


Flourishing During the COVID-19 Pandemic: A Longitudinal Study in South Africa

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Abstract

In this longitudinal study, we examine changes in psychological distress and multidimensional well-being from before to during the COVID-19 pandemic among South African adults. As a secondary purpose, we explore whether pre-pandemic flourishing is protective against subsequent psychological distress during the public health crisis. The analytic sample ($n = 293$; $M_{\text{age}} = 44.27$, $SD = 14.28$; female = 65.19%) completed measures of anxiety symptoms, depression symptoms, and well-being shortly before the stringent nationwide lockdown started in South Africa (T_1). A follow-up assessment was completed approximately 6 months later (T_2). Paired samples t -tests supported very small improvements in anxiety ($d = -0.09$) and depression symptoms ($d = -0.13$). For domains of well-being, small increases were found in close social relationships ($d = 0.25$) and financial and material stability ($d = 0.19$). Positive changes in the domains of character and virtue ($d = 0.10$) and meaning and purpose ($d = 0.07$) were very small. Changes in physical and mental health ($d = -0.03$) and life satisfaction and happiness ($d = 0.02$) were more negligible. Results from the generalized linear models indicated that continuous scores of secure flourishing assessed before the COVID-19 pandemic were associated with lower subsequent psychological distress (particularly depression symptoms) during the public health crisis. We discuss the implications of the findings for the development and delivery of interventions to promote and sustain human flourishing during public health crises, especially in contexts of social-structural vulnerability.

Keywords

COVID-19, anxiety, depression, flourishing, health, quality of life

Introduction

Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) emerged in December 2019 and rapidly became a global public health concern. Several countries instituted public health measures to limit or control community transmission of SARS-CoV-2 (Counted et al., 2021; Shiba, Cowden, Gonzalez, et al., 2022). Shortly after the World Health Organization declared coronavirus disease 2019 (COVID-19) a global pandemic, the South African government implemented one of the most stringent national lockdowns in the world (Counted et al., 2022; Govender et al., 2020). By the end of March 2020, businesses were forced to close or shift their operations online, academic programming at educational institutions was suspended, transportation and travel were severely restricted, and all social gatherings were banned as part of the public health measures that were implemented. Some measures were lifted after 10 weeks, but many stringent measures remained in effect until October 2020. Although the stringent national lockdown drastically altered the public and private lives of South Africans (Govender et al., 2020), few rigorous studies have investigated the impacts of the COVID-19 lockdown on different facets of well-being among the local population. In the present study, we use prospective data from a sample of South African adults to examine (1) changes in psychological distress and multidimensional well-being from before to during the COVID-19 pandemic, and (2) the role of pre-pandemic flourishing in protecting against psychological distress during the public health crisis.

Well-Being during the COVID-19 Pandemic

The COVID-19 pandemic upended many aspects of people's lives (e.g., work, social engagement, public religious/spiritual participation), leading to unprecedented resource loss that had the potential to disrupt different facets of well-being. Not surprisingly, existing research — most of which has been conducted in the North America, Europe, and Asia — suggests that the toll of the COVID-19 pandemic has resulted in psychological distress (e.g., elevated anxiety symptoms), lower psychological well-being (e.g., loss of meaning in life), worse physical health (e.g., lower sleep quality), financial/material instability, social isolation and disconnectedness, and disruptions in religious/spiritual life (Cowden et al., 2021; Daly et al., 2020; De Kock et al., 2022; Griffiths et al., 2021; Jacobi et al., 2022; Philpot et al., 2021; Shiba, Cowden, Gonzalez, et al., 2022; VanderWeele et al., 2021; Xiong et al., 2020). However, not all evidence corresponds with this picture of pandemic-related declines in well-being. For example, one cross-sectional study of Australian adults found that most participants reported being able to maintain overall well-being during the COVID-19 pandemic (up to August/September 2020, when the study was conducted), although there was variability in the percentage of participants who reported sustained well-being in different domains (Saikia et al., 2021). Similarly, a recent analysis of Gallup World Poll data indicated that reported life evaluation and happiness in 2020 were largely comparable

to the pooled average of 3 years (2017–2019) that preceded the COVID-19 pandemic (Helliwell et al., 2021).

Other studies have reported evidence suggesting facets of well-being may have improved relative to before the public health crisis. One cross-sectional study with a sample of MTurk workers reported evidence of an increase in sense of relatedness (i.e., feeling connected to significant others) during the early part of the COVID-19 pandemic, and that enhanced indirect communication with family members and friends through online technology was positively related to mental well-being (Cantarero et al., 2021). A longitudinal study in the U.K. reported an increase in mental well-being between March/April 2020 (O'Connor et al., 2021), when COVID-19 was declared a global pandemic. Relatedly, Recchi et al.'s (2020) longitudinal study of French residents found evidence of an increase in general health and subjective well-being from before to during the COVID-19 pandemic, which the authors referred to as the 'eye of the hurricane' paradox (i.e., those not directly affected by SARS-CoV-2 may have viewed their physical health and subjective well-being in a more positive light than they typically would).

Although there may be numerous reasons for the variation in findings across studies (e.g., differences in sample characteristics, government interventions, public health measures implemented, or local burden of COVID-19), one potentially important distinction between many studies is the timing of assessments. After a period of disruption that accompanied the acute and rapidly evolving initial phase of the COVID-19 pandemic, with time people may have been able to adjust to their circumstances and show improvements in their well-being. This theorizing resonates with conservation of resources (COR) theory, which suggests that people are likely to gain resources over time after experiencing resource loss (Hobfoll et al., 2018). The same principle can be applied to the COVID-19 pandemic, such that those whom the public health crisis has impacted might be able to regain or acquire, over time, the resources and skills needed to manage the resource loss they have encountered (Cornell et al., 2021; Counted et al., 2021). Some studies have provided evidence of this, with initial declines in indicators of well-being (e.g., negative affect, anxiety symptoms) during the early part of the COVID-19 pandemic gradually returning to pre-pandemic levels (Fancourt et al., 2021; Foa et al., 2022). Considering these findings, studies that employ longer lags between assessments of well-being from before to during the COVID-19 pandemic may find that changes in well-being are smaller compared to studies that use shorter lags because people would have had more time to adjust to pandemic-related conditions. In such instances, scores on assessments from before and during the public health crisis may be more similar.

Well-being in South Africa during the COVID-19 Pandemic

Unlike people in more developed contexts who generally had greater access to social-structural resources (e.g., high-quality health systems, economic impact payments) to support them during the COVID-19 pandemic, those in fragile social-structural

contexts (e.g., South Africa) may not have been able to rely as heavily on resources from their government to support their well-being as they navigated the public health crisis (Counted et al., 2022; Govender et al., 2020). Moreover, different countries were at various stages of the COVID-19 pandemic, and contextual conditions are likely to influence region-specific well-being outcomes. Therefore, context-specific evidence is needed to understand the unique impacts of the COVID-19 pandemic on the well-being of people living in different parts of the world, particularly in South Africa, where the COVID-19 pandemic has the potential to magnify pervasive social-structural vulnerabilities (e.g., high unemployment, economic inequality) that existed before its onset (Govender et al., 2020).

