

## **The Impact of the Covid19 Lockdown Measures on Mental Health and Well-Being and the role of Resilience: A Review of Studies in Cyprus.**

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### **ABSTRACT**

The worldwide pandemic caused by the outbreak of the COVID-19 virus is posing a drastic effect on individuals' mental and physical health. All around the world governments have implemented strict physical and social distancing measures to prevent contamination from the COVID-19 and flatten the epidemic curve. While these measures were deemed necessary by state-appointed epidemiologists, such preventive and strict actions require an evaluation of how they affect the mental health and well-being of people. The present project aims to describe the general mental health and well-being of individuals during the COVID-19 pandemic lockdown. It consists of a review of the findings of four studies exploring research questions on peoples' mental health and life satisfaction, the role of psychological resilience, hope, and adaptability as protective factors for mental health during the lockdown, but also the impact of social isolation on working mothers and the anxiety and stress of university students in their efforts to adjust to distance-learning. The four studies included in this review had a total sample of 957 subjects and took place in Cyprus between April and November 2020, amidst the lockdowns. All the studies we reviewed were quantitative with the application of various instruments that assess the quality of life (WHOQOL-BREF), general health (GHQ-28), life satisfaction (LSI), stress and anxiety (BAI), psychological resiliency (CD-Risk), hope (AHS) and adaptability (CAQ). In our review, we focused on finding answers regarding the extent to which the Covid-19 lockdown measures and social isolation impacted negatively people's quality of life and mental health, the social groups that were impacted the most from these measures but also the role of resilience as a protective process in times of the COVID19 adversity. A common aspect in the findings of all four studies was a deterioration in the mental health and quality of life of the participants. Resilience, hope and activity level were significant mediating factors in buffering the adverse impact of the lockdown and the social/physical distancing measures.

**KEYWORDS:** Covid-19, Hope, Mental Health, Resilience, Stress, Students, Well-being

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### **I. INTRODUCTION**

The United Nations Development Program (UNDP, 2020) declared the Covid-19 pandemic as much more than a health crisis. Under the current scenario, we face an extraordinary situation for the human beings of the 21st century. The state-imposed lockdowns, quarantines, and social/physical distancing measures have brought a sudden change in everything around us and have impacted the lives of every individual in one way or another; be it our work schedules, our social networks, our physical space, our homes, our school systems, and have led to entirely different dynamics of living. Studies show that the prolonged state-imposed strict physical distancing and lockdown measures are causing intense emotions such as sadness, loneliness, fear, sleep problems, panic attacks, severe depression, social dysfunction, and increasing anxiety in the population in all countries where they have been applied (Pfefferbaum & North, 2020; Wang et al., 2020, Rajkumar, 2020; Cao et al., 2020; Shah et al., 2020; Brooks et al., 2020). Such intense emotions prevailing over an extended period of over a year (March 2020-April 2021) can be overwhelming for various social groups. At the early phase of the outbreak of the COVID-19 in China, a survey demonstrated that 53.8% of respondents had a moderate or severe psychological response for the disease, 16.5% of the subjects stated that they had a moderate to severe level of depressive symptoms, and 28.8% of the participants reported the persistence of moderate to severe level of anxiety symptoms. Moreover, around 8.1% of respondents reported moderate to severe stress levels (Wang et al., 2020). Studies also suggested that both medical workers and the public have experienced psychological

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issues such as anxiety, depression, and stress due to an alarming increase in the number of confirmed cases and deaths (Liu et al., 2020; Xiand et al., 2020; Kang., et al., 2020). Evidence from studies conducted worldwide during the last twelve months has shown that these symptoms have not subsided; on the contrary, they show an increase.

In the timeline from March 2020 to March 2021, the development of the coronavirus pandemic in Cyprus followed four stages. The first period marked the import of the COVID19 virus to the island in early March 2020. The second phase brought the virus's spread and a consequent general lockdown to contain it (March 24th - May 21st, 2020). The third consisted of a reported total disappearance of the virus at the end of May, followed by a relatively "clean" summer 2020. The fourth and worst phase came in autumn 2020 and marked the virus's reappearance, leading to many cases and deaths. Thus, a second lockdown was imposed from October 2020, which continued through to the end of March 2021, following various strictness degrees in different island areas. A lockdown can be understood as an emergency protocol that usually prevents people from leaving an area. The citizens were not allowed to leave their houses unless they stated a fundamental reason. The lockdown was the primary mode that the Cyprus authorities implemented for community control of disease spread.

The practice of social distancing means staying home and away from others as much as possible to help prevent the spread of COVID-19. The concept of social distancing refers to avoiding close contact with others, maintaining a safe distance from other people, and prohibiting people's concentration in schools, restaurants, churches, shopping, and other areas which attract many visitors. When social distancing is also practiced with the family and friends' network it can be an annoying factor in both people's mental health and their quality of life (Van Bavel et al., 2020; Nguyen et al., 2020; Cao et al., 2020; Xu et al., 2020; Shimizu et al., 2020; Ho et al., 2020; Park et al., 2020).

