



**A local community course that raises wellbeing and pro-sociality:
evidence from a randomised controlled trial**

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Version: Accepted Version

Article:

Krekel, Christian, De Neve, Jan Emmanuel, Fancourt, Daisy and Layard, Richard (2021) A local community course that raises wellbeing and pro-sociality: evidence from a randomised controlled trial. *Journal of Economic Behavior and Organization*, 188. 322 - 336. ISSN 0167-2681

<https://doi.org/10.1016/j.jebo.2021.05.021>

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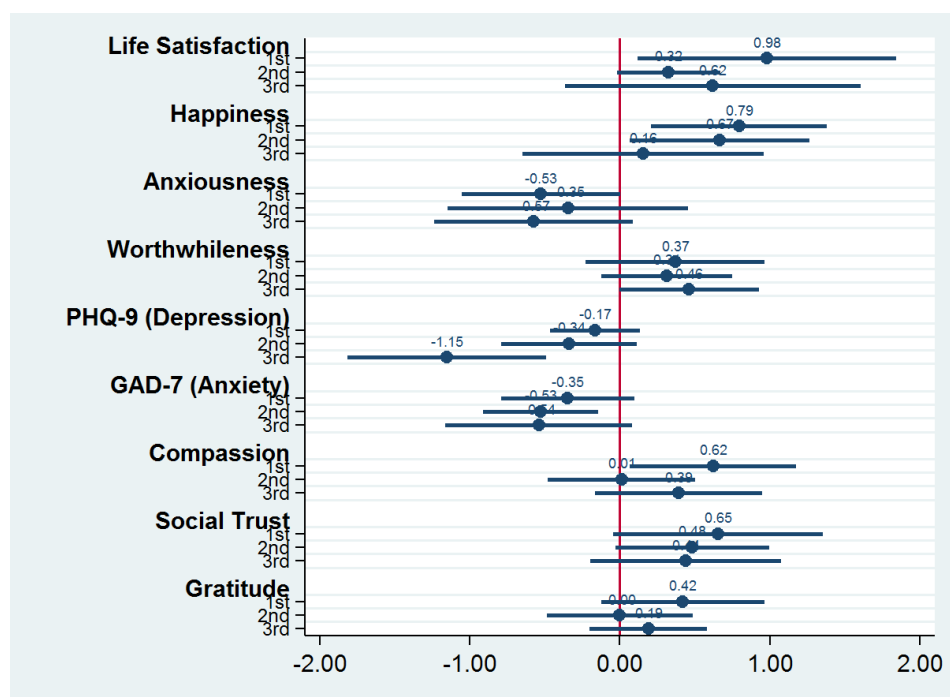
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Supplementary Materials

Figures

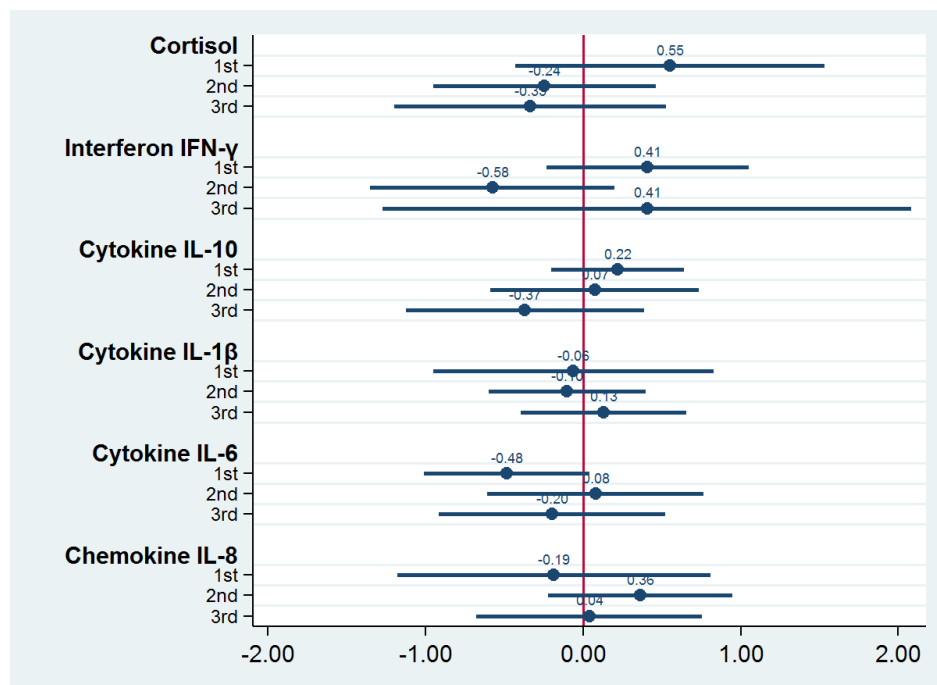
Figure 1

Impacts on Self-Reported Outcomes by Tercile: Subjective Wellbeing, Mental Health, and Pro-Sociality



Notes: Sample is split by tercile of respective outcome distribution, pre-treatment. Outcomes have been standardised prior to running regressions (i.e. transformed to z-scores with mean of zero and standard deviation of one, using the control group mean and standard deviation). Controls include age, gender, marital status, education, employment, income, religion, religious practice, preference for meeting new people and making friends, health (including pregnancy), health-related behaviour (including smoking and medication usage), and course-set-specific fixed effects. Robust standard errors are clustered at the participant level. N=279 (146 respondents, of which 73 are in treatment and 73 in control). Confidence bands are 95%.

Sources: Own data collection, own calculations.

Figure 2*Impacts on Biomarkers by Tercile: Cortisol and Cytokines*

Notes: Sample is split by tercile of respective outcome distribution, pre-treatment. Outcomes have been standardised prior to running regressions (i.e. transformed to z-scores with mean of zero and standard deviation of one, using the control group mean and standard deviation). Controls include age, gender, marital status, education, employment, income, religion, religious practice, preference for meeting new people and making friends, health (including pregnancy), health-related behaviour (including smoking and medication usage), and course-set-specific fixed effects. Robust standard errors are clustered at the participant level. N=279 (146 respondents, of which 73 are in treatment and 73 in control). Confidence bands are 95%.

Sources: Own data collection, own calculations.

Tables

Table 1a

Comparison of Understanding Society in London with Estimation Sample

	Mean Understanding Society (London, Same Age Span)	Mean Estimation Sample, Pre-Treatment	Difference
<i>Subjective Wellbeing</i>			
Life Satisfaction	7.087	6.349	0.738***
<i>Demographic Characteristics</i>			
Age: 20-24	0.101	0.055	0.046*
25-34	0.212	0.267	-0.055
35-44	0.242	0.232	0.009
45-54	0.217	0.226	-0.009
55-64	0.136	0.178	-0.042
65-74	0.092	0.041	0.051**
Gender: Male	0.547	0.171	0.376***
Female	0.453	0.829	-0.376***
Marital Status: Single	0.346	0.390	-0.044
Married	0.530	0.199	0.331***
Separated	0.023	0.034	-0.011
Divorced	0.069	0.102	-0.034
Widowed	0.028	0.007	0.021

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Domestic Partner (Understanding Society: Civic Partner)	0.003	0.247	-0.243***
Prefer not to Say	-	0.021	
		0.142	
Income: £14,999 or Less	0.182	0.137	0.045
£15,000-£29,999	0.151	0.205	-0.055*
£30,000-£44,999	0.151	0.199	-0.048
£45,000-£59,999	0.137	0.130	0.007
£60,000-£74,999	0.109	0.116	-0.007
£75,000 or More	0.270	0.157	0.112***
Prefer not to Say	-	0.055	
		0.228	
Observations	28,547	146	-

Notes: See Table Supplementary Materials Table 1b for variable definitions.

*** p<0.01, ** p<0.05, * p<0.1

Table 1b*Variable Definitions and Descriptive Statistics*

	Mean	Standard Deviation	Minimum	Maximum	Number of Obser- vations	Remarks
<i>Self-Reported Outcomes</i>						
Life Satisfaction	6.570	1.669	1	10	279	“Overall, how satisfied are you with your life nowadays?”: (0) “Not at all” to (10) “Completely”
Happiness	6.376	1.989	1	10	279	“Overall, how happy did you feel yesterday?”: (0) “Not at all” to (10) “Completely”
Anxiousness	4.133	2.489	0	10	279	“Overall, how anxious did you feel yesterday?”: (0) “Not at all” to (10) “Completely”
Worthwhileness	7.194	1.827	1	10	279	“Overall, to what extent do you feel the things you do in your life are worthwhile?”: (0) “Not at all” to (10) “Completely”
PHQ-9 (Depression)	6.358	4.523	0	21	279	9-Item Patient-Health Questionnaire, see Kroenke et al. (2001)

GAD-7 (Anxiety)	6.057	4.640	0	20	279	7-Item Generalised-Anxiety-Disorder Questionnaire, see Spitzer et al. (2006)
Compassion	6.762	2.398	0	11.8	279	5-Item Santa Clara Brief Compassion Scale, see Hwang et al. (2008)
Social Trust	6.584	2.079	0	10	279	“Generally, would you say that most people can be trusted, or that you cannot be too careful in dealing with people?”: (0) “Cannot be too careful” to (10) “Most can be trusted”
Gratitude	6.222	0.890	0	7	279	“I have so much in life to be thankful for.”: (0) “Strongly disagree” to (10) “Strongly agree”
Information (a)	7.691	1.563	1	10	230	“I feel aware of what contributes to a happy and meaningful life.”: (0) “Not at all” to (10) “Completely”
Information (b)	7.374	1.738	1	10	230	“I know what really matters to me in life.”: (0) “Not at all” to (10) “Completely”
Information (c)	7.243	1.916	1	10	230	“I feel able to do things to improve my own wellbeing.”: (0) “Not at all” to (10) “Completely”

Information (d)	7.274	1.602	2	10	230	“I feel able to do things to improve the well-being of others.”: (0) “Not at all” to (10) “Completely”
Behaviour (a)	2.057	0.897	0	3	230	“In recent weeks, how often have you done the following? ...Noticed and felt grateful for good things”: (0) “Not at all”, (1) “Several days”, (2) “More than half the days”, (3) “Nearly every day”
Behaviour (b)	1.426	1.062	0	3	230	“...Practised mindfulness/meditation”: (0) “Not at all”, (1) “Several days”, (2) “More than half the days”, (3) “Nearly every day”
Behaviour (c)	1.570	0.868	0	3	230	“...Treated yourself in a kind way”: (0) “Not at all”, (1) “Several days”, (2) “More than half the days”, (3) “Nearly every day”
Behaviour (d)	1.661	0.813	0	3	230	“...Made time for something really important to you”: (0) “Not at all”, (1) “Several days”, (2) “More than half the days”, (3) “Nearly every day”
Behaviour (e)	1.561	0.800	0	3	230	“...Responded well to a difficult situation”: (0) “Not at all”, (1) “Several days”, (2) “More than half the days”, (3) “Nearly every day”
Behaviour (f)	1.248	0.801	0	3	230	“...Learnt or tried out something new”: (0) “Not at all”, (1) “Several days”, (2) “More than half the days”, (3) “Nearly every day”

Behaviour (g)	1.796	0.905	0	3	230	“...Gave time to one of your closest relationships”: (0) “Not at all”, (1) “Several days”, (2) “More than half the days”, (3) “Nearly every day”
Behaviour (h)	1.983	0.861	0	3	230	“...Connected with other people”: (0) “Not at all”, (1) “Several days”, (2) “More than half the days”, (3) “Nearly every day”
Behaviour (i)	1.765	0.808	0	3	230	“...Did something kind or helpful for others”: (0) “Not at all”, (1) “Several days”, (2) “More than half the days”, (3) “Nearly every day”
Behaviour (j)	1.343	0.966	0	3	230	“...Tried to increase happiness at work”: (0) “Not at all”, (1) “Several days”, (2) “More than half the days”, (3) “Nearly every day”
Behaviour (k)	0.896	0.845	0	3	230	“...Tried to increase happiness in the community”: (0) “Not at all”, (1) “Several days”, (2) “More than half the days”, (3) “Nearly every day”
Behaviour (l)	1.170	0.994	0	3	230	“...Thought about the difference you make in the world”: (0) “Not at all”, (1) “Several days”, (2) “More than half the days”, (3) “Nearly every day”
<i>Biomarkers</i>						
Cortisol	0.164	0.653	0.015	10.300	275	Cortisol in µg/dL