Several studies have reported on the implications of the COVID-19 pandemic on the well-being of South Africans. Some studies have focused on indicators of material/financial well-being. For example, research has shown that employment in the country declined by almost 20% between February and April 2020 (Casale & Posel, 2020). There was a similar decrease in the percentage of adults who earned an income during the stringent period of lockdown compared to before the COVID-19 pandemic (Statistics South Africa, 2020). Along similar lines, Turok and Visagie (2021) used nationally representative data to show that approximately 24% of peri-urban and township dwellers lost paid employment in April 2020 (see also Daniels & Casale, 2022). Other studies have addressed mental health or indicators of psychological well-being. For instance, one cross-sectional study of young adults revealed that 72% of participants across all South African provinces met the criteria for depression during the COVID-19 lockdown, which was significantly higher (12% in 2017) compared to before the public health crisis (Mudiriza & De Lannoy, 2020). Another cross-sectional study of South African university employees found that almost 28% of participants reported mild to severe psychological distress, with nearly 40% at risk of developing mental health problems (van Niekerk & van Gent, 2021). Extending beyond self-report survey data, one study of real-time Twitter data gathered during the first half of 2020 showed a negative association between the overall stringency of COVID-19 lockdown regulations and happiness in South Africa (Greyling et al., 2021).

Taken together, the abovementioned findings demonstrate the impact that the COVID-19 pandemic has had on the well-being of South Africans, but some important gaps remain. First, a majority of studies have explored well-being at a single time point during the COVID-19 pandemic (Mudiriza & De Lannoy, 2020). Such cross-sectional studies are generally unable to discern the temporal relation between the COVID-19 pandemic as a risk factor and well-being. Second, prior studies have typically focused on one or a few facets of well-being (e.g., financial/material security, anxiety symptoms), and a wider range of well-being outcomes is needed to paint a more complete picture of how the COVID-19 pandemic may have impacted individual well-being. In one study, O'Connor et al. (2021) reported an increase in mental well-being, relative stability in depression symptoms, and greater suicidal ideation, suggesting that the impacts of the public health crisis may vary by facet of well-being. Therefore, if we are to build a more holistic and robust understanding of how the COVID-19 pandemic has

affected the well-being of South Africans, longitudinal studies that track various indicators of well-being over time are needed.

Can Flourishing Protect Against Psychological Distress During the COVID-19 Pandemic?

Although there is little research concerning the impact of self-reported flourishing on psychological distress amid the COVID-19 pandemic, evidence from related literature (e.g., resilience) suggests that people with higher levels of flourishing might experience lower levels of psychological distress despite facing lockdown restrictions (Cowden et al., 2022). Similar to the role that protective resources can play in promoting positive adjustment following exposure to adversity (Davis et al., 2021; Höltge et al., 2021; Wilson & Somhlaba, 2016), research involving some indicators of flourishing suggests it could serve as a resource that enables people to effectively cope with the stressors arising from the COVID-19 pandemic. For example, one cross-sectional study of Austrian adults found that those who experienced social connectedness in the last week of a 6-week lockdown reported lower levels of perceived stress, generalized anxiety, and COVID-19-specific concerns (Nitschke et al., 2021). In another longitudinal study involving South African adults, participants who retained their jobs (a proxy for financial/material security) had lower depression than those who lost employment during the COVID-19 pandemic (Posel et al., 2021). These findings highlight the potential for indicators of flourishing (e.g., social relationships) to serve as resources that can mitigate psychological distress. Therefore, it is reasonable to assume that people who reported higher levels of well-being across a range of domains before the COVID-19 pandemic might experience lower psychological distress during the public health crisis.

The Present Study

In the present study, we use prospective data from a sample of South African adults to strengthen existing knowledge about the context-specific impacts of the COVID-19 pandemic on human well-being and illuminate potential opportunities to promote post-pandemic flourishing in contexts of social-structural vulnerability. Building on prior (predominantly cross-sectional) pandemic-related research that has explored the implications of the COVID-19 pandemic for the well-being (mostly mental health and financial/material security) of South Africans, this is one of the first longitudinal studies to estimate changes in psychological distress and multidimensional well-being over 6 months from before to during the public health crisis among South Africans. We expected to find some evidence of elevated psychological distress and a decline in well-being compared to before the COVID-19 pandemic, although some variability was anticipated across the outcomes. As a secondary objective, we explore the potential for pre-pandemic flourishing to protect against subsequent anxiety and depression symptoms during the COVID-19 pandemic. We expected that higher levels of secure

flourishing before the public health crisis would be associated with lower subsequent psychological distress approximately 6 months later.

Method

Study Sample

This study used two waves of data from a longitudinal research project on forgiveness, religion/spirituality, and well-being in South Africa (<https://osf.io/r86ac/>). Consumer databases were used to recruit South African citizens through email and instant messaging. Individuals who responded to an initial request for participation were directed to a secure web-based platform and presented with further details about the research. After providing electronic informed consent, participants completed an online baseline survey at Time 1 (T_1) that lasted approximately 45 minutes. Six months later, all participants who completed T_1 were re-contacted to request their participation in an online follow-up survey at Time 2 (T_2). All participants completed both surveys in English. Institutional ethical approval to conduct this study was granted by the University of the Free State (UFS-HSD2019/2259/0212) and the University of Pretoria (T070/19).

Data collection at T_1 followed a staggered enrolment process from December 5, 2019 to May 26, 2020, during which 590 participants completed the survey. Approximately 2 months of the T_1 data collection period overlapped with the strict national lockdown instituted in South Africa on March 27, 2020. This meant that a portion of the participants ($n = 78$) did not complete T_1 before the nationwide level five lockdown began. Given the severe and stringent nature of the initial lockdown period in South Africa (Counted et al., 2022; Govender et al., 2020), we attempted to minimize the potential confound of the T_1 participation date by making an a priori decision to exclude from the current study those participants ($n = 78$) who completed T_1 after March 26, 2020. Therefore, the sample in this study was restricted to $n = 512$ participants who completed T_1 between December 5, 2019 and March 26, 2020.

Of the 512 participants who completed T_1 before March 27, 2020, $n = 219$ (42.77%) were lost to follow-up. We used independent samples t -tests and Chi-square tests of independence to compare the baseline characteristics of participants who remained in the cohort to those who were lost to follow-up (see Supplemental Table S1). Participants who were older, identified racially as White, and resided within the province of Gauteng had a higher likelihood of being retained over time ($ps \leq .021$). No other statistically significant differences were identified ($ps > .05$). Participants in the analytic sample completed the T_2 survey between May 27, 2020 and October 8, 2020, which was an average of 6.00 months ($SD = 0.68$) after T_1 .

