



# Mental Health and Well-Being During the First vs. Second COVID-19 Pandemic Lockdown in Cyprus

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**Abstract:** *Introduction:* Following the onset of the COVID-19 pandemic, most countries imposed strict governmental lockdowns. Research investigating the psychological impact of pandemic-induced lockdowns is accumulating, though to date no study has examined the psychological health and associated parameters of well-being in countries that underwent additional lockdowns as the pandemic continued into resurgence “waves.” *Aim:* The present study provides an overview of the psychological impact of COVID-19 across the two lockdowns in the Cypriot population. *Methods:* In total, 957 participants completed an online survey during the first lockdown, 134 of whom completed a similar survey again during the second lockdown. The outcomes assessed included stress, positive and negative affect, and well-being. *Results:* The results indicated no population-wide severe reactions in the participants. Repeated measures analyses showed similar mental health levels during both the first and the second lockdowns. Further inspection of participants’ scores indicated that, for all mental health variables, approximately half of the participants improved, while the other half deteriorated. *Discussion:* Perceived social support and psychological flexibility predicted most psychological outcomes during both lockdowns. Further research is necessary to understand the continuing effects of the pandemic and associated lockdowns on mental health.

**Keywords:** COVID-19, pandemic, psychological health, protective factors, lockdowns

The emergence of the COVID-19 virus in late 2019 with its quick spread and mortality rates led to the World Health Organization (n.d.) declaring a public health emergency and a pandemic in 2020. By August 2021, there have been 208.2 million confirmed cases and 4.4 million confirmed deaths (COVID-19 Coronavirus Pandemic, 2021). This pandemic transformed individuals’ lives in a way never before seen, including country-wide lockdowns and employment of strict health and social distancing policies (Pedersen & Favero, 2020). The threat of the virus and the need for extreme measures have fundamentally changed many positive situations, such as touching, hugging, or even going to bars and restaurants, into threatening ones, affecting everyday life and well-being (Gloster, Lamnisis, et al., 2020).

Following such dramatic changes, increased levels of anxiety and depression compared to prepandemic life are

expected (Presti et al., 2020). Lockdowns, in particular, led to reductions in overall activity levels, socialization, and pleasurable experiences, and have negatively impacted work, education, and childcare – known stress factors with wide-reaching consequences (e.g., Holt-Lunstad et al., 2015; van Eersel et al., 2020). In fact, numerous studies reported high levels of psychological distress, anxiety, depressive and posttraumatic stress symptoms during the COVID-19 pandemic (Luo et al., 2020; Vindegaard & Benros, 2020; Xiong et al., 2020). Though appearing counterintuitive, the forced reduction in activities especially during first lockdowns may have also resulted in certain benefits. Some may have regarded it as a much-needed vacation, offering a reprieve from everyday stress, an opportunity to sleep and engage in relaxing activities (De Bloom et al., 2013; Gloster, Lamnisis, et al., 2020). Findings from the

world-wide COVID-19 IMPACT project examining the effects of life changes because of COVID-19 indicated that 40% of participants reported flourishing mental health (Gloster, Lamnisos, et al., 2020).

Most reports on COVID-19 mental health impact present outcomes from the early days of the pandemic, during first lockdowns. However, further COVID-19 “waves” were experienced in most countries, leading to more lockdowns toward the end of 2020 (World Health Organization, n. d.). This meant that economies were further impacted, positive experiences and social interactions were again severely reduced, and pandemic fatigue begun to set in (Ala’ a et al., 2021; Brooks et al., 2020). While the first lockdown may have been seen as an opportunity to rest and recuperate, an unexplored empirical question arises of how mental health and well-being changed from first to second lockdown.