Certain factors or processes such as psychological resilience may moderate or even reverse the negative impact of the stress factors created through extraordinary conditions, i.e., the current pandemic. Resilience is related to the individual's recovery from traumatic events, rebound after stressful situations and his/her overcoming difficulties. One may define psychological resilience as the ability to support or retrieve psychological well-being during or after addressing stressful conditions. Unfortunately, being less resilient to social threats, such as pandemics, may enhance the risk of developing psychiatric conditions. On the other hand, a significant perception of social support is associated with a reduced likelihood of developing psychological distress and psychiatric conditions (Cicchetti et al., 1993; Luthar, 1999; Grzankowska & Ślesieńska-Sowińska, 2016; Ogińska-Bulik, 2015). According to Raghavan et al. (2020), psychological resilience is based not only on the individual's traits and abilities to handle crises but also on the interdependence of the person with his environment, i.e., the relationships he develops and maintains with essential others in his life. Theory, practice, and research seem to conclude that the response to any stressful event will be significantly affected by the person's assessment of the situation, his ability to predict an effective way to address the challenges that the situation poses at the moment, as well as her ability to eventually integrate the experience in a positive way (Everly & Lating, 2013).

## **II. METHODOLOGY**

This paper is a review of four different research studies conducted in 2020-2021 in Cyprus. The findings of all four studies have been published in peer-reviewed academic journals in 2020 and 2021. We chose this method in the belief that a research review may create a firm foundation for advancing knowledge and facilitating theory development (Webster & Watson, 2002). By synthesizing research findings, one may provide evidence on a meta-level and reveal areas in which more research is necessary. This review of four different quantitative studies placed the following research questions:

- Q1. To which extent do Covid-19 lockdown measures and social isolation negatively affect people's quality of life and mental health?
- Q2. Which social groups are impacted the most from the physical distancing and social isolation measures?
- Q3. Is resilience a protective process against the adversities created by the Covid-19 social isolation and distancing measures?

### **2.1 Sample**

In the four studies we included in this review the sample reached a total of 957 participants. The demographic characteristics of the entire sample are summarized in Table 1.

**Table 1. Demographics of the sample**

	<b>Total sample</b>	<b>Men</b>	<b>Women</b>	<b>Majority Group</b>	<b>Age</b>	<b>Higher Education</b>	<b>Married</b>
Study 1	208	22%	78%	27-39 40-64	45% 37%	66%	48%
Study 2	205	0	100%	40-59	60%	85%	87%
Study 3	80	27%	73%	18-25	76%	100%	0%
Study 4	464	23%	77%	32-45	71%	85%	50%

The majority of the participants were of Cypriot origin or included permanent residents of the island (92%) and resided in urban areas. Most of the subjects had a university education: In two of the studies, 85% of the participants had tertiary education, in the third study, all participants were college students, whereas way over half of the first study subjects (66%) had a university degree. Furthermore, in the sample of 957 participants, all age groups ranging between 18 – 64 years of age were well represented; namely: The youth (18-25 years) constituted the majority (76%) in the third study. Regarding young adults (27-39), they formed the majority age group (45%) in the first survey but were also well represented in the fourth study. The age group of middle-aged adults 40-59+ was described in the first (37%) and second (60%) study. Women seem to be overrepresented in all four studies we reviewed. This might be because (a) the second study (Hadjicharalambous, et al., 2020b) targeted only women participants and (b) in the third study, the student respondents came from departments where women are traditionally overrepresented, i.e., Psychology, Primary, and Pre-primary Education, and Social work (Demetriou et al., 2021).

**2.2 Procedure / Data collection**

All four surveys in this review took place while the lockdown measures were in force. Therefore, they all adopted a web-based method and design for which researchers obtained approval from the Psychology and Social Sciences Department at Frederick University. The questionnaires were created either through Google-forms or the survey platform *Enklikanketa* and were posted for several days on Social Media platforms such as Facebook and Twitter. A short, introductory note informed the participants about each study's purposes before they were asked to complete the survey itself. The introductory note also included brief instructions regarding the completion of Likert-scales. Besides, in every one of the surveys under review, researchers administered a short personal information form (PIF) aiming to collect demographic data according to the research questions of each study, i.e., the participants' gender, age, marital status, family situation, place of residence, educational level, employment status, number of children in the family and family income. The participants answered all the questionnaires anonymously.