Sociodemographic characteristics of the analytic sample ($n = 293$) are reported in Table 1. Participants included males (34.81%) and females (65.19%) ranging from 18 to 77 years of age ($M_{\text{age}} = 44.27$, $SD = 14.28$). Most participants resided in the province of Gauteng (71.33%). A majority of the sample was White (55.29%), married

Table 1. Baseline Sociodemographic Characteristics of Participants in the Analytic Sample ($n = 293$).

Characteristic	
Age (years), $M \pm SD$ (range)	44.27 \pm 14.28 (18 to 77)
Gender, n (%)	
Female	191 (65.19)
Male	102 (34.81)
Racial status ^a , n (%)	
Asian	1 (0.34)
Black	99 (33.79)
Coloured	21 (7.17)
Indian	8 (2.73)
White	162 (55.29)
Other	2 (0.68)
Education level, n (%)	
Less than high school	5 (1.71)
Completed high school	58 (19.80)
Postsecondary school certificate	11 (3.75)
Diploma or technical degree	44 (15.02)
Bachelor's degree	71 (24.23)
Postgraduate degree (e.g., Hons., M.A., M.D., Ph.D.)	104 (35.50)
Marital status, n (%)	
Married	158 (53.92)
Cohabiting	9 (3.07)
In a committed relationship	16 (5.46)
Single	75 (25.60)
Divorced	23 (7.85)
Separated	6 (2.05)
Widowed	6 (2.05)
Religious status, n (%)	
Christian	275 (93.86)
Buddhist	1 (0.34)
Ancestral, tribal, animist, or other traditional African religion	1 (0.34)
Hindu	1 (0.34)
Jewish	1 (0.34)
Atheist	1 (0.34)
Agnostic	4 (1.37)
Nothing in particular	3 (1.02)
Do not know	1 (0.34)
Prefer not to answer	5 (1.71)
Geographic location (province), n (%)	
Eastern Cape	7 (2.39)

(continued)

Table I. (continued)

Characteristic	
Free State	7 (2.39)
Gauteng	209 (71.33)
KwaZulu-Natal	40 (13.65)
Limpopo	5 (1.71)
Mpumalanga	1 (0.34)
North West	3 (1.02)
Western Cape	21 (7.17)

Note. *M* = mean, *SD* = standard deviation. Sociodemographic characteristics and subcategories that do not contain summary statistics were not assessed.

^aRace categories were adopted from [Statistics South Africa \(2016\)](#) to maintain consistency with general reporting practices on race in South Africa.

(53.92%), and had completed a bachelor's degree or higher (59.73%). Almost all participants self-identified as Christian (93.86%).

Measures

Brief Symptom Inventory 18. The BSI 18 was used to measure psychological distress. The 18-item instrument contains two subscales that assess self-reported symptoms of anxiety (e.g., “Feeling tense or keyed up”) and depression (e.g., “Feeling hopeless about the future”) experienced during the past 7 days ([Derogatis, 2001](#)). A five-point response scale (0 = *Not at all*; 4 = *Extremely*) is used to rate each item. In this study, participants completed all six items that form part of the depression subscale and five of the six items that correspond with the anxiety subscale.¹ We calculated anxiety and depression symptom scores by averaging responses to the items on the respective subscales.²

Secure Flourishing Index. The SFI contains 12 items and questions that collectively provide a comprehensive measure of well-being (e.g., “In general, how happy or unhappy do you usually feel?”) ([VanderWeele, 2017](#)). The first 10 items are evenly distributed across five underlying domains of flourishing (i.e., life satisfaction and happiness, physical and mental health, meaning and purpose, character and virtue, close social relationships). The final two items address the domain of financial and material stability, which is considered necessary for sustaining well-being over time ([Höltge et al., 2022](#); [Lee et al., 2022](#)). Items are rated on an 11-point response scale from 0 to 10, with orienting labels presented alongside anchor points at each end of the scale. Scores for each of the six domains were calculated by averaging responses to each of the respective two items. A secure flourishing score was obtained by averaging responses to all 12 SFI items.

Statistical Analysis

Changes in Psychological Distress and Well-being. Paired samples *t*-tests were performed to assess changes in anxiety symptoms, depression symptoms, and domains of well-being from before the nationwide COVID-19 pandemic lockdown in South Africa to 6 months later. Although reporting practices and recommendations for interpreting effect sizes vary considerably, we report Cohen's *d* and describe changes over time using [Funder and Ozer's \(2019\)](#) benchmarks of very small (0.10), small (0.20), medium (0.41), large (0.63), and very large (0.87). We supplemented the analyses involving domains of well-being with descriptive statistics for the 12 individual items and a secure flourishing score.

In sensitivity analyses, we replicated both sets of the above analyses with the subsample of participants who completed T_1 before the South African government declared COVID-19 a national disaster on March 15, 2020. We also used generalized linear modeling to test for mean differences in anxiety symptoms, depression symptoms, and domains of well-being among the full analytic sample from T_1 to T_2 , after adjusting for sociodemographic characteristics of age (continuous), gender (female, male), racial status (White, Black, other race), marital status (single, married or in a committed relationship), religious status (not religious, religious), education level (high school or less, postsecondary school education), and geographic location (Gauteng province, other province) assessed at T_1 , and then replicated the model with additional adjustment for T_2 date of participation.

Associations of Secure Flourishing with Subsequent Psychological Distress. Two generalized linear models were used to estimate the effects of secure flourishing assessed before the nationwide level five lockdown on subsequent anxiety and depression symptoms assessed during the COVID-19 pandemic (one outcome at a time). In the first model, the exposure was a continuous score of secure flourishing based on the average of all 12 flourishing items assessed at T_1 . The exposure for the second model was a count variable of secure flourishing that reflected the number of well-being domains (from 0 to 6) on which participants scored above the 50th percentile at T_1 . Both models adjusted for age, gender, racial status, marital status, religious status, education level, geographic location, and prior values of both anxiety and depression symptoms assessed at T_1 .

We performed a sensitivity analysis that involved replicating both multilevel models among participants who completed T_1 before the South African government declared COVID-19 a national disaster on March 15, 2020. We also computed *E*-values to assess the robustness of the associations between secure flourishing and subsequent anxiety and depression symptoms in the full analytic sample to potential unmeasured confounding ([VanderWeele & Ding, 2017](#)). *E*-values estimate the minimum strength of association that an unmeasured confounder would need to have (on the risk ratio scale) with both the exposure and the outcome to explain away the exposure-outcome

association. The lowest possible *E*-value is one, in which case no unmeasured confounding would be needed to explain away the effect estimate.

