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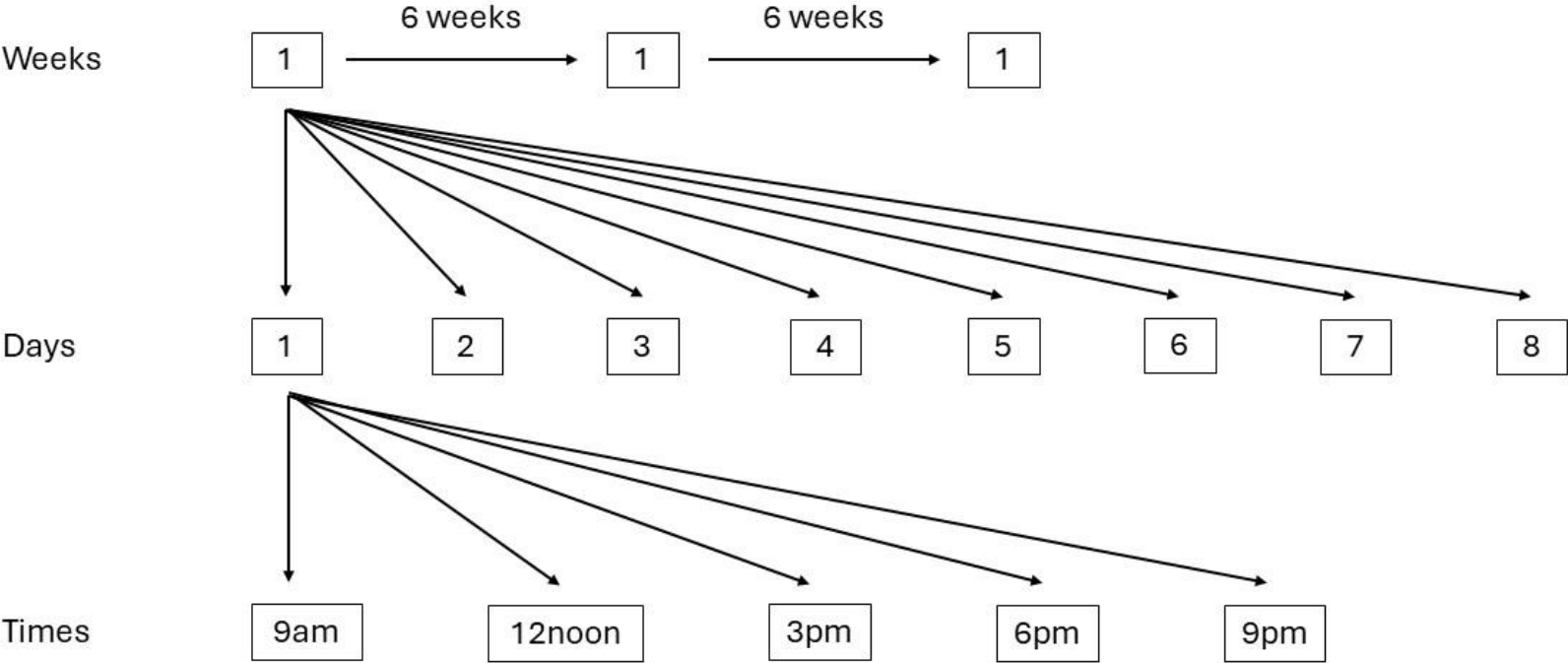
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List of consortium members

Nawar Bakerly, Kumaran Balasundaram, Megan Ball, Mauricio Barahona, Alexander Casson, Jonathan Clarke, Karen Cook, Rowena Cooper, Vasa Curcin, Julie Darbyshire, Helen E Davies, Helen Dawes, Simon de Lusignan, Brendan Delaney, Carlos Echevarria, Sarah Elkin, Ana Belen Espinosa Gonzalez, Rachael Evans, Sophie Evans, Zacchaeus Falope, Ben Glampson, Madeline Goodwin, Trish Greenhalgh, Darren C Greenwood, Stephen Halpin, Juliet Harris, Will Hinton, Mike Horton, Samantha Jones, Joseph Kwon, Cassie Lee, Ashliegh Lovett, Mae Mansoubi, Victoria Masey, Harsha Master, Erik Mayer, Bernardo Meza-Torres, Ruairidh Milne, Ghazala Mir, Jacqui Morris, Adam Mosley, Jordan Mullard, Daryl O'Connor, Rory O'Connor, Thomas Osborne, Amy Parkin, Stavros Petrou, Anton Pick, Denys Prociuk, Clare Rayner, Amy Rebane, Natalie Rogers, Janet T Scott, Manoj Sivan, Adam B Smith, Nikki Smith, Emma Tucker, Ian Tucker-Bell, Paul Williams, Darren Winch, Conor Wood.