**2.3 Overview of Instruments**

The four studies we reviewed were quantitative with the application of standardized questionnaires in their Greek versions. The first study we included in this review (Demetriou et al., 2020) explored psychological resilience, hope, and adaptability when people experienced real or perceived possible danger. Researchers utilized two different self-report questionnaires, namely (1) the Connor-Davidson Resilience Scale (CD-RISK) to assess psychological resilience which comprises 25 items, each rated on a 5-point Likert scale (0-4), with higher scores reflecting greater resilience. The highest score possible on the CD-Risk scale is 100, and the lowest is 1. Items are grouped into the following five factors: Personal competence, high standards, and tenacity (8 items); Trust in one's intuition, tolerance of negative affect, and the strengthening effects of stress (7 items); Positive acceptance of change and secure relationships (5 items); Control (3 items); Spiritual influences (2 items) (Connor & Davidson, 2003). (2) The AHS (Adult-Hope-Scale) (Snyder, 1994) is a 12-item measure that assesses the respondent's level of hope. It includes two subscales that comprise Snyder's cognitive model of hope: (a) Agency (4 items) and (b) Pathways (4 items), and the remaining four items are fillers. Each item is answered using an 8-point Likert-type scale ranging from Definitely False to Definitely True. Researchers may either look at the results at the subscale level or combine the two subcategories to create an overall score of hope. Total Hope-scale scores range from a minimum of 8 to a maximum of 64. Snyder and his associates (1996) found Cronbach alphas of 0.79 to 0.95 for the overall state hope scale, 0.79 to 0.95 for the agency subscale, and 0.59 to 0.93 for the pathway subscale, therefore demonstrating strong support for the internal reliability (Lopez et al., 2000).

The second study we reviewed (Hadjicharalambous et al., 2020a) examined how working mothers reacted during the Covid-19 pandemic and how the state-imposed quarantine affected their quality of life, their health, and their resilience. Researchers administered two questionnaires, namely the World Health Organization Quality of Life (WHOQOL)-BREF (WHO, 1998), and the Self-evaluation Resilience Questionnaire (Resilience-Project EU, 2019), which assesses working mothers' resilience. The WHOQOL-

BREF (WHO, 1998) assesses the quality of life and includes 26 items. The questionnaire loads on four factors, namely: Physical health, Psychological health, Social relations, and Environment. Items are appraised on a five-point Likert scale, with scores from 1 to 5, where the person is asked to answer them considering himself and his life during the last two weeks. Possible scores on the short version of the WHOQOL questionnaire range from a low of 26 points to a high of 130 points. The second Questionnaire was the Self-evaluation Resilience Questionnaire (Resilience-Project EU, 2019), which includes 21 items and loads to the following seven factors: Perception, getting a grip of one's life, forming relationships, acceptance and optimistic thinking, orientation on solutions and aims, healthy lifestyle, and self-efficacy. The questions were measured on a Likert ten-point scale, with scores from 0 to 10. Possible scores on the self-evaluation resilience questionnaire range from a low of 0 (does not apply to me) to a high of 30 points (fully agree) for each of the seven categories.

The third study we considered in this review evaluated students' anxiety and stress levels while these young adults were trying to adjust to distance learning and while, at the same time, juggling their jobs with their studies (Demetriou et al., 2021). Data collection utilized Beck's Anxiety inventory and a self-report e-questionnaire, which was created especially for this study. Following the Personal Information Form, five items (7-10,15, 16) addressed the student's ability to adapt to the new distance learning methods of teaching and learning, the daily number of hours they attended online classes, their workload, and their general opinion on distance-learning. Items 11-14 addressed non-Cypriot students (Greek or other nationality) regarding whether they spent the lockdown with or away from their families. In part II of the Questionnaire, researchers assessed stress levels by applying Beck's Anxiety Inventory (BAI) (Beck, 1993). The questions used in this measure concern the common symptoms of anxiety experienced by the subject over the past week (including the day a person takes it) (Osman et al., 2002). It is designed for ages 17 years or older. Respondents reported the extent to which they have experienced each of the 21 symptoms in the week preceding their BAI completion. For every symptom item, there are four possible answer choices each with a corresponding value from 0 (not at all) to 3 (I could barely stand it). When each item's values are summed, they give an overall or total score in the range between 0 and 63 points. Total scores are interpreted as follows: A total score of 0 - 7 signifies a "minimal" level of anxiety; 8 - 15 a "mild"; 16 -25 a "moderate," and; 26 - 63 as a "severe" level. The BAI is considered a psychometrically sound instrument with the internal consistency (Cronbach's alpha) ranging from .92 to .94 for adults and test-retest (one-week interval) reliability is .75.

Finally, the fourth study (Hadjicharalambous et al., 2020b) assessed the psychological impact of the Covid-19 lockdown measures on Cypriots' quality of life and mental health utilizing the General Health Questionnaire-28 and the Life Satisfaction Inventory (LSI). The General Health Questionnaire – 28 (Goldberg and Hillier 1979; Garyfallos et al., 1991) is a self-report questionnaire, used to compare participants' current psychological state with their regular condition of psychological health. There are four possible answers per item (from 1 - not at all to 4- much more than usual). The instrument consists of four factors: (a) somatic symptoms, (b) anxiety/insomnia, (c) social dysfunction, and (d) severe depression. The possible score ranges from 28 as the lowest to 112 as the highest. When the score is high it reflects the general population's deficient psychological state. The Cronbach's alpha coefficients of reliability of the subscales are 0.82 to 0.92 while the internal consistency of the total scale is 0.92. The Greek version of the Life Satisfaction Inventory (LSI) (Muthny et al., 1990; Fountoulakis et al., 1997) assesses not only people's quality of life but also their social-economic situation, their employment status, and the family and married couples' life. The LSI consists of 13 questions and focuses on the participants' quality of life during their last week of the lockdown period. One may answer each question based on a Likert scale ranging from 1 = very disappointed to 5 = very satisfied. The minimum scale score ranges 13 and the maximum, 65. The scale shows good internal consistency assessed according to the Cronbach's Alpha 0.82. A higher score shows a higher quality of life (Table 2).

