1,668	0.267	0.442	0.223	0.416	-0.044	0.000
Quite a bit	2,952	0.414	0.493	0.446	0.497	0.033	0.006
Extremely	1,727	0.228	0.420	0.274	0.446	0.046	0.000

Note: Mean is a proportion of individual in a category. If we multiply means by 100, we will get percentages. SD is standard deviation.

Table 5: Ordered logit regressions of ordered psychological health outcomes on healthcare professionals and other covariates

	Government advice		Risky activities		PHQ-9		GAD-7		IESR	
	Coeff.	p-value	Coeff.	p-value	Coeff.	p-value	Coeff.	p-value	Coeff.	p-value
Healthcare Professionals	0.018	(0.841)	0.085	(0.653)	-0.111	(0.114)	-0.180**	(0.016)	-0.064	(0.467)
Age Category (Base: below 21)										
21-24	0.348	(0.388)	-0.214	(0.751)	0.268	(0.538)	0.137	(0.674)	0.226	(0.495)
25-34	0.430	(0.271)	-0.536	(0.413)	-0.196	(0.651)	-0.153	(0.627)	-0.122	(0.706)
35-44	0.766*	(0.053)	-1.005	(0.126)	-0.286	(0.513)	-0.202	(0.524)	-0.020	(0.950)
45-54	0.911**	(0.021)	-0.828	(0.206)	-0.699	(0.111)	-0.636**	(0.046)	-0.313	(0.341)
55-64	0.952**	(0.017)	-1.123*	(0.093)	-0.846*	(0.054)	-0.791**	(0.014)	-0.344	(0.300)
65 and over	1.252**	(0.012)	-1.128	(0.200)	-1.139**	(0.019)	-1.053***	(0.008)	-0.563	(0.195)
Ethnicity (Base: others)										
White	0.085	(0.567)	0.328	(0.328)	0.082	(0.530)	0.134	(0.309)	0.161	(0.295)
Asian	0.091	(0.749)	0.631	(0.244)	-0.256	(0.286)	-0.006	(0.980)	-0.074	(0.818)
Black	-0.218	(0.524)	0.474	(0.512)	-0.532	(0.119)	-0.143	(0.645)	-0.348	(0.392)
Religion (Base: others)										
Christian	-0.013	(0.953)	-0.513	(0.183)	0.282	(0.123)	0.336*	(0.067)	0.232	(0.285)
Muslim	-0.593	(0.166)	-0.504	(0.615)	-0.175	(0.631)	-0.132	(0.753)	0.043	(0.929)
Sikh	0.038	(0.955)	-0.184	(0.873)	-0.824	(0.109)	-0.457	(0.487)	-0.816	(0.505)
Hindu	-0.707	(0.106)	-0.566	(0.486)	0.262	(0.492)	0.454	(0.200)	0.599	(0.205)
Jewish	-0.607	(0.223)	-13.924***	(0.000)	-0.128	(0.802)	0.020	(0.965)	0.108	(0.839)
Buddhist	0.166	(0.694)	0.048	(0.938)	0.059	(0.885)	0.141	(0.718)	0.191	(0.684)
No religion	-0.050	(0.817)	-0.341	(0.368)	0.260	(0.154)	0.161	(0.381)	0.153	(0.481)
Male	-0.540***	(0.000)	0.278	(0.101)	-0.421***	(0.000)	-0.419***	(0.000)	-0.677***	(0.000)
Left education (Base: before age 16)										
At age 16	0.007	(0.967)	0.156	(0.624)	0.160	(0.200)	0.016	(0.902)	0.078	(0.599)
At age 18	-0.103	(0.524)	-0.178	(0.579)	0.229*	(0.048)	0.086	(0.472)	0.045	(0.751)
Attended University	-0.263*	(0.072)	0.064	(0.814)	-0.107	(0.303)	-0.202*	(0.063)	-0.171	(0.184)
Accommodation (Base: others)										
Own home	0.388*	(0.064)	-0.272	(0.429)	-0.566**	(0.002)	-0.610***	(0.002)	-0.533***	(0.004)
Shared	0.580*	(0.065)	-1.221*	(0.063)	-0.350	(0.195)	-0.790***	(0.006)	-0.307	(0.312)
Private rented	0.353	(0.107)	-0.382	(0.294)	-0.303	(0.107)	-0.369*	(0.069)	-0.299	(0.128)
Parent's home										
Own home	0.318	(0.188)	-0.675	(0.104)	-0.177	(0.400)	-0.331	(0.135)	-0.285	(0.200)
Keyworker (Base: no)										
Health and Social	-0.201*	(0.061)	0.060	(0.785)	-0.015	(0.850)	0.034	(0.687)	-0.064	(0.522)
Education	-0.036	(0.839)	0.030	(0.930)	-0.021	(0.860)	0.102	(0.450)	0.131	(0.378)
Key public services	-0.839**	(0.005)	0.781	(0.122)	0.049	(0.821)	-0.144	(0.524)	-0.220	(0.522)
