

## Appendix 1. Correlation matrixes

Table 1. Correlation matrix: mental ill-health symptoms (T1) and associated factors (T0)

	Educational climate: centrality	Educational climate: competitive	Belongingness	Observed stigma <sup>1</sup>	Perceived stigma	Help-seeking behaviour	COVID: unprepared	COVID: unsupported
Emotional exhaustion	<b>-0.276***</b>	<b>-0.210***</b>	<b>-0.190**</b>	0.051	<b>0.226***</b>	<b>-0.160**</b>	<b>0.247***</b>	<b>0.225***</b>
Depersonalisation	<b>-0.382***</b>	<b>-0.306***</b>	<b>-0.115*</b>	0.074	<b>0.307***</b>	<b>-0.290***</b>	<b>0.222***</b>	<b>0.284***</b>
Personal accomplishment	<b>0.299***</b>	<b>0.239***</b>	<b>0.247***</b>	-0.085	<b>-0.243***</b>	<b>0.163**</b>	<b>-0.181***</b>	<b>-0.161**</b>
Anxiety/depression symptoms	<b>-0.168**</b>	<b>-0.145**</b>	<b>-0.140**</b>	0.081	<b>0.273***</b>	<b>-0.193***</b>	<b>0.190***</b>	<b>0.133**</b>
Insomnia	<b>-0.135**</b>	<b>-0.112*</b>	<b>-0.209***</b>	0.084	<b>0.246***</b>	<b>-0.192**</b>	<b>0.135**</b>	0.060
Somatisation	<b>-0.135**</b>	-0.095	<b>-0.136**</b>	<b>0.111*</b>	<b>0.213***</b>	<b>-0.126*</b>	<b>0.158**</b>	0.065
Hazardous drinking <sup>1</sup>	-0.003	0.079	<b>0.133**</b>	<b>0.104*</b>	-0.097	-0.038	0.011	0.061
Drug use <sup>1</sup>	0.010	0.044	-0.037	0.106*	-0.050	-0.020	0.035	0.046
Anorexia tendencies <sup>1</sup>	-0.065	<b>-0.168**</b>	-0.049	0.025	<b>0.249***</b>	-0.061	<b>0.168**</b>	0.056
Bulimia <sup>1</sup>	-0.059	0.006	0.016	-0.025	<b>0.105*</b>	0.002	0.039	0.023
Binge eating <sup>1</sup>	-0.068	-0.032	0.012	-0.024	<b>0.116*</b>	0.013	0.054	-0.019
OCD	<b>-0.118*</b>	<b>-0.118*</b>	-0.080	0.061	<b>0.242***</b>	<b>-0.139**</b>	<b>0.149**</b>	0.082
Schizoid <sup>1</sup>	-0.053	-0.088	<b>-0.191***</b>	0.078	<b>0.195***</b>	<b>-0.158**</b>	0.017	0.032
Histrionic <sup>1</sup>	-0.045	-0.052	0.033	<b>0.137**</b>	0.098	0.028	-0.063	0.023
Antisocial personality disorder <sup>1</sup>	-0.007	0.014	<b>-0.114*</b>	0.047	0.080	-0.034	-0.003	0.032
Paranoia	<b>-0.142**</b>	<b>-0.185***</b>	-0.046	<b>0.137**</b>	<b>0.405***</b>	<b>-0.205***</b>	<b>0.148**</b>	<b>0.110*</b>
Bipolar	0.000	0.027	0.000	0.067	<b>0.166**</b>	<b>-0.177***</b>	0.024	0.004

Note. Pearson correlation.<sup>1</sup>dichotomous variables; OCD – Obsessive-compulsive disorder. \*  $P \leq 0.05$  \*\*  $P \leq 0.01$  \*\*\*  $P \leq 0.001$ .

Table 2. Correlation matrix of mental ill-health symptoms (T1) – part 1

	M (SD)	Emotional exhaustion	Depersonalisation	Personal accomplishment	Anxiet/depression	Insomnia	Somatisation	Hazardous drinking <sup>1</sup>	Drug use
Emotional exhaustion	4.01 (1.32)	1							
Depersonalisation	2.7 (1.54)	<b>0.590***</b>	1						
Personal accomplishment	3.69 (1.04)	<b>-0.324***</b>	<b>-0.347***</b>	1					
Anxiety/depression	1.18 (0.86)	<b>0.557***</b>	<b>0.438***</b>	<b>-0.290***</b>	1				
Insomnia	1.26 (0.86)	<b>0.488***</b>	<b>0.273***</b>	<b>-0.340***</b>	<b>0.538***</b>	1			
Somatisation	1.1 (0.75)	<b>0.455***</b>	<b>0.249***</b>	<b>-0.255***</b>	<b>0.545***</b>	<b>0.621***</b>	1		
Hazardous drinking <sup>1</sup>	n/a	-0.029	0.006	0.026	-0.010	-0.019	-0.001	1	
Drug use <sup>1</sup>	n/a	0.017	0.017	-0.019	0.029	-0.001	0.044	<b>0.192***</b>	1
Anorexia <sup>1</sup>	n/a	<b>0.258***</b>	<b>0.230***</b>	<b>-0.209***</b>	<b>0.349***</b>	<b>0.307***</b>	<b>0.324***</b>	0.046	0.040
Bulimia <sup>1</sup>	n/a	<b>0.098*</b>	0.094	-0.051	<b>0.243***</b>	0.183***	0.166**	0.012	0.004
Binge eating <sup>1</sup>	n/a	<b>0.156**</b>	<b>0.131**</b>	<b>-0.166**</b>	<b>0.283***</b>	0.163**	0.200***	0.003	0.015
Obsessive-compulsive disorder	1.23 (1.14)	<b>0.386***</b>	<b>0.303***</b>	<b>-0.269***</b>	<b>0.572***</b>	<b>0.446***</b>	<b>0.438***</b>	0.060	0.068
Schizoid personality <sup>1</sup>	n/a	<b>0.147**</b>	<b>0.183***</b>	<b>-0.145**</b>	<b>0.159**</b>	<b>0.197***</b>	<b>0.103*</b>	<b>-0.161**</b>	0.006
Histrionic personality <sup>1</sup>	n/a	<b>0.132**</b>	<b>0.199***</b>	-0.086	<b>0.193***</b>	<b>0.122*</b>	<b>0.124*</b>	-0.045	0.021
Antisocial personality <sup>1</sup>	n/a	0.026	0.034	-0.015	0.069	0.088	0.048	0.037	0.083
Paranoia	1.18 (0.96)	<b>0.381***</b>	<b>0.342***</b>	<b>-0.209***</b>	<b>0.496***</b>	<b>0.388***</b>	<b>0.415***</b>	-0.010	0.018
Bipolar	0.24 (0.28)	<b>0.201***</b>	<b>0.173***</b>	-0.079	<b>0.334***</b>	<b>0.335***</b>	<b>0.350***</b>	0.044	<b>0.132**</b>

Note. Pearson correlation. EE – emotional exhaustion. D – depersonalisation, PA – personal accomplishment, OCD – Obsessive-compulsive disorder; <sup>1</sup>dichotomous variable. \* P≤0.05 \*\* P≤0.01 \*\*\* P≤0.001.

Table 3. Correlation matrix of mental ill-health symptoms (T1) - part 2

	M (SD)	Anorexia tendencies <sup>1</sup>	Bulimia <sup>1</sup>	Binge eating <sup>1</sup>	OCD	Schizoid personality <sup>1</sup>	Histrionic personality <sup>1</sup>	Antisocial personality <sup>1</sup>	Paranoia
Anorexia tendencies <sup>1</sup>	n/a	1							
Bulimia <sup>1</sup>	n/a	<b>0.179***</b>	1						
Binge eating <sup>1</sup>	n/a	<b>0.273***</b>	0.551***	1					
Obsessive-compulsive disorder	1.23 (1.14)	<b>0.294***</b>	<b>0.163**</b>	<b>0.164**</b>	1				
Schizoid personality <sup>1</sup>	n/a	0.046	0.054	0.027	<b>0.197***</b>	1			
Histrionic personality <sup>1</sup>	n/a	<b>0.199***</b>	<b>0.115*</b>	<b>0.192***</b>	<b>0.162**</b>	-0.007	1		
Antisocial personality <sup>1</sup>	n/a	-0.012	-0.029	0.009	<b>0.150**</b>	0.051	<b>0.199***</b>	1	
Paranoia	1.18 (0.96)	<b>0.338***</b>	<b>0.235***</b>	<b>0.261***</b>	<b>0.493***</b>	<b>0.220***</b>	<b>0.186***</b>	<b>0.173***</b>	1
Bipolar	0.24 (0.28)	<b>0.169***</b>	<b>0.217***</b>	<b>0.149**</b>	<b>0.304***</b>	<b>0.129**</b>	<b>0.259***</b>	<b>0.194***</b>	<b>0.383***</b>

Note. Pearson correlation. EE – emotional exhaustion. D – depersonalisation, PA – personal accomplishment, OCD – Obsessive-compulsive disorder; <sup>1</sup>dichotomous variable. \*  $P \leq 0.05$  \*\*  $P \leq 0.01$  \*\*\*  $P \leq 0.001$ .

