



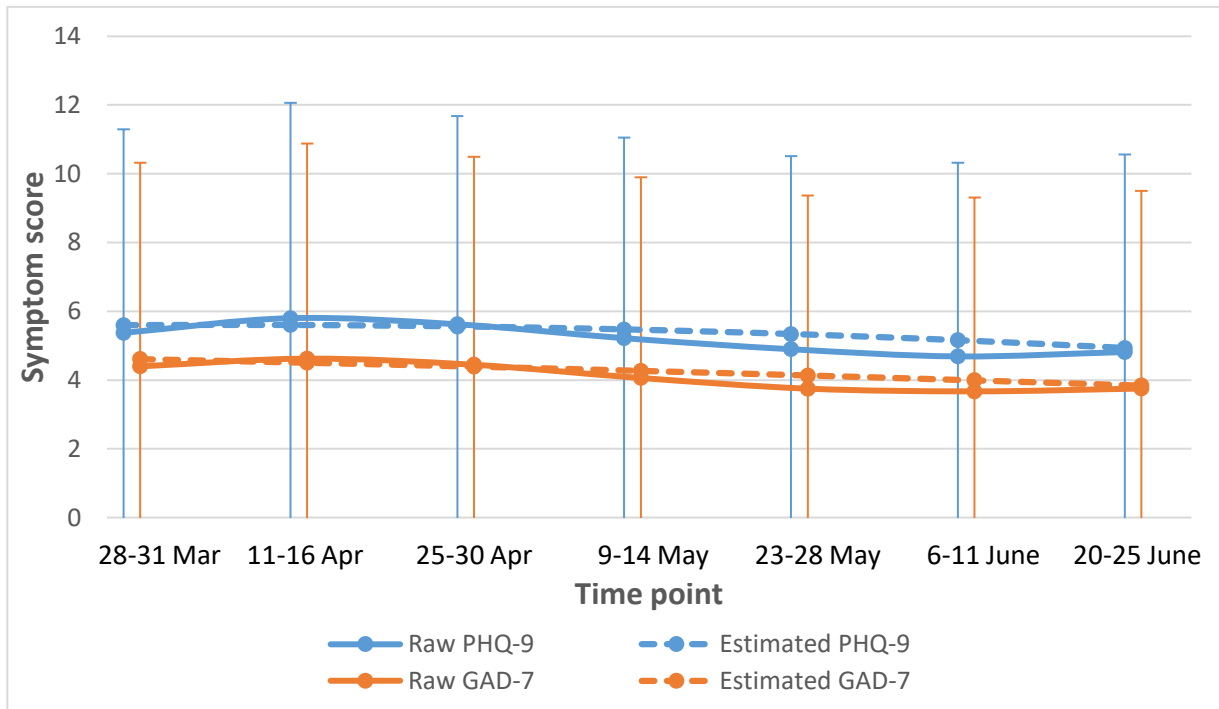
## **Supporting Information**

### **Supplementary results**

**This appendix was part of the submitted manuscript and has been peer reviewed.  
It is posted as supplied by the authors.**

Appendix to: Batterham PJ, Calear AL, McCallum SM, et al. Trajectories of depression and anxiety symptoms during the COVID-19 pandemic in a representative Australian adult cohort. *Med J Aust* 2021; doi: 10.5694/mja2.51043.

**Figure. Symptoms of depression (PHQ-9) and anxiety (GAD-7): raw means and estimated means from quadratic growth curves (with standard deviations) (off-set for clarity)\***



\* The linear change parameters were not significant for either outcome (PHQ-9: estimate, 0.028 scale units,  $P = 0.68$ ; GAD-7: estimate,  $-0.099$  units,  $P = 0.10$ ). However, the quadratic change parameter was significant for depression symptoms (estimate,  $-0.023$  units,  $P = 0.026$ ) but not anxiety symptoms (estimate,  $-0.005$  units,  $P = 0.55$ ), indicating that depression symptoms declined more in later weeks.

Table 1. Predictors of intercept, linear change, and quadratic change: symptoms of depression (PHQ-9) and generalised anxiety (GAD-7)

