Flourishing During the COVID-19 Pandemic: A Longitudinal Study of South African

Adults

SUPPLEMENTAL MATERIAL

Table S1

Baseline Characteristics of Participants Who Remained in the Sample and Participants Who Were Lost to Follow-up

Characteristic	Retained (n = 293)		Lost to follow-up (n = 219)		p-value
	n (%)	M (SD)	n (%)	M (SD)	
Age		44.27 (14.28)		39.30 (13.21)	< .001
Sex					.647
Female	191 (65.19)		147 (67.12)		
Male	102 (34.81)		72 (32.88)		
Education level					.337
High school or less	63 (21.50)		55 (25.11)		
Postsecondary school education	230 (78.50)		164 (74.89)		
Racial status					< .001
White	162 (55.29)		76 (34.70)		
Black African	99 (33.79)		113 (51.60)		
Other	32 (10.92)		30 (13.70)		
Married					.051
Single	110 (37.54)		101 (46.12)		
Married or in a committed relationship	183 (62.46)		118 (53.88)		
Religion					.826
Not religious	9 (3.07)		6 (2.74)		
Religious	284 (96.93)		213 (97.26)		
Geographic location					.021
Gauteng province	209 (71.33)		135 (61.64)		
Other province	84 (28.67)		84 (38.36)		
Anxiety symptoms		0.97 (1.01)		1.14 (1.11)	.068
Depression symptoms		1.04 (0.98)		1.13 (1.11)	.289
Life satisfaction & happiness		6.77 (1.99)		6.68 (2.15)	.617
Physical & mental health		7.27 (1.81)		7.31 (2.08)	.805
Meaning & purpose		7.48 (2.23)		7.62 (2.22)	.478
Character & virtue		7.71 (1.61)		7.85 (1.89)	.381
Close social relationships		6.85 (2.25)		7.16 (2.31)	.125
Financial & material stability		5.54 (2.70)		5.47 (2.93)	.774

Note. M = mean, SD = standard deviation. Percentages refer to the proportion of individuals within each inclusion category with that characteristic. p-values come from independent samples t-tests or χ^2 tests that were used to examine the mean (SD) levels of the characteristic or the proportion of individuals within each inclusion category with that characteristic.

Table S2

Unadjusted and Adjusted Models Comparing Mean Differences in Indices of Psychological Distress and Domains of Well-being from Before the National Level Five Lockdown on March 27, 2020 (T_1) to During the COVID-19 Pandemic (T_2)

Variable	Model 1	Model 2	Model 3
	M (*SD*)	*M* (*SD*)	*M* (*SD*)
Psychological distress			
Anxiety symptoms	-0.09 (0.91)	-0.09 (0.09)	-0.09 (0.16)
Depression symptoms	-0.11 (0.90)*	-0.11 (0.11)*	-0.11 (0.13)*
Well-being			
Life satisfaction & happiness	0.03 (1.77)	0.03 (0.22)	0.03 (0.28)
Physical & mental health	-0.05 (1.40)	-0.05 (0.21)	-0.05 (0.22)
Meaning & purpose	0.15 (1.61)	0.15 (0.27)	0.15 (0.27)
Character & virtue	0.15(1.41)	0.15 (0.18)	0.15 (0.18)
Close social relationships	0.52 (1.98)***	0.52 (0.39)***	0.52 (0.42)***
Financial & material stability	0.52 (2.27)***	0.52 (0.35)***	0.52 (0.48)***

Note. T1 = Time 1, T2 = Time 2, CI = confidence interval, M = mean difference, SD = standard deviation of the mean difference. n = 293 for all analyses. For each outcome, generalized linear models were used to predict the mean difference in each variable from T1 to T2. The regression coefficients from each model were used to predict the average mean difference for each outcome. aFor comparative purposes, Model 1 is the unadjusted mean difference from T1 to T2 (akin to the paired samples t-tests reported in Table 2). bModel 2 adjusted for age, gender, racial status, marital status, religious status, education level, and geographic location assessed at T1. cModel 3 adjusted for sociodemographic characteristics included in Model 2 and T2 date of survey completion modeled as a continuous variable representing the number of days since March 26, 2020. *p < .05 before but not after Bonferroni correction, ***p < .05 after Bonferroni correction (the p-value cutoff for Bonferroni correction was .05/8 = .0063 for each outcome).

Table S3

Changes in Indices of Psychological Distress and Domains of Well-being from Before the COVID-19 National State of Disaster Declaration on March 15, 2020 (T_1) to During the COVID-19 Pandemic (T_2)

Variable	Before COVID-19 M (SD)	During COVID-19 M (SD)	Cohen's d [95% CI]
Psychological distress			
Anxiety symptoms	0.97 (1.02)	0.88 (0.94)	-0.09 [-0.20, 0.02]
Depression symptoms	1.03 (0.98)	0.91 (0.91)	-0.13 [-0.24, -0.01]*
Well-being			
Life satisfaction & happiness	6.78 (1.98)	6.81 (1.86)	0.02 [-0.09, 0.12]
Physical & mental health	7.23 (1.83)	7.20 (1.74)	-0.02 [-0.11, 0.08]
Meaning & purpose	7.48 (2.25)	7.64 (1.91)	0.08 [-0.01, 0.17]
Character & virtue	7.73 (1.57)	7.83 (1.41)	0.07 [-0.04, 0.18]
Close social relationships	6.87 (2.25)	7.40 (1.91)	0.25 [0.14, 0.37]***
Financial & material stability	5.57 (2.67)	6.11 (2.65)	0.20 [0.10, 0.30]***

Note. T_1 = Time 1, T_2 = Time 2, CI = confidence interval, *M* = mean, *SD* = standard deviation. *n* = 279 for all analyses. *p < .05 before but not after Bonferroni correction, ***p < .05 after Bonferroni correction (the *p*-value cutoff for Bonferroni correction was .05/8 = .0063 for each outcome).