Local government	0.236	(0.399)	0.096	(0.841)	0.076	(0.653)	-0.004	(0.983)	0.231	(0.280)
Food	-0.788***	(0.005)	0.807*	(0.058)	0.579***	(0.006)	0.408*	(0.059)	0.242	(0.318)
Public safety	-0.360	(0.499)	0.445	(0.685)	0.076	(0.899)	0.091	(0.844)	-0.891	(0.247)
Transport	0.889	(0.169)	-13.793***	(0.000)	0.248	(0.549)	0.272	(0.541)	0.501	(0.147)
Utilities	-0.176	(0.543)	0.138	(0.804)	0.088	(0.696)	0.048	(0.823)	0.303	(0.216)
Pre-existing health condition (Base: none)										
Anxiety	0.061	(0.656)	-0.389	(0.174)	0.358***	(0.000)	0.726***	(0.000)	0.585***	(0.000)
Panic Attacks	-0.351	(0.162)	-0.010	(0.984)	0.623***	(0.000)	1.214***	(0.000)	1.182***	(0.000)
Anorexia	-0.303	(0.642)	-13.942***	(0.000)	0.565	(0.314)	0.469	(0.479)	0.518	(0.498)
Psychosis	-0.566	(0.652)	-13.416***	(0.000)	-0.547	(0.589)	-14.335***	(0.000)	0.508	(0.786)
Depression	-0.050	(0.646)	-0.162	(0.462)	0.834***	(0.000)	0.757***	(0.000)	0.617***	(0.000)
Bulimia	-0.694*	(0.097)	-0.328	(0.764)	0.818*	(0.057)	1.081***	(0.003)	0.111	(0.841)
Social phobia	-0.477	(0.154)	0.297	(0.595)	1.200***	(0.000)	1.391***	(0.000)	1.563***	(0.000)
Attention deficit	-0.747	(0.180)	-0.530	(0.645)	1.049**	(0.013)	0.918**	(0.023)	0.934*	(0.050)
Obsessive	0.213	(0.414)	-0.650	(0.301)	0.747***	(0.002)	1.127***	(0.000)	0.860***	(0.000)
Post-Traumatic	0.293	(0.188)	-0.481	(0.241)	0.956***	(0.000)	1.174***	(0.000)	1.281***	(0.000)
Alcohol/Drug	0.148	(0.887)	0.247	(0.831)	0.967*	(0.063)	1.229**	(0.029)	1.719***	(0.000)
Bi-polar disorder	-0.945**	(0.016)	0.776	(0.134)	0.471	(0.208)	0.117	(0.751)	0.372	(0.380)
Personality disorder	-0.627**	(0.028)	0.016	(0.976)	1.343***	(0.000)	1.193***	(0.000)	1.194***	(0.000)
Drinking alcohol (Base: Never)										
Monthly or less	0.009	(0.939)	0.141	(0.523)	0.019	(0.835)	0.039	(0.688)	-0.104	(0.357)
2-4 times a month	-0.153	(0.198)	-0.133	(0.561)	-0.101	(0.275)	-0.068	(0.476)	-0.173	(0.120)
2-3 times a week	-0.088	(0.445)	-0.211	(0.349)	-0.006	(0.946)	0.011	(0.901)	-0.002	(0.986)
More a week	-0.277**	(0.038)	0.229	(0.351)	0.224**	(0.030)	0.241**	(0.023)	0.350***	(0.004)
Using drugs	-0.515**	(0.015)	0.810**	(0.016)	0.336*	(0.096)	0.376*	(0.063)	-0.018	(0.938)
Suicidal thoughts	-0.261***	(0.001)	0.409***	(0.007)	0.891***	(0.000)	0.592***	(0.000)	0.749***	(0.000)
Having mental health support from (Base: No)										
GP	0.146	(0.202)	0.326	(0.113)	0.363***	(0.000)	0.199**	(0.028)	0.189**	(0.047)
Counsellor etc.	-0.216	(0.169)	0.271	(0.315)	0.414***	(0.001)	0.446***	(0.002)	0.361***	(0.010)
Community Mental	0.074	(0.793)	-0.601	(0.227)	0.506*	(0.070)	0.526*	(0.059)	0.196	(0.446)
Psychiatric hospital										
Religious Leader	0.013	(0.975)	-0.800	(0.446)	-0.600**	(0.042)	-0.673*	(0.073)	-0.812*	(0.078)
Constant1	-3.723***	(0.000)	2.146**	(0.012)	-0.722	(0.163)	-0.160	(0.713)	1.041**	(0.020)
Constant2	-2.961***	(0.000)	5.079***	(0.000)	0.819	(0.114)	1.334***	(0.002)	1.735***	(0.000)
Constant3	-0.775	(0.139)	5.709***	(0.000)	1.997***	(0.000)	2.424***	(0.000)	2.202***	(0.000)
Constant4			5.997***	(0.000)	3.194***	(0.000)				
Observations	5,655		5,655		5,655		5,655		5,655	
Adjusted R ²	0.029		0.035		0.087		0.077		0.076	