Supplemental Figure 1. Schedule of ecological momentary assessments recording stress, worry and rumination alongside symptom severities throughout the study.
Measures are averaged over times within each day.



Supplemental Table 1. Intraclass correlation coefficients for symptom severity scores (within-participants, between-days)

Symptom severity (scored 0-10)	Intraclass correlation (95% CI)
breathlessness	0.39 (0.31, 0.47)
fatigue	0.57 (0.50, 0.64)
pain	0.59 (0.52, 0.67)
dizziness	0.36 (0.27, 0.47)
palpitations	0.28 (0.20, 0.37)
anxiety	0.50 (0.42, 0.59)
depression	0.52 (0.43, 0.61)
cognitive dysfunction	0.66 (0.59, 0.72)

Supplementary Table 2: Significance levels (p-values) for the contribution of each psychological measure (daily stress, worry and rumination) in the model for each symptom/outcome

Psychological measure		Same day	1-day time-lag	2-day time-lag
Daily stress	breathlessness	p=0.001	p=0.195	p=0.498
	fatigue	p<0.001	p=0.175	p=0.920
	pain	p<0.001	p=0.341	p=0.199
	dizziness	p=0.007	p=0.461	p=0.003
	palpitations	p<0.001	p=0.825	p=0.556
	anxiety	p<0.001	p<0.001	p<0.001
	depression	p<0.001	p<0.001	p=0.114
	cognitive dysfunction	p<0.001	p=0.944	p=0.083
Daily worry	breathlessness	p=0.189	p=0.162	p=0.557
	fatigue	p<0.001	p=0.076	p=0.917
	pain	p=0.415	p=0.929	p=0.002
	dizziness	p=0.118	p=0.171	p=0.473
	palpitations	p=0.236	p=0.407	p=0.846
	anxiety	p<0.001	p=0.003	p=0.655
	depression	p<0.001	p=0.002	p=0.902
	cognitive dysfunction	p=0.002	p=0.649	p=0.524
Daily rumination	breathlessness	p=0.839	p=0.073	p=0.861
	fatigue	p=0.841	p=0.657	p=0.631
	pain	p=0.384	p=0.012	p=0.498
	dizziness	p=0.508	p=0.136	p=0.448
	palpitations	p=0.013	p=0.836	p=0.852
	anxiety	p=0.803	p=0.389	p=0.083
	depression	p=0.625	p=0.057	p=0.867
	cognitive dysfunction	p=0.189	p=0.830	p=0.261

Note: Models adjusted for age, sex, ethnicity, employment status, setting, pre-existing conditions, severity of infection, hospitalisation, intensive care unit admission, COVID-19 variant, vaccination status, duration of Long COVID, and efforts in physical, cognitive, social and self-care activities

Supplemental Table 3. Mean change in mean symptom severity scores associated with stress (0-10), by length of time-lag, with 95% credible intervals