**Table 4.** Correlation matrix: factors associated with mental ill-health symptoms (T0)

	M (SD)	Educational climate: centrality	Educational climate: competitive	Belongingness	Observed stigma <sup>1</sup>	Perceived stigma	Help-seeking behaviour	COVID: unprepared
Educational climate: centrality	1.88 (0.52)	1						
Educational climate: competitive	1.3 (0.58)	<b>0.490***</b>	1					
Belongingness	2.46 (1.07)	0.006	-0.037	1				
Observed stigma <sup>1</sup>	n/a	<b>-0.251***</b>	<b>-0.283***</b>	<b>0.099*</b>	1			
Perceived stigma	1.74 (0.71)	<b>-0.313***</b>	<b>-0.380***</b>	<b>-0.117*</b>	<b>0.227***</b>	1		
Help-seeking behaviour	2.21 (0.97)	<b>0.231***</b>	<b>0.213***</b>	<b>0.168**</b>	-0.028	<b>-0.317***</b>	1	
COVID: unprepared	2.15 (0.96)	<b>-0.126*</b>	<b>-0.155**</b>	<b>-0.115*</b>	<b>0.144**</b>	<b>0.109*</b>	<b>-0.154**</b>	1
COVID: unsupported	2.82 (1.05)	<b>-0.535***</b>	<b>-0.325***</b>	-0.094	<b>0.254***</b>	<b>0.157**</b>	<b>-0.212***</b>	<b>0.301***</b>

Note. Pearson correlation. <sup>1</sup>dichotomous variable. \*  $P \leq 0.05$  \*\*  $P \leq 0.01$  \*\*\*  $P \leq 0.001$ .

*Table 5.* Correlation between mental ill-health symptoms at T0 and T1

	<b>M (SD) at T0</b>	<b>Correlation coefficient</b>
Emotional exhaustion	3.79 (1.33)	<b>0.671***</b>
Depersonalisation	2.33 (1.50)	<b>0.658***</b>
Personal accomplishment	3.81 (1.09)	<b>0.679***</b>
Anxiety/depression	1.17 (0.80)	<b>0.656***</b>
Insomnia	1.27 (0.83)	<b>0.704***</b>
Somatisation	1.12 (0.74)	<b>0.720***</b>
Hazardous drinking <sup>1</sup>	n/a	<b>0.723***</b>
Drug use <sup>1</sup>	n/a	<b>0.418***</b>
Anorexia <sup>1</sup>	n/a	<b>0.659***</b>
Bulimia <sup>1</sup>	n/a	<b>0.369***</b>
Binge eating <sup>1</sup>	n/a	<b>0.538***</b>
Obsessive-compulsive disorder	1.33 (1.13)	<b>0.706***</b>
Schizoid personality <sup>1</sup>	n/a	<b>0.557***</b>
Histrionic personality <sup>1</sup>	n/a	<b>0.556***</b>
Antisocial personality <sup>1</sup>	n/a	<b>0.375***</b>
Paranoia	1.20 (0.92)	<b>0.764***</b>
Bipolar	0.27 (0.27)	<b>0.699***</b>

Note. Pearson correlation. <sup>1</sup>dichotomous variable. \*  $P \leq 0.05$  \*\*  $P \leq 0.01$  \*\*\*  $P \leq 0.001$ .

## Appendix 2. Comparison of demographic characteristics

We excluded parents' occupation and relationship status from further analyses as these characteristics did not link to any or many measures. University was not possible to include because of the small number of participants in some of the groups and we excluded age because of a tight association with year of experience ( $p<0.01$ ).

*Table 1.* Demographic characteristic differences in factors associated with mental ill-health symptoms

		Educational climate: centrality	Educational climate: competitive	Belongingness		Observed stigma (yes)	Perceived stigma		Help-seeking behaviour	COVID: unprepared		COVID: unsupported					
Gender	Male	1.91 (0.55)	$t(402)=$ 0.466, $p=0.642$	1.32 (0.64)	$t(402)=$ 0.337, $p=0.736$	2.41 (1.02)	$t(402)=$ -0.516, $p=0.606$	47 (47.5%)	$\chi^2 (1,$ 404) = 0.312, $p = 0.577$	1.76 (0.71)	$t(402)=$ 0.315, $p=0.753$	2.01 (0.94)	$t(402)=$ -2.438, $p=0.015$	2.59 (0.99)	$t(402)=$ -2.513, $p=0.012$	2.11 (0.96)	$t(402)=$ -.417, $p=0.677$
	Female	1.88 (0.51)		1.29 (0.55)		2.47 (1.09)		135 (44.3%)	1.73 (0.7)	2.28 (0.98)	2.90 (1.06)	2.16 (0.96)					
Age <sup>1</sup>		<b>-0.198, <math>p&lt;0.001</math></b>		<b>-0.166, <math>p=0.010</math></b>		0.083, $p=0.940$		<b>0.142, <math>p=0.004</math></b>		0.009, $p=0.864$		0.056, $p=0.259$		-0.005, $p=0.927$		0.090, $p=0.700$	
Ethnicity	White	1.89 (0.51)	$t(400)=$ 0.149, $p=0.881$	1.34 (0.57)	$t(400)=$ 1.640, $p=0.102$	2.55 (1.08)	$t(400)=$ 2.122, $p=0.034$	115 (43.7%)	$\chi^2 (1,$ 402) = 0.518, $p = 0.472$	1.68 (0.69)	$t(400)=$ -2.174, $p=0.030$	2.25 (0.93)	$t(400)=$ 1.101, $p=0.271$	2.84 (1.06)	$t(400)=$ 0.655, $p=0.513$	2.16 (0.96)	$t(400)=$ 0.463, $p=0.644$
	BME	1.88 (0.54)		1.24 (0.59)		2.31 (1.03)		66 (47.5%)	1.84 (0.73)	2.14 (1.04)	2.77 (1.04)	2.12 (0.95)					
Sexuality	Heterosexual	1.90 (0.51)	$t(392)=$ 0.508, $p=0.612$	1.28 (0.55)	$t(392)=$ -1.616, $p=0.109$	2.49 (1.06)	$t(392)=$ 1.289, $p=0.198$	135 (43.4%)	$\chi^2 (1,$ 394) = 0.951, $p = 0.330$	1.72 (0.7)	$t(392)=$ -0.794, $p=0.428$	2.21 (0.95)	$t(392)=$ 0.045, $p=0.964$	2.83 (1.03)	$t(392)=$ 0.727, $p=0.469$	2.10 (0.93)	$t(392)=$ -1.705, $p=0.089$
	LGBTQ	1.86 (0.6)		1.40 (0.65)		2.32 (1.11)		41 (49.4%)	1.79 (0.75)	2.21 (1.05)	2.73 (1.17)	2.30 (1.03)					
Relationship status	Single	1.89 (0.52)	$t(405)=$ 1.007, $p=0.315$	1.29 (0.57)	$t(405)=$ -0.528, $p=0.598$	2.49 (1.06)	$t(405)=$ 1.602, $p=0.110$	164 (45.3%)	$\chi^2 (1,$ 407) = 0.012, $p = 0.913$	1.73 (0.72)	$t(405)=$ -1.107, $p=0.269$	2.25 (0.98)	$t(405)=$ 2.216, $p=0.027$	2.81 (1.04)	$t(405)=$ -0.636, $p=0.525$	2.14 (0.95)	$t(405)=$ -0.693, $p=0.489$
	Married	1.81 (0.54)		1.34 (0.62)		2.22 (1.09)		20 (44.4%)	1.86 (0.65)	1.91 (0.91)	2.91 (1.18)	2.24 (1.05)					
Widening participation student	Yes	1.78 (0.55)	$t(405)=$ -1.709, $p=0.088$	1.20 (0.68)	$t(405)=$ -1.244, $p=0.217$	2.21 (1.2)	$t(405)=$ -1.817, $p=0.073$	26 (41.9%)	$\chi^2 (1,$ 407) = 0.316, $p = 0.574$	1.82 (0.74)	$t(405)=$ 0.877, $p=0.381$	1.88 (0.93)	$t(405)=$ -2.941, $p=0.003$	2.83 (0.99)	$t(405)=$ 0.111, $p=0.912$	2.32 (0.95)	$t(405)=$ 1.542, $p=0.126$
	No	1.90 (0.52)		1.32 (0.56)		2.51 (1.04)		158 (45.8%)	1.73 (0.71)	2.27 (0.97)	2.81 (1.07)	2.12 (0.96)					