Note: p-values are in parentheses. * p < 0.10, ** p < 0.05, *** p < 0.01.

Table 6: Ordered logit regressions of ordered health change outcomes on healthcare professionals and other demographics

	Drinking alcohol changed		drug use changed		Mental health support changed		Mental health affected		Mental health changed	
	Coeff.	p-value	Coeff.	p-value	Coeff.	p-value	Coeff.	p-value	Coeff.	p-value
Healthcare Professionals	0.056	(0.511)	0.666	(0.446)	0.126	(0.532)	0.087	(0.462)	-0.067	(0.584)
Age Category (Base: below 21)										
21-24	0.317	(0.460)	20.362***	(0.000)	0.285	(0.841)	0.382	(0.306)	0.407	(0.508)
25-34	0.644	(0.117)	20.435***	(0.000)	0.345	(0.807)	-0.139	(0.690)	0.618	(0.303)
35-44	0.528	(0.205)	20.196***	(0.000)	0.287	(0.840)	-0.275	(0.437)	0.655	(0.277)
45-54	0.122	(0.769)	19.381***	(0.000)	0.064	(0.964)	-0.511	(0.153)	1.046*	(0.083)
55-64	-0.112	(0.788)	19.373***	(0.000)	0.194	(0.891)	-0.657*	(0.067)	1.296**	(0.033)
65 and over	0.004	(0.993)	0.000	(.)	-0.559	(0.702)	-0.532	(0.285)	1.250*	(0.059)
Ethnicity (Base: others)										
White	-0.026	(0.855)	-1.184	(0.205)	-0.684*	(0.075)	-0.208	(0.335)	-0.176	(0.431)
Asian	-0.365	(0.192)	-2.936	(0.691)	-2.459***	(0.001)	0.522	(0.281)	-0.052	(0.920)
Black	0.232	(0.438)	-37.276***	(0.000)	-2.431**	(0.029)	0.010	(0.990)	-0.491	(0.446)
Religion (Base: others)										
Christian	0.220	(0.317)	0.908	(0.521)	-0.328	(0.449)	0.335	(0.167)	-0.843***	(0.004)
Muslim	0.179	(0.603)	27.270***	(0.000)	-1.245	(0.185)	-0.224	(0.668)	0.127	(0.828)
Sikh	-0.681	(0.463)	0.000	(.)	0.000	(.)	-15.683***	(0.000)	1.831	(0.267)
Hindu	-0.039	(0.931)	21.338***	(0.004)	1.221	(0.135)	-0.357	(0.579)	-0.506	(0.454)
Jewish	-0.117	(0.749)	0.000	(.)	1.645*	(0.099)	0.173	(0.802)	-2.209**	(0.011)
Buddhist	-0.226	(0.685)	-0.578	(0.781)	-0.920	(0.360)	1.569**	(0.015)	-1.036	(0.146)
No religion	0.108	(0.624)	1.888	(0.186)	-0.289	(0.500)	0.176	(0.467)	-0.745**	(0.012)
Male	-0.386***	(0.000)	-1.059	(0.165)	-0.007	(0.977)	-0.290**	(0.047)	0.043	(0.765)
Left education (Base: before age 16)										
At age 16	0.194	(0.167)	-0.700	(0.683)	-0.274	(0.446)	0.118	(0.550)	-0.163	(0.441)
At age 18	0.275**	(0.043)	0.690	(0.707)	-0.278	(0.455)	0.212	(0.259)	-0.151	(0.466)
Attended University	0.122	(0.312)	-0.802	(0.627)	-0.358	(0.304)	-0.055	(0.758)	0.055	(0.776)
Accommodation (Base: others)										
Own home	0.179	(0.310)	1.198	(0.393)	0.158	(0.698)	-0.516**	(0.021)	0.540*	(0.055)
Shared	0.031	(0.917)	-1.799	(0.132)	0.188	(0.819)	-0.585*	(0.063)	0.331	(0.464)
Private rented	0.233	(0.212)	-0.001	(0.999)	0.186	(0.668)	-0.491**	(0.035)	0.232	(0.432)
Parent's home	0.000	(.)	0.000	(.)	0.000	(.)	0.000	(.)	0.000	(.)
Own home	-0.460**	(0.048)	-1.694	(0.142)	0.324	(0.526)	-0.788***	(0.004)	0.340	(0.319)
Keyworker (Base: no)										
Health and Social	-0.041	(0.688)	-0.169	(0.853)	0.042	(0.861)	-0.153	(0.261)	-0.057	(0.688)
Education	0.147	(0.356)	1.758	(0.072)	-0.301	(0.378)	-0.230	(0.245)	-0.117	(0.646)
Key public services	-0.007	(0.981)	0.000	(.)	-0.201	(0.795)	-0.001	(0.999)	0.268	(0.558)
