

Research Article**MENTAL RESILIENCE AND MEANING OF LIFE IN STUDENTS DURING THE FIRST COVID-19 LOCKDOWN*****Georgia Konstantopoulou, Ourania Giannakopoulou, Panos Karamesinis, Eleni Mavroei and Manolis Mentis**

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Abstract

The global health crisis of the COVID-19 pandemic and the relevant social distancing and lockdown measures have had a negative impact on the mental and psychological health of students. According to a number of publications clinically significant symptoms of anxiety, prolonged stress, depression, PTSD, fear, loneliness, and worry are ubiquitous among students, while the sense of having lost their freedom and control over their lives constitute risk factors for reckless, self-harm or aggressive behavior. Studies show that mental resilience and the discovery of meaning in life may be remediation factors to help students adapt to adversities and regain control of their lives by evaluating the events in a more positive way and taking a more optimistic attitude. This study investigates how mental resilience and the search for meaning of life may reduce the depression and stress levels in students in an attempt to facilitate the understanding of the implications of the pandemic which impair the quality of life, and provide some extra tools for strengthening mental resilience and building a stronger sense of identity.

Keywords: COVID-19, Mental resilience, Meaning of life, Stress, Anxiety, Depression, PTSD.**INTRODUCTION**

At the time of writing this article, the COVID-19 (SARS-CoV-2 or coronavirus) pandemic has already been present for two years and is currently in full swing. This global health crisis, as a worldwide social reality, has affected all aspects of life and has placed a great burden on people's mental health internationally, with the two main immediate effects on mental health being prolonged stress and pandemic fatigue. In particular, during lockdown schools and universities were closed, all academic tasks were carried out through designated platforms, all transactions were conducted exclusively online and, all in all, every social activity was replaced by a digital mode of operation and communication. Consequently, personal and social identity was shaped in a digital environment, mostly by the social media, while the global common denominator was social distancing, which included domestic confinement and physical distance from friends and family members. This reality has also taken a toll on students who, having lost control of their lives, perceive it as a period of lack of freedom. They have been gradually losing their patience and building up anger and it seems very likely that they be led to reckless behaviors such as suicidal ideation or harming themselves and their loved ones. A study in Greece during the first lockdown showed that a significant proportion of the population reported clinically significant symptoms of anxiety and depression, while >45% suffered from clinically significant PTSD symptoms related to COVID-19 during the lockdown measures. The study also indicated that the vast majority of the participants were interested in the nature of the protective measures during the lockdown period and considered COVID-19 a serious, threatening and worrisome disease with a high probability of transmission, especially without the implementation of protective measures (Karaivazoglou *et al.*, 2021). Other studies have shown that public health emergencies can have many psychological effects on students,

which, among others, can manifest as anxiety, depression, fear and worry (Mei *et al.*, 2011; Konstantopoulou and Raikou, 2020; Kaparaunaki *et al.*, 2020). Similarly, in a study by Konstantopoulou *et al.*, (2020), it is indicated that the quarantine affected the psychological state of students, with 68.0% of them reporting moderate subclinical symptoms of anxiety and 32.3% reporting mild to moderate symptoms of depression. The elevated anxiety levels of students may be attributed to the gradual increase of social distancing owing to the quarantine, as anxiety disorders are more likely to occur and worsen in the absence of interpersonal communication (Xiao, 2020; Kmietowicz *et al.*, 2020). It is also worth noting, that in the same study 83.1% of students experienced clinically significant PTSD symptoms that appear to be related to COVID-19 (Konstantopoulou *et al.*, 2020). In this regard, a recent review revealed that psychological reactions associated with COVID-19 may include uncontrollable fear, pervasive anxiety, frustration, boredom and crippling loneliness. Clearly, these symptoms are associated with an impaired quality of life and a high probability of developing posttraumatic stress (PTSD), stress and depressive disorders (Serafini *et al.*, 2020). Pursuant to the above, Frankl (1959) argues that human behaviors are determined by how each person gives meaning to their existence (Frankl, 1959), thus it is not the events themselves that affect our psychological state but the attitude we choose to have towards them, i.e. the meaning we give them (Frankl, 1963). Frankl (1973) mentions three determining factors related to the discovery of a person's personal meaning. The first factor concerns the creative values which an individual experiences when realizing their goals and discovering their personal contribution to everything that happens in their lives. The second factor concerns the experiential values that an individual acquires when they experience something beautiful, good and true. The third factor concerns the behavioral values of an individual, which are related to their general perception of the world and the life they lead and are demonstrated through the way they manage the difficult and painful situations. To that effect, contemporary research in the Greek population associates the meaning of life with the involvement in meaningful relationships and the