Stress (0-10)	Breathlessness	Fatigue	Pain / discomfort	Dizziness	Palpitations	Anxiety	Depression	Cognitive dysfunction
<i>Same day</i>								
0	0.0 (-0.2, 0.3)	0.0 (-0.4, 0.4)	-0.2 (-0.5, 0.2)	0.2 (-0.1, 0.5)	-0.3 (-0.5, -0.1)	-0.8 (-1.1, -0.5)	0.1 (-0.2, 0.3)	0.0 (-0.3, 0.3)
1	0.0 (-0.1, 0.2)	0.0 (-0.2, 0.2)	-0.1 (-0.3, 0.1)	0.1 (-0.1, 0.3)	-0.2 (-0.3, -0.1)	-0.5 (-0.6, -0.3)	0.0 (-0.1, 0.2)	0.0 (-0.2, 0.2)
2.4 (reference)	-	-	-	-	-	-	-	-
4	0.2 (0.1, 0.4)	0.4 (0.2, 0.6)	0.3 (0.2, 0.5)	0.2 (0.1, 0.3)	0.1 (-0.0, 0.2)	1.4 (1.3, 1.6)	0.9 (0.8, 1.1)	0.3 (0.2, 0.5)
8	0.8 (0.3, 1.2)	1.3 (0.7, 1.9)	1.1 (0.5, 1.7)	0.7 (0.3, 1.2)	0.3 (-0.0, 0.6)	4.9 (4.5, 5.4)	3.2 (2.8, 3.6)	1.2 (0.6, 1.7)
<i>1 day before</i>								
0	0.2 (-0.1, 0.5)	0.0 (-0.4, 0.4)	0.1 (-0.3, 0.4)	-0.0 (-0.3, 0.3)	-0.1 (-0.3, 0.1)	-0.1 (-0.4, 0.1)	-0.1 (-0.3, 0.2)	0.1 (-0.3, 0.4)
1	0.1 (-0.0, 0.3)	0.0 (-0.2, 0.2)	0.0 (-0.2, 0.2)	-0.0 (-0.2, 0.2)	-0.0 (-0.2, 0.1)	-0.1 (-0.2, 0.1)	-0.0 (-0.2, 0.1)	0.0 (-0.2, 0.2)
2.4 (reference)	-	-	-	-	-	-	-	-
4	0.1 (-0.0, 0.2)	0.2 (-0.0, 0.3)	-0.1 (-0.3, 0.1)	0.1 (-0.0, 0.2)	-0.0 (-0.1, 0.1)	0.3 (0.2, 0.5)	0.4 (0.3, 0.5)	0.0 (-0.1, 0.2)
8	0.3 (-0.1, 0.7)	0.5 (-0.0, 1.1)	-0.3 (-0.9, 0.2)	0.3 (-0.2, 0.7)	-0.0 (-0.4, 0.3)	1.2 (0.8, 1.6)	1.3 (0.9, 1.7)	0.0 (-0.5, 0.6)
<i>2 days before</i>								
0	0.0 (-0.2, 0.3)	-0.1 (-0.4, 0.3)	-0.2 (-0.6, 0.1)	0.2 (-0.1, 0.5)	-0.1 (-0.3, 0.1)	0.2 (-0.1, 0.4)	-0.0 (-0.3, 0.2)	0.2 (-0.2, 0.5)
1	0.0 (-0.1, 0.2)	-0.0 (-0.3, 0.2)	-0.1 (-0.3, 0.1)	0.1 (-0.0, 0.3)	-0.1 (-0.2, 0.1)	0.1 (-0.0, 0.3)	-0.0 (-0.2, 0.1)	0.1 (-0.1, 0.3)
2.4 (reference)	-	-	-	-	-	-	-	-
4	0.1 (-0.0, 0.2)	-0.0 (-0.2, 0.1)	0.1 (-0.1, 0.2)	0.2 (0.1, 0.3)	-0.0 (-0.1, 0.1)	0.3 (0.2, 0.4)	0.1 (-0.0, 0.2)	-0.1 (-0.3, 0.0)
8	0.2 (-0.2, 0.6)	-0.1 (-0.7, 0.5)	0.2 (-0.4, 0.7)	0.7 (0.3, 1.2)	-0.1 (-0.5, 0.2)	1.0 (0.6, 1.4)	0.4 (-0.0, 0.8)	-0.4 (-0.9, 0.1)

Note: Models adjusted for age, sex, ethnicity, employment status, setting, pre-existing conditions, severity of infection, hospitalisation, intensive care unit admission, COVID-19 variant, vaccination status, duration of Long COVID, and efforts in physical, cognitive, social and self-care activities

Supplemental Table 4. Mean change in mean symptom severity scores associated with worry (0-10), by length of time-lag, with 95% credible intervals