Cyprus represents a typical case of a clear first (March 2020) and second (December 2020) wave of infections. During the first wave, Cyprus implemented a strict lockdown lasting 2 months (stringency score: 92.59/100; Hale et al., 2021). During this time, citizens’ lives changed dramatically with flights suspended, all unnecessary business postponed or continuing from home, a night-time curfew, schools closed, students being taught online, and an allowance of a single time-limited daily pass to acquire basic supplies or exercise. The second wave led to a similar but less strict lockdown lasting another 2 months (stringency score: 84.26/100; Hale et al., 2021). Longitudinal nationwide data were collected during each of the lockdowns to examine whether psychological variables deteriorated as the pandemic continued. Deterioration of mental health and well-being may be of particular interest in Mediterranean countries, such as Cyprus, where social ties and interactions are an integral part of daily life and may have been more severely impacted by lockdown measures such as inability to socialize in-person, visit loved ones, or interact face-to-face with colleagues, compared to other more individualistic cultures (Litwin, 2010).

It is also important to identify potential protective factors that mitigate any negative impact and can be used to foster resilience. One such factor is perceived social support, which has been associated with improved mood, well-being, and quality of life (e.g., Golden et al., 2009; Panayiotou & Karekla, 2013). On an individual-difference factor level, psychological flexibility (the capacity to shift one’s behavioral repertoire to adapt to internal and situational demands – such as the COVID-19 pandemic – in order to pursue long-term values; Hayes et al., 1999; Kashdan & Rottenberg, 2010) has been shown to buffer the effects of stress (Gloster et al., 2017; Panayiotou et al., 2014) and major life events (Fonseca et al., 2020), and improve well-being (Gu et al., 2015). Both of these factors strongly predicted well-

being and positive mental health measures globally during the first lockdown (e.g., Dawson & Golijani-Moghaddam, 2020; Gloster, Lamnisos, et al., 2020).

Therefore, this study investigated the impact of the two COVID-19-induced lockdowns on psychological health in Cyprus. To this end, the first objective was to examine the levels of stress, positive and negative emotions, and well-being at each of the two lockdowns. The second objective was to investigate changes in psychological health outcomes between the two lockdowns. The last objective was to assess the effects of two protective factors – social support and psychological flexibility – on mental health and well-being at the two lockdown timepoints.

## Method

### Participants

The present study was part of the COVID-19 IMPACT project (see <https://ucy.ac.cy/acthealthy/en/COVID-19-impactsurvey>), an online longitudinal survey undertaken in 78 countries/regions to explore the impact of COVID-19 on mental health, health behaviors, and protective measures taken against the virus. The present study included only data from participants in Cyprus. Inclusion criteria were age  $\geq 18$  years and the ability to understand one of the 12 languages the survey was available in; there were no exclusion criteria. A power analysis (G\*Power) indicated that, for detecting a small effect size of .1, with  $\alpha$  at .05 and .80 power for *F* test multiple linear regression, at least 100 participants were sufficient for the current study. In total, 957 individuals completed the survey during the first lockdown (April–June 2020). Of these, 134 completed the survey again at the beginning of 2021, during the second lockdown (January–February 2021). The sociodemographic information of the participants can be found in Table 1.

### Measures

Established and validated measures were selected through consensus agreement by the members of the project. Participants first identified the country where they were presently living and then chose the language in which they wanted to complete the questionnaire in. Participants living in Cyprus during the first lockdown ( $N = 957$ ) chose to complete the survey in Greek (89%), English (9.2%), Turkish (0.3%), French (0.4%), and Finnish (0.1%); while all participants who completed the survey again during the second lockdown ( $N = 134$ ) did so in Greek (100%). For ease of identification, we present the English versions of the scales with their psychometric properties. Validated versions in any of the other languages selected by the participants are also presented. Any scales not validated in one of the languages

**Table 1.** Participants' sociodemographic characteristics and comparisons between participants who completed the survey once and those who took part in both data-collection points