Interferon IFN- γ	7.978	26.302	0.061	205.826	243	Interferon IFN- γ in pg/mL
Cytokine IL-10	1.433	2.900	0.023	37.906	274	Anti-Inflammatory Cytokine IL-10 in pg/mL
Cytokine IL-1 β	245.730	221.421	6.083	1,306.554	275	Pro-Inflammatory Cytokine IL-1 β in pg/mL
Cytokine IL-6	9.324	18.997	0.710	206.299	275	Pro-Inflammatory Cytokine IL-6 in pg/mL
Chemokine IL-8	1,389.868	886.035	127.297	6,783.128	275	Chemokine IL-8 in pg/mL

Controls

Age: 20-24	0.050	0.219	0	1	279	-
25-34	0.265	0.442	0	1	279	-
35-44	0.233	0.423	0	1	279	-
45-54	0.237	0.426	0	1	279	-
55-64	0.176	0.381	0	1	279	-
65-74	0.039	0.195	0	1	279	-
Gender: Male	0.176	0.381	0	1	279	-
Female	0.824	0.381	0	1	279	-
Marital Status: Single	0.394	0.490	0	1	279	-
Married	0.201	0.401	0	1	279	-
Separated	0.036	0.186	0	1	279	-
Divorced	0.100	0.301	0	1	279	-
Widowed	0.007	0.085	0	1	279	-
Domestic Partner	0.247	0.432	0	1	279	-
Prefer not to Say	0.014	0.119	0	1	279	-
Educational Status: Secondary Degree	0.047	0.211	0	1	279	-
Vocational Degree	0.079	0.270	0	1	279	-
Tertiary Degree	0.384	0.487	0	1	279	-
Higher Than Tertiary Degree	0.484	0.501	0	1	279	-
Prefer not to Say	0.007	0.085	0	1	279	-
Employment Status: Working Full-Time for Employer	0.498	0.501	0	1	279	-
Working Full-Time for Self	0.151	0.358	0	1	279	-

Working Part-Time	0.194	0.396	0	1	279	-
Working Part-Time (Underemployed)	0.004	0.060	0	1	279	-
Unemployed	0.050	0.219	0	1	279	-
Out of Labour Force	0.068	0.252	0	1	279	-
Prefer not to Say	0.036	0.186	0	1	279	-
Income: £14,999 or Less	0.143	0.351	0	1	279	-
£15,000-£29,999	0.197	0.399	0	1	279	-
£30,000-£44,999	0.201	0.401	0	1	279	-
£45,000-£59,999	0.122	0.328	0	1	279	-
£60,000-£74,999	0.122	0.328	0	1	279	-
£75,000 or More	0.161	0.368	0	1	279	-
Prefer not to Say	0.054	0.226	0	1	279	-
Religion: None	0.563	0.497	0	1	279	-
Christian	0.222	0.416	0	1	279	-
Buddhist	0.082	0.276	0	1	279	-
Hindu	0.029	0.167	0	1	279	-
Jewish	0.007	0.085	0	1	279	-
Muslim	0.007	0.085	0	1	279	-
Sikh	0.007	0.085	0	1	279	-
Other	0.029	0.167	0	1	279	-
Prefer not to Say	0.054	0.226	0	1	279	-
Religious Practice: Never	0.516	0.501	0	1	279	-
Less Than Annually	0.090	0.286	0	1	279	-
At Least Annually	0.143	0.351	0	1	279	-
At Least Monthly	0.100	0.301	0	1	279	-
At Least Weekly	0.086	0.281	0	1	279	-
Prefer not to Say	0.065	0.246	0	1	279	-
Smoking: Yes	0.082	0.276	0	1	279	-
No	0.918	0.276	0	1	279	-
Pregnant: Yes	0.014	0.119	0	1	279	-
No	0.986	0.119	0	1	279	-
Medication: Yes	0.416	0.494	0	1	279	-

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No	0.584	0.494	0	1	279	-
Important to Meet New People and Make Friends: Yes	0.799	0.401	0	1	279	“How important is it for you to be meeting new people and making friends?” (0) “Not at all important” to (10) “Extremely important” (=6+7+8+9+10) (=0+1+2+3+4+5)
No	0.201	0.401	0	1	279	

Table 1c

Balancing Properties Between Treatment and Control Group

	Mean Treatment Group, Pre-Intervention	Mean Control Group, Pre-Intervention	Difference
<i>Self-Reported Outcomes</i>			
Life Satisfaction	6.384	6.315	0.068
Happiness	6.151	6.288	-0.137
Anxiousness	4.233	4.438	-0.205
Worthwhileness	6.932	7.041	-0.110
PHQ-9 (Depression)	6.726	7.151	-0.425
GAD-7 (Anxiety)	6.110	6.671	-0.562
Compassion	6.523	6.792	-0.268
Social Trust	6.288	6.507	-0.219
Gratitude	6.205	6.178	0.027
Information (a)	7.479	7.469	0.010
Information (b)	7.188	7.224	-0.037
Information (c)	7.271	6.796	0.475
Information (d)	6.896	7.224	-0.329
Behaviour (a)	2.021	2.020	0.000
Behaviour (b)	1.333	1.429	-0.095
Behaviour (c)	1.417	1.449	-0.032
Behaviour (d)	1.667	1.571	0.095
Behaviour (e)	1.354	1.571	-0.217
Behaviour (f)	1.167	1.204	-0.037
Behaviour (g)	1.875	1.837	0.038
Behaviour (h)	1.854	2.061	-0.207
Behaviour (i)	1.521	1.816	-0.295*

Behaviour (j)	1.208	1.347	-0.139
Behaviour (k)	0.625	0.776	-0.151
Behaviour (l)	0.938	1.122	-0.185
<i>Biomarkers</i>			
Cortisol	0.263	0.172	0.091
Interferon IFN- γ	9.613	7.510	2.103
Cytokine IL-10	1.783	1.397	0.387
Cytokine IL-1 β	256.544	284.884	-28.340
Cytokine IL-6	9.809	10.131	-0.322
Chemokine IL-8	1,379.952	1,603.446	-223.494
<i>Controls</i>			
Age: 20-24	0.041	0.068	-0.027
25-34	0.288	0.247	0.041
35-44	0.233	0.233	-0.000
45-54	0.247	0.205	0.041
55-64	0.164	0.192	-0.027
65-74	0.027	0.055	-0.027
Gender: Male	0.178	0.164	0.014
Female	0.822	0.836	-0.014
Marital Status: Single	0.342	0.438	-0.096
Married	0.205	0.192	0.014
Separated	0.027	0.041	-0.014
Divorced	0.110	0.096	0.014
Widowed	0.000	0.014	-0.014
Domestic Partner	0.274	0.219	0.055
Prefer not to Say	0.041	0.000	0.041*
Educational Status: Secondary Degree	0.055	0.041	0.014
Vocational Degree	0.082	0.068	0.014

Tertiary Degree	0.425	0.356	0.068
Higher Than Tertiary Degree	0.425	0.534	-0.110
Prefer not to Say	0.014	0.000	0.014
Employment Status: Working Full-Time for Employer	0.534	0.466	0.068
Working Full-Time for Self	0.137	0.164	-0.027
Working Part-Time	0.151	0.219	-0.068
Working Part-Time (Underemployed)	0.014	0.000	0.014
Unemployed	0.055	0.041	0.014
Out of Labour Force	0.055	0.096	-0.041
Prefer not to say	0.055	0.014	0.041
Income: £14,999 or Less	0.137	0.137	-0.000
£15,000-£29,999	0.219	0.192	0.027
£30,000-£44,999	0.164	0.233	-0.068
£45,000-£59,999	0.082	0.178	-0.096*
£60,000-£74,999	0.123	0.110	0.014
£75,000 or More	0.192	0.123	0.068
Prefer not to Say	0.082	0.027	0.055
Religion: None	0.548	0.589	-0.041
Christian	0.192	0.247	-0.055
Buddhist	0.110	0.055	0.055
Hindu	0.041	0.014	0.027
Jewish	0.014	0.000	0.014
Muslim	0.014	0.000	0.014
Sikh	0.014	0.000	0.014
Other	0.014	0.041	-0.027
Prefer not to Say	0.055	0.055	-0.000
Religious Practice: Never	0.521	0.521	-0.000
Less Than Annually	0.068	0.110	-0.041
At Least Annually	0.164	0.123	0.041
At Least Monthly	0.082	0.110	-0.027
At Least Weekly	0.082	0.096	-0.014

Prefer not to Say	0.082	0.041	0.041
Smoking: Yes	0.082	0.110	-0.027
No	0.918	0.890	0.027
Pregnant: Yes	0.000	0.027	-0.027
No	1.000	0.973	0.027
Medication: Yes	0.397	0.438	-0.041
No	0.603	0.562	0.041
Important to Meet New People and Make Friends: Yes	0.726	0.808	-0.082
No	0.274	0.192	0.082
Observations	73	73	-

Notes: T-tests used robust standard errors clustered at individual level. See Supplementary Materials Table 1b for variable definitions.

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table 2a*Main Results – Self-Reported Outcomes (Regression Table for Figure 3), Including Controls*

	Subjective Wellbeing				Mental Health		Pro-Sociality		
	Life Satis- faction (1)	Happiness (2)	Anxious- ness (3)	Worth- whileness (4)	PHQ-9 (Depres- sion) (5)	GAD-7 (Anxiety) (6)	Compassion (7)	Social Trust (8)	Gratitude (9)
Treatment*Post	0.633*** (0.152)	0.596*** (0.173)	-0.468** (0.190)	0.491*** (0.154)	-0.497*** (0.135)	-0.424*** (0.119)	0.383*** (0.145)	0.531*** (0.160)	0.286** (0.136)
Treatment	0.0947 (0.168)	0.0313 (0.163)	0.0306 (0.174)	-0.0682 (0.162)	0.0132 (0.168)	-0.0622 (0.159)	-0.275* (0.153)	-0.181 (0.197)	0.000337 (0.172)
Post	-0.0182 (0.103)	-0.141 (0.126)	0.0370 (0.134)	-0.0518 (0.109)	-0.00930 (0.0863)	0.0680 (0.0915)	-0.101 (0.0958)	-0.0782 (0.102)	-0.0734 (0.0965)
Age: 20-24									
25-34	-0.437 (0.278)	-0.409 (0.330)	-0.0941 (0.329)	0.214 (0.261)	-0.464 (0.337)	-0.546 (0.374)	0.228 (0.321)	0.425 (0.465)	0.0929 (0.276)
35-44	-0.719** (0.318)	-0.573* (0.343)	0.0531 (0.373)	-0.109 (0.305)	-0.470 (0.337)	-0.246 (0.382)	-0.263 (0.365)	-0.430 (0.466)	-0.0309 (0.328)
45-54	-0.784** (0.355)	-0.643* (0.372)	-0.289 (0.403)	0.131 (0.318)	-0.497 (0.348)	-0.391 (0.390)	-0.211 (0.359)	0.126 (0.530)	0.351 (0.324)
55-64	-0.502 (0.342)	-0.382 (0.374)	-0.209 (0.414)	0.00985 (0.309)	-0.536 (0.399)	-0.433 (0.393)	-0.271 (0.414)	0.292 (0.538)	-0.0480 (0.339)
65-74	-0.968 (0.594)	-0.838* (0.486)	-0.0171 (0.564)	-0.444 (0.555)	-0.549 (0.511)	-0.0981 (0.469)	-1.258* (0.734)	-0.373 (0.735)	-0.817 (0.513)
Gender: Male									
Female	0.140 (0.209)	0.0599 (0.196)	-0.0526 (0.238)	0.209 (0.254)	-0.0558 (0.220)	0.0898 (0.218)	0.875*** (0.250)	0.238 (0.211)	0.257 (0.188)

Marital Status: Single

Partnered	0.0655 (0.168)	-0.170 (0.172)	0.190 (0.186)	0.0624 (0.163)	0.00306 (0.173)	0.107 (0.184)	-0.103 (0.195)	-0.120 (0.226)	-0.140 (0.173)
Married	0.106 (0.214)	-0.282 (0.189)	-0.0888 (0.227)	-0.0236 (0.195)	-0.109 (0.204)	-0.194 (0.216)	0.0670 (0.215)	0.203 (0.255)	0.145 (0.202)
Separated	-0.0139 (0.404)	-0.840** (0.366)	0.0225 (0.381)	0.0868 (0.363)	0.0442 (0.353)	-0.0811 (0.338)	0.0234 (0.405)	-0.0862 (0.347)	-0.131 (0.381)
Divorced	-0.446 (0.345)	-0.527* (0.311)	0.0501 (0.301)	-0.756** (0.314)	0.274 (0.360)	-0.0524 (0.298)	0.567* (0.294)	-0.502 (0.328)	-0.168 (0.320)
Widowed	0.550 (0.639)	0.109 (0.519)	0.646 (0.582)	0.685 (0.611)	0.463 (0.600)	-1.357*** (0.513)	1.440* (0.759)	0.639 (0.646)	1.445*** (0.517)
Prefer not to Say	0.832** (0.366)	0.452 (0.483)	-0.611 (0.511)	-0.104 (0.733)	-0.460 (0.471)	-0.803*** (0.292)	-0.565 (0.506)	-1.120 (1.153)	0.721** (0.289)