Worry (0-10)	Breathlessness	Fatigue	Pain / discomfort	Dizziness	Palpitations	Anxiety	Depression	Cognitive dysfunction
<i>Same day</i>								
0	-0.2 (-0.4, 0.1)	-0.7 (-1.0, -0.3)	-0.2 (-0.6, 0.1)	-0.2 (-0.4, 0.1)	-0.1 (-0.3, 0.1)	-0.2 (-0.5, 0.0)	-0.3 (-0.6, -0.0)	-0.4 (-0.7, -0.1)
1	-0.1 (-0.2, 0.0)	-0.4 (-0.6, -0.2)	-0.1 (-0.3, 0.1)	-0.1 (-0.2, 0.1)	-0.1 (-0.2, 0.0)	-0.1 (-0.3, 0.0)	-0.2 (-0.3, -0.0)	-0.2 (-0.4, -0.0)
2.1 (reference)	-	-	-	-	-	-	-	-
4	0.1 (-0.1, 0.2)	0.4 (0.2, 0.6)	0.0 (-0.2, 0.2)	0.1 (-0.0, 0.3)	-0.1 (-0.2, 0.0)	0.3 (0.1, 0.4)	0.3 (0.2, 0.5)	0.2 (0.1, 0.4)
8	0.2 (-0.3, 0.7)	1.3 (0.6, 2.0)	-0.0 (-0.7, 0.6)	0.4 (-0.2, 0.9)	-0.3 (-0.7, 0.1)	0.8 (0.3, 1.3)	1.0 (0.5, 1.5)	0.7 (0.1, 1.3)
<i>1 day before</i>								
0	0.2 (-0.0, 0.5)	0.4 (-0.0, 0.7)	0.0 (-0.3, 0.4)	0.1 (-0.2, 0.4)	0.1 (-0.1, 0.3)	0.1 (-0.2, 0.3)	0.2 (-0.1, 0.4)	-0.0 (-0.3, 0.3)
1	0.1 (-0.0, 0.3)	0.2 (-0.0, 0.4)	0.0 (-0.2, 0.2)	0.1 (-0.1, 0.2)	0.0 (-0.1, 0.1)	0.0 (-0.1, 0.2)	0.1 (-0.0, 0.2)	-0.0 (-0.2, 0.2)
2.1 (reference)	-	-	-	-	-	-	-	-
4	-0.0 (-0.2, 0.1)	-0.1 (-0.3, 0.1)	-0.0 (-0.2, 0.2)	-0.1 (-0.3, 0.0)	0.1 (-0.0, 0.2)	-0.2 (-0.4, -0.1)	-0.2 (-0.4, -0.1)	0.1 (-0.1, 0.3)
8	-0.0 (-0.5, 0.5)	-0.4 (-1.1, 0.4)	-0.1 (-0.8, 0.6)	-0.4 (-0.9, 0.1)	0.3 (-0.1, 0.7)	-0.8 (-1.3, -0.3)	-0.8 (-1.2, -0.3)	0.3 (-0.3, 0.9)
<i>2 days before</i>								
0	0.1 (-0.1, 0.4)	0.1 (-0.3, 0.4)	0.3 (-0.1, 0.6)	0.1 (-0.2, 0.3)	0.1 (-0.2, 0.2)	0.1 (-0.2, 0.3)	-0.0 (-0.3, 0.3)	-0.1 (-0.4, 0.2)
1	0.1 (-0.1, 0.2)	0.0 (-0.1, 0.2)	0.2 (-0.0, 0.3)	0.0 (-0.1, 0.2)	0.0 (-0.1, 0.1)	0.0 (-0.1, 0.2)	-0.0 (-0.1, 0.1)	-0.1 (-0.2, 0.1)
2.1 (reference)	-	-	-	-	-	-	-	-
4	0.0 (-0.1, 0.2)	0.0 (-0.2, 0.2)	-0.3 (-0.5, -0.1)	-0.1 (-0.2, 0.1)	-0.0 (-0.1, 0.1)	0.1 (-0.1, 0.2)	-0.0 (-0.2, 0.1)	0.1 (-0.1, 0.3)
8	0.2 (-0.3, 0.7)	0.1 (-0.7, 0.8)	-1.0 (-1.6, -0.3)	-0.3 (-0.8, 0.3)	-0.0 (-0.4, 0.4)	0.2 (-0.3, 0.7)	-0.1 (-0.6, 0.4)	0.3 (-0.4, 0.9)

Note: Models adjusted for age, sex, ethnicity, employment status, setting, pre-existing conditions, severity of infection, hospitalisation, intensive care unit admission, COVID-19 variant, vaccination status, duration of Long COVID, and efforts in physical, cognitive, social and self-care activities

Supplemental Table 5. Mean change in mean symptom severity scores associated with rumination (0-10), by length of time-lag, with 95% credible intervals