	Overall (N = 957)	Participating once (N = 823)	Participating twice (N = 134)	Test statistic <sup>a</sup>	p	Effect size
Age				t = 1.29	.20	d = .12
Mean (SD)	33.13 years (12.42)	33.47 years (12.28)	32.02 years (10.97)			
Range	18–79	18–79	18–63			
Sex				$\chi^2 = .230$	.82	$\phi = .02$
Female	732 (76.5%)	630 (76.5%)	102 (76.1%)			
Male	223 (23.3%)	191 (23.2%)	32 (23.9%)			
Other	2 (0.2%)	2 (0.2%)	0 (0%)			
Education				U = 52,053	.28	r = -.10
Primary school	2 (0.2%)	2 (0.2%)	0 (0%)			
High school	135 (14.1%)	118 (14.3%)	17 (12.7%)			
University/College	238 (24.9%)	203 (24.7%)	35 (26.1%)			
Master/Postgraduate	309 (32.3%)	268 (32.6%)	41 (30.6%)			
Doctorate	96 (10.0%)	77 (9.4%)	19 (14.2%)			
Current student	443 (51.6%)	380 (46.2%)	63 (56.3%)	$\chi^2 = 1.10$	.29	$\phi = -.04$
Employment				$\chi^2 = 6.19$	.12	$\phi = .08$
Full-time	509 (53.2%)	432 (52.5%)	77 (57.5%)			
Part-time	143 (14.9%)	120 (14.6%)	23 (17.2%)			
Unemployed	252 (26.3%)	220 (26.7%)	32 (23.9%)			
Health professionals	121 (12.6%)	101 (12.3%)	20 (14.9%)	$\chi^2 = 1.07$	.30	$\phi = -.04$
Marital status				$\chi^2 = 8.59$	.13	$\phi = .10$
Single	397 (41.5%)	345 (41.9%)	52 (38.8%)			
Married	367 (38.3%)	314 (38.2%)	53 (39.6%)			
Have children	366 (38.2%)	317 (38.5%)	49 (36.6%)	$\chi^2 = .19$	.67	$\phi = .01$
Living arrangements				$\chi^2 = 2.23$	.69	$\phi = .05$
Alone	129 (13.5%)	113 (13.7%)	16 (11.9%)			
W/parents	327 (34.2%)	287 (34.8%)	40 (29.8%)			
Own family	479 (50.1%)	404 (49.1%)	75 (56%)			
Friends	22 (2.3%)	19 (2.3%)	3 (2.2%)			
COVID experiences				$\chi^2 = 1.52$	.22	$\phi = -.04$
Self	7 (0.7%)	7 (0.9%)	0 (0%)			
Significant other	27 (2.8%)	25 (3%)	2 (1.5%)			

Note. <sup>a</sup>Test statistics employed (effect size coefficient): (1) Independent samples t-tests = t (d), (2) Mann-Whitney U = U (r), (3) chi-squared test of independence =  $\chi^2$  ( $\phi$ ).

the survey was available in were translated using a standard forward-backward method by researchers fluent in both languages. Any queries or issues regarding translations were resolved via consensus in team meetings.

### Sociodemographic Characteristics

Sociodemographic information was collected including age, sex, marital status, education, and employment and whether participants, their partner or someone close to them had contracted COVID-19.

### Oslo Social Support Scale – 3 (OSSS-3; Kocalevent et al., 2018)

The OSSS-3 includes three items aiming to capture perceived social support: (1) “How many people are you so close to that you can count on them if you have great per-

sonal problems?” (2) “How much interest and concern do people show in what you do?” (3) “How easy is it to get practical help from neighbors if you should need it?” The questionnaire has satisfactory sensitivity and specificity (Shumye et al., 2019) with studies reporting acceptable internal consistency for its size in both English and Greek (e.g., Cronbach's  $\alpha = .64$ , Kocalevent et al., 2018;  $\alpha = .75$ , Pengpid & Peltzer, 2020;  $\alpha = .91$ , Shumye et al., 2019;  $\alpha = .69$ , Stylianidis et al., 2017). The items load onto a single factor, enabling the interpretation of the total score as an overall measure of social support with scores ranging from 3 to 14 (Kocalevent et al., 2018).