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participation in social activities (Kleftaras and Psarra, 2012). According to Frankl (1967), when someone has not found the meaning of life and is not looking for it, they risk losing their psychological well-being and falling into an "existential vacuum". All this can lead to the appearance of symptoms of depression or even aggressive behavior. Moreover, a vast amount of research on people who have gone through traumatic experiences shows that mentally resilient people appear to have found meaning in their life (Tugade and Fredrickson, 2004). Hence, when someone is able to make sense of a traumatic experience and provide an explanation of the significance this experience has had in their life, they seem to adapt positively and there is no psychopathology developed (Steger, Kashdan, Sullivan and Lorentz, 2008).

In line with the aforementioned, resilience, deriving from the Latin verb "resilire" which means to recover or recover from stress, is defined as the ability to adapt positively in the face of significant adversity (Luhar *et al.*, 2000). Thus, resilient people are better at adapting to adversity and seem to perceive change more as a challenge than a threat. As an inherent characteristic of the human species with enormous importance for its survival through the millions of years of human evolution the concept of resilience is associated with various aspects of daily activity and human nature such as the sense of purpose, which is related to the ability to carry out our life plans and acquire communication and problem solving skills. In this context, since research and theory converge on the point that the events that cause stress and anxiety to individuals are related to the way they perceive and evaluate each situation, it is worth noting that for some individuals the difficult period of the pandemic has increased their levels of resilience. This fact has helped them raise their levels of awareness and acceptance, act in a healthy manner and be more understanding and mindful. Clearly, resilience also correlates to the search of meaning in life, as people who have found meaning in their lives have both stronger control over life and a stronger sense of faith, acceptance, commitment, enjoyment and generosity which in turn contribute to mental resilience. In this respect, a study carried out in Madrid after the bombings confirms the correlation between meaning in life and resilience. The study indicated that people who had a meaningful life were able to manage the event better and showed fewer symptoms of post-traumatic stress three months after the event (Steger, Frazier and Zacchanini, 2008). Pursuing this further, the meaning of life also affects the way people adapt to a situation since it helps them process the events, make sense of them and discover the positive aspects -even when some things are out of their control-, thus increasing their levels of resilience (Wong, Reker and Peacock, 2006). Although theoretical formulations and empirical data have shown that illness-related perceptions can have a strong negative influence on psychological and behavioral responses, namely stress reactions, increased adherence to protective measures i.e. personal hygiene, mask use, home disinfection, social distancing and vaccination (Norman *et al.*, 2005), a new recent study on COVID-19 indicated that adherence to protective measures was associated with fewer mental health symptoms. (Wang *et al.*, 2020). In this respect, in response to the rapidly increasing number of publications on the COVID-19 health crisis, the aim of the present study was to investigate the correlation between resilience and the negative mental and psychological impact of the pandemic in the students of the University of Patras and the affect that stress, depression and

the search of meaning in life has had on their mental health during the first lockdown.

METHODS

The present cross-sectional study was an anonymous online survey designed and conducted by the Department of Education Sciences and Social Work of the University of Patras, with the cooperation of the Special Office of Health Advisory Services of the University of Patras. The survey questionnaire was distributed through the social media in a Google Forms electronic format. The study was conducted between the dates of April 10 and May 4, 2020, during which the entire country was under a strict lockdown in an attempt to control the spread of the virus. The study protocol was approved by the Board of Directors of the Department of Education Sciences and Social Work of the University of Patras.