	PHQ-9									GAD-7								
	Intercept			Linear change			Quadratic change			Intercept			Linear change			Quadratic change		
	Estimate*	SE	P	Estimate*	SE	P	Estimate*	SE	P	Estimate*	SE	P	Estimate*	SE	P	Estimate*	SE	P
Age	-0.054	0.009	< 0.001	-0.006	0.005	0.25	0.001	0.001	0.37	-0.046	0.008	< 0.001	0.000	0.004	0.91	0.000	0.001	0.88
WSAS score	0.113	0.016	< 0.001	0.009	0.008	0.28	-0.002	0.001	0.10	0.087	0.014	< 0.001	0.010	0.007	0.18	-0.002	0.001	0.11
COVID-19 exposure	0.217	0.156	0.16	0.129	0.082	0.12	-0.028	0.013	<b>0.028</b>	0.075	0.138	0.59	0.082	0.073	0.26	-0.015	0.011	0.17
Education years	-0.119	0.074	0.11	-0.018	0.039	0.64	0.004	0.006	0.50	-0.058	0.066	0.38	0.005	0.035	0.90	-0.002	0.005	0.72
Lost job	0.009	0.475	0.98	0.219	0.274	0.42	-0.031	0.043	0.48	0.025	0.423	0.95	0.243	0.246	0.32	-0.029	0.039	0.45
Work from home	-0.178	0.408	0.66	-0.171	0.211	0.42	0.042	0.032	0.19	0.293	0.361	0.42	-0.371	0.188	<b>0.049</b>	0.056	0.029	0.05
Female vs male	0.832	0.262	<b>0.002</b>	-0.243	0.136	0.07	0.015	0.021	0.46	1.035	0.232	< 0.001	-0.372	0.122	<b>0.002</b>	0.034	0.019	0.07
Physical disease	0.571	0.306	0.06	0.101	0.153	0.51	-0.023	0.024	0.33	0.504	0.270	0.06	-0.107	0.137	0.44	0.011	0.021	0.61
Neurological disorder	1.730	0.424	< 0.001	-0.333	0.210	0.11	0.038	0.032	0.24	1.046	0.374	<b>0.005</b>	0.082	0.187	0.66	-0.029	0.028	0.30
Mental disorder	4.122	0.322	< 0.001	-0.230	0.167	0.17	0.032	0.026	0.22	3.658	0.284	< 0.001	-0.256	0.149	0.08	0.028	0.023	0.23
Have partner	-0.412	0.311	0.19	0.087	0.168	0.60	-0.029	0.026	0.27	0.206	0.276	0.46	-0.123	0.150	0.41	0.003	0.023	0.90
Live alone	0.453	0.441	0.30	-0.216	0.225	0.34	0.021	0.035	0.55	-0.128	0.390	0.74	-0.148	0.201	0.46	0.019	0.031	0.53
Live with children	-0.120	0.294	0.68	0.055	0.155	0.72	-0.019	0.024	0.42	0.157	0.261	0.55	-0.103	0.139	0.46	0.000	0.021	1.00
Bushfire-smoke	0.203	0.258	0.43	0.062	0.133	0.64	-0.009	0.021	0.65	0.051	0.228	0.82	0.095	0.119	0.42	-0.016	0.018	0.38
Bushfire-fire	-0.211	0.463	0.65	0.377	0.244	0.12	-0.040	0.038	0.30	-0.396	0.410	0.33	-0.140	0.218	0.52	0.049	0.034	0.14
Other adversity	1.941	0.329	< 0.001	-0.117	0.174	0.50	0.015	0.027	0.59	1.445	0.292	< 0.001	0.010	0.155	0.95	0.001	0.024	0.96
Financial distress	2.600	0.306	< 0.001	-0.116	0.161	0.47	-0.002	0.025	0.93	2.389	0.271	< 0.001	-0.068	0.144	0.64	-0.012	0.022	0.58

COVID-19 = coronavirus disease 2019; GAD-7 = Generalised Anxiety Disorder-7; PHQ-9 = Patient Health Questionnaire-9; WSAS = Work and Social Adjustment.

\* Unstandardised estimate.

**Table 2. Estimates of intercept, linear change and quadratic change for each trajectory, estimated from growth mixture models**

Trajectory (latent class)	Intercept (initial score)			Linear change			Quadratic change		
	Estimate	SE	p	Estimate	SE	p	Estimate	SE	p
<b>Depression - low</b>	3.367	0.201	<b>&lt;0.001</b>	0.343	0.088	<b>&lt;0.001</b>	-0.074	0.012	<b>&lt;0.001</b>
<b>Depression - moderate</b>	10.939	1.376	<b>&lt;0.001</b>	0.226	0.432	0.601	0.119	0.084	0.157
<b>Depression - severe</b>	16.931	1.122	<b>&lt;0.001</b>	-2.434	0.836	<b>0.004</b>	0.204	0.086	<b>0.017</b>
<b>Anxiety - low</b>	2.547	0.153	<b>&lt;0.001</b>	-0.052	0.091	0.565	-0.013	0.015	0.375
<b>Anxiety - moderate/increasing</b>	14.045	0.650	<b>&lt;0.001</b>	-0.646	0.247	<b>0.009</b>	0.107	0.048	<b>0.025</b>
<b>Anxiety - moderate/decreasing</b>	13.753	0.976	<b>&lt;0.001</b>	-3.529	0.549	<b>&lt;0.001</b>	0.336	0.076	<b>&lt;0.001</b>
<b>Anxiety - mild</b>	4.848	0.388	<b>&lt;0.001</b>	2.715	0.471	<b>&lt;0.001</b>	-0.324	0.101	<b>0.001</b>