### Psy-Flex scale (Gloster, Block, et al., 2020)

Psy-Flex is a short state measure of psychological flexibility exhibited during the past week. It includes 9 items loading

on a single factor. Example items include: “I can look at hindering thoughts from a distance without having them control me” and “I face myself/others with tolerance, benevolence and compassion.” Items are rated on a scale from 1 = *very rarely* to 5 = *very often*, with higher scores indicating greater psychological flexibility (range: 9 to 45). PsyFlex has been evaluated in English and Greek across clinical and nonclinical samples with good psychometric properties (convergent validity, divergent validity, and reliability: Raykov estimation range .78–.97; Gloster, Block, et al. 2020; Paraskeva-Siamata et al., 2018).

### Perceived Stress Scale (PSS; Cohen, 1988)

This is a 10-item scale assessing perceived stressfulness of different situations encountered (example item: “In the last month, how often have you felt that you were on top of things?”). Items are rated on a scale from 0 = *Never* to 4 = *Very often*, with the scale providing an overall stress score (range: 0–40) and indicating one of three levels of stress (low: 0–13, moderate: 14–26, high: 27–40). Good psychometric properties including factorial validity, hypothesis validity, and internal consistency (Cronbach’s  $\alpha > .70$ ) have been reported in English and French (Lee, 2012), Turkish (Örücü & Demir, 2009), and Greek (Michaelides et al., 2016).

### Positive and Negative Affect Scale (PANAS; Watson et al., 1988)

PANAS was used to assess affect experience. It includes 20 word items used to describe emotions and feelings. Participants rate the extent they felt each emotion over the past week using a 5-point scale. Scores on positive-related items (e.g., interested, excited) provide a measure of positive affect, while scores on negative-related items (e.g., concerned, upset) provide a measure of negative affect. Five additional items were included to capture extra dimensions of negative affect because of the pandemic (bored, angry, confused, frustrated, lonely). The scale provides an overall score ranging from 10 to 50 for the positive affect scale and from 15 to 75 for the negative affect scale, with greater scores indicating greater positive/negative affect. The measure has been found to be reliable ( $\alpha > .80$ ; test-retest reliability) and valid (convergent and discriminant validity) in nonclinical and clinical samples in English (Crawford & Henry, 2004; Magyar-Moe, 2009) and Greek, with Cronbach’s  $\alpha > .85$  (Ferentinos et al., 2019).

### Mental Health Continuum Short Form (MHC-SF; Keyes et al., 2008)

The MHC-SF consists of 14 items providing an overall well-being score (0–70) and three subscale scores (emotional [0–15], psychological [0–25] and social [0–30] well-being). Items are rated on a 6-point Likert scale ranging from 0 = *never* to 5 = *everyday* (example item: “During the past

month, how often do you feel that you had experiences that challenged you to grow and become a better person?” [psychological well-being]). The scale has shown excellent internal consistency ( $\alpha > .80$ ), discriminant validity, and test-retest reliability (Lamers et al., 2011; Keyes et al., 2008). Similar findings have been found in French (Canadian), with internal consistency above .70 and Jöreskog’s rho reliability coefficient ranging from .79 to .90 (Doré et al., 2017), and Greek with good discriminant validity, internal consistency (Cronbach’s  $\alpha .91$ –.92) and composite reliability (Ferentinos et al., 2019).

## Procedure

To recruit participants for the study, we employed a range of methods. First, participating universities emailed the link to the online survey to academic staff and students and posted flyers with the survey link on their websites. Social media platforms were employed, where the study link was shared by participating universities’ pages, as well as by the pages of participating research labs. Additionally, to broaden the study sample beyond the academic community to those with different sociodemographic characteristics and older adults, the survey was disseminated in local press using newspaper articles, newsletters, and radio stations, in professional networks and professional groups’ e-mailing lists (e.g., doctors, psychologists), as well as local hospitals and health centers. Interested individuals completed the 20-minute questionnaire on Google Survey, where they had to provide digital informed consent before proceeding. At the end, participants were asked if they wanted to be contacted again to take part in the study’s follow-ups. Those who agreed provided their emails and were contacted 6–9 months later. Email accounts were used as participant IDs to connect data across timepoints, while also enabling the removal of accidental multiple replies by the same individuals. Data were collected between April–June 2020 (first lockdown) and January–February 2021 (second lockdown). Ethical approval for the project was obtained from the Cyprus National Bioethics Committee [ref: EEBK EII 2020.01.60].