Rumination (0-10)	Breathlessness	Fatigue	Pain / discomfort	Dizziness	Palpitations	Anxiety	Depression	Cognitive dysfunction
<i>Same day</i>								
0	-0.1 (-0.2, 0.1)	0.1 (-0.2, 0.4)	-0.1 (-0.4, 0.2)	-0.1 (-0.3, 0.1)	-0.1 (-0.2, 0.1)	-0.1 (-0.2, 0.1)	0.1 (-0.1, 0.3)	0.0 (-0.2, 0.3)
1.4 (reference)	-	-	-	-	-	-	-	-
2	0.0 (-0.0, 0.1)	-0.0 (-0.1, 0.1)	0.0 (-0.0, 0.1)	0.0 (-0.0, 0.1)	0.0 (-0.0, 0.1)	0.0 (-0.0, 0.1)	-0.0 (-0.1, 0.1)	0.0 (-0.1, 0.1)
4	0.0 (-0.2, 0.3)	-0.0 (-0.3, 0.3)	0.2 (-0.1, 0.5)	0.0 (-0.2, 0.2)	0.3 (0.1, 0.4)	-0.0 (-0.2, 0.2)	0.0 (-0.2, 0.3)	0.2 (-0.1, 0.5)
8	0.1 (-0.6, 0.7)	0.0 (-1.0, 1.0)	0.5 (-0.5, 1.4)	-0.1 (-0.9, 0.6)	0.7 (0.2, 1.2)	-0.1 (-0.8, 0.5)	0.3 (-0.4, 0.9)	0.8 (-0.1, 1.7)
<i>1 day before</i>								
0	-0.2 (-0.4, -0.0)	-0.0 (-0.3, 0.3)	-0.1 (-0.4, 0.1)	0.0 (-0.2, 0.2)	-0.0 (-0.2, 0.1)	-0.1 (-0.3, 0.1)	-0.1 (-0.3, 0.1)	0.1 (-0.2, 0.3)
1.4 (reference)	-	-	-	-	-	-	-	-
2	0.1 (0.0, 0.1)	0.0 (-0.1, 0.1)	0.1 (-0.0, 0.1)	0.0 (-0.1, 0.1)	0.0 (-0.0, 0.1)	0.0 (-0.0, 0.1)	0.1 (-0.0, 0.1)	-0.0 (-0.1, 0.1)
4	0.1 (-0.1, 0.3)	0.1 (-0.2, 0.5)	0.4 (0.1, 0.7)	0.2 (-0.0, 0.5)	-0.0 (-0.2, 0.1)	0.1 (-0.1, 0.3)	0.3 (0.0, 0.5)	0.0 (-0.3, 0.3)
8	-0.1 (-0.8, 0.6)	0.5 (-0.5, 1.5)	1.3 (0.4, 2.2)	0.8 (0.0, 1.5)	-0.1 (-0.7, 0.4)	0.2 (-0.5, 0.8)	0.7 (0.0, 1.4)	0.2 (-0.7, 1.0)
<i>2 days before</i>								
0	-0.0 (-0.2, 0.2)	-0.1 (-0.3, 0.2)	-0.1 (-0.3, 0.1)	0.0 (-0.2, 0.2)	-0.0 (-0.1, 0.1)	-0.1 (-0.2, 0.1)	-0.0 (-0.2, 0.1)	0.1 (-0.1, 0.4)
1.4 (reference)	-	-	-	-	-	-	-	-
2	0.0 (-0.1, 0.1)	0.0 (-0.1, 0.1)	0.0 (-0.0, 0.1)	0.0 (-0.1, 0.1)	0.0 (-0.0, 0.1)	0.0 (-0.1, 0.1)	0.0 (-0.0, 0.1)	-0.0 (-0.1, 0.0)
4	0.1 (-0.2, 0.3)	-0.1 (-0.4, 0.2)	0.2 (-0.1, 0.4)	0.1 (-0.1, 0.3)	0.0 (-0.1, 0.2)	-0.2 (-0.4, 0.0)	0.0 (-0.2, 0.2)	0.1 (-0.2, 0.3)
8	0.2 (-0.5, 0.9)	-0.3 (-1.3, 0.6)	0.4 (-0.6, 1.3)	0.4 (-0.3, 1.2)	0.2 (-0.4, 0.7)	-0.7 (-1.4, -0.1)	-0.1 (-0.7, 0.6)	0.5 (-0.4, 1.4)