**Table 2. Descriptive Indicators and the Internal Consistency values of the tools**

Questionnaire	Authors Cronbach's alpha	Values in current research
CD-RISK	0.89	0.92
AHS	0.79-0.95	0.94
CAQ Covid Adaptation Questionnaire		0.86
WHOQOL BREF	0.93	0.94
Resilience Project EU	*1	0.89
Beck's Anxiety Inventory	0.92-0.94	0.92
General Health Questionnaire	0.92	0.90
LSI	0.82	0.85

\*1 Value was not available for the Resilience Project EU

## **2.4. Data analysis**

The four surveys in this review applied the SPSS 25.0 software package to analyze the collected data. In all the reviewed studies researchers conducted descriptive analyses to describe the demographic characteristics. Through the information provided in the participants' PIF they calculated the means, standard deviations, frequencies and the percentages. For the examination of the research questions data analysis included the following:

*Research Question 1:* Application of the two-way and the multivariate Anova (MANOVA) to compare means among the participants' demographic characteristics, their quality of life and their mental health; Pearson's correlation coefficient to explore whether correlations (positive or negative) could be found between participants' quality of life and their mental health (Hadjicharambous et al., 2020a).

*Research Question 2:* (a) Use of the statistical t-test analysis, one-way MANOVA, standard deviation, one-way ANOVA to compare (a) means between working and non-working students, students who adapted or not to distance-learning methods, and students who lived with or away from their family network during the lockdown in regards to their stress levels (Demetriou et al., 2021) and (b) means between married and single working mothers' resilience and quality of life, working mothers' residence, and age (Hadjicharambous et al., 2020a).

*Research question 3:* (a) Implementation of correlation analysis between the variables psychological resilience and hope by comparing the sample's means on the questionnaires CD-Risk and AHS and (b) Pearson's correlation coefficient to explore whether correlations (positive or negative) between resilience and hope under adversity were statistically significant (Demetriou et al., 2020) and whether correlations (positive or negative) could be found between working mothers' resilience and quality of life during the quarantine implementation in the Covid-19 pandemic (Hadjicharambous et al., 2020b).

## **III. RESULTS**

### **3.1 Extent to which the COVID-19 lockdown measures and physical/social isolation impacted people's mental health and quality of life negatively**

In answering our first research question, our reviewed findings illustrated that the lockdown and physical/social distancing measures constituted a significant aspect regarding the participants' mental health and quality of life. Hadjicharambous et al. (2020a) reported that data analysis from applying the General Health Questionnaire and the Life Satisfaction Inventory showed that more than one-third of their sample (37, 4%) perceived their quality of life as low. A relatively high percentage of participants (27, 7%) reported symptoms of insomnia/anxiety; 17,1% and 17, 7% of their subjects showed social dysfunction and complained of somatic symptoms, respectively; 15,6% reported mental health issues 8,7% presented severe depression. Further statistical analysis of the findings revealed the following trends: Participants who were physically going to work and those who stayed at home but remained idle experienced with greater frequency somatic symptoms, anxiety/insomnia, health, and mental issues, and a poorer quality of life than subjects who were working remotely from home. More specifically, regarding the dependent variable somatic symptoms [ $F(4,456) = 3,196$   $p < 0.01$ ], participants who were physically going to work ( $M=14.70$ ) and those who were idle at home ( $M=14.33$ ) experienced significantly more somatic symptoms ( $p < 0.01$ ) than those who worked remotely from home ( $M=13.19$ ). Researchers reported similar findings regarding insomnia/anxiety [ $F(4,456) = 2,266$ ], i.e., compared to those who regularly worked at the office ( $M=15.31$ ), or who were idle at home, ( $M=14.94$ ), subjects who worked remotely from home ( $M=13.60$ ) reported significantly less ( $p < 0.05$ ) symptoms of anxiety and insomnia. The same tendency was true regarding general health [ $F(4,456) = 2,609$ ], and quality of life [ $F(4,456) = 4,622$ ]. Namely, the subjects working remotely from home ( $M=51.88$  and  $M=44.89$  respectively) perceived their general health ( $M=51.88$ ) as well as their quality of life ( $M=44.89$ ) as significantly better ( $p < 0.05$  and  $p < 0.01$  respectively) in comparison to those who either worked at the office ( $M=55.70$  and  $M=41.78$  respectively) or those who were inactive at home ( $M=54.52$  and  $M=41.12$  respectively).

### **3.2. Which social groups are impacted the most from the physical distancing and social isolation measures?**

During the time(s) of implementing the restrictive lockdown measures, social isolation measures negatively impacted various social groups' quality of life. In this review, two social groups stand out, i.e., working mothers and university students.