## Method of Analysis

All data were analyzed using IBM SPSS Statistics (Version 25.0). Files were inspected for missing data and outliers. Demographic characteristics and levels of stress, positive and negative emotions, and well-being during the first lockdown were examined. To test for potential systematic differences between individuals who only participated once and those who participated in both lockdowns in descriptive characteristics and variables of interest at lockdown 1, independent samples *t*-tests, Mann-Whitney *U*-tests, and

**Table 2.** Lockdown 1 overall outcome variables and protective factors and comparison between participants who completed the survey once vs. twice

	Overall (N = 957)		Participating once (N = 823)		Participating twice (N = 134)		<i>t</i> <sup>a</sup>	<i>p</i>	<i>d</i>
	Mean (SD)	%	Mean (SD)	%	Mean (SD)	%			
Stress	17.10 (7.54)		17.05 (7.63)		17.07 (7.00)		-.02	.99	< -.01
Stress levels							.31	.76	.03
Low		32.9%		32.8%		33.6%			
Moderate		55.8%		55.7%		56.0%			
High		11.3%		11.4%		10.4%			
Affect									
Positive	30.87 (8.86)		30.87 (8.78)		30.84 (9.34)		.03	.97	< .01
Negative	30.10 (11.64)		30.12 (11.71)		29.73 (11.19)		.36	.72	.03
Well-being	41.63 (14.37)		41.70 (14.21)		41.22 (15.32)		.35	.72	.03
Emotional	10.08 (3.53)		10.10 (3.49)		9.98 (3.76)		.37	.71	.03
Social	11.58 (6.31)		11.59 (6.30)		11.49 (6.33)		.17	.88	.02
Psychological	19.97 (6.50)		20.01 (6.43)		19.75 (6.93)		.42	.69	.04
Protective factors									
Social support	9.74 (2.11)		9.76 (2.08)		9.63 (2.27)		.65	.52	< .01
Psychological flexibility	33.32 (5.44)		33.36 (5.44)		33.07 (5.45)		.56	.57	< .01

Note. <sup>a</sup>Test statistics employed: Independent samples *t*-tests.

chi-squared tests of independence were employed. Repeated measures analyses using paired samples *t*-tests were conducted on the 134 individuals who provided data during both lockdowns to evaluate how emotional responses changed from lockdown 1 to lockdown 2. Hierarchical multiple regressions were used to test the effects of the two protective factors on psychological outcomes at both lockdowns.

## Results

The participants' sociodemographic information are presented in Table 1. Overall, participants had a mean age of 33.13 years (*SD* = 12.42), with the sample consisting mainly of females (76.5%) and individuals having completed university/college (67.2%). More than half were working full-time (53.2%), with 12.6% of participants working as health professionals and the vast majority of participants living with other people (86.5%). Thirty-one participants (3.2%) reported having contracted COVID-19 or knowing someone who had during the first lockdown. Comparisons on sociodemographic characteristics between individuals who completed only the first survey and those who completed both indicated no significant differences between the two groups (Table 1).

Table 2 presents outcome variable scores and protective factors scores for participants during lockdown 1. Most participants indicated that they experienced moderate levels of stress (55.8%), with 11.3% indicating high levels of stress. Regarding affect, well-being, and protective factors, participants' averages were in the mid-levels (range: mid-low to

mid-high) of the possible range of scores. Comparisons between participants who completed the survey once and those who took part in both data collection points indicated no systematic differences between the two groups in any of the variables.

## Comparisons of Emotional Responses from Lockdown 1 to Lockdown 2

Repeated measures analyses were used to investigate changes in emotional responses (see Table 3). The results indicated very small deterioration on almost all measures employed, which was not significant for any of the outcome variables.