Parents/ guardians /carers occupation	Higher	1.88 (0.52)	$t(405) = -0.223,$ $p=0.824$	1.30 (0.57)	$t(405) = 0.161,$ $p=0.872$	2.48 (1.06)	$t(405) = 0.729,$ $p=0.466$	148 (45.7%)	$\chi^2 (1,$ $= 0.142,$ $p = 0.707$	1.73 (0.71)	$t(405) = -0.793,$ $p=0.428$	2.25 (0.98)	$t(405) = 1.617,$ $p=0.107$	2.81 (1.04)	$t(405) = -0.373,$ $p=0.710$	2.16 (0.93)	$t(405) = 0.454,$ $p=0.650$
	Intermediate and lower	1.90 (0.55)		1.29 (0.6)		2.39 (1.09)		36 (43.4%)	$\chi^2 (1,$ $= 0.142,$ $p = 0.707$	1.80 (0.73)		2.06 (0.94)		2.86 (1.12)		2.11 (1.06)	
University year <sup>2</sup>		<b>-0.344, p&lt;0.001</b>	<b>-0.370, p&lt;0.001</b>		<b>0.239, p&lt;0.001</b>		<b>0.193, p&lt;0.001</b>		0.027, p=0.588		-0.007, p=0.886		0.031, p=0.531		<b>0.186, p&lt;0.001</b>		
University	UNI1	1.82 (0.7)	$F(8,406) = 5.890,$ $p<0.001$	1.45 (0.65) <sup>a</sup>	$p=0.001^3$	2.17 (0.97) <sup>a</sup>	$\chi^2 (8,$ $= 8.906,$ $p = 0.350$	16 (42.1%)	$\chi^2 (8,$ $= 8.906,$ $p = 0.350$	1.72 (0.78)	$p=0.295^3$	2.19 (1.11)	$p=0.298^3$	3.12 (0.87) <sup>a</sup>	$p=0.008^3$	2.29 (1.14)	$F(8,406) = 2.718,$ $p=0.006$
	UNI2	1.73 (0.32)		0.44 (0.1) <sup>b,g</sup>		2.44 (1.30)		2 (66.7%)		2.4 (1.4)		2.84 (0.44)		3.33 (1.15)		2.83 (1.26)	
	UNI3	1.8 (0.53) <sup>a,b</sup>		1.07 (0.56) <sup>a,c,d,f</sup>		2.48 (1.06) <sup>b</sup>		66 (52%)		1.87 (0.78)		2.1 (1.02)		2.43 (1.16) <sup>a,b,c</sup>		2.07 (0.92)	
	UNI4	1.90 (0.51)		1.42 (0.57) <sup>c</sup>		2.21 (1.16) <sup>c</sup>		42 (45.7%)		1.74 (0.65)		2.24 (0.97)		3.07 (0.97) <sup>b</sup>		2.42 (0.94) <sup>a</sup>	
	UNI5	1.93 (0.4)		1.3 (0.54)		3.13 (0.69) <sup>a,b,c</sup>		14 (46.7%)		1.55 (0.71)		2.36 (0.75)		2.93 (1.01)		2.42 (0.94)	
	UNI6	1.88 (0.54)		1.31 (0.56)		2.48 (1.16)		7 (43.8%)		1.81 (0.49)		2.33 (1.27)		2.81 (0.85)		2.06 (0.96)	
	UNI7	2.09 (0.35) <sup>a</sup>		1.48 (0.48) <sup>d,g</sup>		2.47 (1.15)		12 (30.8%)		1.63 (0.67)		2.13 (0.7)		2.99 (0.83) <sup>c</sup>		1.91 (0.97)	
	UNI8	1.73 (0.63)		1.3 (0.52)		2.71 (0.82)		14 (50%)		1.76 (0.54)		2.20 (0.92)		2.73 (1.08)		2.00 (0.79)	
	UNI9	2.09 (0.38) <sup>b</sup>		1.52 (0.45) <sup>b,f</sup>		2.59 (1.02)		11 (32.4%)		1.52 (0.69)		2.43 (1.02)		2.99 (1.03)		1.76 (0.85) <sup>a</sup>	

Notes. <sup>1</sup>non-parametric tests were used (i.e., Spearman, Mann Whitney, Kruskal-Wallis); <sup>2</sup> parametric tests were used (i.e., Pearson, t-test). <sup>3</sup>Welch test is used as Homogeneity of Variance is not met (Levine's test) and Games-Howell post-hoc test is used. <sup>a,b,c,d,f,g</sup> – shows which groups are significantly different.

Table 2. Demographic characteristic differences in outcomes—part 1

Demographic characteristics		Exhaustion		Cynicism		Personal accomplishment		Insomnia symptoms		Somatisation symptoms		Hazardous drinking		Drug use	
		M(SD)/r	P value	M(SD)/r	P value	M(SD)/r	P value	N(%)/r	P value	M(SD)/r	P value	M(SD)/r	P value	M(SD)/r	P value
Gender	Male	3.73 (1.39)	<i>t</i> (402) = <b>-2.368, p = 0.018</b>	2.78 (1.44)	<i>t</i> (401) = 0.751, p = 0.453	3.74 (0.99)	<i>t</i> (401) = 0.469, p = 0.639	1.19 (0.78)	<i>t</i> (402) = - 0.827, p = 0.409	0.82 (0.63)	<i>t</i> (402) = <b>-4.815,</b> <b>p &lt; 0.001</b>	65 (65.7%)	$\chi^2$ (1, 400) = 3.166, p = 0.075	8 (8.6%)	$\chi^2$ (1, 385) = 0.201, p = 0.654
	Female	4.08 (1.29)		2.65 (1.55)		3.68 (1.05)		1.27 (0.88)		1.19 (0.76)		167 (55.5%)		21 (7.2%)	
Age <sup>1</sup>		-0.004, p=0.930		0.063, p=0.202		-0.001, p=0.987		-0.033, p=0.509		-0.060, p=0.227		<i>U</i> = 17530, p = 0.053		<i>U</i> = 3970, p = 0.018	
Ethnicity	White	4.05 (1.35)	<i>t</i> (400) = 0.890, p = 0.374	2.66 (1.54)	<i>t</i> (399) = -0.309, p = 0.757	3.78 (1.02)	<i>t</i> (399) = <b>2.554,</b> <b>p = 0.011</b>	1.23 (0.86)	<i>t</i> (400) = -0.766, p = 0.444	1.13 (0.72)	<i>t</i> (400) = 1.078, p = 0.281	183 (69.8%)	$\chi^2$ (1, 398) = <b>36.998,</b> <b>p &lt; 0.001</b>	10 (8%)	$\chi^2$ (1, 382) = 0.013, p = 0.908
	BME	3.92 (1.28)		2.71 (1.54)		3.51 (1.07)		1.30 (0.85)		1.05 (0.80)		52 (38.2%)		10 (7.6%)	
Sexuality	Heterosexual	3.92 (1.35)	<i>t</i> (392) = <b>-2.352,</b> <b>p = 0.019</b>	2.64 (1.54)	<i>t</i> (392) = -1.369, p = 0.172	3.73 (1.04)	<i>t</i> (392) = 1.183, p = 0.238	1.18 (0.84)	<i>t</i> (392) = <b>-2.932,</b> <b>p = 0.004</b>	1.04 (0.73)	<i>t</i> (392) = <b>-3.385,</b> <b>p = 0.001</b>	178 (58.0%)	$\chi^2$ (1, 390) = 0.934, p = 0.334	20 (6.7%)	$\chi^2$ (1, 375) = 3.445, p = 0.063
	LGBTQ	4.30 (1.21)		2.90 (1.58)		3.58 (0.99)		1.49 (0.84)		1.35 (0.76)		53 (63.9%)		10 (13.2%)	
Relationship status	Single	3.98 (1.31)	<i>t</i> (405) = -1.188, p = 0.235	2.64 (1.50)	<i>t</i> (404) = <b>-2.374,</b> <b>p = 0.018</b>	3.70 (1.05)	<i>t</i> (404) = 0.947, p = 0.344	1.25 (0.88)	<i>t</i> (405) = - 0.446, p = 0.657	1.11 (0.77)	<i>t</i> (405) = 0.404, p = 0.687	212 (59.2%)	$\chi^2$ (1, 403) = 1.081, p = 0.299	28 (8.1%)	$\chi^2$ (1, 387) = 0.650, p = 0.420
	Married	4.23 (1.41)		3.21 (1.76)		3.55 (0.97)		1.30 (0.71)		1.07 (0.59)		23 (51.1%)		2 (4.7%)	
Widening participation student	Yes	4.32 (1.30)	<i>T</i> (405) = <b>2.028,</b> <b>p = 0.043</b>	2.88 (1.45)	<i>t</i> (404) = 1.030, p = 0.304	3.52 (1.01)	<i>t</i> (404) = -1.339, p = 0.181	1.55 (0.90)	<i>t</i> (405) = <b>2.975,</b> <b>p = 0.003</b>	1.31 (0.84)	<i>t</i> (405) = <b>2.330,</b> <b>p = 0.020</b>	33 (54.1%)	$\chi^2$ (1, 403) = 0.525, p = 0.469	3 (5.3%)	$\chi^2$ (1, 387) = 0.579, p = 0.447
	No	3.95 (1.32)		2.67 (1.55)		3.71 (1.04)		1.20 (0.84)		1.07 (0.73)		202 (59.1%)		27 (8.2%)	
Parents/guardians/carers occupation	Higher	4 (1.29)	<i>t</i> (405) = -0.261, p = 0.794	2.70 (1.54)	<i>t</i> (404) = - 0.031, p = 0.975	3.71 (1.05)	<i>t</i> (404) = -0.859, p = 0.391	1.24 (0.85)	<i>t</i> (405) = - 0.960, p = 0.337	1.09 (0.74)	<i>T</i> (405) = -0.751,	190 (59.2%)	$\chi^2$ (1, 403) = 0.500, p = 0.480	25 (8.1%)	$\chi^2$ (1, 387) = 0.246, p = 0.620
	Intermediate and lower	4.04 (1.43)		2.70 (1.52)		3.60 (1)		1.34 (0.88)		1.16 (0.78)		45 (54.9%)		5 (6.4%)	
University year <sup>2</sup>		-0.023, p=0.643		0.036, p=0.474		-0.005, p=0.918		-0.076, p=0.125		<b>-0.158, p=0.001</b>		<i>t</i> (400) = 1.091, p = 0.276		<i>t</i> (384) = 1.547 p = 0.123	
University	UNI1	3.77 (1.52) <sup>a</sup>	<b>p&lt;0.001<sup>3</sup></b>	2.56 (1.78)		3.77 (1.07)		1.49 (1.03)		1.25 (1.01)		15 (40.5%)	$\chi^2$ (8, 403) =	2 (5.4%)	$\chi^2$ (8, 387) =