Local government	0.111	(0.632)	17.361***	(0.000)	0.159	(0.793)	-0.390	(0.226)	0.429	(0.149)
Food	-0.097	(0.730)	2.176**	(0.014)	-0.824	(0.118)	0.517	(0.173)	-0.625	(0.122)
Public safety	0.283	(0.533)	0.000	(.)	0.503	(0.396)	-1.019	(0.121)	0.847*	(0.050)
Transport	0.987*	(0.062)	-1.401	(0.400)	0.836	(0.732)	0.404	(0.442)	0.195	(0.857)
Utilities	0.562*	(0.075)	-41.473***	(0.000)	1.059	(0.166)	0.264	(0.398)	-0.214	(0.584)
Pre-existing health condition (Base: none)										
Anxiety	0.114	(0.358)	-1.301	(0.392)	0.838*	(0.067)	-0.188	(0.347)	0.306	(0.117)
Panic Attacks	0.322	(0.280)	-2.688**	(0.038)	0.558	(0.317)	0.287	(0.304)	-0.114	(0.658)
Anorexia	0.851**	(0.011)	0.000	(.)	0.580	(0.311)	-0.210	(0.788)	0.576	(0.389)
Psychosis	-1.865***	(0.000)	0.000	(.)	-14.658***	(0.000)	-1.826	(0.168)	2.679**	(0.011)
Depression	0.064	(0.557)	-0.053	(0.962)	0.580	(0.188)	-0.095	(0.618)	0.182	(0.329)
Bulimia	-0.049	(0.872)	-1.074	(0.727)	-0.124	(0.875)	-0.079	(0.876)	-0.243	(0.658)
Social phobia	0.858**	(0.019)	0.038	(0.985)	0.281	(0.675)	0.462	(0.206)	0.092	(0.797)
Attention deficit	1.671***	(0.001)	-2.231	(0.243)	0.104	(0.904)	0.465	(0.347)	-0.156	(0.772)
Obsessive	0.237	(0.356)	0.527	(0.761)	0.675	(0.245)	0.312	(0.264)	-0.062	(0.833)
Post-Traumatic	0.256	(0.148)	-1.775	(0.284)	-0.172	(0.744)	0.319	(0.176)	0.045	(0.854)
Alcohol/Drug	0.029	(0.971)	-0.502	(0.638)	-0.900	(0.398)	1.203	(0.109)	-0.437	(0.573)
Bi-polar disorder	0.030	(0.935)	53.481***	(0.000)	0.335	(0.643)	-0.505	(0.212)	1.457***	(0.002)
Personality disorder	0.647**	(0.045)	15.750**	(0.023)	0.597	(0.337)	0.782**	(0.020)	-0.428	(0.298)
Drinking alcohol (Base: Never)										
Monthly or less	-0.444***	(0.000)	0.101	(0.914)	-0.131	(0.569)	0.098	(0.490)	0.168	(0.250)
2-4 times a month	0.430***	(0.000)	-0.796	(0.473)	0.045	(0.852)	-0.048	(0.733)	0.097	(0.524)
2-3 times a week	1.708***	(0.000)	-1.256	(0.157)	-0.016	(0.946)	-0.010	(0.942)	0.197	(0.183)
More a week	2.651***	(0.000)	-0.785	(0.493)	0.034	(0.898)	0.313*	(0.061)	-0.158	(0.368)
Using drugs	-0.048	(0.870)	0.000	(.)	-0.155	(0.711)	0.156	(0.578)	0.074	(0.825)
Suicidal thoughts	0.052	(0.514)	1.338*	(0.081)	-0.292*	(0.055)	0.087	(0.323)	-0.250***	(0.010)
Having mental health support from (Base: No)										
GP	0.101	(0.361)	1.044	(0.249)	-0.387	(0.129)	0.181**	(0.044)	-0.227**	(0.018)
Counsellor etc.	-0.306*	(0.051)	0.396	(0.662)	0.191	(0.454)	0.740***	(0.000)	-0.060	(0.704)
Community Mental	-0.219	(0.427)	17.243***	(0.000)	-0.781*	(0.066)	0.907***	(0.000)	-0.530*	(0.096)
Psychiatric hospital	0.000	(.)	0.000	(.)	0.000	(.)	0.000	(.)	0.000	(.)
Religious Leader	0.447	(0.243)	-35.565***	(0.000)	0.284	(0.420)	0.161	(0.645)	-0.365	(0.384)
Constant1	-0.732	(0.159)	18.655***	(0.000)	-2.590	(0.118)	-1.564***	(0.005)	0.489	(0.520)
Constant2	2.375***	(0.000)	21.836***	(0.000)	1.328	(0.422)	0.481	(0.392)	2.818***	(0.000)
Constant3							1.466**	(0.009)		
Observations	4,238		104		1,039		2,024		2,013	
Adjusted R ²	0.140		0.346		0.051		0.042		0.042	