*Working mothers:* Hadjicharambous et al. (2020b) examined how working mothers dealt with the changes in their daily routine caused by the state-imposed lockdown measures during the peak of the Covid-19 pandemic crisis and how these changes affected their quality of life, their health, and their psychological resilience. Findings resulting from the application of the WHOQOL-BREF (WHO, 1998) showed that more than half of the working mothers (53, 1%) assessed their general physical health as low. One-third of the participants (30, 3%) evaluated their psychological well-being as low, i.e., they felt that their beliefs about life, their levels of concentration, body image, and self-esteem deteriorated during the lockdown(s), and certain

negative emotions appeared more frequently. Similarly, 31, 3% of the subjects reported that their social relationships were impacted negatively, meaning that they experienced a deterioration concerning their relations, the social support from their immediate social network, and sexual relations. Moreover, 45% of the participating working mothers felt that the adequacy of their daily security, the hygiene in their living space, their financial security, and in general their environment suffered adverse consequences from the implementation of the lockdown measures. Such negative influences seem to be reflected in the mothers' assessment of their quality of life, as approximately one-third of the working mothers (30, 8%) came to view their life quality as low. Researchers also detected a statistically significant difference between younger working mothers and older working mothers [ $F(1,205) = 2.154, p < 0.05$ ]. Their findings demonstrated that mothers belonging to the older age group implemented a healthier lifestyle and better care of themselves during the lockdowns than younger mothers. On the other hand, younger mothers engaged in more activities and hobbies than the older ones [ $F(1,205) = 39.234, p < 0.001$ ] and viewed their quality of life as more enhanced.

*University students'* lives changed drastically due to the physical distancing and social isolation measures that led to switching from conventional learning to distance learning. Students were confined at home, and all teaching, learning, and evaluation took place online. Demetriou et al. (2021) reported that according to their findings, deriving from the application of Beck's Anxiety Inventory, one-third of the participating students (33,8%) recorded high levels, 56,8% moderate, and 9,5% low stress. Working students experienced more anxiety than those who did not combine studies with work. Specifically, 41, 5% of the employed students reported high anxiety levels compared to 24.2% of those who were unemployed at the time. Data analysis showed a statistically significant difference between working and non-working students regarding three variables of Beck's Anxiety Inventory, namely: "Difficulty in breathing" [ $F(2,79) = 16.352, p < 0.001$ ]; students working full-time jobs ( $M=1.83, SD=1.04$ ) felt more stressed out and experienced more frequent difficulty in breathing than those who did not work at all ( $M=1.36, SD=0.54$ ). Another statistically significant difference between working and non-working students appeared in the variable "Feeling Nervous" ( $F(2, 79) = 2.233, p < 0.05$ ). Working students reported more nervousness ( $M=1.89, SD=0.99$ ) than those who did not work ( $M=1.33, SD=0.58$ ). Additionally, working and non-working students showed a statistically significant difference in the variable "Inability to relax" [ $F(2, 79) = 2.345, p < 0.05$ ]. Working students had more frequent difficulty in relaxing ( $M= 1.81, SD=0.82$ ) than those not working ( $M=1.22, SD=0.45$ ) while pursuing their studies. Furthermore, findings showed that the process of adaptation to online classes contributed significantly to increased stress levels and yielded significant differences in the stress symptoms between students who had adapted to distance learning and those who were still struggling with it [ $F(2,79) = 15.976, p < 0.001$ ]. Those who reported a more straightforward adaptation to distance-learning methods reported fewer stress symptoms ( $M=27.44, SD=8.17$ ) than those who were still experiencing difficulties ( $M=43.25, SD=15.55$ ), who stated that they had more fear, difficulty in breathing, sweating, dizziness, and the feeling of asphyxia. However, data analysis showed that students' stress experience was significantly related to the number of hours they participated daily in online classes. I.e., students with 0-2 hours online classes reported 28,6% high and 14,3% low anxiety; those with 3-5 hours of online classes per day reported 32,1% high and 10,7% low stress. Students who participated in online classes for more than five hours per day showed the highest stress levels; namely, 45, 5% reported high-stress levels. The differences became more apparent in the frequency of specific stress symptoms; students who participated in online classes for only 0-2 hours daily showed significant differences regarding "Difficulty in breathing" [ $F(2,79) = 2.545, p < 0.05$ ] and "Feeling faint" [ $F(2,79) = 5.223, p < 0.01$ ]. Students who had two or fewer online hours had less frequent episodes of difficulty in breathing ( $M=1.38, SD=0.44$ ) and feeling faint ( $M=1.35, SD=0.52$ ) than those with five or more hours of online presence daily.

### ***3.3. Is resilience a protective process against the adversities created by the Covid-19 social isolation and distancing measures?***

Data analysis by Demetriou et al. (2020), assessing psychological resilience with the CD-Risk application, showed that in late April 2020, the overall resilience score of a sample of 208 Cypriots tended to be relatively high, ranging between 87 and 93/100 points. Furthermore, the researchers examined the same sample for the positive feeling of hope. The results derived from the application of Snyder's Adult Hope Scale (AHS) showed that the participants' overall level of hope ranged from 53 as the lowest and 62 as the highest score. The sample's mean on the AHS was 55.5 ( $SD = \pm 7.2$ ), showing that the overall level of hope at the time of the study was in the range from medium to high. Their findings also indicated a significant positive correlation between the subject's means on the Adult Hope Scale, their mean scores on the Resilience Scale, and their mean score on the Covid19-Adaptation-Questionnaire ( $r = 0.707, p < 0.01$ ). We also detected a significant positive relationship between adaptation during the Covid-19 quarantine measures and hope ( $r = 0.546, p < 0.01$ ). At the same time, participants with higher levels of resilience showed a significantly higher ability to adapt during the Covid-19 adversity ( $r = 0.858, p < 0.01$ ). In effect, when participants exhibited higher scores on hope, then their resilience also increased. The reverse was also proven significant, i.e., subjects with higher scores on resilience exhibited

at the same time elevated scores on hope but also a significantly higher ability to adjust to the extreme measure of the state-imposed quarantine (Table 3).