	UNI2	4.8 (0.2) <sup>a,b,c, d</sup>		2.87 (1.33)		2.50 (1.44)		1.43 (0.8)		0.54 (0.31)		2 (66.7%)	<b>41.226, p &lt; 0.001</b>	0%	<b>16.205, p = 0.040</b>
	UNI3	3.92 (1.37) <sup>b</sup>		2.71 (1.51)		3.48 (0.97)		1.23 (0.82)		1.10 (0.77)		53 (42.1%)		6 (5%)	
	UNI4	4.27 (1.18)		2.92 (1.67)		3.78 (1.03)		1.32 (0.85)		1.10 (0.66)		70 (77.8%)		15 (17.2%)	
	UNI5	3.43 (1.41) <sup>c</sup>		2.71 (1.1)	<i>F(8,405)=</i> 0.724, <i>p=0.671</i>	3.84 (1.11)	<i>F(8,405)=</i> <b>1.978,</b> <i>p=0.048</i>	0.86 (0.68)	<i>F(8,406)=</i> 1.682, <i>p=0.101</i>	0.84 (0.69)		23 (76.7%)		1 (3.6%)	
	UNI6	3.65 (1.1) <sup>d</sup>		2.24 (1.33)		3.48 (0.75)		1.53 (0.87)		1.34 (0.62)		11 (68.8%)		1 (6.3%)	
	UNI7	4.36 (1.19)		2.81 (1.5)		3.73 (0.97)		1.35 (0.99)		1.10 (0.73)		19 (48.7%)		1 (2.6%)	
	UNI8	4.21 (0.99)		2.58 (1.49)		3.70 (0.99)		1.21 (0.81)		1.05 (0.75)		19 (67.9%)		3 (11.1%)	
	UNI9	3.88 (1.5)		2.35 (1.5)		4.06 (1.26)		1.1 (0.71)		1.15 (0.71)		23 (67.6%)		1 (3.2%)	

Note. <sup>1</sup>non-parametric tests were used (i.e., Spearman, Mann Whitney, Kruskal-Wallis); <sup>2</sup> parametric tests were used (i.e., Pearson, t-test). <sup>3</sup>Welch test is used as Homogeneity of Variance is not met (Levine's test) and Games-Howell post-hoc test is used. <sup>a,b,c,d,f,g</sup> – shows which groups are significantly different

Table 3. Demographic characteristic differences in outcomes – part 2

Demographic characteristics		Anxiety/depression symptoms		Anorexic tendency		Bulimic tendency		Binge eating tendencies		OCD symptoms		Bipolar symptoms	
		M(SD)/r	P value	N (%)/r	P value	N(%)/r	P value	N(%)/r	P value	M(SD)/r	P value	M(SD)/r	P value
Gender	Male	<b>0.99 (0.82)</b>	<i>t (401)= -2.447, p = 0.015</i>	<b>19 (19.2%)</b>	$\chi^2 (1, 402) = 31.657, p < 0.001$	1 (1%)	$\chi^2 (1, 402) = 2.076, p = 0.150$	4 (4%)	$\chi^2 (1, 402) = 3.310, p = 0.069$	<b>0.99 (0.96)</b>	<i>t (402)= -2.557, p = 0.011</i>	<b>0.18 (0.24)</b>	<i>t (402)= -2.584, p = 0.010</i>
	Female	<b>1.23 (0.86)</b>		<b>156 (51.5%)</b>		12 (4%)		39 (9.9%)		<b>1.30 (1.18)</b>		<b>0.26 (0.28)</b>	
Age <sup>1</sup>		<b>-0.107, p=0.031</b>		<i>U = 18476, p=0.142</i>		<i>U = 1708, p = 0.042</i>		<i>U = 4806, p = 0.021</i>		-0.056, <i>p=0.257</i>		<b>-0.209, <i>p&lt;0.001</i></b>	
Ethnicity	White	1.22 (0.86)	<i>t (399) = 1.436, p = 0.152</i>	115 (44.1%)	$\chi^2 (1, 400) = 0.030, p = 0.863$	8 (3.1%)	$\chi^2 (1, 400) = 0.093, p = 0.760$	21 (8%)	$\chi^2 (1, 400) = 0.229, p = 0.632$	1.21 (1.15)	<i>t (400) = -0.790, p = 0.430</i>	0.26 (0.28)	<i>T (400) = 1.188, p = 0.236</i>
	BME	1.09 (0.86)		60 (43.2%)		5 (3.6%)		12 (9.4%)		1.30 (1.13)		0.22 (0.28)	
Sexuality	Heterosexual	<b>1.12 (0.85)</b>	<i>T (392) = -2.555, p = 0.011</i>	128 (41.4%)	$\chi^2 (1, 392) = 3.568, p = 0.059$	11 (3.6%)	$\chi^2 (1, 392) = 0.270, p = 0.603$	27 (8.7%)	$\chi^2 (1, 392) = 0.193, p = 0.660$	1.21 (1.17)	<i>t (392) = -0.675, p = 0.500</i>	<b>0.22 (0.26)</b>	<i>T (392) = -2.612, p = 0.010</i>
	LGBTQ	<b>1.39 (0.89)</b>		44 (53%)		2 (2.4%)		6 (7.2%)		1.30 (1.05)		<b>0.32 (0.34)</b>	
Relationship status	Single	<b>1.14 (0.84)</b>	<i>t (404) = -2.809, p = 0.005</i>	158 (43.9%)	$\chi^2 (1, 405) = 0.045, p = 0.832$	12 (3.3%)	$\chi^2 (1, 405) = 0.159, p = 0.690$	30 (8.3%)	$\chi^2 (1, 405) = 0.016, p = 0.899$	1.21 (1.14)	<i>t (405) = -0.823, p = 0.411</i>	0.25 (0.28)	<i>t (405) = 0.368, p = 0.713</i>
	Married	<b>1.52 (0.93)</b>		19 (42.2%)		1 (2.2%)		4 (8.9%)		1.36 (1.16)		0.23 (0.28)	
Widening participation student	Yes	<b>1.40 (0.90)</b>	<i>t (404) = 2.192, p = 0.029</i>	25 (40.3%)	$\chi^2 (1, 405) = 0.340, p = 0.560$	1 (1.6%)	$\chi^2 (1, 405) = 0.438, p = 0.601$	7 (11.3%)	$\chi^2 (1, 405) = 0.798, p = 0.372$	1.55 (1.20)	<i>t (405) = 2.434, p = 0.015</i>	0.29 (0.30)	<i>t (405) = 1.337, p = 0.182</i>
	No	<b>1.14 (0.85)</b>		152 (44.3%)		12 (3.5%)		27 (7.9%)		1.17 (1.12)		0.24 (0.28)	
Parents/guardians / carers occupation	Higher	1.17 (0.86)	<i>t (404) = -0.440, p = 0.660</i>	135 (41.9%)	$\chi^2 (1, 405) = 2.019, p = 0.155$	12 (3.7%)	$\chi^2 (1, 405) = 1.351, p = 0.245$	25 (7.8%)	$\chi^2 (1, 405) = 0.814, p = 0.367$	1.20 (1.15)	<i>t (405) = -1.024, p = 0.306</i>	0.24 (0.28)	<i>t (405) = -1.284, p = 0.200</i>
	Intermediate and lower	1.22 (0.86)		42 (50.6%)		1 (1.2%)		9 (10.8%)		1.35 (1.12)		0.28 (0.27)	