Note: p-values are in parentheses. * p < 0.10, ** p < 0.05, *** p < 0.01.

Table 7: Ordered logit regressions of ordered health change outcomes on healthcare professionals and other covariates

	Suicidal thoughts changed		Worried about corona virus		Communication with family		Relationships impacted		Did good/coping activities	
	Coeff.	p-value	Coeff.	p-value	Coeff.	p-value	Coeff.	p-value	Coeff.	p-value
Healthcare Professionals	-0.322	(0.657)	-0.118*	(0.083)	0.092	(0.186)	-0.046	(0.507)	0.078	(0.291)
Age Category (Base: below 21)										
21-24	-16.946	(.)	0.342	(0.290)	-0.226	(0.501)	-0.010	(0.979)	0.245	(0.412)
25-34	-18.254	(.)	0.355	(0.260)	-0.386	(0.240)	0.080	(0.835)	0.206	(0.486)
35-44	-19.225	(.)	0.411	(0.197)	-0.695**	(0.037)	0.050	(0.898)	0.502*	(0.095)
45-54	-18.624	(.)	0.286	(0.370)	-0.915***	(0.006)	0.100	(0.797)	0.151	(0.617)
55-64	-18.313	(.)	0.339	(0.291)	-0.995***	(0.003)	0.122	(0.755)	0.107	(0.726)
65 and over	-1.858	(.)	0.139	(0.731)	-1.470***	(0.000)	0.012	(0.977)	0.460	(0.205)
Ethnicity (Base: others)										
White	-0.511	(0.693)	-0.006	(0.960)	0.111	(0.353)	-0.324***	(0.003)	0.061	(0.615)
Asian	18.452***	(0.000)	0.099	(0.681)	-0.073	(0.776)	0.437**	(0.043)	0.297	(0.253)
Black	-1.233	(0.743)	0.187	(0.631)	0.134	(0.736)	-0.054	(0.823)	-0.278	(0.427)
Religion (Base: others)										
Christian	-17.903	(.)	0.440**	(0.019)	0.310*	(0.062)	0.180	(0.309)	0.322*	(0.071)
Muslim	-0.000	(.)	0.100	(0.803)	0.834**	(0.019)	-0.470	(0.138)	1.163**	(0.012)
Sikh	-0.000	(.)	0.489	(0.355)	2.304***	(0.005)	-0.112	(0.796)	1.438*	(0.084)
Hindu	-17.404	(.)	0.013	(0.973)	0.366	(0.369)	-0.207	(0.569)	0.063	(0.883)
Jewish	1.374	(.)	-0.452	(0.354)	0.642	(0.147)	0.317	(0.389)	0.352	(0.443)
Buddhist	-20.294***	(0.001)	0.221	(0.520)	0.191	(0.565)	-0.139	(0.636)	0.603	(0.125)
No religion	-18.037	(.)	0.151	(0.417)	0.056	(0.731)	0.162	(0.361)	0.037	(0.835)
Male	-0.281	(0.775)	-0.281***	(0.000)	-0.527***	(0.000)	0.111*	(0.099)	-0.096	(0.225)
Left education (Base: before age 16)										
At age 16	-0.150	(0.926)	0.212	(0.101)	-0.010	(0.939)	0.101	(0.396)	-0.203	(0.104)
At age 18	0.139	(0.938)	0.070	(0.567)	-0.043	(0.717)	0.075	(0.515)	-0.166	(0.166)
Attended University	0.167	(0.907)	-0.239**	(0.028)	0.053	(0.596)	0.284***	(0.005)	0.047	(0.654)
Accommodation (Base: others)										
Own home	-1.337	(0.314)	-0.271	(0.177)	0.222	(0.133)	0.132	(0.405)	0.464***	(0.003)
Shared	-2.877*	(0.086)	-0.414	(0.116)	-0.214	(0.373)	0.112	(0.663)	-0.692***	(0.004)
Private rented	-1.122	(0.486)	-0.159	(0.442)	0.317**	(0.045)	-0.041	(0.808)	0.043	(0.798)
Parent's home	-0.000	(.)	0.000	(.)	0.000	(.)	0.000	(.)	0.000	(.)
Own home	-2.689*	(0.082)	0.100	(0.645)	0.245	(0.195)	0.282	(0.147)	-0.149	(0.436)
Keyworker (Base: no)										
Health and Social	-0.002	(0.998)	-0.109	(0.159)	-0.233***	(0.004)	-0.188**	(0.019)	-0.135	(0.115)
Education	1.228	(0.419)	-0.184	(0.128)	0.340***	(0.009)	0.107	(0.423)	0.410***	(0.005)
Key public services	-2.395	(0.149)	-0.526*	(0.055)	-0.037	(0.887)	-0.190	(0.509)	0.327	(0.247)