Results

Changes in Psychological Distress and Well-being

For the primary analysis, descriptive statistics for anxiety symptoms, depression symptoms, and domains of well-being assessed before the nationwide level five lockdown and during the COVID-19 pandemic are reported in [Table 2](#). We found very small declines in symptoms of anxiety ($d = -0.09$, 95% CI: $-0.20, 0.01$) and depression ($d = -0.13$, 95% CI: $-0.24, -0.02$). Evaluating changes in domains of well-being, small increases were found in close social relationships ($d = 0.25$, 95% CI: $0.14, 0.36$) and financial and material stability ($d = 0.19$, 95% CI: $0.10, 0.29$). Positive changes in character and virtue ($d = 0.10$, 95% CI: $-0.01, 0.21$) and meaning and purpose ($d = 0.07$, 95% CI: $-0.02, 0.16$) were very small. Changes in physical and mental health ($d = -0.03$, 95% CI: $-0.12, 0.06$) and life satisfaction and happiness ($d = 0.02$, 95% CI: $-0.09, 0.12$) were more negligible. Changes in individual components of well-being over time were comparable to those found for the domains (see [Table 3](#)), with the largest (though small) effects found for the items in the close social relationships domain.

Table 2. Changes in Indices of Psychological Distress and Domains of Well-being from Before the National Level Five Lockdown on March 27, 2020 (T₁) to During the COVID-19 Pandemic (T₂).

Variable	Before COVID-19		During COVID-19		Cohen's <i>d</i> [95% CI]
	<i>M</i> (<i>SD</i>)	α	<i>M</i> (<i>SD</i>)	α	
Psychological distress					
Anxiety symptoms	0.97 (1.01)	.88	0.88 (0.94)	.87	-0.09 [-0.20, 0.01]
Depression symptoms	1.04 (0.98)	.87	0.92 (0.92)	.87	-0.13 [-0.24, -0.02]*
Well-being					
Life satisfaction and happiness	6.77 (1.99)	.87	6.80 (1.85)	.85	0.02 [-0.09, 0.12]
Physical and mental health	7.27 (1.81)	.75	7.22 (1.73)	.63	-0.03 [-0.12, 0.06]
Meaning and purpose	7.48 (2.23)	.84	7.62 (1.89)	.80	0.07 [-0.02, 0.16]
Character and virtue	7.71 (1.61)	.72	7.86 (1.42)	.60	0.10 [-0.01, 0.21]
Close social relationships	6.85 (2.25)	.92	7.37 (1.92)	.90	0.25 [0.14, 0.36]***
Financial and material stability	5.54 (2.70)	.80	6.06 (2.65)	.82	0.19 [0.10, 0.29]***

Note. T₁ = Time 1, T₂ = Time 2, CI = confidence interval, *M* = mean, *SD* = standard deviation, α = alpha estimates of internal consistency. $n = 293$ 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 3. Changes in Components of Well-being (and Secure Flourishing) from Before the National Level Five Lockdown on March 27, 2020 (T₁) to During the COVID-19 Pandemic (T₂).

Variable	Before COVID-19	During COVID-19	Cohen's <i>d</i> [95% CI]
	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)	
Secure flourishing ^{a,b}	6.94 (1.58)	7.16 (1.39)	0.15 [0.06, 0.24]
1. Overall, how satisfied are you with life as a whole these days?	6.73 (2.24)	6.72 (2.12)	-0.00 [-0.11, 0.10]
2. In general, how happy or unhappy do you usually feel?	6.80 (1.97)	6.87 (1.84)	0.04 [-0.07, 0.15]
3. In general, how would you rate your physical health?	7.07 (2.00)	7.02 (2.05)	-0.02 [-0.12, 0.07]
4. How would you rate your overall mental health?	7.47 (2.11)	7.42 (2.00)	-0.02 [-0.12, 0.07]
5. Overall, to what extent do you feel the things you do in your life are worthwhile?	7.45 (2.27)	7.57 (1.94)	0.06 [-0.05, 0.16]
6. I Understand my purpose in life	7.51 (2.45)	7.68 (2.20)	0.07 [-0.01, 0.16]
7. I Always act to promote good in all circumstances, even in difficult and challenging situations	8.02 (1.68)	8.11 (1.49)	0.06 [-0.05, 0.17]
8. I Am always able to give up some happiness now for greater happiness later	7.41 (1.96)	7.61 (1.86)	0.10 [-0.01, 0.22]
9. I Am content with my friendships and relationships	7.14 (2.23)	7.63 (1.86)	0.24 [0.12, 0.35]
10. My relationships are as satisfying as I would want them to be	6.56 (2.43)	7.11 (2.15)	0.24 [0.13, 0.35]
11. How often do you worry about being able to meet normal monthly living expenses?	5.25 (3.04)	5.73 (3.00)	0.16 [0.06, 0.26]
12. How often do you worry about safety, food, or housing?	5.84 (2.86)	6.39 (2.75)	0.20 [0.09, 0.30]

Note. T₁ = Time 1, T₂ = Time 2, CI = confidence interval, *M* = mean, *SD* = standard deviation. *n* = 293 for all analyses.

^aSecure flourishing scores are an average of the responses from item 1 through item 12.

^bEstimated internal consistency of scores on the secure flourishing index was $\alpha = .90$ at T₁ and $\alpha = .87$ at T₂.

The sensitivity analyses indicated that the changes observed for anxiety symptoms, depression symptoms, and each domain of well-being in the full analytic sample were similar after adjusting for sociodemographic characteristics and additionally for T₂ date of participation (Table S2). When we focused on the subset of participants who completed T₁ before the South African government declared COVID-19 a national disaster on March 15, 2020, changes in anxiety symptoms, depression symptoms, and

both the domains (Table S3) and components of well-being (Table S4) were consistent with those found in the full analytic sample.

Associations of Secure Flourishing with Subsequent Psychological Distress

Estimated effects of secure flourishing assessed before the nationwide level five lockdown on anxiety and depression symptoms assessed during the COVID-19 pandemic are presented in Table 4. Continuous scores of secure flourishing were associated with lower subsequent depression symptoms ($\beta = -0.17$, 95% CI: $-0.28, -0.06$), corresponding with a medium effect. A slightly smaller effect size was found for the association between continuous scores of secure flourishing and lower subsequent anxiety symptoms ($\beta = -0.09$, 95% CI: $-0.20, 0.02$). Effect sizes for both anxiety ($\beta = -0.13$, 95% CI: $-0.23, -0.02$) and depression symptoms ($\beta = -0.18$, 95% CI: $-0.29, -0.08$) strengthened marginally when secure flourishing was modeled as a continuous index representing the number of well-being domains on which participants scored above the 50th percentile.

Table 4. Associations of Secure Flourishing Assessed Before the National Level Five Lockdown on March 27, 2020 (T₁) with Anxiety and Depression Symptoms Assessed During the COVID-19 Pandemic (T₂).