Educational Status: Secondary Degree

Vocational Degree	0.302 (0.547)	0.600 (0.477)	-0.447 (0.478)	0.0765 (0.552)	0.268 (0.506)	0.240 (0.437)	-0.374 (0.446)	-0.579 (0.434)	-0.642 (0.642)
Tertiary Degree	0.534 (0.507)	0.501 (0.390)	-0.0735 (0.362)	0.246 (0.369)	-0.396 (0.408)	-0.126 (0.361)	-0.327 (0.252)	-0.595* (0.306)	-0.401 (0.356)
Higher Than Tertiary Degree	0.305 (0.475)	0.355 (0.359)	0.226 (0.350)	-0.0663 (0.354)	-0.00718 (0.395)	0.214 (0.344)	-0.230 (0.241)	-0.700** (0.304)	-0.513 (0.335)
Prefer not to Say	0.226 (0.686)	0.637 (0.652)	-3.393*** (0.587)	0.157 (0.651)	-2.001*** (0.608)	-1.533** (0.640)	0.582 (0.542)	-0.142 (0.726)	-0.396 (0.559)

Employment Status: Working Full-Time for Employer

Working Full-Time for Self	0.0604 (0.240)	-0.110 (0.227)	0.302 (0.250)	0.211 (0.276)	0.280 (0.252)	0.334 (0.233)	0.0169 (0.306)	0.00683 (0.236)	0.0378 (0.292)
Working Part-Time	0.0458 (0.294)	0.183 (0.224)	-0.0633 (0.254)	-0.0667 (0.248)	-0.00339 (0.289)	-0.304 (0.252)	-0.173 (0.254)	-0.0294 (0.323)	-0.479* (0.257)

Working Part-Time (Under-employed)	-2.141*** (0.764)	-1.984** (0.828)	-0.439 (0.765)	-0.992 (1.012)	-0.00678 (0.744)	0.157 (0.713)	0.0789 (0.767)	-0.697 (1.398)	-2.194*** (0.701)
Unemployed	-1.566*** (0.408)	-1.144*** (0.386)	0.609 (0.433)	-1.045** (0.439)	0.812** (0.395)	0.265 (0.343)	0.290 (0.371)	-0.273 (0.569)	-0.800** (0.400)
Out of Labour Force	-0.113 (0.409)	0.284 (0.385)	-0.0572 (0.409)	0.169 (0.397)	0.0950 (0.380)	-0.347 (0.302)	0.103 (0.308)	0.00220 (0.433)	-0.121 (0.440)
Prefer not to say	-0.507 (0.388)	-0.396 (0.445)	0.419 (0.357)	-0.369 (0.469)	-0.190 (0.306)	-0.707*** (0.270)	-0.400 (0.279)	-0.686* (0.411)	0.0153 (0.343)
Income: £14,999 or Less									
£15,000-£29,999	-0.0517 (0.290)	-0.239 (0.328)	0.410 (0.321)	-0.337 (0.320)	-0.0432 (0.279)	0.258 (0.275)	-0.121 (0.276)	-0.118 (0.405)	0.0925 (0.280)
£30,000-£44,999	-0.0803 (0.303)	-0.347 (0.315)	0.535 (0.329)	-0.126 (0.363)	0.0525 (0.311)	0.527* (0.293)	-0.288 (0.306)	-0.0209 (0.369)	-0.121 (0.356)
£45,000-£59,999	0.476 (0.324)	0.0785 (0.365)	0.268 (0.400)	-0.216 (0.389)	-0.106 (0.324)	0.100 (0.316)	-0.160 (0.368)	-0.113 (0.472)	0.457 (0.351)
£60,000-£74,999	0.333 (0.352)	0.276 (0.365)	0.325 (0.369)	-0.234 (0.359)	-0.237 (0.352)	0.0933 (0.370)	0.0205 (0.350)	-0.134 (0.420)	-0.0376 (0.323)
£75,000 or More	0.159 (0.352)	0.000426 (0.356)	0.0371 (0.342)	-0.219 (0.403)	-0.300 (0.332)	0.0649 (0.297)	0.0655 (0.367)	0.389 (0.403)	0.113 (0.332)
Prefer not to Say	0.834** (0.359)	0.575 (0.398)	-0.228 (0.363)	0.542 (0.439)	-0.328 (0.309)	0.0827 (0.330)	0.268 (0.415)	1.195** (0.484)	0.484 (0.378)
Religion: None									
Christian	-0.267 (0.307)	-0.366 (0.236)	-0.0735 (0.243)	-0.0667 (0.237)	-0.184 (0.262)	0.0929 (0.262)	-0.0942 (0.199)	-0.713*** (0.239)	-0.178 (0.248)
Buddhist	0.341 (0.339)	0.160 (0.324)	-0.230 (0.320)	0.223 (0.316)	-0.355 (0.385)	-0.191 (0.337)	0.538* (0.274)	-0.274 (0.347)	0.00938 (0.317)
Hindu	-0.0841 (0.555)	-0.000969 (0.470)	-0.192 (0.759)	-0.211 (0.448)	-0.0174 (0.519)	0.291 (0.485)	-0.331 (0.494)	-0.269 (0.620)	-0.444 (0.557)
Jewish	0.628	-0.0508	-1.205**	0.708	-0.340	0.0246	1.695***	1.359***	0.530

	(0.481)	(0.418)	(0.481)	(0.507)	(0.544)	(0.480)	(0.476)	(0.482)	(0.476)
Muslim	-1.270**	-0.831*	0.250	0.153	-0.0160	0.428	1.622***	-0.841*	-3.467***
	(0.560)	(0.454)	(0.479)	(0.646)	(0.532)	(0.444)	(0.550)	(0.495)	(0.551)
Sikh	0.260	-0.299	0.149	0.311	0.597	0.235	-1.125**	-0.515	-1.369***
	(0.582)	(0.513)	(0.465)	(0.508)	(0.706)	(0.649)	(0.451)	(0.587)	(0.459)
Other	-0.449	-0.241	0.234	-0.269	-0.639	-0.203	-0.662	-1.669**	-1.139
	(0.344)	(0.339)	(0.408)	(0.435)	(0.397)	(0.403)	(0.557)	(0.679)	(0.824)
Prefer not to Say	-0.420	-0.695*	0.827***	-0.792***	1.357***	1.145***	-0.0592	-0.353	-0.293
	(0.317)	(0.378)	(0.224)	(0.235)	(0.333)	(0.386)	(0.262)	(0.445)	(0.325)
Religious Practice: Never									
Less Than Annually	0.130	0.434*	-0.0805	0.251	-0.386	-0.333	-0.296	-0.0603	-0.128
	(0.291)	(0.231)	(0.268)	(0.300)	(0.257)	(0.237)	(0.316)	(0.320)	(0.321)
At Least Annually	0.00521	-0.179	0.483**	0.0319	0.290	0.182	-0.0124	0.114	0.299
	(0.275)	(0.230)	(0.237)	(0.263)	(0.312)	(0.279)	(0.210)	(0.244)	(0.275)
At Least Monthly	0.154	0.202	-0.0144	0.580*	-0.153	-0.129	-0.186	0.368	0.622*
	(0.320)	(0.304)	(0.308)	(0.339)	(0.296)	(0.348)	(0.324)	(0.352)	(0.365)
At Least Weekly	0.230	0.147	0.177	0.128	0.209	0.0621	0.328	0.708**	0.803**
	(0.366)	(0.336)	(0.342)	(0.314)	(0.333)	(0.352)	(0.299)	(0.355)	(0.321)
Prefer not to Say	-0.0879	0.0410	0.979***	-0.0982	-0.0190	0.101	-0.0827	-0.379	0.286
	(0.452)	(0.418)	(0.261)	(0.382)	(0.520)	(0.464)	(0.229)	(0.424)	(0.307)
Smoking: Yes									
No	0.271	0.204	0.0723	0.482*	-0.405	-0.262	-0.00821	0.0993	0.401
	(0.224)	(0.240)	(0.348)	(0.260)	(0.263)	(0.252)	(0.256)	(0.242)	(0.277)
Pregnant: Yes									
No	-0.411	-0.370	-0.0892	-0.222	-0.497	-0.410	-0.252	0.221	-0.168
	(0.728)	(0.469)	(0.609)	(0.662)	(0.696)	(0.652)	(0.362)	(0.368)	(0.384)
Medication: Yes									
No	-0.0356	0.212	-0.311*	0.134	-0.259	-0.279*	-0.0975	-0.0661	-0.0421
	(0.149)	(0.138)	(0.173)	(0.157)	(0.169)	(0.157)	(0.165)	(0.169)	(0.152)

Preference for Socialising:									
Yes									
No	-0.237 (0.185)	-0.224 (0.168)	-0.0720 (0.175)	-0.302 (0.213)	0.317* (0.169)	0.332* (0.180)	-0.396** (0.165)	-0.308* (0.175)	-0.178 (0.163)
Constant	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Set Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	279	279	279	279	279	279	279	279	279
R Squared	0.422	0.330	0.329	0.303	0.381	0.353	0.354	0.319	0.405

Notes: Robust standard errors clustered at individual level in parentheses. See Supplementary Materials Table 1b for variable definitions.

*** p<0.01, ** p<0.05, *
p<0.1

Table 2b*Main Results – Biomarkers (Regression Table for Figure 4), Including Controls*

	Stress	Immune Response				
	Cortisol (1)	Interferon IFN- γ (2)	Cytokine IL-10 (3)	Cytokine IL-1 β (4)	Cytokine IL-6 (5)	Chemokine IL-8 (6)
Treatment*Post	0.0248 (0.252)	0.207 (0.246)	0.0623 (0.172)	-0.0738 (0.171)	-0.0873 (0.179)	0.0731 (0.200)
Treatment	0.175 (0.207)	-0.393* (0.201)	-0.0426 (0.198)	0.0416 (0.192)	0.0283 (0.175)	-0.158 (0.192)
Post	-0.302** (0.132)	-0.124 (0.171)	-0.149 (0.112)	-0.203** (0.0964)	-0.0589 (0.119)	-0.288** (0.123)
Age: 20-24						
25-34	-0.454 (0.486)	0.0213 (0.284)	0.303 (0.359)	0.398 (0.536)	0.444 (0.297)	0.496 (0.464)
35-44	-0.339 (0.499)	-0.437 (0.313)	0.180 (0.378)	0.236 (0.560)	0.318 (0.355)	0.409 (0.502)
45-54	-0.602 (0.496)	-0.255 (0.310)	0.139 (0.425)	0.871 (0.581)	0.743** (0.335)	0.903* (0.510)
55-64	-0.449 (0.548)	-0.167 (0.319)	0.160 (0.428)	0.955* (0.547)	0.797** (0.365)	1.014** (0.490)
65-74	-0.0713 (0.720)	-0.918* (0.502)	0.586 (0.501)	0.855 (0.739)	0.494 (0.426)	0.934 (0.662)
Gender: Male						
Female	-0.726*** (0.244)	-0.527** (0.245)	-0.212 (0.224)	-0.269 (0.213)	-0.476** (0.199)	-0.385* (0.224)
Marital Status: Single						