Local government	19.234***	(0.000)	-0.204	(0.289)	-0.047	(0.804)	-0.157	(0.402)	-0.095	(0.622)
Food	18.211***	(0.000)	-0.146	(0.523)	-0.002	(0.994)	-0.120	(0.566)	-0.210	(0.383)
Public safety	-0.000	(.)	-0.648*	(0.092)	0.116	(0.762)	-0.140	(0.719)	0.536	(0.426)
Transport	18.945***	(0.000)	0.187	(0.571)	-0.290	(0.416)	0.161	(0.615)	-0.230	(0.514)
Utilities	20.100***	(0.000)	-0.342	(0.203)	0.199	(0.416)	-0.111	(0.630)	-0.318	(0.164)
Pre-existing health condition (Base: none)										
Anxiety	19.058***	(0.000)	0.197**	(0.040)	0.138	(0.196)	-0.098	(0.400)	0.022	(0.841)
Panic Attacks	18.453***	(0.000)	0.846***	(0.000)	0.643**	(0.010)	-0.008	(0.971)	0.001	(0.995)
Anorexia	-0.000	(.)	0.165	(0.774)	0.147	(0.855)	0.372	(0.450)	-0.261	(0.655)
Psychosis	-0.000	(.)	-1.573*	(0.056)	0.636	(0.704)	0.155	(0.820)	0.622	(0.470)
Depression	0.722	(0.453)	0.309***	(0.000)	-0.046	(0.593)	-0.089	(0.329)	-0.036	(0.686)
Bulimia	18.710***	(0.000)	0.350	(0.381)	0.031	(0.938)	0.308	(0.440)	-0.237	(0.516)
Social phobia	-1.018	(0.443)	0.451*	(0.096)	-0.461*	(0.055)	0.279	(0.297)	-0.227	(0.388)
Attention deficit	17.010***	(0.000)	0.487	(0.179)	-0.201	(0.676)	-0.645*	(0.093)	-0.032	(0.944)
Obsessive	1.573	(0.362)	0.835***	(0.000)	-0.042	(0.829)	-0.092	(0.684)	0.013	(0.955)
Post-Traumatic	0.574	(0.510)	0.206	(0.183)	-0.021	(0.901)	-0.168	(0.369)	0.161	(0.354)
Alcohol/Drug	16.876***	(0.000)	0.888	(0.103)	0.971	(0.243)	-0.436	(0.533)	0.339	(0.654)
Bi-polar disorder	18.819***	(0.000)	-0.033	(0.934)	-0.283	(0.504)	-0.454	(0.219)	-0.188	(0.599)
Personality disorder	0.463	(0.678)	0.147	(0.576)	-0.306	(0.322)	-0.094	(0.730)	-0.537**	(0.037)
Drinking alcohol (Base: Never)										
Monthly or less	0.906	(0.240)	0.147	(0.122)	0.304***	(0.001)	-0.085	(0.340)	-0.014	(0.884)
2-4 times a month	0.081	(0.924)	-0.073	(0.429)	0.365***	(0.000)	-0.061	(0.495)	0.020	(0.832)
2-3 times a week	1.671*	(0.089)	0.040	(0.652)	0.410***	(0.000)	0.096	(0.266)	0.278***	(0.003)
More a week	1.561	(0.175)	-0.046	(0.648)	0.328***	(0.001)	-0.009	(0.930)	0.062	(0.569)
Using drugs	0.163	(0.891)	0.049	(0.774)	-0.357*	(0.070)	0.111	(0.588)	-0.176	(0.405)
Suicidal thoughts	0.000	(.)	0.174***	(0.003)	-0.317***	(0.000)	-0.233***	(0.000)	-0.148**	(0.018)
Having mental health support from (Base: No)										
GP	-1.075	(0.207)	0.149*	(0.081)	0.195**	(0.039)	-0.055	(0.567)	-0.012	(0.902)
Counsellor etc.	-1.340*	(0.079)	0.196	(0.108)	0.141	(0.289)	-0.059	(0.682)	0.089	(0.518)
Community Mental	0.679	(0.390)	0.303	(0.172)	-0.119	(0.561)	-0.424	(0.102)	-0.509**	(0.016)
Psychiatric hospital	-0.000	(.)	0.000	(.)	0.000	(.)	0.000	(.)	0.000	(.)
Religious Leader	19.471***	(0.000)	-0.264	(0.419)	0.235	(0.525)	0.417	(0.129)	0.160	(0.678)
Constant1	39.318	(.)	-3.418***	(0.000)	-3.003***	(0.000)	-0.260	(0.572)	-2.155***	(0.000)
Constant2			-1.594***	(0.000)	-1.183***	(0.004)	0.513	(0.266)	0.535	(0.178)
Constant3			0.262	(0.538)	1.550***	(0.000)	1.369***	(0.003)	5.855***	(0.000)
Constant4			1.980***	(0.000)			1.560***	(0.001)		
Observations	152		5,655		5,655		5,269		5,655	
Adjusted R ²	0.294		0.020		0.024		0.010		0.030	