Depression trajectories based on scores on the Patient Health Questionnaire-9 scale, anxiety trajectories based on scores on the Generalized Anxiety Disorder-7 scale

**Table 3. Multinomial logistic regressions testing predictors of class membership for symptoms of depression (PHQ-9) and of anxiety (GAD-7) trajectories: odds ratios with 95% confidence intervals (models identical to box 5 but with different reference category)**

Characteristic	PHQ-9 score trajectory class		GAD-7 score trajectory class		
	Low v moderate	Severe/declining v moderate	Low v moderate/increasing	Moderate/declining v moderate/increasing	Mild/increasing v moderate/increasing
Age (per year)	<b>1.02 (1.01–1.04)</b>	1.00 (0.98–1.02)	<b>1.05 (1.03–1.06)</b>	<b>1.03 (1.01–1.06)</b>	<b>1.03 (1.01–1.06)</b>
COVID-19-related impairment (WSAS) (per point)	<b>0.96 (0.94–0.99)</b>	0.98 (0.95–1.01)	<b>0.96 (0.93–0.98)</b>	1.00 (0.96–1.03)	1.03 (0.99–1.06)
COVID-19 exposure (per exposure)	0.92 (0.73–1.17)	0.74 (0.54–1.01)	1.06 (0.83–1.36)	1.02 (0.71–1.46)	0.92 (0.66–1.28)
Education (per year)	1.04 (0.91–1.18)	1.06 (0.90–1.25)	<b>1.15 (1.01–1.32)</b>	1.11 (0.92–1.35)	1.14 (0.96–1.35)
Lost job	0.97 (0.52–1.79)	1.17 (0.55–2.50)	0.76 (0.41–1.39)	<b>0.32 (0.11–0.93)</b>	<b>0.36 (0.15–0.89)</b>
Work from home	1.06 (0.52–2.15)	2.02 (0.87–4.68)	0.98 (0.47–2.03)	<b>2.57 (1.02–6.48)</b>	1.03 (0.41–2.59)
Gender (women)	0.81 (0.53–1.25)	0.75 (0.44–1.28)	1.05 (0.68–1.62)	<b>2.28 (1.17–4.45)</b>	0.74 (0.42–1.30)
Any physical disease	1.01 (0.61–1.69)	1.06 (0.56–2.01)	0.86 (0.51–1.45)	0.54 (0.25–1.18)	0.84 (0.43–1.65)
Any neurological disease	<b>0.51 (0.28–0.92)</b>	0.54 (0.25–1.17)	<b>0.45 (0.24–0.84)</b>	1.25 (0.50–3.09)	0.61 (0.26–1.40)
Any mental disorder	<b>0.20 (0.13–0.32)</b>	0.86 (0.48–1.52)	<b>0.19 (0.12–0.30)</b>	0.65 (0.32–1.29)	<b>0.42 (0.23–0.78)</b>
Have partner	1.13 (0.70–1.82)	0.88 (0.49–1.58)	0.87 (0.53–1.41)	1.32 (0.62–2.79)	0.83 (0.44–1.55)
Live alone	0.63 (0.32–1.24)	0.77 (0.32–1.86)	0.71 (0.34–1.46)	0.58 (0.17–1.93)	0.38 (0.13–1.08)
Live with children	1.21 (0.75–1.94)	1.17 (0.65–2.12)	1.08 (0.67–1.73)	1.02 (0.51–2.02)	0.97 (0.53–1.78)
Affected by bushfire smoke	0.99 (0.65–1.50)	1.31 (0.78–2.22)	0.82 (0.53–1.26)	<b>0.36 (0.19–0.69)</b>	0.78 (0.45–1.36)
Affected by bushfire fire	1.95 (0.88–4.31)	<b>2.95 (1.24–7.04)</b>	0.77 (0.41–1.45)	<b>0.17 (0.04–0.80)</b>	0.70 (0.30–1.65)
Affected by other adversity	<b>0.52 (0.33–0.81)</b>	1.19 (0.68–2.08)	<b>0.53 (0.33–0.84)</b>	0.99 (0.50–1.97)	0.84 (0.46–1.53)
COVID-19-related financial distress	<b>0.30 (0.19–0.48)</b>	0.63 (0.35–1.13)	<b>0.38 (0.24–0.61)</b>	1.49 (0.75–2.97)	0.58 (0.32–1.06)

COVID-19 = coronavirus disease 2019; GAD-7 = Generalised Anxiety Disorder-7; PHQ-9 = Patient Health Questionnaire-9; WSAS = Work and Social Adjustment Scale.