Table S4

Changes in Components of Well-being (and Secure Flourishing) from Before the COVID-19 National State of Disaster Declaration on March 15, 2020 (T₁) to During the COVID-19 Pandemic (T₂)

Variable	Before COVID-19 M (SD)	During COVID-19 M (SD)	Cohen's d [95% CI]
Secure flourishing[a]	6.94 (1.59)	7.16 (1.39)	0.15 [0.06, 0.24]
1. Overall, how satisfied are you with life as a whole these days?	6.75 (2.24)	6.72 (2.12)	-0.01 [-0.12, 0.10]
2. In general, how happy or unhappy do you usually feel?	6.82 (1.96)	6.90 (1.85)	0.04 [-0.07, 0.15]
3. In general, how would you rate your physical health?	7.03 (2.03)	6.99 (2.07)	-0.02 [-0.12, 0.08]
4. How would you rate your overall mental health?	7.43 (2.14)	7.41 (2.02)	-0.01 [-0.11, 0.09]
5. Overall, to what extent do you feel the things you do in your life are worthwhile?	7.45 (2.29)	7.59 (1.95)	0.07 [-0.04, 0.17]
6. I understand my purpose in life.	7.52 (2.48)	7.68 (2.21)	0.07 [-0.02, 0.15]
7. I always act to promote good in all circumstances, even in difficult and challenging situations.	8.04 (1.64)	8.09 (1.48)	0.03 [-0.08, 0.14]
8. I am always able to give up some happiness now for greater happiness later.	7.41 (1.93)	7.57 (1.85)	0.08 [-0.04, 0.21]
9. I am content with my friendships and relationships.	7.14 (2.25)	7.65 (1.86)	0.25 [0.13, 0.36]
10. My relationships are as satisfying as I would want them to be.	6.59 (2.42)	7.15 (2.12)	0.25 [0.13, 0.36]
11. How often do you worry about being able to meet normal monthly living expenses?	5.27 (3.03)	5.79 (2.99)	0.17 [0.07, 0.27]
12. How often do you worry about safety, food, or housing?	5.88 (2.84)	6.43 (2.76)	0.20 [0.09, 0.31]

Note. T₁ = Time 1, T₂ = Time 2, CI = confidence interval, M = mean, SD = standard deviation. n = 279 for all analyses. [a]Secure flourishing scores are an average of the responses from item 1 through item 12.

Table S5

Associations of Secure Flourishing Assessed Before the COVID-19 National State of Disaster Declaration on March 15, 2020 (T$_1$) with Anxiety and Depression Symptoms Assessed During the COVID-19 Pandemic (T$_2$)

Exposure	Anxiety symptoms			Depression symptoms		
	β [95% CI]	E-values[a]		β [95% CI]	E-values[a]	
		Effect estimate[b]	CI limit[c]		Effect estimate[b]	CI limit[c]
Continuous score of secure flourishing	-.16 [-.27, -.04]***	1.58	1.24	-.22 [-.33, -.10]***	1.73	1.42
Number of secure flourishing domains above 50th percentile	-.17 [-.27, -.06]***	1.60	1.30	-.21 [-.32, -.11]***	1.73	1.44

Note. T$_1$ = Time 1, T$_2$ = Time 2, β = standardized effect size, CI = confidence interval. Generalized linear models were used to estimate effects of secure flourishing on the mean change in anxiety symptoms and depression symptoms. Exposure and outcome variables were standardized ($M = 0$, $SD = 1$) to facilitate interpretation. $n = 279$ for all analyses. Models adjusted for age, gender, racial status, marital status, religious status, education level, and geographic location assessed at T$_1$. All models included prior values of both outcomes assessed at T$_1$. *$p < .05$ before but not after Bonferroni correction, ***$p < .05$ after Bonferroni correction (the *p*-value cutoff for Bonferroni correction was .05/2 = .025 for each outcome). [a]The formula for calculating *E*-values can be found in VanderWeele and Ding (2017). [b]*E*-values for effect estimates are the minimum strength of association that an unmeasured confounder would need to have with both the exposure and the outcome variable to fully explain away the observed effect, after accounting for the measured covariates. [c]*E*-values for the limit of the 95% CI closest to the null denote the minimum strength of association that an unmeasured confounder would need to have with both the exposure and the outcome variable to shift the confidence interval to include the null value, after accounting for the measured covariates.

References

VanderWeele, T. J., & Ding, P. (2017). Sensitivity analysis in observational research:

Introducing the E-value. *Annals of Internal Medicine*, *167*(4), 268–274.

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