Note: p-values are in parentheses. * p < 0.10, ** p < 0.05, *** p < 0.01.

Table 8: Ordered logit regressions of ordered coping mechanism outcomes on healthcare professionals and other demographics

	Good/coping activities changed		Amount of activity time impacted		Confident on coping	
	Coeff.	p-value	Coeff.	p-value	Coeff.	p-value
Health Professionals	0.028	(0.747)	-0.020	(0.781)	0.265***	(0.000)
Age Category (Base: below 21)						
21-24	0.175	(0.678)	0.969***	(0.008)	0.636*	(0.083)
25-34	0.335	(0.412)	0.885**	(0.013)	0.887**	(0.013)
35-44	0.070	(0.866)	0.904**	(0.013)	0.826**	(0.021)
45-54	-0.141	(0.732)	0.535	(0.142)	1.131***	(0.002)
55-64	-0.293	(0.479)	0.607*	(0.097)	1.276***	(0.000)
65 and over	-0.501	(0.272)	0.419	(0.312)	1.143***	(0.005)
Ethnicity (Base: others)						
White	0.022	(0.877)	-0.096	(0.419)	0.183	(0.107)
Asian	0.203	(0.478)	0.214	(0.325)	-0.186	(0.417)
Black	-0.175	(0.576)	-0.209	(0.554)	-0.203	(0.526)
Religion (Base: others)						
Christian	-0.053	(0.785)	0.197	(0.267)	-0.252	(0.132)
Muslim	0.131	(0.782)	0.299	(0.370)	0.104	(0.743)
Sikh	1.191	(0.254)	-0.201	(0.611)	-0.121	(0.867)
Hindu	-0.538	(0.187)	-0.096	(0.782)	-0.313	(0.328)
Jewish	-0.292	(0.579)	0.263	(0.515)	-0.317	(0.442)
Buddhist	-0.193	(0.589)	-0.359	(0.261)	0.481	(0.196)
No religion	-0.040	(0.836)	0.063	(0.722)	-0.131	(0.431)
Male	-0.071	(0.417)	-0.150**	(0.039)	0.297***	(0.000)
Left education (Base: before age 16)						
At age 16	-0.021	(0.882)	-0.305**	(0.021)	-0.133	(0.310)
At age 18	0.180	(0.206)	-0.155	(0.195)	-0.335***	(0.007)
Attended University	0.272**	(0.031)	-0.042	(0.691)	-0.063	(0.566)
Accommodation (Base: others)						
Own home	0.419**	(0.044)	-0.194	(0.250)	0.680***	(0.001)
Shared	0.345	(0.259)	-0.071	(0.773)	0.388	(0.151)
Private rented	0.068	(0.753)	-0.238	(0.180)	0.533**	(0.014)
Parent's home	0.000	(.)	0.000	(.)	0.000	(.)
Own home	0.531**	(0.036)	-0.155	(0.437)	0.342	(0.140)
Keyworker (Base: no)						
Health and Social	-0.304***	(0.003)	-0.267***	(0.001)	-0.001	(0.989)
Education	0.613***	(0.004)	0.087	(0.522)	-0.161	(0.221)
Key public services	0.253	(0.480)	-0.356	(0.172)	0.342	(0.143)
Local government	0.035	(0.888)	-0.005	(0.980)	0.068	(0.727)
Food	-0.678***	(0.006)	-0.343	(0.152)	-0.185	(0.393)
Public safety	-0.184	(0.693)	0.862	(0.258)	0.347	(0.630)
Transport	-0.501	(0.202)	-0.421	(0.330)	-0.046	(0.914)
Utilities	0.346	(0.316)	-0.319	(0.266)	-0.196	(0.434)
Pre-existing health condition (Base: none)						
Anxiety	-0.345***	(0.007)	0.160	(0.119)	-0.559***	(0.000)
Panic Attacks	-0.468*	(0.052)	0.552**	(0.018)	-0.561***	(0.008)
Anorexia	-0.481	(0.450)	-0.328	(0.629)	0.781	(0.781)
Psychosis	11.709**	(0.000)	-0.543	(0.331)	2.267**	(0.090)
Depression	-0.360**	(0.001)	0.072	(0.392)	-0.466***	(0.000)
Bulimia	-0.389	(0.408)	-0.073	(0.838)	-0.131	(0.705)
Social phobia	-0.772**	(0.023)	0.189	(0.580)	-0.856***	(0.004)
Attention deficit	-0.900*	(0.097)	-0.144	(0.764)	0.022	(0.967)
Obsessive	-0.322	(0.217)	-0.011	(0.955)	-0.577**	(0.014)
Post-Traumatic	-0.610***	(0.003)	0.117	(0.491)	-0.409**	(0.030)
Alcohol/Drug	-0.839	(0.343)	0.405	(0.416)	-1.447***	(0.000)
Bi-polar disorder	-0.761**	(0.015)	0.548	(0.164)	-0.138	(0.711)
Personality disorder	-0.562*	(0.072)	0.589*	(0.077)	-0.925***	(0.003)
Drinking alcohol (Base: Never)						
Monthly or less	0.190*	(0.063)	-0.038	(0.694)	0.090	(0.359)
2-4 times a month	0.411***	(0.000)	0.137	(0.156)	0.162*	(0.092)
2-3 times a week	0.655***	(0.000)	0.253***	(0.006)	0.105	(0.263)
More a week	0.486***	(0.000)	0.316***	(0.002)	0.068	(0.536)
Using drugs	-0.403*	(0.053)	0.117	(0.546)	-0.025	(0.905)
Suicidal thoughts	-0.260***	(0.001)	0.145**	(0.016)	-0.584***	(0.000)
Having mental health support from (Base: No)						
GP	0.061	(0.572)	-0.089	(0.325)	-0.171*	(0.062)
Counsellor etc.	0.142	(0.401)	-0.033	(0.817)	-0.389***	(0.005)
Community Mental	-0.031	(0.919)	0.219	(0.388)	-0.542**	(0.018)
Psychiatric hospital	0.000	(.)	0.000	(.)	0.000	(.)
Religious Leader	0.828*	(0.066)	0.147	(0.682)	0.408	(0.173)
Constant1	-1.785***	(0.000)	-2.573***	(0.000)	-4.145***	(0.000)
Constant2	-0.639	(0.206)	-1.227***	(0.007)	-1.511***	(0.001)
Constant3			0.106	(0.813)	0.463	(0.301)
Constant4			1.150**	(0.011)	2.521***	(0.000)
Observations	5,655		5,269		5,308	
Adjusted R ²	0.035		0.011		0.047	

Note: p-values are in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 9: Marginal effects of healthcare professionals, male healthcare professionals, and female healthcare professionals on outcomes