University year <sup>2</sup>		<b>-0.130, p =0.009</b>	<i>t</i> (402)= 1.580, <i>p</i> = 0.115	<i>t</i> (402)= 1.738, <i>p</i> = 0.083	<b><i>t</i> (402)= 2.067, <i>p</i> = 0.039</b>	-0.058, <i>p</i> = 0.246	<b>-0.283, <i>p</i> &lt; 0.001</b>
University	UNI1	1.13 (1.04)	<i>F</i> (8,405) = 1.518, <i>p</i> =0.149	20 (52.6%)	2 (5.3%)	3 (7.9%)	0.24 (0.32)
	UNI2	1 (0.43)		3 (100%)	0%	0%	0
	UNI3	1.05 (0.84)		48 (37.8%)	2 (1.6%)	7 (5.6%)	0.23 (0.26)
	UNI4	1.31 (0.83)		38 (42.2%)	7 (7.7%)	11 (12.1%)	0.22 (0.27)
	UNI5	0.93 (0.74)		17 (56.7%)	0%	3 (10%)	0.19 (0.23)
	UNI6	1.36 (0.66)		7 (43.8%)	1 (6.3%)	3 (18.8%)	0.38 (0.34)
	UNI7	1.35 (0.87)		18 (46.2%)	0%	1 (2.6%)	0.28 (0.28)
	UNI8	1.38 (0.89)		10 (35.7%)	0%	1 (3.6%)	0.32 (0.3)
	UNI9	1.17 (0.87)		16 (47.1%)	1 (2.9%)	5 (14.7%)	0.26 (0.29)

Note. OCD – Obsessive-compulsive disorder; <sup>1</sup>non-parametric tests were used (i.e., Spearman, Mann Whitney, Kruskal-Wallis); <sup>2</sup> parametric tests were used (i.e., Pearson, t-test).

Table 3. Demographic characteristic differences in outcomes – part 3

Demographic characteristics		Schizoid personality disorder symptoms		Histrionic personality disorder symptoms		Antisocial personality disorder symptoms		Paranoia symptoms	
		N (%)/r	P value	N(%)/r	P value	N(%)/r	P value	M(SD)/r	P value
Gender	Male	66 (66.7%)	$\chi^2 (1, 403) = 8.354, p = 0.004$	24 (24.7%)	$\chi^2 (1, 399) = 3.167, p = 0.075$	4 (4.1%)	$\chi^2 (1, 401) = 1.995, p = 0.158$	1.10 (0.90)	$t (402) = -0.785, p = 0.433$
	Female	152 (50%)		104 (34.4%)		5 (1.7%)		1.19 (0.97)	
Age <sup>1</sup>		$U = 21881.5, p = 0.218$		$U = 17876, p = 0.856$		$U = 1932, p = 0.916$		<b>-0.116, p=0.020</b>	
Ethnicity	White	138 (52.7%)	$\chi^2 (1, 401) = 0.634, p = 0.426$	78 (30%)	$\chi^2 (1, 398) = 1.605, p = 0.205$	6 (2.3%)	$\chi^2 (1, 400) = 0.137, p = 0.711$	1.18 (0.98)	$t (400) = 0.330, p = 0.742$
	BME	79 (56.8%)		50 (36.2%)		4 (2.9%)		1.15 (0.94)	
Sexuality	Heterosexual	169 (54.5%)	$\chi^2 (1, 393) = 0.022, p = 0.883$	95 (30.9%)	$\chi^2 (1, 389) = 0.944, p = 0.331$	6 (1.9%)	$\chi^2 (1, 392) = 2.179, p = 0.140$	1.12 (0.95)	$t (392) = -1.801, p = 0.072$
	LGBTQ	46 (55.4%)		30 (36.6%)		4 (4.8%)		1.33 (0.96)	
Relationship status	Single	192 (53.2%)	$\chi^2 (1, 406) = 2.045, p = 0.153$	115 (32.1%)	$\chi^2 (1, 402) = 0.069, p = 0.792$	<b>7 (1.9%)</b>	$\chi^2 (1, 404) = 3.858, p = 0.050$	1.17 (0.97)	$t (405) = -0.614, p = 0.539$
	Married	29 (64.4%)		88 (34.1%)		<b>3 (6.8%)</b>		1.26 (0.93)	
Widening participation student	Yes	34 (55.7%)	$\chi^2 (1, 406) = 0.049, p = 0.824$	29 (42.6%)	$\chi^2 (1, 402) = 3.476, p = 0.062$	2 (3.3%)	$\chi^2 (1, 404) = 0.192, p = 0.661$	<b>1.41 (1.03)</b>	$t (405) = 2.112, p = 0.035$
	No	187 (54.2%)		104 (30.5%)		8 (2.3%)		<b>1.13 (0.95)</b>	
Parents/guardians/carers occupation	Higher	170 (52.6%)	$\chi^2 (1, 406) = 2.068, p = 0.150$	101 (31.6%)	$\chi^2 (1, 402) = 0.432, p = 0.511$	7 (2.2%)	$\chi^2 (1, 404) = 0.597, p = 0.440$	1.13 (0.95)	$t (405) = -1.891, p = 0.059$
	Intermediate and lower	51 (61.4%)		29 (35.4%)		3 (3.7%)		1.35 (1.02)	
University year <sup>2</sup>		$t (403) = 0.914, p = 0.361$		$t (399) = 0.172, p = 0.863$		$t (401) = 1.097, p = 0.273$		<b>-0.140, p= 0.005</b>	
University	UNI1	20 (54.1%)	$\chi^2 (8, 406) = 5.369, p = 0.717$	11 (28.9%)	$\chi^2 (8, 402) = 5.931, p = 0.655$	2 (5.4%)	$\chi^2 (8, 404) = 5.770, p = 0.673$	0.99 (1.11)	$F(8,406) = 1.299, p=0.242$
	UNI2	2 (66.7%)		1 (33.3%)		0%		1.10 (1.32)	
	UNI3	72 (56.7%)		35.7% (45)		2 (1.6%)		1.13 (0.91)	

	UNI4	45 (48.9%)		32.2% (29)		2 (2.2%)		1.31 (0.96)	
	UNI5	15 (50%)		36.7% (11)		0%		0.87 (0.96)	
	UNI6	9 (56.3%)		50% (8)		2 (6.3%)		1.16 (0.84)	
	UNI7	21 (53.8%)		27.0% (10)		2 (5.3%)		1.39 (1.03)	
	UNI8	20 (71.4%)		21.4% (6)		1 (3.6%)		1.41 (0.73)	
	UNI9	17 (50%)		26.5% (9)		0%		1.08 (1.07)	

Note. <sup>1</sup>non-parametric tests were used (i.e., Spearman, Mann Whitney, Kruskal-Wallis); <sup>2</sup> parametric tests were used (i.e., Pearson, t-test).