**Table 3: Resilience, Hope and Adaptation**

		Resilience	Hope	Adaptation Covid-19
Resilience	Pearson Correlation	1	0.707**	0.725**
	Sig. (2-tailed)		0.01	0.01
	N	205	205	205
Hope	Pearson Correlation	0.707**	1	0.546**
	Sig. (2-tailed)	0.01		0.01
	N	205	205	205
Adaptation	Pearson Correlation	0.725**	0.546**	1
	Sig. (2-tailed)	0.01	0.01	
Covid-19	N	205	205	205

A higher quality of life may lead to better coping and adapting mechanisms, ultimately resulting in better resilience within the individual (Nawas, 2014). Quality of life includes five dimensions: physical, material, social, emotional well-being, development, and activity. Data analysis by Hadjicharalambous et al. (2020a) showed a significant correlation between the quality of life and their samples' general health, somatic symptoms, insomnia/anxiety, severe depression, and social dysfunction. Participants with a better quality of life were found to have significantly fewer problems with somatic symptoms [F (4,457) = 4,741 p <0.01] and mental health issues [F (4,457) = 20,768 p <0.01], lower frequency in the appearance of depressive symptoms [F (4,457) = 39,573 p <0.01], insomnia and anxiety [F (4,457) = 14,080 p <0.01] while they also experienced less social dysfunction [F (4,457) = 3,294 p <0.05].

Findings from the application of the Self-evaluation Resilience Questionnaire (Resilience-Project EU, 2019) on working mothers showed that 35.1% of the participating working mothers assessed the levels of their psychological resilience as low (Hadjicharalambous et al., 2020b). However, since activity and development are components of the quality of life, data analysis of the same study in regards to working mothers' resilience and quality of life demonstrated statistically significant differences [F (1.205) = 39.234, p < 0.01] between younger and older working mothers regarding their activity levels, i.e., younger mothers engaged more frequently in activities and hobbies which resulted in an elevated perception of their resilience. Furthermore, researchers showed significant differences between mothers in rural and urban areas [F (1.206) = 1.988, p < 0.05], namely, working mothers residing in rural areas had higher resilience levels compared to those living in the cities. In the same context, mothers in rural areas had significantly more social relationships [F (1.206) = 3.277, p < 0.036] than working mothers in urban areas.

**Table 4: Correlation between mothers' resilience, physical health and quality of life**

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13
Perception of life	1	0.854**	0.693**	0.806**	0.778**	0.721**	0.766**	0.617**	0.749**	0.667*	0.662**	0.530**	0.591**
Getting a grip of one's life		1	0.713**	0.828**	0.807**	0.757**	0.801**	0.621**	0.723**	0.633*	0.628**	0.498**	0.507**
Forming Relationship			1	0.719**	0.700**	0.671**	0.663**	0.564**	0.670**	0.683*	0.696**	0.436**	0.437**
Acceptance and Optimistic thinking				1	0.825**	0.728**	0.818**	0.555**	0.730**	0.640*	0.674**	0.516**	0.571**
Orientation on solutions and aims					1	0.757**	0.827**	0.583**	0.742**	0.598*	0.631**	0.448**	0.501**
Healthy lifestyle						1	0.765**	0.570**	0.759**	0.598*	0.671**	0.467**	0.464**

Self-efficacy	1	0.621**	0.754**	0.575*	0.643**	0.447**	0.489**
Physical health		1	0.719**	0.518*	0.670**	0.422**	0.420**
Psychological health			1	0.680*	0.765**	0.551**	0.575**
Social relations				1	0.693**	0.502**	0.573**
Environment					1	0.500**	0.567**
Quality of life						1	0.635**
General Health of							1
the last two weeks							

As shown in Table 4 when resilience was treated as a variable then significant positive correlations were detected with various other variables indicating that when the levels of resilience were elevated then scores on perception of life, forming relationships, acceptance and optimistic thinking, orientation on solutions and aims, healthy lifestyle, self-efficacy, physical health, psychological health, social relations, environment, quality of life, health during the last two weeks were also significantly higher. Moreover, when quality of life was treated as a variable we detected significant positive correlations demonstrating that when quality of life was enhanced then perception of life, control of one's life, forming relationships, acceptance and optimistic thinking, orientation on solutions and aims, healthy lifestyle, self-efficacy, physical health, psychological well-being, social relations, environment, and general health of the last two weeks also tended to reach higher values.