Note: Models adjusted for age, sex, ethnicity, employment status, setting, pre-existing conditions, severity of infection, hospitalisation, intensive care unit admission, COVID-19 variant, vaccination status, duration of Long COVID, and efforts in physical, cognitive, social and self-care activities

Supplementary Table 6. Significance levels (p-values) for tests of interaction terms between psychological measures (stress, worry and rumination) and gender

Psychological measure for which interaction with gender is included	Symptom severity	Same day	1-day time-lag	2-day time-lag
Stress	breathlessness	p=0.165	p=0.950	p=0.493
	fatigue	p=0.699	p=0.478	p=0.090
	pain	p=0.761	p=0.099	p=0.326
	dizziness	p=0.566	p=0.568	p=0.310
	palpitations	p=0.174	p=0.314	p=0.287
	anxiety	p=0.623	p=0.940	p=0.697
	depression	p=0.991	p=0.597	p=0.077
	cognitive dysfunction	p=0.922	p=0.983	p=0.009
Worry	breathlessness	p=0.034	p=0.169	p=0.869
	fatigue	p=0.611	p=0.541	p=0.322
	pain	p=0.627	p=0.923	p=0.030
	dizziness	p=0.053	p=0.671	p=0.028
	palpitations	p=0.875	p=0.565	p=1.000
	anxiety	p=0.413	p=0.288	p=0.458
	depression	p=0.831	p=0.313	p=0.001
	cognitive dysfunction	p=0.342	p=0.174	p=0.424
Rumination	breathlessness	p=0.941	p=0.146	p=0.376
	fatigue	p=0.711	p=0.389	p=0.160
	pain	p=0.735	p=0.046	p=0.932
	dizziness	p=0.007	p=0.273	p=0.786
	palpitations	p=0.001	p=0.026	p=1.000
	anxiety	p=0.470	p=0.120	p=0.310
	depression	p=0.367	p=0.904	p=0.004
	cognitive dysfunction	p=0.926	p=0.648	p=0.197

Note: Models adjusted for age, sex, ethnicity, employment status, setting, pre-existing conditions, severity of infection, hospitalisation, intensive care unit admission, COVID-19 variant, vaccination status, duration of Long COVID, and efforts in physical, cognitive, social and self-care activities

Supplementary Table 7. Significance levels (p-values) for tests of interaction terms between psychological measures (stress, worry and rumination) and a pre-existing mental health condition

Psychological measure for which interaction with pre-existing mental health condition is included	Symptom severity	Same day	1-day time-lag	2-day time-lag
Stress	breathlessness	p=0.169	p=0.955	p=0.560
	fatigue	p=0.667	p=0.445	p=0.102
	pain	p=0.803	p=0.094	p=0.266
	dizziness	p=0.609	p=0.621	p=0.344
	palpitations	p=0.165	p=0.294	p=0.262
	anxiety	p=0.590	p=0.921	p=0.699
	depression	p=0.983	p=0.539	p=0.102
	cognitive dysfunction	p=0.932	p=0.998	p=0.011
Worry	breathlessness	p=0.043	p=0.133	p=0.865
	fatigue	p=0.552	p=0.512	p=0.238
	pain	p=0.583	p=0.924	p=0.028
	dizziness	p=0.067	p=0.703	p=0.023
	palpitations	p=0.869	p=0.530	p=0.996
	anxiety	p=0.420	p=0.266	p=0.528
	depression	p=0.821	p=0.268	p=0.001
	cognitive dysfunction	p=0.383	p=0.181	p=0.386
Rumination	breathlessness	p=0.942	p=0.164	p=0.407
	fatigue	p=0.720	p=0.346	p=0.167
	pain	p=0.829	p=0.049	p=0.946
	dizziness	p=0.007	p=0.320	p=0.793
	palpitations	p=0.001	p=0.026	p=0.996
	anxiety	p=0.431	p=0.126	p=0.324
	depression	p=0.358	p=0.859	p=0.005
	cognitive dysfunction	p=0.908	p=0.660	p=0.225

Note: Models adjusted for age, sex, ethnicity, employment status, setting, pre-existing conditions, severity of infection, hospitalisation, intensive care unit admission, COVID-19 variant, vaccination status, duration of Long COVID, and efforts in physical, cognitive, social and self-care activities