## Appendix 3. Adjusted analysis

	Burnout			Anxiety/depression induced issues					Physical symptoms		Substance use		Personality disorder			Mood disorder	Diagnos <sup>s</sup>
	Exhaustion	Cynicism	Personal accomplishment	Anxiety/depression	Anorexia	Bulimia	Binge eating	OCD	Insomnia	Somatisation	Hazardous drinking	Drug use	Schizoid	Histrionic	Paranoia	Bipolar	
Time <sup>1</sup>	-0.19 (-0.30 to -0.08)*** sg	-0.34 (-0.47 to -0.21)*** sg	0.11 (0.02 to 0.20)*	0.02 (-0.06 to 0.09)	0.10 (-0.11 to 0.30)	-0.67 (-1.34 to 0.10)	0.02 (-0.35 to 0.38)	0.11 (0.02 to 0.20)*	0.02 (-0.04 to 0.09)	0.01 (-0.04 to 0.07)	0.08 (-0.11 to 0.26)	-0.36 (-0.82 to 0.10)	-0.05 (-0.26 to 0.16)	-0.09 (-0.31 to 0.13)	0.01 (-0.05 to 0.08)	0.03 (0.01 to 0.05)*	-0.16 (0.01 to 0.32)*
Educational climate: centrality	-0.51 (-0.80 to -0.23)*** sg	-0.72 (-1.03 to -0.41)*** sg	0.62 (0.40 to 0.84)*** sg	-0.13 (-0.31 to 0.05)	0.21 (-0.30 to 0.73)	-0.51 (-1.65 to 0.62)	-0.55 (-1.32 to 0.21)	-0.11 (-0.27 to 0.17)	-0.14 (-0.32 to 0.05)	-0.11 (-0.28 to 0.68)	0.18 (-0.31 to 0.60)	-0.19 (-0.97 to 0.75)	0.29 (-0.17 to 0.39)	-0.10 (-0.60 to 0.28)	0.07 (-0.14 to 0.08)	0.01 (-0.05 to 0.08)	0.44 (-0.18 to 1.06)
Educational climate: competitive	-0.42 (-0.66 to -0.18)*** sg	-0.33 (-0.60 to -0.07)*	0.21 (0.02 to 0.40)*	-0.12 (-0.28 to 0.03)	-0.41 (-0.87 to 0.05)	0.48 (-0.48 to 1.44)	-0.13 (-0.85 to 0.59)	-0.02 (-0.12 to 0.08)	-0.07 (-0.23 to 0.09)	-0.10 (-0.24 to 0.04)	0.32 (-0.14 to 0.79)	0.31 (-0.55 to 1.18)	-0.18 (-0.59 to 0.22)	-0.08 (-0.33 to 0.39)	-0.15 (-0.33 to 0.02)	-0.01 (-0.06 to 0.44)	-0.07 (-0.58 to 0.44)
Belongingness	-0.19 (-0.30 to -0.08)*** sg	-0.10 (-0.22 to 0.02)	0.22 (0.13 to 0.30)*** sg	-0.08 (-0.14 to -0.01)*	-0.37 (-0.83 to 0.09)	0.58 (0.05 to 1.11)*	-0.10 (-0.21 to 0.41)	0.05 (-0.16 to 0.27)	-0.10 (-0.17 to -0.03)**	-0.03 (-0.09 to 0.03)	0.28 (0.07 to 0.49)**	0.03 (-0.39 to 0.44)	-0.31 (-0.50 to -0.11)** sg	-0.09 (-0.12 to 0.30)	0.02 (-0.06 to 0.10)	0.03 (0.01 to 0.05)*	0.20 (-0.05 to 0.44)
Observed stigma <sup>2</sup>	-0.08 (-0.32 to 0.15)	-0.16 (-0.42 to 0.10)	0.03 (-0.16 to 0.21)	0.05 (-0.10 to 0.20)	0.07 (-0.13 to 0.27)	-1.03 (-2.17 to 0.11)	-0.77 (-1.51 to -0.04)*	-0.02 (-0.16 to 0.27)	0.11 (-0.05 to 0.26)	0.14 (0.00 to 0.27)	0.81 (0.36 to 1.27)*** sg	1.04 (0.27 to 1.80)**	0.25 (-0.18 to 0.68)	0.48 (0.04 to 0.93)*	0.13 (-0.05 to 0.30)	0.04 (-0.01 to 0.09)	-0.53 (-1.05 to -0.02)*
Perceived stigma	0.17 (-0.01 to 0.35)	0.28 (0.08 to 0.48)**	-0.13 (-0.27 to 0.01)	0.20 (0.09 to 0.31)*** sg	0.71 (0.37 to 1.04)*** sg	1.41 (0.43 to 2.38)**	0.74 (0.13 to 1.36)*	0.39 (0.22 to 0.55)** * sg	0.23 (0.11 to 0.35)*** sg	0.15 (0.05 to 0.26)**	-0.25 (-0.60 to 0.10)	-0.75 (-1.43 to -0.07)*	0.56 (0.24 to 0.89)*** sg	0.21 (-0.13 to 0.55)	0.42 (0.29 to 0.55)** * sg	0.04 (0.00 to 0.08)	-0.77 (-1.19 to -0.36)*** sg
Help seeking behaviour	-0.05 (-0.17 to 0.08)	-0.18 (-0.31 to -0.04)**	0.08 (-0.02 to 0.17)	-0.07 (-0.15 to 0.01)	0.04 (-0.18 to 0.27)	0.32 (-0.35 to 0.98)	0.22 (-0.16 to 0.60)	-0.07 (-0.18 to 0.04)	-0.10 (-0.19 to -0.02)*	-0.06 (-0.13 to 0.02)	-0.30 (-0.54 to -0.07)*	-0.02 (-0.38 to 0.34)	-0.14 (-0.36 to 0.07)	0.05 (-0.18 to 0.29)	-0.09 (-0.18 to 0.00)*	-0.05 (-0.08 to -0.03)*** sg	-0.51 (-0.81 to -0.21)*** sg

Covid: Underprepared	<b>0.19 (0.07 to 0.30)*** sg</b>	<b>0.15 (0.03 to 0.27)*</b>	<b>-0.11 (- 0.20 to - 0.03)*</b>	<b>0.11 (0.04 to 0.18)** sg</b>	0.14 (- 0.07 to 0.35)	-0.09 (- 0.70 to 0.52)	0.06 (- 0.26 to 0.38)	0.07 (- 0.03 to 0.18)	0.06 (- 0.02 to 0.13)	<b>0.07 (0.01 to 0.13)*</b>	0.00 (- 0.22 to 0.21)	0.32 (- 0.22 to 0.86)	0.01 (- 0.19 to 0.20)	<b>-0.23 (- 0.44 to - 0.02)*</b>	0.05 (- 0.03 to 0.13)	0.00 (- 0.02 to 0.03)	0.19 (- 0.06 to 0.43)
Covid: Unsupported	-0.03 (-0.19 to 0.12)	0.12 (- 0.03 to 0.28)	0.07 (- 0.04 to 0.19)	0.02 (- 0.07 to 0.11)	0.04 (- 0.23 to 0.31)	0.48 (- 0.28 to 1.25)	-0.07 (- 0.49 to 0.34)	0.04 (- 0.09 to 0.18)	-0.08 (- 0.17 to 0.02)	-0.05 (- 0.12 to - 0.03)	0.17 (- 0.12 to 0.46)	0.35 (- 0.20 to 0.91)	-0.15 (- 0.41 to 0.10)	-0.03 (- 0.32 to 0.26)	0.02 (- 0.09 to 0.12)	0.01 (- 0.02 to 0.04)	-0.05 (- 0.39 to 0.29)
Stressful events <sup>3</sup>	<b>-0.25 (-0.50 to -0.01)*</b>	-0.19 (- 0.45 to 0.08)	<b>0.23 (0.04 to 0.42)*</b>	<b>-0.16 (- 0.31 to - 0.00)*</b>	-0.26 (- 0.71 to 0.20)	-0.00 (- 1.39 to 1.38)	-0.22 (- 0.97 to 0.53)	-0.12 (- 0.35 to 0.10)	<b>-0.26 (- 0.42 to - 0.09)** sg</b>	<b>-0.18 (- 0.32 to - 0.04)*</b>	-0.14 (- 0.61 to 0.33)	-0.78 (- 1.78 to 0.23)	0.09 (- 0.26 to 0.52)	<b>-0.75 (- 1.22 to - 0.29)*** sg</b>	-0.13 (- 0.30 to 0.05)	<b>-0.08 (- 0.13 to - 0.02)**</b>	0.28 (- 0.28 to 0.83)
Gender <sup>4</sup>	-0.21 (-0.46 to 0.05)	<b>0.35 (0.07 to 0.63)*</b>	0.16 (- 0.04 to 0.36)	<b>-0.20 (- 0.36 to - 0.04)*</b>	<b>-1.55 (- 2.10 to - 1.01)*** sg</b>	-1.72 (- 3.69 to 0.24)	<b>-1.34 (- 2.46 to - 0.23)*</b>	<b>-0.31 (- 0.55 to - 0.08)** sg</b>	-0.08 (- 0.25 to 0.09)	<b>-0.37 (- 0.52 to - 0.22)*** sg</b>	0.42 (- 0.25 to 0.44)	0.12 (- 0.78 to 1.02)	<b>0.55 (0.08 to 1.02)*</b>	<b>-0.53 (- 1.01 to - 0.06)*</b>	-0.11 (- 0.30 to 0.07)	<b>-0.07 (- 0.12 to - 0.01)*</b>	0.27 (- 0.31 to 0.85)
Ethnicity <sup>5</sup>	0.17 (-0.08 to 0.40)	0.03 (- 0.23 to 0.28)	0.15 (- 0.04 to 0.33)	0.10 (- 0.04 to 0.25)	-0.12 (- 0.55 to 0.32)	-1.07 (- 2.35 to 0.22)	-0.14 (- 0.89 to 0.62)	-0.16 (- 0.38 to 0.05)	-0.05 (- 0.21 to 0.10)	0.08 (- 0.06 to 0.21)	<b>1.23 (- 0.79 to 1.66)*** sg</b>	-0.01 (- 0.81 to 0.79)	-0.03 (- 0.44 to 0.38)	-0.11 (- 0.55 to 0.32)	0.07 (- 0.10 to 0.24)	0.01 (- 0.04 to 0.06)	<b>-0.86 (- 1.42 to - 0.30)**sg</b>
Sexual orientation <sup>6</sup>	-0.24 (-0.52 to 0.04)	-0.17 (- 0.45 to 0.13)	0.04 (- 0.18 to 0.26)	<b>-0.21 (- 0.39 to - 0.03)*</b>	<b>-0.56 (- 1.04 to - 0.08)*</b>	-0.09 (- 1.45 to 1.27)	0 (- 0.86 to 0.85)	-0.10 (- 0.36 to 0.16)	<b>-0.25 (- 0.44 to - 0.07)**</b>	<b>-0.20 (- 0.36 to - 0.04)*</b>	-0.10 (- 0.67 to 0.48)	-0.48 (- 1.45 to 0.48)	-0.25 (- 0.74 to 0.24)	-0.29 (- 0.81 to 0.22)	-0.17 (- 0.38 to 0.03)	<b>-0.07 (- 0.13 to - 0.01)*</b>	0.40 (- 0.17 to 0.97)
Widening participation <sup>7</sup>	0.09 (-0.23 to 0.40)	-0.11 (- 0.45 to 0.23)	0.05 (- 0.20 to 0.30)	0.12 (- 0.08 to 0.32)	-0.24 (- 0.82 to 0.34)	-1.68 (- 4.11 to 0.75)	-0.15 (- 1.13 to 0.83)	0.23 (- 0.06 to 0.52)	0.12 (- 0.09 to 0.33)	0.09 (- 0.09 to 0.27)	0.08 (- 0.54 to 0.69)	-0.77 (- 2.02 to 0.49)	-0.03 (- 0.59 to 0.53)	0.22 (-0.33 to 0.77)	0.14 (- 0.09 to 0.37)	-0.00 (- 0.06 to 0.07)	-0.38 (- 1.03 to 0.26)
Medical school year	-0.03 (-0.11 to 0.05)	-0.03 (- 0.12 to 0.05)	0.02 (- 0.04 to 0.08)	<b>-0.05 (- 0.10 to - 0.01)*</b>	<b>-0.17 (- 0.32 to - 0.02)*</b>	<b>-0.62 (- 1.14 to - 0.10)*</b>	-0.21 (- 0.50 to 0.08)	-0.05 (- 0.12 to 0.02)	-0.02 (- 0.07 to 0.03)	<b>-0.08 (- 0.12 to - 0.03)*** sg</b>	-0.14 (- 0.28 to 0.01)	-0.26 (- 0.59 to 0.08)	0.01 (- 0.12 to 0.15)	-0.09 (- 0.23 to 0.05)	<b>-0.11 (- 0.17 to - 0.05)** * sg</b>	<b>-0.05 (- 0.07 to - 0.03)*** sg</b>	<b>-0.32 (- 0.49 to - 0.16)*** sg</b>