## Effects of Perceived Social Support and Psychological Flexibility

To investigate the effects of perceived social support and psychological flexibility on mental health and well-being during the two lockdowns, correlations between the variables of interest were calculated (see Table 4). Results indicated that the two protective factors were positively associated with positive affect and well-being and negatively associated with stress experienced and negative affect. These associations were significant for both timepoints, with the exception of social support with (1) positive affect and (2) well-being during the second lockdown. Associations between outcome variables at the two timepoints were not significant. Inspection of participants' change

**Table 3.** Comparisons between the two assessment timepoints (lockdown 1 vs 2) on psychological health outcomes for participants who provided data during both timepoints

	Lockdown 1 (N = 134)		Lockdown 2 (N = 134)		t	p	d
	Mean (SD)	%	Mean (SD)	%			
Stress	17.07 (7.00)		16.75 (7.90)		.35	.73	.02
Stress levels					.89	.38	.04
Low		33.6%		40.3%			
Moderate		56.0%		49.3%			
High		10.4%		10.4%			
Affect							
Positive	30.84 (9.34)		30.81 (9.32)		.03	.98	< .01
Negative	29.73 (11.19)		29.81 (11.73)		-.06	.95	< -.01
Well-being	41.22 (15.32)		41.13 (15.31)		.05	.96	< .01
Emotional	9.98 (3.76)		10.03 (3.43)		-.14	.89	-.01
Social	11.49 (6.33)		10.18 (5.88)		1.74	.08	.11
Psychological	19.75 (6.93)		19.46 (6.81)		.37	.72	.02

Note. <sup>a</sup>Test statistics employed: Paired samples *t*-tests.

scores indicated that, for all outcome variables, approximately half of participants improved and half deteriorated (increase in scores: 49.3% stress, 49.3% positive affect, 45.5% negative affect, 48.5% well-being).

Subsequently hierarchical regressions were employed, controlling for demographic characteristics (Table 5). The results indicated that psychological flexibility and perceived social support significantly explained all psychological outcomes at lockdown 1. This was also true for lockdown 2, with the exception of social support, which did not predict (1) positive affect and (2) well-being.

## Discussion

The current study examined stress, positive and negative affect, and well-being during the first two COVID-19-induced lockdowns in Cyprus. Measures of psychological outcomes during both lockdowns indicated that most participants reported moderate levels of stress, with approximately 11% of the sample reporting high levels. Positive and negative affect and well-being were in the mid-ranges of the scales employed. Compared with the lockdown 1 scores from the 78 countries participating in the COVID-19 IMPACT project, the average scores for the Cypriot population were similar on all measures. The present findings thus agree with world findings and do not point to population-wide severe reactions as a result of lockdown or quarantine (Brooks et al., 2020; Gloster, Lamnisos, et al., 2020). This is in direct contrast with the theoretical expectation that Mediterranean countries would show pronounced reactions to lockdown and social distancing measures limiting socialization (Litwin, 2010). It is possible that, because this pandemic was experienced globally, it

prompted a certain feeling of “togetherness” that may have acted as a buffer to more negative effects. The only exception was negative affect, which was higher in Cyprus compared to worldwide data from our project (Cypriot scores: 30.10/75, worldwide scores: 19.6/75), indicating greater levels of negative emotions experienced. Negative emotions, such as anger, hopelessness, and fear have been found to emerge in people experiencing crises, such as the COVID-19 pandemic (Dohrenwend, 2000; Zhu et al., 2021). Importantly, Cyprus experienced stricter lockdowns (stringency score: 92.59/100; Hale et al., 2021) than in many other countries, which may have contributed to the population feeling more negative emotions as a result. However, prepandemic data would be necessary to investigate whether these scores result solely from the current situation.

An investigation of changes in stress, emotions experienced, and well-being between first and second lockdown indicated on average no decline on any of the measures employed. This contrasts with other studies looking at comparisons between psychological outcomes before and during the pandemic, which showed mental health deterioration including increased anxiety and reduction in well-being (Kwong et al., 2020). However, to the best of our knowledge, no other study has looked at how psychological outcomes changed from first to second lockdowns associated with the COVID-19 pandemic.