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	-0.09 [-0.20, 0.02]	1.40	1.00	-0.17 [-0.28, -0.06]***	1.60	1.29
Number of secure flourishing domains above 50 th percentile	-0.13 [-0.23, -0.02]***	1.48	1.14	-0.18 [-0.29, -0.08]***	1.64	1.36

Note. T₁ = Time 1, T₂ = 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 and depression symptoms. Exposure and outcome variables were standardized ($M = 0, SD = 1$) to facilitate interpretation. $n = 293$ for all analyses. Models adjusted for age, gender, racial status, marital status, religious status, education level, and geographic location assessed at T₁. All models included prior values of both outcomes assessed at T₁. * $p < .05$ 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).

^aThe formula for calculating E-values can be found in VanderWeele and Ding (2017).

^bE-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.

^cE-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.

The *E*-values for each regression model indicated that the estimated effects of secure flourishing on subsequent anxiety and depression symptoms were modestly robust to potential unmeasured confounding (Table 4). For example, an unmeasured confounder would need to be associated with both secure flourishing (modeled as a continuous score reflecting the average of all 12 items) and depression symptoms by risk ratios of 1.60, above and beyond all the adjusted covariates, to explain away the observed association. Similarly, an unmeasured confounder would need to be associated with both secure flourishing (modeled as a continuous score reflecting the average of all 12 items) and depression symptoms by risk ratios of 1.29 to shift the confidence interval to include the null, but weaker confounding could not. *E*-value estimates were generally smaller for anxiety symptoms than for depression symptoms.

In the sensitivity analysis that focused on the subset of participants who completed T_1 before the South African government declared COVID-19 a national disaster on March 15, 2020, negative associations of secure flourishing (both as a continuous score and a continuous index representing the number of domains on which participants scored above the 50th percentile) with subsequent anxiety and depression symptoms were somewhat larger compared to those found in the full analytic sample (Table S5).

Discussion

This two-wave longitudinal study examined psychological distress and multidimensional well-being among a sample of South African adults over 6 months from before to during the COVID-19 pandemic. We observed two key findings. First, we found evidence of improvements in some of the psychological distress and well-being outcomes from before the stringent nationwide level five COVID-19 pandemic lockdown was implemented to during the public health crisis. Second, secure flourishing reported prior to the national lockdown was associated with a decline in subsequent depression symptoms (and to a lesser extent anxiety symptoms) during the COVID-19 pandemic.

Our findings supported modest improvements in anxiety symptoms, depression symptoms, and several domains of well-being compared to before the public health crisis, with the largest (though small) changes found for the well-being domains of close social relationships and financial and material stability. Although a number of previous studies have reported evidence of greater psychological distress (e.g., Xiong et al., 2020) and lower well-being during the COVID-19 pandemic (e.g., VanderWeele et al., 2021), one potential explanation for our findings is the timing of the follow-up assessments. Specifically, participants in our analytic sample completed the T_2 survey between the end of May and early October 2020 (between two and 7 months after the start of the level five nationwide COVID-19 lockdown in South Africa). By this stage of the public health crisis, many individuals might have managed to adjust psychologically to pandemic-related conditions and demonstrate evidence of recovery in well-being (Shiba, Cowden, Counted, et al., 2022). Indeed, prior research has documented evidence suggesting that people were generally able to adapt to pandemic-related circumstances over a relatively short period of time (Fancourt et al., 2021; Foa et al., 2022).

However, evidence of improvements in psychological distress and some domains of well-being from before the COVID-19 pandemic indicates the picture may be more complex than a mere return to homeostasis over time. According to the COR theory (Hobfoll, 2010; Holmgreen et al., 2017), people are motivated to foster the acquisition of resources (e.g., housing, employment, social support). When the nationwide level five lockdown was first instituted in South Africa, people encountered different forms of resource loss (e.g., reduction in income) or were restricted from accessing valued resources (e.g., places of significance) in broader environment (Counted et al., 2021; Cowden et al., 2022). Hence, many individuals were forced to acquire and draw on alternative resources to support their well-being. During the period of T₂ data collection in this study, the South African government incrementally adjusted the national lockdown from level five (in place until April 30, 2020) down to level one (beginning on September 21, 2020), enabling people to regain valued resources that they were restricted from accessing after the stringent level five lockdown was implemented. As a result, people may have benefitted both from pre-pandemic resources that became more readily available again once the lockdown had eased and newly acquired resources that materialized in the process of adapting to pandemic-related conditions (Cowden et al., in press).

The pattern of findings observed in this study may also reflect the socioeconomic standing of the participants in our study. Although the COVID-19 pandemic significantly disrupted the lives of South Africans as a whole, research suggests that individuals with lower levels education were at increased risk of becoming unemployed during the public health crisis because they were less likely to be employed in jobs that could be performed remotely once the nationwide lockdown was instituted in South Africa (Daniels & Casale, 2022; Turok & Visagie, 2021). Almost 60% of the participants in our analytic sample had completed a university degree, which is significantly higher than the average education level of the broader population of adults in South Africa (Ranchhod & Daniels, 2021). Therefore, it is possible that participants in our sample were more likely than the average South African to be employed in roles that could readily be performed remotely after the COVID-19 lockdown came into effect. Although the depth of our interpretation is limited by the data that were collected in this study, we speculate that working from home may have presented many participants with novel opportunities to strengthen facets of well-being during the public health crisis (e.g., being able to spend more quality time with significant others). For some individuals, the benefits of being able to work remotely during the COVID-19 pandemic (e.g., greater job security, lower risk of SARS-CoV-2 infection) hypothetically could have precipitated more favorable self-evaluations relative to others who weren't teleworking, which may have contributed to improvements in psychological distress and some domains of well-being compared to before the public health crisis (Maier et al., 2022). However, this theorizing requires further research.

In our secondary analysis that estimated the effects of pre-pandemic flourishing on anxiety and depression symptoms during the COVID-19 pandemic, we found that higher secure flourishing before the nationwide lockdown in South Africa was

associated with a moderate decline in subsequent depression symptoms and a small decline in subsequent anxiety symptoms during the public health crisis. This pattern of findings points to the protective capacity of flourishing as a stress-buffering mechanism that may reduce the impact of the COVID-19 pandemic on psychological distress. Our findings align with the broader pandemic-related literature on resilience-promoting protective factors (e.g., close significant others, spirituality, meaning) that have been found to support positive adjustment during the COVID-19 pandemic (Blanc et al., 2021; Giordano et al., 2022). By illuminating the protective potential of secure flourishing against subsequent psychological distress during this public health disaster, the findings of our study introduce the possibility that interventions aimed at promoting flourishing before disasters could support post-disaster adjustment after they have occurred. Further research is needed to identify the protective capacity of pre-disaster flourishing in other populations and contexts, both during this public health crisis and future disasters.