Note. \*  $P \leq 0.05$  \*\*  $P \leq 0.01$  \*\*\*  $P \leq 0.001$ . <sup>1</sup> -T1/T2: T2 is reference; <sup>2</sup> -No/Yes: No is reference; <sup>3</sup> - No/Yes: Yes is reference; <sup>4</sup> - Male/Female: Female is reference; <sup>5</sup> - White/BAME: BAME is reference; <sup>6</sup> - Heterosexual/LGBTQ+: LGBTQ+ is reference; <sup>7</sup> - Yes/No: No is reference; <sup>8</sup> -Yes/No: Yes is reference; sg – significant after Bonferroni correction

## Appendix 4. Antisocial personality disorder symptoms

	Unadjusted model (B, SE)	Adjusted model
Antisocial personality disorder symptoms at T0	<b>5.10 (1.25)***</b>	<b>7.48 (2.03)***</b>
Educational climate: centrality	-0.011 (0.80)	0.12 (1.16)
Educational climate: competition	<b>1.48 (0.75)*</b>	<b>2.04 (1.04)*</b>
Belongingness	<b>-0.75 (0.34)*</b>	<b>-1.29 (0.56)*</b>
Observed stigma <sup>2</sup>	0.55 (0.79)	0.43 (1)
Perceived stigma	0.69 (0.57)	0.65 (0.72)
Help-seeking behaviour	0.23 (0.42)	0.46 (0.58)
Covid – Underprepared	-0.09 (0.38)	0.15 (0.47)
Covid – Support	0.28 (0.50)	0.28 (0.64)
Stressful events <sup>3</sup>		2.06 (1.42)
Gender <sup>4</sup>		-1.43 (1.08)
Ethnicity <sup>5</sup>		1.17 (1.08)
Sexual orientation <sup>6</sup>		-0.47 (1.11)
Widening participation <sup>7</sup>		1.94 (1.62)
Medical school year		-0.22 (0.35)

Notes. \*  $P \leq 0.05$  \*\*  $P \leq 0.01$  \*\*\*  $P \leq 0.001$ . <sup>1</sup> -T1/T2: T2 is reference; <sup>2</sup> -No/Yes: No is reference; <sup>3</sup> - No/Yes: Yes is reference; <sup>4</sup>- Male/Female: Female is reference; <sup>5</sup>- White/BAME: BAME is reference; <sup>6</sup>- Heterosexual/LGBTQ+: LGBTQ+ is reference; <sup>7</sup>- Yes/No: No is reference.

## Appendix 5. Literature comparison

Prevalence of mental ill-health symptoms in other populations reported in systematic reviews/meta-analyses or large sample data compared to medical students in the current study.

Mental health issue group	Mental health issues	Medical students (current study)	Group (Place, group, type of study, year)	
			General population (globally or UK)	Medical students
<b>Burnout</b>	High emotional exhaustion	28%		40.8% (Global, systematic review, 2020) <sup>1</sup>
	High cynicism	31.9%		35.1% (Global, systematic review, 2020) <sup>1</sup>
	Low personal accomplishment	33.1%		27.4% (Global, systematic review, 2020) <sup>1</sup>
<b>Anxiety/depression induced symptoms</b>	Anxiety/depression symptoms (severe/moderate)	38.5%	28% depression (Global, general population, systematic review, 2021) <sup>2</sup> 26.9% anxiety (Global, general population, systematic review, 2021) <sup>2</sup>	39.4% depression 47.1% anxiety (Global, systematic review, 2022) <sup>3</sup>
	Anorexic tendencies	44.6%	Eating disorders 10.4% (Global, undergraduate students, systematic review, 2019) <sup>4</sup>	Feeding and eating disorders 17.35% (Global, systematic review, 2022) <sup>5</sup>
	Bulimic tendencies	2.8%	0.8% (Global, general population, large sample study, 2013) <sup>6</sup>	
	Binge eating tendencies	8.5%	1.4% (Global, general population, large sample study 2013) <sup>6</sup>	
	Obsessive-Compulsive disorder symptoms	48.5%	6.4% (Global, general population, systematic review, 2021) <sup>2</sup>	

<b>Physical symptoms</b>	Insomnia symptoms (clinical)	19.2%	27.6% (Global, general population, systematic review, 2021) <sup>2</sup>	Poor quality of sleep 55% (Global, sys review, 2019) <sup>5</sup>
	Somatisation symptoms (Medium/high/very)	50.8%	30.7% (Global, general population, systematic review, 2021) <sup>2</sup>	
<b>Substance use</b>	Hazardous drinking	62.4%	50.5% (Global, general population, systematic review, 2021) <sup>2</sup> 62.8% - 84% (UK and Ireland, undergraduate students, systematic review, 2016) <sup>7</sup>	
	Drug use (yes)	6.1%	Opioid misuse 4% to 19.7% (Global, undergraduate students, systematic review, 2020) <sup>8</sup>	8.8% cannabis use in the past month (Global, systematic review, 2014) <sup>9</sup>
<b>Personality disorders</b>	Schizoid personality disorder symptoms	46.7%	2.82% (Western countries, general population, systematic review, 2018) <sup>10</sup>	
	Histrionic personality disorder symptoms	34.1%	0.83% (Western countries, general population, systematic review, 2018) <sup>10</sup>	
	Antisocial personality disorder symptoms	1.9%	3.05% (Western countries, general population, systematic review, 2018) <sup>10</sup>	
	Paranoia symptoms	18.7%	3.02% (Western countries, general population, systematic review, 2018) <sup>10</sup>	
<b>Mood disorder</b>	Bipolar symptoms	4.2%	0.5% - 4.3% (Global, general population, systematic review, 2014) <sup>11</sup>	

## Reference list:

1. Frajerman A, Morvan Y, Krebs MO, Gorwood P, Chaumette B. Burnout in medical students before residency: A systematic review and meta-analysis. *European Psychiatry*. 2019;55:36-42. doi:10.1016/J.EURPSY.2018.08.006

2. Nochaiwong S, Ruengorn C, Thavorn K, et al. Global prevalence of mental health issues among the general population during the coronavirus disease-2019 pandemic: a systematic review and meta-analysis. *Scientific Reports* 2021;11:1. 2021;11(1):1-18. doi:10.1038/s41598-021-89700-8
3. Li W, Zhao Z, Chen D, Peng Y, Lu Z. Prevalence and associated factors of depression and anxiety symptoms among college students: a systematic review and meta-analysis. Published online 2022. doi:10.1111/jcpp.13606
4. Jahrami H, Sater M, Abdulla · Ahmed, Mo'ez ·, Faris AI, Alansari · Ahmed. Eating disorders risk among medical students: a global systematic review and meta-analysis. *Bulimia and Obesity*. 2019;24:397-410. doi:10.1007/s40519-018-0516-z
5. Fekih-Romdhane F, Daher-Nashif S, Alhuwailah AH, et al. The prevalence of feeding and eating disorders symptomology in medical students: an updated systematic review, meta-analysis, and meta-regression. *Eating and Weight Disorders - Studies on Anorexia, Bulimia and Obesity* 2022;27:6. 2022;27(6):1991-2010. doi:10.1007/S40519-021-01351-W
6. Kessler RC, Berglund PA, Chiu WT, et al. The Prevalence and Correlates of Binge Eating Disorder in the World Health Organization World Mental Health Surveys. *Biol Psychiatry*. 2013;73(9):904-914. doi:10.1016/J.BIOPSYCH.2012.11.020
7. Davoren MP, Demant J, Shiely F, Perry IJ. Alcohol consumption among university students in Ireland and the United Kingdom from 2002 to 2014: A systematic review. *BMC Public Health*. 2016;16(1):1-13. doi:10.1186/S12889-016-2843-1/TABLES/3
8. Weyandt LL, Gudmundsdottir BG, Holding EZ, et al. Prescription opioid misuse among university students: A systematic review. *Journal of American College Health*. 2022;70(4):1119-1137. doi:10.1080/07448481.2020.1786095/SUPPL\_FILE/VACH\_A\_1786095\_SM2549.DOCX
9. Papazisis G, Siafas S, Tsakiridis I, Koulas I, Dagklis T, Kouvelas D. Prevalence of Cannabis Use Among Medical Students: A Systematic Review and Meta-analysis. *Subst Abuse*. 2018;12. doi:10.1177/1178221818805977
10. Volkert J, Gablonski TC, Rabung S. Prevalence of personality disorders in the general adult population in Western countries: Systematic review and meta-analysis. *British Journal of Psychiatry*. 2018;213(6):709-715. doi:10.1192/BJP.2018.202
11. Cerimele JM, Chwastiak LA, Dodson S, Katon WJ. The prevalence of bipolar disorder in general primary care samples: a systematic review. *Gen Hosp Psychiatry*. 2014;36(1):19-25. doi:10.1016/J.GENHOSPPSYCH.2013.09.008