Partnered	-0.278 (0.232)	-0.530** (0.208)	-0.0175 (0.264)	-0.210 (0.254)	-0.293 (0.212)	-0.181 (0.227)
Married	0.0976 (0.479)	-0.417 (0.384)	-0.268 (0.333)	0.0717 (0.571)	0.325 (0.411)	-0.249 (0.622)
Separated	0.478 (0.349)	-0.663** (0.310)	-0.292 (0.316)	-0.686* (0.412)	-0.00438 (0.331)	-0.287 (0.370)
Divorced	1.871** (0.849)	1.183* (0.659)	-0.0915 (0.540)	0.126 (0.712)	0.286 (0.636)	0.506 (0.676)
Widowed	-0.275 (0.242)	-0.0468 (0.231)	-0.0890 (0.181)	0.213 (0.233)	0.0978 (0.199)	-0.00300 (0.236)
Prefer not to Say	-0.913 (0.755)	-0.262 (0.499)	0.00989 (0.689)	-0.310 (0.533)	-0.761** (0.293)	0.0821 (0.732)
Educational Status: Secondary Degree						
Vocational Degree	-0.801* (0.471)	0.781 (0.611)	0.429 (0.350)	0.596 (0.558)	0.591 (0.510)	0.863* (0.515)
Tertiary Degree	-0.372 (0.369)	-0.0111 (0.372)	0.917*** (0.257)	0.417 (0.323)	0.275 (0.383)	0.525* (0.315)
Higher Than Tertiary Degree	-0.270 (0.359)	0.0780 (0.352)	0.627*** (0.231)	0.584** (0.273)	0.337 (0.345)	0.601** (0.255)
Prefer not to Say	0.0317 (0.839)	0.271 (0.549)	0.0535 (0.612)	-1.100 (0.730)	0.840 (0.667)	-0.103 (0.587)
Employment Status: Working Full-Time for Employer						
Working Full-Time for Self	-0.121 (0.268)	0.149 (0.254)	0.557** (0.265)	0.322 (0.321)	0.360 (0.307)	-0.173 (0.313)
Working Part-Time	-0.551* (0.280)	0.439* (0.255)	0.0576 (0.262)	-0.0869 (0.291)	0.0854 (0.261)	-0.157 (0.276)

Working Part-Time (Underemployed)	0.265 (1.231)	0.383 (0.684)	2.392** (1.005)	1.383 (0.998)	0.0683 (0.855)	-0.0903 (1.053)
Unemployed	0.479 (0.648)	0.823 (0.594)	1.200** (0.534)	0.680 (0.486)	0.684 (0.416)	0.780* (0.456)
Out of Labour Force	-0.450 (0.393)	0.257 (0.302)	0.0806 (0.402)	0.330 (0.361)	0.297 (0.298)	0.0438 (0.380)
Prefer not to say	-0.249 (0.502)	0.110 (0.276)	0.521 (0.432)	0.748* (0.436)	-0.121 (0.375)	0.0141 (0.331)
Income: £14,999 or Less						
£15,000-£29,999	0.192 (0.420)	0.124 (0.365)	0.216 (0.292)	-0.465 (0.391)	0.136 (0.316)	0.0999 (0.362)
£30,000-£44,999	-0.0639 (0.400)	0.384 (0.399)	0.663** (0.284)	-0.000538 (0.391)	0.402 (0.338)	-0.0239 (0.382)
£45,000-£59,999	0.135 (0.442)	0.320 (0.440)	0.812** (0.376)	-0.0331 (0.382)	0.222 (0.389)	0.419 (0.390)
£60,000-£74,999	0.393 (0.472)	0.467 (0.410)	0.444 (0.298)	-0.163 (0.346)	0.280 (0.353)	0.253 (0.332)
£75,000 or More	-0.138 (0.410)	0.414 (0.375)	0.744** (0.375)	-0.107 (0.387)	0.356 (0.345)	0.307 (0.368)
Prefer not to Say	0.311 (0.514)	0.297 (0.432)	-0.367 (0.478)	-0.734 (0.573)	-0.150 (0.588)	-0.0152 (0.503)
Religion: None						
Christian	0.244 (0.305)	0.0628 (0.255)	0.138 (0.263)	-0.0853 (0.286)	-0.141 (0.265)	-0.00697 (0.320)
Buddhist	0.0665 (0.420)	0.0452 (0.314)	-0.223 (0.422)	-0.152 (0.419)	-0.139 (0.475)	-0.168 (0.489)
Hindu	0.464 (0.509)	0.171 (0.453)	0.161 (0.482)	-0.321 (0.495)	-0.911** (0.437)	-0.0799 (0.525)
Jewish	-0.124	0.207	-0.163	0.271	1.124**	0.949*

	(0.862)	(0.521)	(0.506)	(0.523)	(0.531)	(0.563)
Muslim	0.893	1.048*	0.996**	1.790***	0.548	1.086*
	(0.706)	(0.540)	(0.485)	(0.547)	(0.525)	(0.586)
Sikh	0.128	-0.963**	-1.073**	-1.571***	-1.294***	-0.702
	(0.566)	(0.477)	(0.439)	(0.464)	(0.487)	(0.481)
Other	-0.0458	-0.207	-0.187	-0.0504	-0.829	-0.338
	(0.449)	(0.469)	(0.453)	(0.552)	(0.523)	(0.663)
Prefer not to Say	0.279	0.0557	-0.352	0.163	-0.304	0.219
	(0.478)	(0.347)	(0.291)	(0.407)	(0.301)	(0.267)
Religious Practice: Never						
Less Than Annually	-0.250	0.0682	-0.0493	0.0371	0.190	0.0898
	(0.325)	(0.317)	(0.301)	(0.330)	(0.421)	(0.368)
At Least Annually	-0.470	-0.0300	0.228	0.239	-0.0887	-0.0759
	(0.308)	(0.249)	(0.308)	(0.276)	(0.231)	(0.301)
At Least Monthly	-0.794**	-0.196	0.384	0.953**	0.504	0.463
	(0.350)	(0.317)	(0.374)	(0.384)	(0.355)	(0.426)
At Least Weekly	-0.209	0.242	-0.209	0.0878	0.465	0.120
	(0.495)	(0.366)	(0.371)	(0.428)	(0.429)	(0.468)
Prefer not to Say	-0.539	0.229	0.632**	0.620*	0.457	0.433
	(0.429)	(0.286)	(0.242)	(0.361)	(0.373)	(0.331)
Smoking: Yes						
No	0.144	0.226	0.225	0.211	0.193	0.0950
	(0.408)	(0.265)	(0.222)	(0.221)	(0.267)	(0.284)
Pregnant: Yes						
No	0.549	0.458	1.163***	-0.133	0.227	0.490
	(0.540)	(0.371)	(0.407)	(0.413)	(0.340)	(0.611)
Medication: Yes						
No	-0.0400	-0.00962	-0.0461	0.0589	-0.0168	-0.124

Preference for Socialising: Yes	(0.148)	(0.162)	(0.170)	(0.175)	(0.161)	(0.167)
No	-0.184 (0.192)	0.000524 (0.192)	-0.235 (0.185)	-0.173 (0.210)	0.117 (0.199)	-0.210 (0.212)
Constant	Yes	Yes	Yes	Yes	Yes	Yes
Set Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes
Observations	265	236	269	275	268	274
R-Squared	0.246	0.217	0.272	0.302	0.279	0.246

Notes: Robust standard errors clustered at individual level in parentheses. See Supplementary Materials Table 1b for variable definitions.

*** p<0.01, ** p<0.05, * p<0.1

Table 3a*Mechanisms – Changes in Information*

	Information			
	(a)	(b)	(c)	(d)
Treatment*Post	0.694*** (0.195)	0.651*** (0.193)	0.605*** (0.183)	0.549** (0.224)
Treatment	0.0878 (0.231)	0.0330 (0.206)	0.243 (0.199)	-0.279 (0.222)
Post	-0.0592 (0.111)	-0.0747 (0.132)	-0.0386 (0.128)	-0.0608 (0.157)
Age: 20-24				
25-34	0.0729 (0.288)	0.156 (0.298)	0.00778 (0.275)	0.0941 (0.268)
35-44	-0.0832 (0.302)	0.0241 (0.334)	-0.0846 (0.322)	-0.0138 (0.318)
45-54	-0.0166 (0.286)	0.178 (0.331)	-0.342 (0.383)	0.0810 (0.328)
55-64	0.0555 (0.335)	0.275 (0.371)	-0.259 (0.328)	0.115 (0.356)
65-74	-0.924* (0.483)	0.119 (0.577)	-1.079** (0.453)	-0.998* (0.558)
Gender: Male				
Female	-0.00456 (0.261)	-0.0359 (0.220)	0.0165 (0.270)	0.681*** (0.259)
Marital Status: Single				
Partnered	-0.143	0.140	0.102	-0.0331

	(0.185)	(0.217)	(0.214)	(0.197)
Married	0.182	1.054***	0.297	-0.306
	(0.313)	(0.315)	(0.483)	(0.425)
Separated	-0.425	-0.0748	-0.141	-0.272
	(0.354)	(0.322)	(0.344)	(0.347)
Divorced	1.412**	1.397**	1.715***	2.593***
	(0.636)	(0.647)	(0.603)	(0.646)
Widowed	-0.275	0.148	-0.0927	-0.178
	(0.236)	(0.191)	(0.198)	(0.196)
Prefer not to Say	0.337	0.544*	0.920**	0.414
	(0.497)	(0.296)	(0.354)	(0.347)
Educational Status: Secondary Degree				
Vocational Degree	0.0323	-0.0426	-0.417	-0.0506
	(0.540)	(0.544)	(0.535)	(0.295)
Tertiary Degree	-0.100	-0.0912	-0.562**	-0.414
	(0.255)	(0.330)	(0.283)	(0.257)
Higher Than Tertiary Degree	-0.0892	-0.437	-0.645**	-0.490**
	(0.258)	(0.317)	(0.272)	(0.223)
Prefer not to Say	0.259	-0.158	-0.691	-0.445
	(0.767)	(0.717)	(0.599)	(0.722)
Employment Status: Working Full-Time for Employer				
Working Full-Time for Self	0.108	0.215	0.137	0.207
	(0.308)	(0.277)	(0.292)	(0.250)
Working Part-Time	-0.269	-0.362	0.00442	-0.372
	(0.268)	(0.240)	(0.262)	(0.238)
Working Part-Time (Underemployed)	-0.915	-0.597	-1.766**	-0.940
	(0.778)	(0.682)	(0.753)	(0.645)

Unemployed	0.0802 (0.399)	-0.457 (0.424)	-0.486 (0.537)	-0.557 (0.387)
Out of Labour Force	0.256 (0.316)	0.337 (0.306)	0.425 (0.399)	0.0206 (0.338)
Prefer not to say	-0.540 (0.669)	-0.594 (0.463)	-0.193 (0.376)	-0.737 (0.496)
Income: £14,999 or Less				
£15,000-£29,999	0.0127 (0.346)	-0.132 (0.332)	0.104 (0.379)	-0.625** (0.303)
£30,000-£44,999	-0.0758 (0.406)	-0.182 (0.370)	-0.109 (0.411)	-0.631** (0.296)
£45,000-£59,999	-0.0151 (0.395)	0.000390 (0.338)	0.181 (0.392)	-0.758** (0.321)
£60,000-£74,999	0.0808 (0.366)	-0.226 (0.333)	0.403 (0.385)	-0.533* (0.319)
£75,000 or More	-0.0782 (0.459)	-0.550 (0.371)	-0.00954 (0.446)	-0.789** (0.382)
Prefer not to Say	0.801 (0.497)	0.596 (0.410)	0.934* (0.478)	0.277 (0.406)
Religion: None				
Christian	0.345 (0.238)	0.164 (0.243)	0.272 (0.236)	0.237 (0.238)
Buddhist	0.443 (0.344)	0.000895 (0.376)	0.136 (0.315)	0.366 (0.313)
Hindu	-0.486 (0.506)	-0.775 (0.524)	-0.314 (0.487)	-0.177 (0.469)
Jewish	0.459 (0.648)	0.677 (0.564)	0.386 (0.561)	0.794 (0.502)
Muslim	-0.146 (0.713)	0.144 (0.632)	0.250 (0.624)	-0.374 (0.573)

Sikh	-0.196 (0.569)	0.522 (0.484)	0.101 (0.536)	-0.0574 (0.472)
Other	-0.465 (0.502)	0.0813 (0.399)	-0.114 (0.468)	0.0230 (0.460)
Prefer not to Say	-0.466 (0.368)	-0.186 (0.353)	0.0743 (0.306)	0.187 (0.293)
Religious Practice: Never				
Less Than Annually	-0.201 (0.372)	0.145 (0.336)	0.144 (0.342)	0.110 (0.319)
At Least Annually	-0.592* (0.330)	-0.237 (0.310)	-0.0981 (0.290)	-0.0421 (0.274)
At Least Monthly	0.0339 (0.291)	0.291 (0.328)	0.310 (0.273)	0.0420 (0.305)
At Least Weekly	0.165 (0.300)	0.602* (0.317)	0.244 (0.367)	-0.324 (0.307)
Prefer not to Say	-0.405 (0.416)	-0.0783 (0.345)	-0.345 (0.418)	-0.00899 (0.235)
Smoking: Yes				
No	0.0436 (0.291)	0.396 (0.284)	0.378 (0.294)	0.239 (0.243)
Pregnant: Yes				
No	-1.101** (0.497)	-0.687 (0.538)	-0.832 (0.652)	-0.706** (0.313)
Medication: Yes				
No	-0.0431 (0.199)	-0.243 (0.196)	-0.169 (0.185)	-0.165 (0.162)
Preference for Socialising: Yes				