#### IV. DISCUSSION

According to Xiao et al. (2020), infectious disease epidemics affect the physical health of infected people and impact the psychological health and well-being of the non-infected population. This review aimed to assess individuals' general mental health and well-being during the COVID-19 pandemic lockdown and the imposition of physical and social distancing measures as a means of the Cyprus government to contain the spread of the virus. The study also addressed the role of positive feelings and processes, such as hope, resilience and wellbeing in moderating these measures' adverse impact. We reviewed the findings of four studies by posing three research questions.

Our *first research question* addressed the extent to which the Covid19 lockdown and social isolation measures had adverse effects on people's mental health and quality of life. Our findings illustrated that over one-third of Cypriots evaluated their mental health and quality of life as low during the implementation of the measures mentioned earlier. In fact, subjects reported significantly frequent insomnia/anxiety, social dysfunction, and in fewer cases, depression. Earlier findings by Mei et al. (2011) showed that public health emergencies are associated with many adverse psychological effects, which can be expressed as anxiety, fear, and psychological dysfunction. Recent findings by Pfefferbaum and North (2020) support our results as they also show that the COVID19 pandemic has detrimental effects on each person's mental health, emotional and social functioning and that these psychosocial effects manifest as anxiety insomnia, and somatic symptoms. In our studies, these symptoms afflicted more those subjects who were either utterly idle at home or went out to work daily, but less those working remotely from home (Hadjicharalambous et al., 2020a). Surprisingly enough, people who were not restricted in their homes but commuted daily to work reported a poor life quality. One possible interpretation of these findings might be that the sample included many health care workers (medical staff, psychologists, and social workers) who came face-to-face with the COVID19 disease at work, thus causing them to experience anxiety and fear for their health. On the other hand, regarding the positive impact experienced by people working from home, Caramela's results (2020) illustrated that working from home not only benefited employees by eliminating their daily commutes but also increased productivity and led to healthier lifestyles. Various studies point out that telework can reduce turnover rates and increase employees' productivity, job engagement, and job performance (Vyas & Butakhieo, 2021).

Regarding our *second research question*, exploring whether specific social groups were more impacted than others by the lockdown and the physical/social distancing measures, our review revealed that working mothers and students exhibited many adverse psychosocial effects from implementing these measures. Findings showed that, indeed, approximately one-third of our working mothers not only assessed their psychological well-being as low but also perceived their beliefs about life, their levels of concentration, their body image, and self-esteem more negatively during the lockdown(s). Participants also experienced a deterioration concerning their relations, the support from their immediate social network, and sexual relations. Moreover, nearly half of the participating working mothers felt that, in general, their environment (daily security, hygiene in their homes)

suffered adverse consequences from the implementation of the lockdown measures. Mothers who felt that several parameters of their lives were impacted negatively during the lockdown(s) also came to view their life quality as low. Recent research results (Brooks et al., 2020; Felix et al., 2020; Polizzi et al., 2020; Singer, 2018) confirm our findings by demonstrating that the implementation of public health policies such as quarantine, social isolation, lockdown measures for significant periods might alter a person's everyday life significantly with both short- and long-term consequences for psychological distress and well-being. Regarding their physical and mental health, working mothers who stated that they were pleased with both their physical and mental condition also stated that they enjoyed a better quality of life, better cooperation with the family members, better social relationships, and a higher level of optimism for the future. Moreover, our findings established that age was a significant determinant of our participants' quality of life, showing that the quality of life of working mothers who belonged to the younger age groups was more negatively affected during the quarantine than older mothers. Van Bavel et al. (2020) underlined that the pandemic itself and the resulting preventive measures of self and social isolation have harmed people's interpersonal relationships and have caused severe problems in their health, resilience, and quality of life.

University students were the second social group, which suffered a negative impact on their psychological well-being due to the lockdown and social distancing measures, which prevented them from physically attending their classes. Results from Beck's Anxiety Inventory's application showed that one-third of the students experienced high-stress levels while more than half of the participants experienced medium stress during the lockdown time(s). The participating working students experienced significantly more anxiety and stress than those who did not have to juggle studies with work, manifested in somatic symptoms, such as difficulty breathing and general nervousness. At the same time, working students reported an inability to relax (Demetriou et al., 2021). Higher stress levels in students were also determined by Asif and her associates (2020), who found that anxiety was the most prevalent issue, followed by stress as the second most prevalent problem among her sample's college students. Fully employed students reported a more frequent appearance of fear, dizziness, and numbness than those that were not employed or worked part-time during the lockdown. Islam et al. (2020) have pointed to the disruption of regular income and employment as a critical factor in understanding the increased frequency of anxiety and depression in university students. It seems that student adaptation to online classes contributed to the increase in their stress levels. Demetriou et al. (2021) found significant differences in the stress symptoms between students who had adapted to distance-learning and those who were still struggling with it. Students who reported an easier adaptation to distance-learning methods reported fewer stress symptoms than those still experiencing difficulties. Moreover, students who had two or fewer online hours experienced fewer episodes of difficulty in breathing and feeling faint than those with five or more hours of online presence daily. Visnjic et al. (2018) also reported that the duration of exposure impacts stress and anxiety levels. Their analyses illustrated that mobile devices' intensity and modality could influence the university student population's mental health problems. Madhav and associates also showed that increased online activity amongst a cohort of 3,201 US students was associated with moderate-to-severe depression (2017).