	Followed government advice				Did risky activities					
	Very few time	Some of the time	Several time	Most of the time	Rare	Very few time	Some of the time	Several time	Most of the time	
Healthcare professional	-0.000	-0.000	-0.002	0.003	-0.004	0.003	0.000	0.000	0.000	
	(0.841)	(0.841)	(0.841)	(0.841)	(0.653)	(0.653)	(0.659)	(0.669)	(0.660)	
Male	-0.005	-0.007	-0.038	0.050	-0.010	0.009	0.001	0.000	0.000	
	(0.256)	(0.281)	(0.253)	(0.254)	(0.647)	(0.633)	(0.781)	(.)	(.)	
Female	0.001	0.001	0.005	-0.006	-0.002	0.002	0.000	0.000	0.000	
	(0.688)	(0.689)	(0.688)	(0.688)	(0.809)	(0.809)	(0.811)	(0.816)	(0.811)	
	Patient health questionnaire (PHQ-9)				Generalized anxiety disorder (GAD7)					
	Minimal	Mild	Moderate	Severe	Minimal	Mild	Moderate	Severe		
Healthcare professional	0.023	-0.003	-0.008	-0.006	-0.005	0.039**	-0.014**	-0.012**	-0.012**	
	(0.114)	(0.116)	(0.114)	(0.114)	(0.116)	(0.016)	(0.016)	(0.016)	(0.016)	
Male	0.094**	-0.027**	-0.030**	-0.023**	-0.014**	0.136***	-0.065***	-0.037**	-0.034***	
	(0.023)	(0.024)	(0.026)	(0.028)	(0.033)	(0.001)	(0.001)	(0.002)	(0.003)	
Female	0.016	-0.002	-0.006	-0.005	-0.004	0.026	-0.009	-0.008	-0.009	
	(0.302)	(0.304)	(0.302)	(0.302)	(0.303)	(0.134)	(0.134)	(0.134)	(0.135)	
	Impact of events scale revised (IESR)				Drinking alcohol changed					
	None	Probably PTSD may be concern	Probably PTSD diagnosis	High PTSD	Decreased	Unchanged	Increased			
Healthcare professional	0.011	-0.003	-0.002	-0.006	0.010	-0.006	-0.004			
	(0.467)	(0.468)	(0.468)	(0.467)	(0.511)	(0.511)	(0.511)			
Male	0.038	-0.013	-0.008	-0.017	0.019	0.009	-0.028			
	(0.294)	(0.496)	(.)	(0.285)	(0.529)	(0.532)	(0.529)			
Female	0.007	-0.002	-0.001	-0.004	-0.009	-0.008	0.017			
	(0.676)	(0.676)	(0.676)	(0.676)	(0.296)	(0.296)	(0.296)			
	Drug use changed			Mental health support changed			Mental health affected			
	Decreased	Unchanged	Increased	Decreased	Unchanged	Increase d	No	Some of the time	Most of the time	All of the time
Healthcare professional	-0.077	-0.000	0.077	-0.016	0.003	0.013	-0.017	0.001	0.007	0.009
	(0.397)	(0.995)	(0.526)	(0.530)	(0.529)	(0.535)	(0.462)	(0.498)	(0.462)	(0.462)
Male				0.081	-0.019	-0.063	0.014	-0.002	-0.004	-0.008
				(0.689)	(0.692)	(0.699)	(0.882)	(0.881)	(0.881)	(0.882)
Female				-0.021	0.004	0.017	-0.014	0.001	0.006	0.008
				(0.414)	(0.421)	(0.420)	(0.557)	(0.602)	(0.558)	(0.558)
	Mental health changed			Worried about corona virus						
	Decreased	Unchanged	Increased	Suicidal thoughts changed	Not at all	A little bit	Moderately	Quite a bit	Extremely	
Healthcare professional	0.015	-0.011	-0.005	0.033	0.003*	0.011*	0.014*	-0.013*	-0.015*	
	(0.584)	(0.584)	(0.584)	(.)	(0.085)	(0.083)	(0.082)	(0.083)	(0.082)	
Male					0.011*	0.040*	0.028*	-0.045*	-0.034*	
					(0.085)	(0.067)	(0.066)	(0.066)	(0.066)	
Female	0.012	-0.009	-0.004	0.115	0.002	0.007	0.010	-0.008	-0.011	
	(0.678)	(0.678)	(0.678)	(.)	(0.266)	(0.264)	(0.264)	(0.264)	(0.264)	
	Communicated with friends/family				Relationships impacted					
	Not at all	Every few days	Daily	Several times a day	Isolated	No change	Feeling closer	Having more arguments	Talking more	
Healthcare professional	-0.005	-0.012	0.005	0.012	0.011	-0.000	-0.003	-0.001	-0.007	
	(0.186)	(0.187)	(0.187)	(0.187)	(0.507)	(0.512)	(0.507)	(0.507)	(0.507)	
Male	-0.026**	-0.055**	0.041**	0.040**	-0.014	-0.001	0.004	0.001	0.009	
	(0.039)	(0.042)	(0.040)	(0.044)	(0.743)	(0.748)	(0.743)	(0.743)	(0.742)	
Female	-0.002	-0.006	0.002	0.006	0.017	-0.001	-0.005	-0.001	-0.010	
	(0.548)	(0.548)	(0.548)	(0.548)	(0.353)	(0.363)	(0.353)	(0.355)	(0.353)	
	Did good/coping activities				Coping activities changed					

	Amount of activity time impacted				Unchan					
	Not at all	Every few days	Daily	Several times a day	Decreased	ged	Increased			
Healthcare professional	-0.004	-0.014	0.018	0.001	-0.002	-0.003	0.005			
	(0.291)	(0.291)	(0.291)	(0.296)	(0.747)	(0.747)	(0.747)			
Male	-0.016	-0.041	0.054	0.003	-0.026	-0.037	0.063			
	(0.203)	(0.209)	(0.206)	(0.226)	(0.148)	(0.135)	(0.137)			
Female	-0.002	-0.009	0.011	0.000	0.004	0.004	-0.007			
	(0.546)	(0.546)	(0.546)	(0.547)	(0.664)	(0.665)	(0.664)			

	Amount of activity time impacted					Confident on coping				
	Not at all	A little	A moderate amount	A lot	A great deal	Not at all	A little bit	Moderately	Quite a bit	Extremely
Healthcare professional	0.001	0.002	0.002	-0.000	-0.004	-0.001 ^{***}	-0.014 ^{***}	-0.035 ^{***}	0.003 ^{**}	0.048 ^{***}
	(0.781)	(0.781)	(0.781)	(0.781)	(0.781)	(0.003)	(0.000)	(0.000)	(0.035)	(0.000)
Male	0.007	0.015	0.016	-0.004	-0.034	-0.004 [*]	-0.030 ^{***}	-0.092 ^{***}	-0.025 ^{***}	0.151 ^{***}
	(0.385)	(0.370)	(0.370)	(0.377)	(0.372)	(0.075)	(0.001)	(0.000)	(0.006)	(0.000)
Female	0.000	0.001	0.001	-0.000	-0.002	-0.001 ^{**}	-0.009 ^{**}	-0.023 ^{**}	0.003 ^{**}	0.030 ^{**}
	(0.902)	(0.902)	(0.902)	(0.902)	(0.902)	(0.045)	(0.026)	(0.026)	(0.049)	(0.026)

Note: *p*-values are in parentheses. * *p* < 0.10, ** *p* < 0.05, *** *p* < 0.01.