No	-0.0856 (0.175)	-0.0995 (0.183)	-0.0840 (0.185)	-0.253 (0.182)
Constant	Yes	Yes	Yes	Yes
Set Fixed Effect	Yes	Yes	Yes	Yes
Observations	230	230	230	230
R-Squared	0.357	0.328	0.316	0.352

Notes: Robust standard errors clustered at individual level in parentheses. The dependent variables are (a) awareness of what contributes to a happy and meaningful life, (b) knowledge of what really matters to oneself in life, (c) feeling of being able to do things to improve one's own wellbeing, and (d) feeling of being able to improve the wellbeing of others. See Supplementary Materials Table 1b for variable definitions.
 *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table 3b*Mechanisms – Changes in Behaviour*

	Behaviour											
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)
Treatment*Post	0.752*** (0.211)	0.823*** (0.226)	0.616*** (0.216)	0.387* (0.229)	0.282 (0.230)	0.430* (0.252)	0.309 (0.228)	0.465** (0.210)	0.653*** (0.226)	0.409* (0.210)	0.361* (0.206)	0.232 (0.185)
Treatment	-0.152 (0.218)	-0.157 (0.246)	-0.100 (0.207)	0.0180 (0.225)	-0.267 (0.202)	-0.0341 (0.258)	-0.153 (0.204)	-0.265 (0.224)	-0.665** (0.265)	-0.154 (0.220)	-0.300 (0.192)	-0.0330 (0.210)
Post	-0.0894 (0.126)	-0.209* (0.126)	0.0345 (0.130)	0.0274 (0.169)	0.137 (0.158)	0.0947 (0.171)	-0.172 (0.120)	0.0122 (0.134)	0.0365 (0.125)	-0.0116 (0.141)	0.380*** (0.142)	0.119 (0.122)
Age: 20-24												
25-34	0.0605 (0.377)	0.840** (0.325)	-0.142 (0.341)	0.0523 (0.373)	0.0416 (0.278)	-0.0401 (0.521)	-0.0515 (0.365)	0.612 (0.398)	0.213 (0.339)	0.391 (0.257)	0.953*** (0.297)	0.460 (0.335)
35-44	0.143 (0.400)	0.725* (0.432)	-0.203 (0.385)	-0.0407 (0.399)	-0.544* (0.326)	-0.375 (0.530)	-0.351 (0.372)	0.276 (0.426)	0.242 (0.365)	0.461 (0.321)	1.172*** (0.344)	0.270 (0.381)
45-54	0.241 (0.411)	0.817* (0.453)	-0.332 (0.407)	-0.196 (0.408)	-0.0590 (0.348)	-0.290 (0.582)	-0.232 (0.397)	0.172 (0.456)	0.412 (0.362)	0.367 (0.317)	1.353*** (0.356)	0.606 (0.369)
55-64	-0.0673 (0.418)	0.798* (0.478)	0.0693 (0.453)	-0.200 (0.433)	-0.463 (0.359)	-0.562 (0.590)	-0.421 (0.401)	0.521 (0.455)	0.440 (0.428)	0.241 (0.377)	0.921** (0.386)	0.187 (0.392)
65-74	-1.309** (0.548)	-0.153 (0.512)	-0.446 (0.648)	0.126 (0.694)	-0.618 (0.524)	-0.422 (0.642)	-1.589*** (0.535)	0.0126 (0.572)	-0.315 (0.505)	0.580 (0.737)	1.234** (0.565)	0.428 (0.481)
Gender: Male												
Female	0.625** (0.253)	0.159 (0.291)	0.210 (0.237)	-0.0320 (0.251)	0.339 (0.221)	0.124 (0.288)	0.220 (0.263)	0.473* (0.277)	0.869*** (0.253)	0.535** (0.250)	0.805*** (0.213)	0.489** (0.215)
Marital Status: Single												
Partnered	0.0707 (0.198)	0.173 (0.251)	-0.0316 (0.225)	0.412* (0.217)	0.369** (0.183)	0.318 (0.239)	0.717*** (0.225)	0.285 (0.251)	0.0894 (0.228)	-0.237 (0.227)	0.180 (0.192)	-0.140 (0.184)
Married	0.243	-0.00998	0.870	0.367	0.198	0.155	0.123	0.0803	0.238	0.814*	-0.406	-0.0452

	(0.490)	(0.488)	(0.546)	(0.469)	(0.473)	(0.501)	(0.479)	(0.608)	(0.687)	(0.482)	(0.462)	(0.380)
Separated	-0.0316	0.268	0.0684	0.207	0.0177	0.0919	-0.113	-0.199	-0.0403	-0.121	0.335	0.0212
	(0.430)	(0.396)	(0.383)	(0.405)	(0.393)	(0.424)	(0.292)	(0.366)	(0.516)	(0.364)	(0.378)	(0.417)
Divorced	0.648	1.563**	-0.321	-0.390	-0.405	-1.749***	2.955***	1.334**	-0.173	-0.728	0.899	0.561
	(0.543)	(0.676)	(0.736)	(0.763)	(0.630)	(0.617)	(0.621)	(0.605)	(0.681)	(0.848)	(0.604)	(0.604)
Widowed	-0.0707	0.274	0.0231	0.218	0.166	0.198	0.323	0.103	0.139	-0.0987	-0.0504	-0.0780
	(0.228)	(0.267)	(0.201)	(0.221)	(0.185)	(0.255)	(0.223)	(0.214)	(0.244)	(0.197)	(0.205)	(0.221)
Prefer not to Say	1.095**	-0.478	1.376**	0.853**	-0.944*	1.625*	-0.627*	-0.851**	-0.425	-0.287	0.739***	-0.437
	(0.498)	(0.802)	(0.551)	(0.386)	(0.494)	(0.914)	(0.376)	(0.427)	(0.375)	(0.330)	(0.265)	(0.399)
Educational Status: Secondary Degree												
Vocational Degree	-0.445	0.262	-1.038**	-0.962	-0.449	-0.404	0.550	-0.905*	-0.290	0.226	-0.385	-0.349
	(0.568)	(0.404)	(0.523)	(0.621)	(0.465)	(0.469)	(0.375)	(0.521)	(0.466)	(0.510)	(0.415)	(0.586)
Tertiary Degree	-0.407	0.219	-1.002***	-0.663*	-0.630*	-0.115	0.465	-0.598	-0.407	0.470	-0.109	-0.277
	(0.425)	(0.375)	(0.364)	(0.388)	(0.347)	(0.368)	(0.329)	(0.373)	(0.291)	(0.344)	(0.217)	(0.417)
Higher Than Tertiary Degree	-0.599	0.0252	-1.196***	-0.871**	-0.561*	-0.310	0.153	-0.935**	-0.868***	0.0449	-0.335	-0.0122
	(0.405)	(0.354)	(0.327)	(0.364)	(0.314)	(0.338)	(0.324)	(0.385)	(0.275)	(0.326)	(0.208)	(0.400)
Prefer not to Say	-0.488	-1.570*	0.139	-0.637	-1.980***	0.249	1.329**	0.0421	0.800	-0.552	-0.266	-0.284
	(0.681)	(0.836)	(0.603)	(0.708)	(0.593)	(0.633)	(0.582)	(0.665)	(0.785)	(0.626)	(0.515)	(0.690)
Employment Status: Working Full-Time for Employer												
Working Full-Time for Self	0.317	-0.122	0.291	0.218	0.470*	0.127	-0.0472	0.146	0.149	0.499*	0.526*	0.338
	(0.315)	(0.306)	(0.291)	(0.289)	(0.245)	(0.317)	(0.299)	(0.298)	(0.362)	(0.293)	(0.295)	(0.307)
Working Part-Time	0.103	-0.215	-0.0963	0.0229	-0.129	0.197	-0.0404	-0.381	0.0183	-0.118	-0.329	0.188
	(0.270)	(0.315)	(0.253)	(0.274)	(0.222)	(0.323)	(0.241)	(0.275)	(0.319)	(0.285)	(0.231)	(0.259)
Working Part-Time (Underemployed)	-0.721	1.675	-4.005***	-2.464***	-0.0200	-3.579***	-1.730**	-0.0992	0.579	0.00843	0.476	-0.428
	(0.871)	(1.117)	(0.884)	(0.862)	(0.769)	(1.182)	(0.743)	(0.871)	(0.856)	(0.731)	(0.684)	(0.771)
Unemployed	-0.633	-0.0557	-0.181	-0.242	0.195	0.513	0.0428	-0.276	0.283	-0.955**	0.315	0.212
	(0.384)	(0.557)	(0.405)	(0.395)	(0.439)	(0.486)	(0.389)	(0.461)	(0.389)	(0.369)	(0.448)	(0.341)
Out of Labour Force	0.863*	0.0516	0.783	0.500	0.242	0.610	0.582	0.212	0.419	0.126	0.328	0.670
	(0.484)	(0.437)	(0.511)	(0.487)	(0.513)	(0.515)	(0.363)	(0.413)	(0.442)	(0.542)	(0.531)	(0.433)
Prefer not to say	0.00643	0.283	-0.0814	0.339	-0.527*	-0.500	0.149	-1.303***	-0.526	-0.506	-0.417	-0.540
	(0.352)	(0.542)	(0.378)	(0.384)	(0.294)	(0.381)	(0.266)	(0.373)	(0.456)	(0.378)	(0.425)	(0.399)
Income: £14,999 or Less												

£15,000-£29,999	-0.241 (0.410)	-0.0169 (0.443)	-0.364 (0.380)	-0.142 (0.391)	-0.353 (0.353)	0.0478 (0.388)	-0.366 (0.363)	0.0143 (0.357)	-0.00364 (0.343)	-0.149 (0.327)	-0.175 (0.314)	-0.195 (0.375)
£30,000-£44,999	-0.0761 (0.372)	0.161 (0.396)	-0.0125 (0.413)	-0.131 (0.418)	0.241 (0.325)	-0.235 (0.400)	-0.578* (0.308)	-0.197 (0.365)	-0.0511 (0.391)	-0.0348 (0.377)	-0.557* (0.308)	0.0248 (0.358)
£45,000-£59,999	0.158 (0.405)	0.00964 (0.453)	0.209 (0.428)	0.340 (0.404)	0.285 (0.370)	0.173 (0.424)	0.192 (0.391)	0.371 (0.463)	0.205 (0.420)	0.393 (0.423)	-0.170 (0.362)	-0.0240 (0.372)
£60,000-£74,999	-0.0111 (0.398)	-0.239 (0.459)	0.407 (0.443)	0.224 (0.407)	0.163 (0.384)	-0.0547 (0.427)	0.320 (0.363)	0.0509 (0.446)	0.195 (0.456)	0.0671 (0.368)	-0.668* (0.377)	-0.238 (0.361)
£75,000 or More	-0.0332 (0.410)	0.0728 (0.488)	0.162 (0.455)	-0.0191 (0.424)	0.537 (0.353)	0.413 (0.450)	-0.342 (0.414)	-0.236 (0.415)	-0.0108 (0.420)	-0.209 (0.416)	-0.307 (0.358)	0.142 (0.356)
Prefer not to Say	0.549 (0.434)	0.0841 (0.547)	0.956** (0.482)	0.838* (0.462)	1.145*** (0.377)	0.452 (0.422)	0.155 (0.377)	1.186*** (0.413)	0.474 (0.531)	0.300 (0.495)	-0.0796 (0.441)	0.381 (0.493)
Religion: None												
Christian	0.103 (0.265)	-0.269 (0.379)	0.235 (0.278)	0.0498 (0.270)	0.0838 (0.243)	-0.241 (0.287)	-0.130 (0.228)	-0.451* (0.253)	0.384 (0.299)	0.345 (0.217)	-0.0223 (0.233)	-0.356 (0.261)
Buddhist	0.112 (0.390)	0.0917 (0.460)	0.594* (0.302)	0.374 (0.397)	0.696* (0.357)	-0.276 (0.369)	0.378 (0.338)	0.0405 (0.422)	0.783* (0.414)	0.101 (0.389)	-0.0270 (0.355)	-0.128 (0.377)
Hindu	-0.453 (0.624)	-0.784 (0.698)	-0.186 (0.682)	0.00196 (0.660)	0.229 (0.726)	0.163 (0.616)	0.685 (0.563)	0.112 (0.595)	-0.0664 (0.811)	0.298 (0.660)	-0.449 (0.516)	-0.383 (0.539)
Jewish	0.796 (0.535)	0.301 (0.621)	-0.790 (0.548)	-0.517 (0.495)	-0.498 (0.506)	-0.0696 (0.549)	-1.648*** (0.504)	-1.546*** (0.531)	-0.606 (0.566)	0.0573 (0.592)	0.581 (0.555)	1.073** (0.522)
Muslim	0.391 (0.668)	0.526 (0.694)	0.777 (0.564)	0.442 (0.552)	0.662 (0.533)	0.205 (0.644)	0.717 (0.534)	0.486 (0.555)	2.033*** (0.564)	-0.0307 (0.597)	0.0806 (0.545)	-0.550 (0.567)
Sikh	-1.409** (0.684)	-0.150 (0.539)	0.423 (0.432)	0.449 (0.661)	0.395 (0.484)	0.685 (0.594)	-0.232 (0.508)	0.182 (0.488)	0.306 (0.660)	0.172 (0.503)	1.073** (0.435)	-0.181 (0.586)
Other	0.0638 (0.534)	-0.387 (0.524)	0.0783 (0.403)	-0.0547 (0.451)	-0.547 (0.406)	-0.313 (0.443)	-0.693** (0.298)	-1.202** (0.588)	0.125 (0.567)	0.0788 (0.403)	-0.786** (0.360)	-0.0784 (0.413)
Prefer not to Say	-0.0936 (0.384)	-0.652* (0.332)	0.0356 (0.222)	-0.138 (0.407)	-0.0559 (0.330)	-0.546** (0.265)	-0.268 (0.321)	0.0207 (0.307)	0.00176 (0.363)	0.522** (0.263)	-0.191 (0.335)	0.382 (0.314)
Religious Practice: Never												
Less Than Annually	-0.156	0.433	-0.0293	-0.352	-0.412	0.0686	-0.318	-0.0204	-0.0182	-0.0536	0.197	0.128