Inspection of the correlations between the variables of interest at the two timepoints indicated no significant findings. Further analyses highlighted that approximately half of the participants' scores decreased on all outcomes from lockdown to 1 to lockdown 2 – an anticipated finding given the literature on negative impact of the pandemic on mental health and settling of pandemic fatigue (Ala'a et al., 2021; Brooks et al., 2020) – while the scores of the other half

**Table 4.** Intercorrelation matrix between stress, positive affect, negative affect, well-being, social support, and psychological flexibility during both lockdowns

	2	3	4	5	6	7	8	9	10	11
1. Stress (L1)	.02	-.52**	-.02	.70**	.09	-.48**	-.05	-.29**	-.60**	< .01
2. Stress (L2)	-	-.11	-.46**	.03	.70**	-.09	-.45**	-.13*	-.08	-.66**
3. Positive affect (L1)		-	-.01	-.42**	-.21*	-.79**	.06	.44**	.56**	.08
4. Positive affect (L2)			-	-.03	-.34**	.04	.82**	.02	.07	.62**
5. Negative affect (L1)				-	-.02	-.44**	-.06	-.30**	-.60**	-.04
6. Negative affect (L2)					-	-.19*	-.38**	-.20*	-.11	-.58**
7. Well-being (L1)						-	.03	.53**	.64**	.09
8. Well-being (L2)							-	.03	.07	.60**
9. Social support								-	.46**	-.01
10. Psychological flexibility (L1)									-	.12
11. Psychological flexibility (L2)										-

Note. 1. L1 = Lockdown 1 and L2 = Lockdown 2. 2. Psychological flexibility was captured using Psy-Flex, which is a state measure. Therefore, the Psy-Flex was also included in the second survey. \* $p < .05$ , \*\* $p < .01$ .

**Table 5.** Hierarchical regression analyses with psychological flexibility and perceived social support predicting stress, positive affect, negative affect, and well-being at each timepoint

Predictor	Outcome	<i>B</i>	<i>SE</i>	$\beta$	<i>t</i>	<i>p</i>	<i>R</i>	<i>R</i> <sup>2</sup>	$\Delta R^2$
	Stress (L1)					< .01	.54	.29	.23
Psychological flexibility		-.65	.04	-.57	-15.65	< .01			
Perceived social support		-.29	.10	-.08	-2.76	< .01			
	Stress (L2)					< .01	.67	.45	.44
Psychological flexibility		-.05	.14	-.04	-10.01	< .01			
Perceived social support		-.39	.34	-.11	-0.13	< .05			
	Positive affect (L1)					< .01	.62	.38	.30
Psychological flexibility		.79	.05	.49	17.55	< .01			
Perceived social support		.77	.11	.18	6.80	< .01			
	Positive affect (L2)					< .01	.62	.39	.39
Psychological flexibility		.10	.17	.06	8.79	< .01			
Perceived social support		.01	.40	< .01	0.50	.62			
	Negative affect (L1)					< .01	.54	.29	.25
Psychological flexibility		-1.04	.06	-.49	-16.46	< .01			
Perceived social support		-.42	.16	-.08	-2.61	< .01			
	Negative affect (L2)					< .01	.64	.41	.39
Psychological flexibility		-.08	.21	-.04	-v.39	< .01			
Perceived social support		-1.05	.50	-.20	-2.11	< .01			
	Well-being (L1)					< .01	.63	.39	.36
Psychological flexibility		1.28	.07	.49	17.64	< .01			
Perceived social support		1.83	.18	.27	10.02	< .01			
	Well-being (L2)					< .01	.61	.37	.34
Psychological flexibility		.20	.28	.07	8.33	< .01			
Perceived social support		.16	.66	.02	0.85	.40			