As far as our *third research question* on whether resilience constitutes a protective process against the adversities created by the Covid-19 social isolation and distancing measures, findings by Demetriou et al. (2020) showed that after approximately two months following the implementation of the lockdown(s) and physical/social distancing measures the general levels of resilience as well as those of hope in the Cyprus population were medium to high, and detected a significant positive correlation between our participants' scores on the Adult-Hope-Scale with those on the Resilience Scale. Snyder (1994) argued that a person who has a high level of hope is more likely to accept challenges and to place his/her focus on success rather than on failure, while maintaining a positive emotional stance. In other words, when subjects exhibited higher scores on hope, their overall resilience was also higher. Similarly, higher scores on resilience resulted in elevated scores on hope. At the same time, participants with higher levels of resilience showed a significantly higher ability to adapt to the government-mandated lockdown and physical/social distancing measures. Furthermore, findings from the reviewed research (Hadjicharalambous et al., 2020b) showed that the working mothers' activity levels during the lockdown were a significant determinant of their resilience and their quality of life. Namely, working mothers who sought to engage in activities or hobbies during the time of extreme social isolation also had a positive mood and higher energy levels, resulting in a better quality of life than working mothers who remained less active. According to these active participants, they felt more satisfied with their physical and mental health, they had better social relationships, and had a more optimistic and confident outlook for the future. Working mothers who pursued hobbies and activities during the lockdown felt better cooperation with the family members and higher resilience to cope with the adverse conditions they were experiencing during the time. These research findings comply with those of Compas (2014), who also indicated that resilient individuals showed a higher level of social skills (demonstrated mainly in their communication skills), enjoyed more fulfilling relationships with others, and demonstrated empathy in the family context. Other research findings

(Xiang et al., 2020; Wang et al., 2020; Lee & You, 2020; Bishop, 2000; Fredrickson, 2001; Ogińska-Bulik & Juczyński, 2011) confirm the positive effects of resilient copings, such as higher levels of internal tranquility and optimism, more significant curiosity for the world, increased life energy and more openness to new experiences. As the World Health Organization poses, the concept of wellbeing is broad and is affected in a complex way by the psychological state, personal beliefs, physical health, social relationships of a person and their relationship to salient features of the environment they live in (1997).

## V. CONCLUSION

It has been argued that the vulnerability of COVID-19 may be dissimilar for different persons depending on their social groups, gender, age and socioeconomic status, occupation, health, education, ethnicity, history of physical and psychological illness (disabilities, heart problem, diabetes etc.), economic and social conditions, domicile and working conditions (Pan American Health Organization, 2019). This review of four different research findings showed that the psychological wellbeing of people in Cyprus is gradually deteriorating from the on-going extended lockdowns and measures of social and physical distancing that are imposed by the state on and off for over a year. Fiorillo and Gorwood (2020) posed that the pandemic will end but its effects will be felt for a long time, affecting mental health, the quality of life and the well-being of the general population, the healthcare professionals and the vulnerable people. Zandifar and Badrfam, (2020), Ivchenko et al., (2020) have also emphasized the importance of uncertainty, the severity of the disease, misinformation and social isolation, which cause people's stress to increase and mental illness to aggravate.

When Nietzsche (1888/1984) noted "that which does not kill us makes us stronger," he was saying something about the ability to confront adversity, to move beyond hardship and, in other words, to be resilient. We have come to use this expression in our everyday life, knowing that sometimes one does not necessarily come out of adversity flourishing and other times resilience will only apply to one area of our lives. Resilience is very relevant to understanding successful psychosocial coping with the adversities of the COVID19 in all groups of the population. It has the potential to be used as a defensive measure toward specific mental health conditions and plays a crucial role both in the prevention as well as in the mediation of the adverse psychosocial effects of the COVID19 pandemic.

Having shown the adverse effects of the lockdown(s) and the physical and social distancing measures on the population we suggest that the decisions regarding the containment of the pandemic are not only taken by consideration of the epidemiological terms but also taking seriously into consideration the expert opinions of psychologists, sociologists or social workers on the psychological and social impact of these measures on the population in general and on specific social groups in particular.

### *Limitations*

All reviewed research was carried out completely online, since it took place during the Covid-19 lockdown, physical distancing measures. As such, it was subject to all the possible limitations of online surveys, such as, for example survey fraud (Teitcher et al., 2015). Another drawback of online surveys is that certain populations are less likely to have internet access, thus restricting their access to online questionnaires. Indeed, since the call for the participation in the four surveys was made primarily through the social media, sampling ran the risk of having those participants who either had a good connectivity to the internet or who are usually active on social media platforms. Certain concerns regarding the overrepresentation of women are similar to those raised in other studies (McCray et al., 2005). Last but not least, none of the studies performed an IP address verification for their participants, so cases where multiple repetitive or similar IP addresses might have been involved were not eliminated.

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