	(0.365)	(0.420)	(0.342)	(0.310)	(0.305)	(0.384)	(0.297)	(0.315)	(0.385)	(0.307)	(0.339)	(0.446)
At Least Annually	0.108	0.00657	-0.195	-0.211	0.0345	0.0440	-0.152	0.00826	-0.185	-0.0167	0.123	0.0115
	(0.317)	(0.331)	(0.253)	(0.283)	(0.239)	(0.307)	(0.237)	(0.282)	(0.291)	(0.264)	(0.258)	(0.264)
At Least Monthly	0.576	1.108***	0.457	-0.0822	0.0512	0.544	-0.389	0.0615	-0.382	0.174	0.467*	0.490*
	(0.404)	(0.398)	(0.313)	(0.370)	(0.308)	(0.332)	(0.298)	(0.384)	(0.374)	(0.323)	(0.272)	(0.289)
At Least Weekly	0.647*	0.883	0.117	0.371	0.246	1.007**	0.265	0.559	0.0327	0.182	0.322	0.565
	(0.337)	(0.535)	(0.372)	(0.359)	(0.381)	(0.403)	(0.316)	(0.392)	(0.368)	(0.331)	(0.346)	(0.410)
Prefer not to Say	0.323	0.996***	-0.149	-0.0530	0.207	0.660*	0.0938	-0.165	0.160	0.526	0.941***	0.801*
	(0.473)	(0.325)	(0.229)	(0.476)	(0.271)	(0.351)	(0.329)	(0.317)	(0.387)	(0.331)	(0.268)	(0.408)
Smoking: Yes												
No	0.732*	0.211	0.749**	0.491	-0.234	-0.211	0.645**	0.310	0.698**	-0.0389	-0.0755	-0.238
	(0.414)	(0.393)	(0.363)	(0.317)	(0.385)	(0.411)	(0.293)	(0.348)	(0.301)	(0.319)	(0.353)	(0.333)
Pregnant: Yes												
No	-0.548	-0.262	-0.852	0.263	0.637	0.919*	0.376	0.0602	0.230	-0.230	0.205	-0.356
	(0.832)	(0.385)	(0.727)	(0.960)	(0.798)	(0.508)	(0.898)	(0.699)	(0.698)	(0.327)	(0.688)	(0.665)
Medication: Yes												
No	-0.0356	-0.00986	-0.0374	0.0517	0.193	0.116	0.137	-0.103	0.217	0.132	0.0377	0.203
	(0.179)	(0.203)	(0.179)	(0.180)	(0.146)	(0.199)	(0.174)	(0.188)	(0.213)	(0.189)	(0.141)	(0.178)
Preference for Socialising: Yes												
No	-0.0740	0.147	0.166	-0.0932	-0.287	-0.194	0.181	0.0495	0.0574	-0.293*	-0.343**	0.0298
	(0.200)	(0.238)	(0.194)	(0.213)	(0.174)	(0.215)	(0.216)	(0.235)	(0.221)	(0.167)	(0.148)	(0.181)
Constant	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Set Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	230	230	230	230	230	230	230	230	230	230	230	230
R Squared	0.336	0.316	0.376	0.263	0.339	0.294	0.399	0.313	0.307	0.298	0.442	0.306

Notes: Robust standard errors clustered at individual level in parentheses. The dependent variables are the frequency in recent weeks of (a) noticing and feeling grateful for good things, (b) practising mindfulness or meditation, (c) treating oneself in a kind way, (d) making time for something really important for oneself, (e) responding well to difficult situations, (f) learning or trying out something new, (g) giving time to one of oneself's closest relationships, (h) connecting with other people, (i) doing something kind or helpful for others, (j) trying to increase happiness at work, (k) trying to increase happiness in the community, and (l) thinking about the difference one makes to the world. See Supplementary Materials Table 1b for variable definitions.

*** p<0.01, ** p<0.05, * p<0.1

Table 4*Absence of Time Trend for Control Group*

	Mean Control Group, Pre-Intervention	Mean Control Group, Post-Intervention	Difference
<i>Self-Reported Outcomes</i>			
Life Satisfaction	6.315	6.271	0.044
Happiness	6.288	5.957	0.331
Anxiousness	4.438	4.500	-0.062
Worthwhileness	7.041	6.971	0.070
PHQ-9 (Depression)	7.151	7.057	0.094
GAD-7 (Anxiety)	6.671	7.086	-0.414
Compassion	6.792	6.657	0.135
Social Trust	6.507	6.386	0.121
Gratitude	6.178	6.114	0.064
Information (a)	7.469	7.271	0.198
Information (b)	7.224	6.943	0.282
Information (c)	6.796	6.629	0.167
Information (d)	7.224	7.171	0.053
Behaviour (a)	2.020	1.829	0.192*
Behaviour (b)	1.429	1.129	0.300***
Behaviour (c)	1.449	1.471	-0.022
Behaviour (d)	1.571	1.514	0.057
Behaviour (e)	1.571	1.586	-0.014
Behaviour (f)	1.204	1.129	0.076
Behaviour (g)	1.837	1.629	0.208*
Behaviour (h)	2.061	1.929	0.133
Behaviour (i)	1.816	1.786	0.031

Behaviour (j)	1.347	1.314	0.033
Behaviour (k)	0.776	0.986	-0.210*
Behaviour (l)	1.122	1.214	-0.092
<i>Biomarkers</i>			
Cortisol	0.172	0.102	0.070
Interferon IFN- γ	7.510	7.733	-0.223
Cytokine IL-10	1.397	1.433	-0.037
Cytokine IL-1 β	284.884	214.072	70.813***
Cytokine IL-6	10.131	8.783	1.348
Chemokine IL-8	1,603.446	1,287.056	316.390***
<i>Controls</i>			
Age: 20-24	0.068	0.057	0.011
25-34	0.247	0.243	0.004
35-44	0.233	0.229	0.004
45-54	0.205	0.214	-0.009*
55-64	0.192	0.200	-0.008*
65-74	0.055	0.057	-0.002
Gender: Male	0.164	0.171	-0.007
Female	0.836	0.829	0.007
Marital Status: Single	0.438	0.443	-0.005
Married	0.192	0.200	-0.008
Separated	0.041	0.043	-0.002
Divorced	0.096	0.100	-0.004
Widowed	0.014	0.014	-0.001
Domestic Partner	0.219	0.200	0.019
Prefer not to Say	0.000	0.000	0.000
Educational Status: Secondary Degree	0.041	0.043	-0.002
Vocational Degree	0.068	0.071	-0.003

Tertiary Degree	0.356	0.357	-0.001
Higher Than Tertiary Degree	0.534	0.529	0.006
Prefer not to Say	0.000	0.000	0.000
Employment Status: Working Full-Time for Employer	0.466	0.457	0.009
Working Full-Time for Self	0.164	0.171	-0.007
Working Part-Time	0.219	0.229	-0.009
Working Part-Time (Underemployed)	0.000	0.000	0.000
Unemployed	0.041	0.043	-0.002
Out of Labour Force	0.096	0.086	0.010
Prefer not to say	0.014	0.014	-0.001
Income: £14,999 or Less	0.137	0.143	-0.006
£15,000-£29,999	0.192	0.186	0.006
£30,000-£44,999	0.233	0.229	0.004
£45,000-£59,999	0.178	0.171	0.007
£60,000-£74,999	0.110	0.114	-0.005*
£75,000 or More	0.123	0.129	-0.005*
Prefer not to Say	0.027	0.029	-0.001
Religion: None	0.589	0.586	0.003
Christian	0.247	0.243	0.004
Buddhist	0.055	0.057	-0.002
Hindu	0.014	0.014	-0.001
Jewish	0.000	0.000	0.000
Muslim	0.000	0.000	0.000
Sikh	0.000	0.000	0.000
Other	0.041	0.043	-0.002
Prefer not to Say	0.055	0.057	-0.002
Religious Practice: Never	0.521	0.529	-0.008
Less Than Annually	0.110	0.100	0.010
At Least Annually	0.123	0.114	0.009
At Least Monthly	0.110	0.114	-0.005
At Least Weekly	0.096	0.100	-0.004

Prefer not to Say	0.041	0.043	-0.002
Smoking: Yes	0.110	0.086	0.024
No	0.890	0.914	-0.024
Pregnant: Yes	0.027	0.029	-0.001
No	0.973	0.971	0.001
Medication: Yes	0.438	0.429	0.010
No	0.562	0.571	-0.010
Importance of Meeting New People and Making Friends: Yes	0.808	0.814	-0.006
No	0.192	0.186	0.006
Observations	73	70	-

Notes: T-tests used robust standard errors clustered at individual level. See Supplementary Materials Table 1b for variable definitions.

*** p<0.01, ** p<0.05, * p<0.1

Table 5a*Main Results – Self-Reported Outcomes (Regression Table for Figure 3), Adjusted for Multiple Hypotheses Testing (Stepdown P-Values)*

	Subjective Wellbeing				Mental Health		Pro-Sociality		
	Life Satis- faction (1)	Happiness (2)	Anxious- ness (3)	Worth- whileness (4)	PHQ-9 (Depres- sion) (5)	GAD-7 (Anxiety) (6)	Compassion (7)	Social Trust (8)	Gratitude (9)
Treatment*Post	0.645 (0.144)	0.631 (0.157)	-0.425 (0.174)	0.565 (0.146)	-0.543 (0.116)	-0.448 (0.114)	0.422 (0.127)	0.561 (0.148)	0.278 (0.125)
<i>P Value (Rounded)</i>	<i>0.000 (***)</i>	<i>0.000 (***)</i>	<i>0.016 (**)</i>	<i>0.000 (***)</i>	<i>0.000 (***)</i>	<i>0.000 (***)</i>	<i>0.001 (***)</i>	<i>0.000 (***)</i>	<i>0.028 (**)</i>
<i>Stepdown P Value (Rounded)</i>	<i>0.010 (***)</i>	<i>0.010 (***)</i>	<i>0.059 (*)</i>	<i>0.010 (***)</i>	<i>0.010 (***)</i>	<i>0.010 (***)</i>	<i>0.010 (***)</i>	<i>0.010 (***)</i>	<i>0.059 (*)</i>
Treatment	0.062 (0.166)	-0.020 (0.146)	-0.111 (0.166)	-0.071 (0.157)	-0.083 (0.157)	-0.141 (0.152)	-0.192 (0.159)	-0.126 (0.177)	0.014 (0.163)
Post	-0.024 (0.095)	-0.143 (0.116)	0.027 (0.127)	-0.046 (0.100)	-0.024 (0.080)	0.050 (0.088)	-0.101 (0.086)	-0.068 (0.092)	-0.065 (0.083)
Constant	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Controls	No	No	No	No	No	No	No	No	No
Set Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	279	279	279	279	279	279	279	279	279
R Squared	0.107	0.081	0.061	0.062	0.099	0.069	0.026	0.033	0.030

Notes: Robust standard errors clustered at individual level in parentheses. See Supplementary Materials Table 1b for variable definitions.