Practical Implications

Although this study's findings were generally consistent with improvements in psychological distress and well-being over time, we found some evidence of variation in the extent of change across the domains of well-being. For example, there was a small increase in close social relationships but a negligible change in life satisfaction and happiness. Our findings suggest that the impacts of the COVID-19 pandemic on domains of well-being may have been somewhat heterogeneous, highlighting the importance of assessing and tracking multidimensional well-being during a public health crisis (and other disasters). Monitoring multiple domains of well-being over time could be of considerable value to healthcare professionals who provide services to support individual well-being and policymakers who seek to make informed decisions about strategies that could effectively promote population well-being. South Africa's post-pandemic recovery journey will likely benefit from ongoing research that tracks multidimensional well-being at the national level.

The current study also found evidence of pre-pandemic flourishing serving as a buffer against the negative effects of the COVID-19 pandemic on psychological distress (particularly depression symptoms), suggesting that pre-disaster flourishing may play a protective role in reducing psychological distress during disasters. Therefore, it may be important for policies and public health initiatives in South Africa (and other contexts of social-structural vulnerability) to address well-being more holistically by focusing on the promotion of 'complete' well-being. If resources are more limited (as is often the case in developing countries), decisions will need to be made about which domains of well-being ought to be given top priority. A systems perspective of flourishing could provide a useful lens for guiding such decisions, which considers the dynamic interplay between the components that comprise flourishing. For example, evidence from a recent cross-cultural network analysis of flourishing (Höltge et al., 2022) suggests that when intervention opportunities are limited by resource

constraints, attempts to promote flourishing ought to focus on the domain/s of well-being that have the most and strongest positive relations with other domains. According to Høltge et al. (2022), one domain of well-being that evidenced more consistent and stronger associations with other domains across many countries was meaning and purpose, indicating that this domain may be a suitable target for promoting flourishing in resource-limited settings. However, interrelations between domains of well-being varied to some extent by country. Therefore, any efforts to cultivate flourishing in South Africa must be sensitive to contextual particularities (e.g., culture, structural issues) that might influence pathways to flourishing and could impact the effectiveness of interventions and other initiatives aimed at supporting the well-being of the local population.

Limitations

Although this study makes a useful contribution to the existing body of empirical literature on the implications of the COVID-19 pandemic for people living in contexts of social-structural vulnerability, there are several limitations. First, the rate of attrition was more than 40%, which can introduce selection bias if retained participants differ systematically from those who did not complete both T_1 and T_2 surveys. Descriptive analyses revealed some differences (e.g., age, racial status) between the characteristics of individuals who participated in both waves and those who dropped out, pointing to the possibility that measured (or unmeasured) factors could have biased the results. Second, our analytic sample was not representative of the South African population, as a majority of the participants were White, middle-aged, and college educated. Therefore, caution should be applied in generalizing our findings to the broader adult population of South Africans, and additional research is needed to explore whether this study's findings are transportable to other populations and contexts in Africa. Third, our findings are based on self-report measures, which may be subject to measurement error. Fourth, although *E*-values suggested that the associations we observed for our secondary analysis were at least moderately robust to unmeasured confounding, we cannot completely rule out the possibility that the associations of pre-pandemic flourishing with subsequent anxiety and depression symptoms may be biased due to potential unmeasured confounders (e.g., personality traits, physical activity).

Conclusion

The present study used two waves of longitudinal data from a sample of South African adults to examine changes in psychological distress and multidimensional well-being from before to during the COVID-19 pandemic, as well as to estimate the effect of pre-pandemic flourishing on reducing subsequent psychological distress during the public health crisis. The findings provided evidence supporting modest improvements in psychological distress and some domains of well-being from before to during the COVID-19 pandemic, with larger (though small) improvements found

for the well-being domains of financial and material stability and close social relationships. We also found that higher levels of pre-pandemic flourishing were associated with moderately lower subsequent depression symptoms (and to a lesser extent anxiety symptoms) during the COVID-19 pandemic. Overall, our findings extend the existing empirical literature on the implications of the COVID-19 pandemic for individual well-being among non-Western populations living in contexts of social-structural vulnerability, and highlight the potential for flourishing to serve as a resource that can protect against psychological stress during disasters.

Declaration of Conflicting Interests

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Data Availability

Data is available upon reasonable request.

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Supplemental Material

Supplemental material for this article is available online.

Notes

1. Due to a clerical error, the fourth anxiety item (i.e., “Feeling so restless you couldn’t sit still”) was not administered to participants.
2. One participant had a missing response to a single depression item at T₁. The T₁ depression symptoms score for this participant was based on the average of their responses to the other five items.

References

- Blanc, J., Briggs, A. Q., Seixas, A. A., Reid, M., Jean-Louis, G., & Pandi-Perumal, S. R. (2021). Addressing psychological resilience during the coronavirus disease 2019 pandemic: A rapid review. *Current Opinion in Psychiatry*, *34*(1), 29–35. <https://doi.org/10.1097/YCO.0000000000000665>
- Cantarero, K., van Tilburg, W. A. P., & Smoktunowicz, E. (2021). Affirming basic psychological needs promotes mental well-being during the COVID-19 outbreak. *Social Psychological and Personality Science*, *12*(5), 821–828. <https://doi.org/10.1177/1948550620942708>
- Casale, D., & Posel, D. (2020). *Gender and the early effects of the Covid-19 crisis in the paid and unpaid economies in South Africa*. National Income Dynamics (NIDS)-Coronavirus Rapid Mobile Survey (CRAM). <https://cramsurvey.org/wp-content/uploads/2020/07/Casale-Gender-the-early-effects-of-the-COVID-19-crisis-in-the-paid-unpaid-economies-in-South-Africa.pdf>
- Cornell, S., Nickel, B., Cvejic, E., Bonner, C., McCaffery, K. J., Ayre, J., Copp, T., Batcup, C., Isautier, J., Dakin, T., & Dodd, R. (2021). Positive outcomes associated with the COVID-19 pandemic in Australia. *Health Promotion Journal of Australia*, *33*(2), 311–319. <https://doi.org/10.1002/hpja.494>
- Counted, V., Cowden, R. G., & Ramkissoon, H. (2021). *Place and post-pandemic flourishing: Disruption, adjustment, and healthy behaviors*. Springer. <https://doi.org/10.1007/978-3-030-82580-5>
- Counted, V., Pargament, K. I., Bechara, A. O., Joynt, S., & Cowden, R. G. (2022). Hope and well-being in vulnerable contexts during the COVID-19 pandemic: Does religious coping matter? *Journal of Positive Psychology*, *17*(1), 70–81. <https://doi.org/10.1080/17439760.2020.1832247>
- Cowden, R. G., Chen, Z. J., Fancourt, D., & Shiba, K. (in press). Can prayer during COVID-19 home confinement support psychological health after lockdowns end? A longitudinal study of UK adults. In V. Counted, H. Ramkissoon, L. E. Captari, & R. G. Cowden (Eds.), *Place, spirituality, and well-being: A global and multidisciplinary approach*. Springer.
- Cowden, R. G., Davis, E. B., Counted, V., Chen, Y., Rueger, S. Y., VanderWeele, T. J., Lemke, A. W., Glowiak, K. J., & Worthington, E. L. Jr. (2021). Suffering, mental health, and psychological well-being during the COVID-19 pandemic: A longitudinal study of U.S. Adults with chronic health conditions. *Wellbeing, Space and Society*, *2*, 100048. <https://doi.org/10.1016/j.wss.2021.100048>
- Cowden, R. G., Rueger, S. Y., Davis, E. B., Counted, V., Kent, B. V., Chen, Y., VanderWeele, T. J., Rim, M., Lemke, A. W., & Worthington, E. L. Jr. (2022). Resource loss, positive religious coping, and suffering during the COVID-19 pandemic: A prospective cohort study of US adults with chronic illness. *Mental Health, Religion and Culture*, *25*(3), 288–304. <https://doi.org/10.1080/13674676.2021.1948000>
- Daly, M., Sutin, A., & Robinson, E. (2020). Longitudinal changes in mental health and the COVID-19 pandemic: Evidence from the UK household longitudinal study. *Psychological Medicine*. Advance online publication. <https://doi.org/10.1017/S0033291720004432>