## Appendix 6. Comparison of those who completed follow-up study with those who did not

Table 1. Comparison of demographic characteristics. No follow-up N=385, Follow-up N=407

Variables	No follow-up: N (%)/M(SD)	Follow-up participants: N(%)/M(SD)	Statistics <sup>1</sup>
Gender ( <i>female</i> )	280 (72.7%)	305 (74.9%)	$\chi^2(1,783)=0.270, p=0.603$
<i>Missing</i>	6 (1.6%)	3 (0.7%)	
Age	21.47 (3.22)	21.49 (3.24)	$t(789)=0.099, p=0.922$
<i>Missing</i>	1 (0.3%)	n/a	
Ethnicity ( <i>white</i> )	238 (61.8%)	263 (64.6%)	$\chi^2(1,777)=0.324, p=0.569$
<i>Missing</i>	10 (2.6%)	5 (1.2%)	
Sexuality ( <i>heterosexual</i> )	306 (79.5%)	311 (76.4%)	$\chi^2(1,759)=2.993, p=0.084$
<i>Missing</i>	20 (5.2%)	13 (3.2%)	
Relationship status ( <i>single/Never married</i> )	355 (92.2%)	362 (88.9%)	$\chi^2(1,792)=2.459, p=0.117$
Widening participation student ( <i>yes</i> )	62 (16.1%)	62 (15.2%)	$\chi^2(1,788)=0.160, p=0.689$
<i>Missing</i>	4 (1%)	n/a	
Parents/guardians/carers occupation <sup>1</sup> ( <i>higher managerial</i> )	<b>275 (71.4%)</b>	<b>324 (79.6%)</b>	<b><math>\chi^2(1,789)=6.254, p=0.012</math></b>
<i>Missing</i>	3 (0.8%)	n/a	
University year			
1 <sup>st</sup>	109 (28.3%)	121 (29.7%)	$\chi^2(5,790)=3.790, p=0.580$
2 <sup>nd</sup>	56 (14.5%)	74 (18.2%)	
3 <sup>rd</sup>	54 (14.0%)	58 (14.3%)	
4 <sup>th</sup>	74 (19.2%)	75 (18.4%)	
5 <sup>th</sup>	63 (16.4%)	56 (13.8%)	
6 <sup>th</sup>	28 (7.3%)	22 (5.4%)	
<i>Missing</i>	1 (0.3%)	1 (0.2%)	
University			
UNI1	30 (7.8%)	38 (9.3%)	$\chi^2(8,789)=10.086, p=0.259$
UNI2	0	3 (0.7%)	
UNI3	125 (32.5%)	127 (31.2%)	
UNI4	89 (23.1%)	92 (22.6%)	
UNI5	16 (4.2%)	30 (7.4%)	
UNI6	11 (2.9%)	16 (3.9%)	
UNI7	51 (13.2%)	39 (9.6%)	
UNI8	26 (6.8%)	28 (6.9%)	
UNI9	34 (8.8%)	34 (8.4%)	
<i>Missing</i>	3 (0.8%)	n/a	

Note. <sup>1</sup>- Chi Squared is used for categorical data analysis and t-test for continuous variables

*Table 2.* Comparison of outcome variables

<b>Health issue group</b>	<b>Health issue</b>	<b>No follow-up: N (%) /M(SD)</b>	<b>Follow-up participants: N (%) /M(SD)</b>	<b>Statistics<sup>1</sup></b>
Burnout	Emotional Exhaustion	3.73 (1.39)	3.79 (1.33)	$t(790)=0.579, p=0.563$
	Depersonalisation	2.41 (1.53)	2.33 (1.50)	$t(790)=-0.761, p=0.447$
	Personal accomplishment	3.84 (1.11)	3.81 (1.09)	$t(790)=-0.474, p=0.636$
Anxiety/ depression induced symptoms	Anxiety/depression symptoms	1.21 (0.89)	1.17 (0.80)	$t(789)=-0.636, p=0.525$
	Anorexic tendencies	171 (44.4%)	182 (44.7%)	$\chi^2(1,790)=0.007, p=0.933$
	Bulimic tendencies	13 (3.4%)	9 (2.2%)	$\chi^2(1,789)=0.984, p=0.321$
	Binge Eating tendencies	34 (8.8%)	33 (8.1%)	$\chi^2(1,789)=0.126, p=0.722$
	Obsessive-compulsive disorder symptoms	1.32 (1.24)	1.34 (1.13)	$t(790)=0.122, p=0.903$
Physical symptoms	Insomnia symptoms	1.34 (0.84)	1.27 (0.83)	$t(790)=-1.175, p=0.240$
	Somatisation symptoms	1.09 (0.74)	1.12 (0.74)	$t(789)=0.637, p=0.524$
Substance use	Hazardous drinking	249 (64.8%)	245 (60.3%)	$\chi^2(1,790)=1.705, p=0.192$
	Drug use <sup>2</sup>	29 (7.5%)	19 (4.7%)	$\chi^2(2,789)=5.839, p=0.054$
Personality disorder symptoms	Schizoid personality disorder symptoms	156 (40.5%)	214 (52.6%)	$\chi^2(1,782)=12.093, p=0.001$
	Histrionic personality disorder symptoms	146 (37.9%)	124 (30.5%)	$\chi^2(1,788)=5.151, p=0.023$
	Antisocial personality disorder symptoms	9 (2.3%)	6 (1.5%)	$\chi^2(1,789)=0.768, p=0.381$
	Paranoia	1.14 (0.88)	1.2 (0.92)	$t(790)=0.824, p=0.410$
Bipolar symptoms	Bipolar symptoms	0.31 (0.29)	0.27 (0.27)	$t(790)=-2.064, p=0.039$

*Note.* <sup>1</sup>- Chi Squared is used for categorical data analysis and t-test for continuous variables. <sup>2</sup> “prefer not to tell” is the third option. No follow-up N=385, Follow-up N=407, except for: depression/anxiety (No follow-up N=384); hazardous drinking, anorexia and bulimia tendencies (No follow-up N=384, Follow-up N=406); drug use (No follow-up N=382); binge eating tendencies (No follow-up N=384, Follow-up N=405); schizoid personality disorder (No follow-up N=381, Follow-up N=401); histrionic personality disorder (No follow-up N=382, Follow-up N=406); antisocial personality disorder (Follow-up N=404).

*Table 3.* Comparison of variables associated with mental ill-health symptoms

	No follow-up: N (%)/M(SD)	Follow-up participants: N(%)/M(SD)	Statistics <sup>1</sup>
Educational climate: centrality	1.85 (0.55)	1.88 (0.52)	$t(790)=1.042, p=0.298$
Educational climate: competitive	1.27 (0.61)	1.3 (0.58)	$t(787)=0.719, p=0.473$
Belongingness	2.52 (1.14)	2.46 (1.07)	$t(790)=-0.714, p=0.475$
Observed stigma (yes)	178 (46.5%)	184 (45.2%)	$\chi^2(1,790)=0.127, p=0.721$
Perceived stigma	1.73 (0.71)	1.74 (0.71)	$t(788)=0.216, p=0.829$
Help-seeking behaviour	2.17 (1.01)	2.21 (0.97)	$t(790)=0.525, p=0.600$
COVID: unprepared	2.81 (1.08)	2.82 (1.05)	$t(790)=0.069, p=0.945$
COVID: unsupported	2.18 (0.96)	2.15 (0.96)	$t(790)=-0.412, p=0.681$
Stressful life events (yes)	237 (67.3%)	268 (69.8%)	$\chi^2(1,736)=0.517, p=0.472$

Note. <sup>1</sup>- Chi Squared is used for categorical data analysis and t-test for continuous variables