*** p<0.01, ** p<0.05, * p<0.1

Table 5b

Main Results – Biomarkers (Regression Table for Figure 4), Adjusted for Multiple Hypotheses Testing (Stepdown P-Values)

	Stress	Immune Response				
	Cortisol (1)	Interferon IFN- γ (2)	Cytokine IL-10 (3)	Cytokine IL-1 β (4)	Cytokine IL-6 (5)	Chemokine IL-8 (6)
Treatment*Post	-0.007 (0.235)	0.281 (0.223)	0.045 (0.162)	-0.049 (0.149)	-0.047 (0.163)	0.080 (0.183)
<i>P Value (Rounded)</i>	<i>0.976</i>	<i>0.211</i>	<i>0.780</i>	<i>0.745</i>	<i>0.773</i>	<i>0.662</i>
<i>Stepdown P Value (Rounded)</i>	<i>0.990</i>	<i>0.990</i>	<i>0.990</i>	<i>0.990</i>	<i>0.990</i>	<i>0.980</i>
Treatment	0.150 (0.208)	-0.395** (0.171)	-0.019 (0.184)	0.001 (0.175)	-0.047 (0.169)	-0.123 (0.172)
Post	-0.255** (0.121)	-0.131 (0.154)	-0.146 (0.104)	-0.182** (0.087)	-0.057 (0.112)	-0.261** (0.116)
Constant	Yes	Yes	Yes	Yes	Yes	Yes
Controls	No	No	No	No	No	No
Set Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes
Observations	265	236	269	275	268	274
R-Squared	0.021	0.028	0.007	0.016	0.012	0.018

Notes: Robust standard errors clustered at individual level in parentheses. See Supplementary Materials Table 1b for variable definitions.

*** p<0.01, ** p<0.05, * p<0.1

Supplementary Materials II:**Course Materials**

The recruitment process of course leaders is documented at:

http://www.actionforhappiness.org/media/498423/exploring_what_matters_course_leader.pdf

The course materials for course participants can be found at:

http://www.actionforhappiness.org/media/508643/exploring_what_matters.pdf

The course materials for course leaders can be found at:

http://www.actionforhappiness.org/media/519959/course_leader_guide.pdf

Supplementary Materials III:

Impact Evaluation Materials

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2. Written Consent Form
3. Baseline Survey
4. Endline Survey
5. Follow-up Survey

EXPLORING WHAT MATTERS – PROJECT INFORMATION

You are being invited to take part in a research project. Before you decide, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information and ask us if there is anything that is not clear. Thank you

PROJECT OVERVIEW

This study aims to learn about the psychological and physiological wellbeing of people taking part in the 'Exploring What Matters' course developed by Action for Happiness. Participation is voluntary and you have the right to withdraw at any point without needing to give any reason.

YOUR INVOLVEMENT

Taking part in this study involves attending the 8-week 'Exploring What Matters' course, which has been run successfully many times in local communities across the UK. On three occasions - before, during and after the course - you will also be invited to provide some information about your personal wellbeing and attitudes, plus a small salivary sample to allow the measurement of biomarkers.

WHAT ARE BIOMARKERS?

Biomarkers are measurable features that can be used to predict physiological states. For this study, salivary samples will be used to measure specific hormones and proteins relating to wellbeing, with a particular focus on stress response and immune function. No markers for any other illnesses will be investigated. The biomarker samples may be shipped to a laboratory outside the UK for analysis.

DATA CONFIDENTIALITY

All data collected as part of this project will be treated confidentially. You will be given an identification number so that all the data you provide will be anonymous and you cannot be identified by it. Any data that is retained will be kept securely in accordance with the Data Protection Act.

ARE THERE ANY RISKS INVOLVED?

We do not envisage any risks from taking part in this project. If you don't enjoy the course or don't wish to provide the required information or salivary samples, you can withdraw at any time. While it is unlikely, it is possible you may experience distress at some point as the study asks you to consider your emotions. If this occurs you may wish to seek advice from your GP or a counsellor, therapist or other professional.

PROJECT OUTCOMES

The results of the project may be published in academic journals and books as well as in other forms (e.g. reports, websites) in the public domain. You will not be identified by name or other identifying feature in any publication. If you are interested, we can send these results to you once the project is complete.

WHO IS BEHIND THE STUDY?

The study is being led by the Centre for Economic Performance at the London School of Economics, with funding from the Templeton Foundation. It is being run in collaboration with Action for Happiness.

THANK YOU

We are very grateful for your participation in this study. Your responses will help to provide valuable insight into the wellbeing of individuals who participate in the Exploring What Matters course.

For more information about the project, please contact:

LSE / CEP: **Dr Jan-Emmanuel de Neve** 020 7955 7447 j.de-neve@lse.ac.uk
Action for Happiness: **Dr Mark Williamson** 020 8980 6263 mark.williamson@actionforhappiness.org



EXPLORING WHAT MATTERS – CONSENT FORM

I have read the Information Sheet relating to this research study and have been provided with the opportunity to discuss any details or questions about this.

I understand the aims of this research and the procedures which I will be involved with as part of the study, including providing salivary samples and information about my wellbeing.

I understand that all data relating my involvement in this study will remain confidential and the researchers involved will not be able to identify me by my responses as my data are anonymous. I also understand that the samples provided may be shipped to a laboratory outside the UK for analysis. I have been informed what will happen when the study has been completed.

I fully and freely provide my consent to participate in this study. By giving this consent, I also understand that at any time during the study, I have the right to withdraw without disadvantage to myself and I will not be required to provide a reason. I can withdraw from the study by sending an email to info@actionforhappiness.org.

I also understand that if I do decide to withdraw, the researchers reserve the right to use the anonymous data which I have provided when analysing and writing-up the study.

Name of participant (please print): _____

Date: _____

Signature: _____

EXPLORING WHAT MATTERS – PARTICIPANT QUESTIONS

SECTION I: YOUR WELLBEING

Please answer these 4 questions on a scale of 0 to 10 where 0 means “Not at all” and 10 means “Completely”.

Overall, how satisfied are you with your life nowadays?

Not at all										Completely
0	1	2	3	4	5	6	7	8	9	10

Overall, how happy did you feel yesterday?

Not at all										Completely
0	1	2	3	4	5	6	7	8	9	10

Overall, how anxious did you feel yesterday?

Not at all										Completely
0	1	2	3	4	5	6	7	8	9	10

Overall, to what extent do you feel the things you do in your life are worthwhile?

Not at all										Completely
0	1	2	3	4	5	6	7	8	9	10

Over the <u>last two weeks</u>, how often have you been bothered by any of the following problems?	Not at all	Several days	More than half the days	Nearly every day
1. Little interest or pleasure in doing things	0	1	2	3
2. Feeling down, depressed or hopeless	0	1	2	3
3. Trouble falling or staying asleep, or sleeping too much	0	1	2	3
4. Feeling tired or having little energy	0	1	2	3
5. Poor appetite or overeating	0	1	2	3
6. Feeling bad about yourself – or that you are a failure or have let yourself or your family down	0	1	2	3
7. Trouble concentrating on things, such as reading the newspaper or watching television	0	1	2	3
8. Moving or speaking so slowly that other people could have noticed? Or the opposite – being so fidgety or restless that you have been moving a lot more than usual	0	1	2	3
9. Thoughts that you would be better off dead or hurting yourself in some way	0	1	2	3

Over the last two weeks, how often have you been bothered by the following problems?	Not at all	Several days	More than half the days	Nearly every day
1. Feeling nervous, anxious or on edge	0	1	2	3
2. Not being able to stop or control worrying	0	1	2	3
3. Worrying too much about different things	0	1	2	3
4. Trouble relaxing	0	1	2	3
5. Being so restless that it is hard to sit still	0	1	2	3
6. Becoming easily annoyed or irritable	0	1	2	3
7. Feeling afraid as if something awful might happen	0	1	2	3

SECTION II: YOUR ATTITUDES

COMPASSION

Please answer the following questions honestly and quickly using the scale below.

When I hear about someone (a stranger) going through a difficult time, I feel a great deal of compassion for him or her

Not at all true of me						Very true of me
1	2	3	4	5	6	7

I tend to feel compassion for people, even though I do not know them

Not at all true of me						Very true of me
1	2	3	4	5	6	7

One of the activities that provides me with the most meaning to my life is helping others in the world when they need help

Not at all true of me						Very true of me
1	2	3	4	5	6	7

I would rather engage in actions that help others, even though they are strangers, than engage in actions that would help me

Not at all true of me						Very true of me
1	2	3	4	5	6	7

I often have tender feelings toward people (strangers) when they seem to be in need

Not at all true of me						Very true of me
1	2	3	4	5	6	7

TRUST

Generally speaking, would you say that most people can be trusted, or that you can't be too careful in dealing with people?

Can't be too careful					Most people can be trusted					
0	1	2	3	4	5	6	7	8	9	10

GRATITUDE

I have so much in life to be thankful for

Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

SOCIAL CONTEXT

How important is it for you to be meeting new people and making friends?

Not at all important					Extremely important					
0	1	2	3	4	5	6	7	8	9	10

How regularly do you meet with local groups (e.g. club, residents association, choir etc)?

Never					Extremely often					
0	1	2	3	4	5	6	7	8	9	10

SECTION III: ABOUT YOU

Please circle the answers which apply:

What age are you?	16-19	20-24	25-34	35-44	45-54	55-64	65-74	75+
-------------------	-------	-------	-------	-------	-------	-------	-------	-----

What is your gender?	Male	Female
----------------------	------	--------

Tick here

What is your approximate annual household income?	<input type="checkbox"/>	Less than £15,000
	<input type="checkbox"/>	£15,000 to £29,999
	<input type="checkbox"/>	£30,000 to £44,999
	<input type="checkbox"/>	£45,000 to £59,999
	<input type="checkbox"/>	£60,000 to £74,999
	<input type="checkbox"/>	£75,000 or more
	<input type="checkbox"/>	<i>Prefer not to say</i>

What is your current marital status?	<input type="checkbox"/>	Single/never been married
	<input type="checkbox"/>	Married
	<input type="checkbox"/>	Separated
	<input type="checkbox"/>	Divorced
	<input type="checkbox"/>	Widowed
	<input type="checkbox"/>	Domestic partner
	<input type="checkbox"/>	<i>Prefer not to say</i>

What is your employment status?	<input type="checkbox"/>	Employed full time for an employer
	<input type="checkbox"/>	Employed full time for self
	<input type="checkbox"/>	Employed part time - do not want full time
	<input type="checkbox"/>	Employed part time - want full time
	<input type="checkbox"/>	Unemployed
	<input type="checkbox"/>	Out of workforce
	<input type="checkbox"/>	<i>Prefer not to say</i>

What is your highest completed level of education?	<input type="checkbox"/>	Completed elementary education or less
	<input type="checkbox"/>	Secondary education
	<input type="checkbox"/>	Tertiary education – vocational
	<input type="checkbox"/>	Tertiary education – graduate
	<input type="checkbox"/>	Tertiary education – post-graduate
	<input type="checkbox"/>	<i>Prefer not to say</i>

Tick here

What is your ethnic group?	<input type="checkbox"/>	White
	<input type="checkbox"/>	Indian
	<input type="checkbox"/>	Pakistani
	<input type="checkbox"/>	Bangladeshi
	<input type="checkbox"/>	Chinese
	<input type="checkbox"/>	African
	<input type="checkbox"/>	Caribbean
	<input type="checkbox"/>	Arab
	<input type="checkbox"/>	Mixed
	<input type="checkbox"/>	Other
	<input type="checkbox"/>	<i>Prefer not to say</i>

Do you regard yourself as belonging to any particular religion? If yes, which?	<input type="checkbox"/>	No religion
	<input type="checkbox"/>	Christian (including Church of England, Catholic, Protestant)
	<input type="checkbox"/>	Buddhist
	<input type="checkbox"/>	Hindu
	<input type="checkbox"/>	Jewish
	<input type="checkbox"/>	Muslim
	<input type="checkbox"/>	Sikh
	<input type="checkbox"/>	Other religion (please specify):
	<input type="checkbox"/>	<i>Prefer not to say</i>

Apart from such special occasions as weddings, funerals and baptisms, how often nowadays do you attend services or meetings connected with your religion?	<input type="checkbox"/>	Never
	<input type="checkbox"/>	Less than annually
	<input type="checkbox"/>	At least annually
	<input type="checkbox"/>	At least monthly
	<input type="checkbox"/>	At least weekly
	<input type="checkbox"/>	<i>Prefer not to say</i>

How much do you care about eating a healthy diet?