- Daniels, R. C., & Casale, D. (2022). The impact of COVID-19 in South Africa during the first year of the crisis: Evidence from the NIDS-CRAM survey. *Development Southern Africa*, 39(5), 605–622. <https://doi.org/10.1080/0376835X.2022.2116408>
- Davis, E. B., McElroy-Heltzel, S. E., Lemke, A. W., Cowden, R. G., VanderWeele, T. J., Worthington, E. L. Jr., Glowiak, K. J., Shannonhouse, L. R., Davis, D. E., Hook, J. N., Van Tongeren, D. R., & Aten, J. D. (2021). Psychological and spiritual outcomes during the COVID-19 pandemic: A prospective longitudinal study of adults with chronic disease. *Health Psychology*, 40(6), 347–356. <https://doi.org/10.1037/hea0001079>
- De Kock, J. H., Latham, H. A., & Cowden, R. G. (2022). The mental health of healthcare workers during the COVID-19 pandemic: A narrative review. *Current Opinion in Psychiatry*, 35(5), 311–316. <https://doi.org/10.1097/YCO.0000000000000805>
- Derogatis, L. R. (2001). *Brief symptom inventory 18: Administration, scoring and procedures manual*. NCS Pearson.
- Fancourt, D., Steptoe, A., & Bu, F. (2021). Trajectories of anxiety and depressive symptoms during enforced isolation due to COVID-19 in England: A longitudinal observational study. *The Lancet Psychiatry*, 8(2), 141–149. [https://doi.org/10.1016/S2215-0366\(20\)30482-X](https://doi.org/10.1016/S2215-0366(20)30482-X)
- Foa, R. S., Fabian, M., & Gilbert, S. (2022). Subjective well-being during the 2020–21 global coronavirus pandemic: Evidence from high frequency time series data. *PLOS ONE*, 17(2), Article e0263570. <https://doi.org/10.1371/JOURNAL.PONE.0263570>
- Funder, D. C., & Ozer, D. J. (2019). Evaluating effect size in psychological research: Sense and nonsense. *Advances in Methods and Practices in Psychological Science*, 2(2), 156–168. <https://doi.org/10.1177/2515245919847202>
- Giordano, F., Cipolla, A., & Ungar, M. (2022). Building resilience for healthcare professionals working in an Italian red zone during the COVID-19 outbreak: A pilot study. *Stress and Health*, 38(2), 234–248. <https://doi.org/10.1002/SMI.3085>
- Govender, K., Cowden, R. G., Nyamaruze, P., Armstrong, R. M., & Hatane, L. (2020). Beyond the disease: Contextualized implications of the COVID-19 pandemic for children and young people living in Eastern and Southern Africa. *Frontiers in Public Health*, 8, 504. <https://doi.org/10.3389/fpubh.2020.00504>
- Greyling, T., Rossouw, S., & Adhikari, T. (2021). The good, the bad and the ugly of lockdowns during Covid-19. *PLOS ONE*, 16(1), Article e0245546. <https://doi.org/10.1371/JOURNAL.PONE.0245546>
- Griffiths, D., Sheehan, L., van Vreden, C., Petrie, D., Grant, G., Whiteford, P., Sim, M. R., & Collie, A. (2021). The impact of work loss on mental and physical health during the COVID-19 pandemic: Baseline findings from a prospective cohort study. *Journal of Occupational Rehabilitation*, 31(3), 455–462. <https://doi.org/10.1007/s10926-021-09958-7>
- Helliwell, J. F., Huang, H., Wang, S., & Norton, M. (2021). World happiness, trust and deaths under COVID-19. In J. F. Helliwell, R. Layard, J. D. Sachs, J.-E. De Neve, L. B. Akin, & S. Wang, *World happiness report* (pp. 13–56). Sustainable Development Solutions Network.
- Hobfoll, S. E. (2010). Conservation of resources theory: Its implication for stress, health, and resilience. In S. Folkman (Ed.), *The Oxford handbook of stress, health, and coping* (pp. 127–147). Oxford University Press. <https://doi.org/10.1093/OXFORDHBP/9780195375343.013.0007>