Note. 1. L1 = Lockdown 1, L2 = Lockdown 2. 2. Psychological flexibility measured at lockdown 1 for L1 variables and at lockdown 2 for L2 variables.

increased, a less expected finding. Given the limited research in this area, it is unclear whether this is a population-specific finding. A possible explanation may lie in the reduced stringency of measures during the second lockdown in Cyprus compared to the first lockdown, which may have led to a different impact on individuals depending

on work and other individual circumstances (84.26/100 vs 92.59/100; Hale et al., 2021). For example, individuals in certain lines of employment, such as small offices, were allowed to continue to go into work during the second lockdown, while others were once again asked to work remotely. This may have led to improved psychological outcomes for

the former and poorer outcomes for the latter compared to lockdown 1. Nonetheless, more research is required to investigate this.

In terms of protective factors, perceived social support and psychological flexibility significantly predicted all psychological outcomes in the first lockdown with a medium to large proportion of variance explained. This was also true for most outcomes in the second lockdown. This agrees with and reinforces the literature that social support and psychological flexibility can have a protective role in regard to mood and stress in difficult and stressful situations (Fonseca et al., 2020; Gloster et al., 2017; Panayiotou et al., 2014). The only exception was that social support did not predict positive affect and well-being during the second lockdown. These findings are also crucial for theory, as they may indicate that some social support protective effects can be overpowered by long-term stressful situations such as a pandemic (Ala'a et al., 2021). Nevertheless, there is a clear need for further research to answer this hypothesis.

The study's findings need to be considered in light of the project's limitations. The study employed an online self-report survey to collect data, thus, participants' responses may have been subject to response bias. Importantly, attrition levels were particularly high (second lockdown response rate: 14%). No systematic differences were found on sociodemographics and outcome variables between those who provided data at both timepoints and those who did not. The high attrition rate may reflect participants' weariness of the pandemic or even noncompletion by participants most affected by the virus. Future research using similar data collection techniques should incorporate retention methods including using systematic contact, providing incentives, and involving stakeholders who have direct contact with the target population (Robinson et al., 2007). Further, although different recruitment methods were employed, the sample was not representative of the country's overall population and probably underrepresented more vulnerable groups such as the elderly, first-line health professionals, and those most affected by the pandemic. For example, there was greater representation of females (76.5% females) and highly educated individuals (67.2% university/college degree). Research focusing on the effects of COVID-19 report that students – especially females – have a greater risk of mental health difficulties than older adults, including depression, anxiety, suicidal thoughts, and stress (Wang et al., 2020; Wathélet et al., 2020). It is possible, therefore, that the overall country population may have better psychological outcomes than what was found by the study because of sample overrepresentation of individuals who tend to fare worse under such stressful circumstances. Future research should try to obtain more representative samples by using random sample selection, involving local groups and incorporating alterna-

tive data collection methods (e.g., by hand, Robinson et al., 2007) to be able to draw more accurate conclusions about mental health outcomes.

The current study examined the psychological health outcomes of two lockdowns as a response to the COVID-19 pandemic in Cyprus. Limitations notwithstanding, the study provides valuable information on several levels. The findings highlight that not everyone has been similarly affected by the pandemic (e.g., 11% reported high levels of stress vs 33% low stress). While no significant changes were found between the two lockdowns on stress, negative and positive affect, and well-being, the results do indicate volatility in participant mental health between the two timepoints (improvement in some, deterioration in others). These results are imperative to health providers as they indicate the need to continuously (1) monitor psychological health in individuals as the pandemic progresses and (2) be on the lookout to identify and support those most affected by the situation. Perceived social support and psychological flexibility can be important protective factors that can be targeted and strengthened by public-health programs, with the aim of building resilience and mitigating risk. Further research is necessary to investigate changes in mental health during and following the pandemic to further allow investigation of its impact. Comparisons with countries with varying stringency of measures are also necessary to examine the effects of lockdowns on psychological health and well-being.

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### Open Science

Open Data: The information needed to reproduce all of the reported results are not openly accessible. The data are available on request from the authors.

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