Not at all										Very Much	
0	1	2	3	4	5	6	7	8	9	10	

How often do you drink alcohol?

Not at all										Very Often	
0	1	2	3	4	5	6	7	8	9	10	

How often are you physically active (for example, by doing sports)?

Not at all										Very Often	
0	1	2	3	4	5	6	7	8	9	10	

How many hours did you sleep last night?

How satisfied are you with your sleep last night?

Not at all										Completely	
0	1	2	3	4	5	6	7	8	9	10	

Do you smoke?	Yes	No
----------------------	-----	----

Are you pregnant?	Yes	No
--------------------------	-----	----

Are you currently on any medication?	Yes	No
	If yes please specify:	

SECTION III: YOUR LIFE

Please respond to the following statements honestly and quickly using the scale below.

I feel aware of what contributes to a happy and meaningful life

Not at all										Completely
0	1	2	3	4	5	6	7	8	9	10

I know what really matters to me in life

Not at all										Completely
0	1	2	3	4	5	6	7	8	9	10

I feel able to do things to improve my own wellbeing

Not at all										Completely
0	1	2	3	4	5	6	7	8	9	10

I feel able to do things to improve the wellbeing of others

Not at all										Completely
0	1	2	3	4	5	6	7	8	9	10

In recent weeks, how often have you done the following?	Not at all	Several days	More than half the days	Nearly every day
1. Noticed and felt grateful for good things	0	1	2	3
2. Practised mindfulness / meditation	0	1	2	3
3. Treated yourself in a kind way	0	1	2	3
4. Made time for something really important to you	0	1	2	3
5. Responded well to a difficult situation	0	1	2	3
6. Learnt or tried out something new	0	1	2	3
7. Gave time to one of your closest relationships	0	1	2	3
8. Connected with other people	0	1	2	3
9. Did something kind or helpful for others	0	1	2	3
10. Tried to increase happiness at work	0	1	2	3
11. Tried to increase happiness in the community	0	1	2	3
12. Thought about the difference you make in the world	0	1	2	3

Many thanks for taking the time to provide this information.
Please check to make sure that you have answered all the questions.

EXPLORING WHAT MATTERS – PARTICIPANT QUESTIONS

SECTION I: YOUR WELLBEING

Please answer these 4 questions on a scale of 0 to 10 where 0 means “Not at all” and 10 means “Completely”.

Overall, how satisfied are you with your life nowadays?

Not at all										Completely
0	1	2	3	4	5	6	7	8	9	10

Overall, how happy did you feel yesterday?

Not at all										Completely
0	1	2	3	4	5	6	7	8	9	10

Overall, how anxious did you feel yesterday?

Not at all										Completely
0	1	2	3	4	5	6	7	8	9	10

Overall, to what extent do you feel the things you do in your life are worthwhile?

Not at all										Completely
0	1	2	3	4	5	6	7	8	9	10

Over the <u>last two weeks</u>, how often have you been bothered by any of the following problems?	Not at all	Several days	More than half the days	Nearly every day
1. Little interest or pleasure in doing things	0	1	2	3
2. Feeling down, depressed or hopeless	0	1	2	3
3. Trouble falling or staying asleep, or sleeping too much	0	1	2	3
4. Feeling tired or having little energy	0	1	2	3
5. Poor appetite or overeating	0	1	2	3
6. Feeling bad about yourself – or that you are a failure or have let yourself or your family down	0	1	2	3
7. Trouble concentrating on things, such as reading the newspaper or watching television	0	1	2	3
8. Moving or speaking so slowly that other people could have noticed? Or the opposite – being so fidgety or restless that you have been moving a lot more than usual	0	1	2	3
9. Thoughts that you would be better off dead or hurting yourself in some way	0	1	2	3

Over the last two weeks, how often have you been bothered by the following problems?	Not at all	Several days	More than half the days	Nearly every day
1. Feeling nervous, anxious or on edge	0	1	2	3
2. Not being able to stop or control worrying	0	1	2	3
3. Worrying too much about different things	0	1	2	3
4. Trouble relaxing	0	1	2	3
5. Being so restless that it is hard to sit still	0	1	2	3
6. Becoming easily annoyed or irritable	0	1	2	3
7. Feeling afraid as if something awful might happen	0	1	2	3

SECTION II: YOUR ATTITUDES

COMPASSION

Please answer the following questions honestly and quickly using the scale below.

When I hear about someone (a stranger) going through a difficult time, I feel a great deal of compassion for him or her

Not at all true of me						Very true of me
1	2	3	4	5	6	7

I tend to feel compassion for people, even though I do not know them

Not at all true of me						Very true of me
1	2	3	4	5	6	7

One of the activities that provides me with the most meaning to my life is helping others in the world when they need help

Not at all true of me						Very true of me
1	2	3	4	5	6	7

I would rather engage in actions that help others, even though they are strangers, than engage in actions that would help me

Not at all true of me						Very true of me
1	2	3	4	5	6	7

I often have tender feelings toward people (strangers) when they seem to be in need

Not at all true of me						Very true of me
1	2	3	4	5	6	7

TRUST

Generally speaking, would you say that most people can be trusted, or that you can't be too careful in dealing with people?

Can't be too careful					Most people can be trusted					
0	1	2	3	4	5	6	7	8	9	10

GRATITUDE

I have so much in life to be thankful for

Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

SOCIAL CONTEXT

How important is it for you to be meeting new people and making friends?

Not at all important					Extremely important					
0	1	2	3	4	5	6	7	8	9	10

HEALTH

Do you smoke?	Yes	No
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Are you pregnant?	Yes	No
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Are you currently on any medication?	Yes	No
	If yes please specify:	

SECTION III: YOUR LIFE

Please respond to the following statements honestly and quickly using the scale below.

I feel aware of what contributes to a happy and meaningful life

Not at all										Completely
0	1	2	3	4	5	6	7	8	9	10

I know what really matters to me in life

Not at all										Completely
0	1	2	3	4	5	6	7	8	9	10

I feel able to do things to improve my own wellbeing

Not at all										Completely
0	1	2	3	4	5	6	7	8	9	10

I feel able to do things to improve the wellbeing of others

Not at all										Completely
0	1	2	3	4	5	6	7	8	9	10

In recent weeks, how often have you done the following?	Not at all	Several days	More than half the days	Nearly every day
1. Noticed and felt grateful for good things	0	1	2	3
2. Practised mindfulness / meditation	0	1	2	3
3. Treated yourself in a kind way	0	1	2	3
4. Made time for something really important to you	0	1	2	3
5. Responded well to a difficult situation	0	1	2	3
6. Learnt or tried out something new	0	1	2	3
7. Gave time to one of your closest relationships	0	1	2	3
8. Connected with other people	0	1	2	3
9. Did something kind or helpful for others	0	1	2	3
10. Tried to increase happiness at work	0	1	2	3
11. Tried to increase happiness in the community	0	1	2	3
12. Thought about the difference you make in the world	0	1	2	3

SECTION IV: YOUR COURSE

Please respond to the following statements honestly and quickly using the scale below.

How many of the 8 Exploring What Matters course sessions did you attend?

None								All	
0	1	2	3	4	5	6	7	8	

How was the course overall?

1 Very poor	2 Poor	3 Ok	4 Good	5 Very good
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How was the content of the sessions?

1 Very poor	2 Poor	3 Ok	4 Good	5 Very good
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How was the facilitation of the course?

1 Very poor	2 Poor	3 Ok	4 Good	5 Very good
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How likely are you to recommend the course to others?

Not at all likely								Extremely likely			
0	1	2	3	4	5	6	7	8	9	10	

What were the highlights of the course for you?

What could we do to make the course even better?

How would you describe the impact of the course on your life?

Negative	Neutral	Positive
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What will you do differently as a result of the course?

Many thanks for taking the time to provide this information.
Please check to make sure that you have answered all the questions.

EXPLORING WHAT MATTERS – PARTICIPANT QUESTIONS

SECTION I: YOUR WELLBEING

Please answer these 4 questions on a scale of 0 to 10 where 0 means “Not at all” and 10 means “Completely”.

Overall, how satisfied are you with your life nowadays?

Not at all										Completely
0	1	2	3	4	5	6	7	8	9	10

Overall, how happy did you feel yesterday?

Not at all										Completely
0	1	2	3	4	5	6	7	8	9	10

Overall, how anxious did you feel yesterday?

Not at all										Completely
0	1	2	3	4	5	6	7	8	9	10

Overall, to what extent do you feel the things you do in your life are worthwhile?

Not at all										Completely
0	1	2	3	4	5	6	7	8	9	10

Over the <u>last two weeks</u>, how often have you been bothered by any of the following problems?	Not at all	Several days	More than half the days	Nearly every day
1. Little interest or pleasure in doing things	0	1	2	3
2. Feeling down, depressed or hopeless	0	1	2	3
3. Trouble falling or staying asleep, or sleeping too much	0	1	2	3
4. Feeling tired or having little energy	0	1	2	3
5. Poor appetite or overeating	0	1	2	3
6. Feeling bad about yourself – or that you are a failure or have let yourself or your family down	0	1	2	3
7. Trouble concentrating on things, such as reading the newspaper or watching television	0	1	2	3
8. Moving or speaking so slowly that other people could have noticed? Or the opposite – being so fidgety or restless that you have been moving a lot more than usual	0	1	2	3
9. Thoughts that you would be better off dead or hurting yourself in some way	0	1	2	3

Over the last two weeks, how often have you been bothered by the following problems?	Not at all	Several days	More than half the days	Nearly every day
1. Feeling nervous, anxious or on edge	0	1	2	3
2. Not being able to stop or control worrying	0	1	2	3
3. Worrying too much about different things	0	1	2	3
4. Trouble relaxing	0	1	2	3
5. Being so restless that it is hard to sit still	0	1	2	3
6. Becoming easily annoyed or irritable	0	1	2	3
7. Feeling afraid as if something awful might happen	0	1	2	3

SECTION II: YOUR ATTITUDES

COMPASSION

Please answer the following questions honestly and quickly using the scale below.

When I hear about someone (a stranger) going through a difficult time, I feel a great deal of compassion for him or her

Not at all true of me			Very true of me			
1	2	3	4	5	6	7

I tend to feel compassion for people, even though I do not know them

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One of the activities that provides me with the most meaning to my life is helping others in the world when they need help

Not at all true of me			Very true of me			
1	2	3	4	5	6	7

I would rather engage in actions that help others, even though they are strangers, than engage in actions that would help me

Not at all true of me			Very true of me			
1	2	3	4	5	6	7

I often have tender feelings toward people (strangers) when they seem to be in need

Not at all true of me			Very true of me			
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TRUST

Generally speaking, would you say that most people can be trusted, or that you can't be too careful in dealing with people?

Can't be too careful					Most people can be trusted					
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GRATITUDE

I have so much in life to be thankful for

Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

SOCIAL CONTEXT

How important is it for you to be meeting new people and making friends?

Not at all important					Extremely important					
0	1	2	3	4	5	6	7	8	9	10

HEALTH

Do you smoke?	Yes	No
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Are you pregnant?	Yes	No
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Are you currently on any medication?	Yes	No
	If yes please specify:	

SECTION III: YOUR LIFE

Please respond to the following statements honestly and quickly using the scale below.

I feel aware of what contributes to a happy and meaningful life

Not at all										Completely
0	1	2	3	4	5	6	7	8	9	10

I know what really matters to me in life

Not at all										Completely
0	1	2	3	4	5	6	7	8	9	10

I feel able to do things to improve my own wellbeing

Not at all										Completely
0	1	2	3	4	5	6	7	8	9	10

I feel able to do things to improve the wellbeing of others

Not at all										Completely
0	1	2	3	4	5	6	7	8	9	10

In recent weeks, how often have you done the following?	Not at all	Several days	More than half the days	Nearly every day
1. Noticed and felt grateful for good things	0	1	2	3
2. Practised mindfulness / meditation	0	1	2	3
3. Treated yourself in a kind way	0	1	2	3
4. Made time for something really important to you	0	1	2	3
5. Responded well to a difficult situation	0	1	2	3
6. Learnt or tried out something new	0	1	2	3
7. Gave time to one of your closest relationships	0	1	2	3
8. Connected with other people	0	1	2	3
9. Did something kind or helpful for others	0	1	2	3
10. Tried to increase happiness at work	0	1	2	3
11. Tried to increase happiness in the community	0	1	2	3
12. Thought about the difference you make in the world	0	1	2	3

Many thanks for taking the time to provide this information.
Please check to make sure that you have answered all the questions.