- Hobfoll, S. E., Halbesleben, J., Neveu, J. P., & Westman, M. (2018). Conservation of resources in the organizational context: The reality of resources and their consequences. *Annual Review of Organizational Psychology and Organizational Behavior*, 5(1), 103–128. <https://doi.org/10.1146/annurev-orgpsych-032117-104640>
- Holmgreen, L., Tirone, V., Gerhart, J., & Hobfoll, S. E. (2017). Conservation of resources theory: Resource caravans and passageways in health contexts. In C. L. Cooper & J. C. Quick (Eds.), *The handbook of stress and health* (pp. 443–457). John Wiley and Sons. <https://doi.org/10.1002/9781118993811.CH27>
- Höltge, J., Cowden, R. G., Lee, M. T., Bechara, A. O., Joynt, S., Kamble, S., Khalanskyi, V. V., Shtanko, L., Kurniati, N. M. T., Tymchenko, S., Voytenko, V. L., McNeely, E., & VanderWeele, T. J. (2022). A systems perspective on human flourishing: Exploring cross-country similarities and differences of a multisystemic flourishing network. *Journal of Positive Psychology*. Advance online publication. <https://doi.org/10.1080/17439760.2022.2093784>
- Höltge, J., Theron, L., Cowden, R. G., Govender, K., Maximo, S. I., Carranza, J. S., Kapoor, B., Tomar, A., van Rensburg, A., Lu, S., Hu, H., Cavioni, V., Agliati, A., Grazzani, I., Smedema, Y., Kaur, G., Hurlington, K. G., Sanders, J., Munford, R., & Ungar, M. (2021). A cross-country network analysis of adolescent resilience. *Journal of Adolescent Health*, 68(3), 580–588. <https://doi.org/10.1016/j.jadohealth.2020.07.010>
- Jacobi, C. J., Cowden, R. G., & Vaidyanathan, B. (2022). Associations of changes in religiosity with flourishing during the COVID-19 pandemic: A study of faith communities in the United States. *Frontiers in Psychology*, 13, 805785. <https://doi.org/10.3389/fpsyg.2022.805785>
- Lee, M. T., McNeely, E., Weziak-Bialowolska, D., Ryan, K. A., Mooney, K. D., Cowden, R. G., & VanderWeele, T. J. (2022). Demographic predictors of complete well-being. *BMC Public Health*, 22(1), 1687. <https://doi.org/10.1186/s12889-022-13769-7>
- Maier, C., Laumer, S., & Weitzel, T. (2022). A dark side of telework: A social comparison-based study from the perspective of office workers. *Business and information systems engineering*. Advance online publication. <https://doi.org/10.1007/s12599-022-00758-8>
- Mudiriza, G., & De Lannoy, A. (2020). *Youth emotional well-being during the COVID-19-related lockdown in South Africa*. Southern Africa Labour Development Research Unit. https://www.opensaldru.uct.ac.za/bitstream/handle/11090/991/2020_268_Saldruwp.pdf?sequence=1.
- Nitschke, J. P., Forbes, P. A. G., Ali, N., Cutler, J., Apps, M. A. J., Lockwood, P. L., & Lamm, C. (2021). Resilience during uncertainty? Greater social connectedness during COVID-19 lockdown is associated with reduced distress and fatigue. *British Journal of Health Psychology*, 26(2), 553–569. <https://doi.org/10.1111/bjhp.12485>
- O'Connor, R. C., Wetherall, K., Cleare, S., McClelland, H., Melson, A. J., Niedzwiedz, C. L., O'Carroll, R. E., O'Connor, D. B., Platt, S., Scowcroft, E., Watson, B., Zorzea, T., Ferguson, E., & Robb, K. A. (2021). Mental health and well-being during the COVID-19 pandemic: Longitudinal analyses of adults in the UK COVID-19 Mental Health and Wellbeing study. *British Journal of Psychiatry*, 218(6), 326–333. <https://doi.org/10.1192/bjp.2020.212>

- Philpot, L. M., Ramar, P., Roellinger, D. L., Barry, B. A., Sharma, P., & Ebbert, J. O. (2021). Changes in social relationships during an initial “stay-at-home” phase of the COVID-19 pandemic: A longitudinal survey study in the U.S. *Social Science and Medicine*, 274, 113779. <https://doi.org/10.1016/J.SOCSCIMED.2021.113779>
- Posel, D., Oyenubi, A., & Kollamparambil, U. (2021). Job loss and mental health during the COVID-19 lockdown: Evidence from South Africa. *PLOS ONE*, 16(3), Article e0249352. <https://doi.org/10.1371/journal.pone.0249352>
- Ranchhod, V., & Daniels, R. C. (2021). Labour market dynamics in South Africa at the onset of the COVID-19 Pandemic. *South African Journal of Economics*, 89(1), 44–62. <https://doi.org/10.1111/saje.12283>
- Recchi, E., Ferragina, E., Helmeid, E., Pauly, S., Safi, M., Sauger, N., & Schradie, J. (2020). The “eye of the hurricane” paradox: An unexpected and unequal rise of well-being during the Covid-19 lockdown in France. *Research in Social Stratification and Mobility*, 68, 100508. <https://doi.org/10.1016/J.RSSM.2020.100508>
- Saikia, U., Dodd, M. M., Chalmers, J., Dasvarma, G., & Schech, S. (2021). COVID-19, individual wellbeing and multi-dimensional poverty in the state of South Australia. *PLOS ONE*, 16(6), Article e0252898. <https://doi.org/10.1371/journal.pone.0252898>
- Shiba, K., Cowden, R. G., Counted, V., VanderWeele, T. J., & Fancourt, D. (2022). Associations of home confinement during COVID-19 lockdown with subsequent health and well-being among UK adults. *Current Psychology*. Advance online publication. <https://doi.org/10.1007/s12144-022-03001-5>
- Shiba, K., Cowden, R. G., Gonzalez, N., Ransome, Y., Nakagomi, A., Chen, Y., Lee, M. T., VanderWeele, T. J., & Fancourt, D. (2022). Associations of online religious participation during COVID-19 lockdown with subsequent health and well-being among UK adults. *Psychological Medicine*. Advance online publication. <https://doi.org/10.1017/S0033291722000551>
- Statistics South Africa. (2016). *Community survey 2016 in brief*. Statistics South Africa. http://cs2016.statssa.gov.za/wp-content/uploads/2017/07/CS-in-brief-14-07-2017-with-cover_1.pdf
- Statistics South Africa. (2020). *Quarterly employment statistics*. Statistics South Africa. <http://www.statssa.gov.za/publications/P0277/P02771stQuarter2020.pdf>
- Turok, I., & Visagie, J. (2021). COVID-19 amplifies urban inequalities. *South African Journal of Science*, 117(3/4). <https://doi.org/10.17159/SAJS.2021/8939>
- VanderWeele, T. J. (2017). On the promotion of human flourishing. *Proceedings of the National Academy of Sciences*, 114(31), 8148–8156. <https://doi.org/10.1073/PNAS.1702996114>
- VanderWeele, T. J., & Ding, P. (2017). Sensitivity analysis in observational research: Introducing the E-value. *Annals of Internal Medicine*, 167(4), 268–274. <https://doi.org/10.7326/M16-2607>
- VanderWeele, T. J., Fulks, J., Plake, J. F., & Lee, M. T. (2021). National well-being measures before and during the COVID-19 pandemic in online samples. *Journal of General Internal Medicine*, 36(1), 248–250. <https://doi.org/10.1007/s11606-020-06274-3>
- van Niekerk, R. L., & van Gent, M. M. (2021). Mental health and well-being of university staff during the coronavirus disease 2019 levels 4 and 5 lockdown in an Eastern Cape university,

- South Africa. *South African Journal of Psychiatry*, 27, a1589. <https://doi.org/10.4102/sajpsychiatry.v27i0.1589>
- Wilson, A., & Somhlaba, N. Z. (2016). Psychological well-being in a context of adversity: Ghanaian adolescents' experiences of hope and life satisfaction. *Africa Today*, 63(1), 84–103. <https://doi.org/10.2979/africatoday.63.1.04>
- Xiong, J., Lipsitz, O., Nasri, F., Lui, L. M. W., Gill, H., Phan, L., Chen-Li, D., Iacobucci, M., Ho, R., Majeed, A., & McIntyre, R. S. (2020). Impact of COVID-19 pandemic on mental health in the general population: A systematic review. *Journal of Affective Disorders*, 277, 55–64. <https://doi.org/10.1016/J.JAD.2020.08.001>

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