Instruments

The online survey included a brief description of the purpose and theoretical background of the study, an informed consent statement regarding the anonymous, confidential and voluntary nature of participation and a questionnaire which included the following domains: (a) sociodemographic and medical history data; (b) evaluation of the negative emotional state, specifically: depression, anxiety and stress Depression Anxiety Stress Scale 21, Dass 21 (Lovibond and Lovibond, 1995). (c) the Connor-Davidson quantitative measure of resilience (The Connor Davidson Resilience Scale [CD-RISC]) (Connor, Davidson and Lee, 2003) and (d) The Meaning in Life Questionnaire [MLQ]), (Steger, Frazier, Oishi and Kaler, 2006). All participants were asked to provide consent on the voluntary survey participation by answering a YES/NO question. The purpose of the Depression Anxiety Stress Scale 21, (Dass 21) was to assess the negative emotional state and specifically the depression of anxiety and stress. The final self-report scale consists of 21 items, namely a set of three self-administered scales designed to measure the negative emotional dimension of depression, anxiety and stress. The depression scale assesses distress, hopelessness, devaluation of life, self-depreciation, lack of interest/participation, anhedonia, and apathy. The anxiety scale assesses the autonomic nervous system arousal, musculoskeletal impact, anxiety as a state, and the subjective experience of the impact of anxiety. The stress scale is sensitive to levels of chronic nonspecific arousal. It assesses difficulty in relaxing, hyperarousal, irritability, irritability/hyperreactivity, and impatience. Participants state the degree to which they believe that each of the items is true for them (Lovibond and Lovibond, 1995). To quantitatively measure resilience in students and assess the variability of resilience, the resilience scale (The Connor- Davidson Resilience Scale [CD-RISC] was adapted to the following five factors: (1) personal competence, high standards, and persistence, (2) trust in personal instinct, patience with negative mood and empowering effect of stress, (3) positive acceptance of change and secure relationships, (4) control, (5) spiritual influences (Connor, Davidson and Lee, 2003). The Meaning in Life Questionnaire [MLQ] measured meaning in life. Its items do not overlap with the measures of depression and participants fill in the items of each questionnaire according to whether they consider that its content characterizes them (Steger, Frazier, Oishi and Kaler, 2006).

Statistical analysis

Statistical analysis was performed with the SPSS package for Windows (version 22.0). The appropriate statistical tool to perform the statistical tests is the Pearson(r) coefficient which can take values from -1 (complete negative correlation) to +1 (complete positive correlation), with the values closest to zero to mean lack of correlation. At the same time, in order to identify statistically significant correlations, the hypotheses were tested with a significance factor of 0.05. The DASS questionnaire 21 depression average was 3.41, which appears to be true most of the time to a particular degree or for a long period of time. Anxiety also appeared to be dominant as the average and was greater than depression at 3.72, while finally the stress factor was present to a lesser extent. In the mental resilience questionnaire, most participants answered "sometimes true" concerning tolerance ($M=3.24$), as was the case for the variables of acceptance ($M=3.49$) and control ($M=3.15$). Finally, regarding the variable of affect the results were equally neutral ($M=3.48$). In the meaning of life questionnaire, which assesses two factors, whether the person has meaning in life and whether they seek meaning in life, the average answered that they have a concrete meaning in their life $M=20.12$, yet their search for meaning in life was at higher levels $M=23.6$. Table 1.

RESULTS

A total of 1016 students in the University of Patras participated in the survey, of which 156 were men (15.4%) and 866 were women (84.6%). There is sufficient evidence to conclude that the correlation coefficient between depression with anxiety and stress is statistically significant because it is significantly different from zero (0.000), namely 0.587 and 0.575 respectively. Also, it can be seen that the variances between stress and anxiety are approximately equal as the correlation coefficient is positive (0.510) and $\text{sig}=0.000$. Hence, it can be deduced that there is statistical significance in all variables of the Depression Anxiety Stress Scale 21 (Dass 21) questionnaire. Concerning depression, male students exhibited slightly higher levels compared to female students (Women $M=3.392$, Men $M=3.565$), whereas men exhibited lower levels of stress compared to the females (men $M=2.811$ and women $M=3.248$). In contrast, it is observed that the ratio for anxiety was almost the same for both sexes, with men $M=3.722$ and women $M=3.727$. The results indicate that the correlation coefficient of almost all variables in the mental resilience questionnaire met conventional levels of statistical significance as $\text{sig}=0.000/0.001$, except for the variable of tolerance because $\text{sig}=0.822$ and the Pearson coefficient is 0.007. Table 2. Concerning the depression, anxiety and stress questionnaire, the internal consistency of the responses is verified to a high degree, making the questionnaire reliable. Similarly, the resilience questionnaire is equally reliable, and finally, the meaning of life questionnaire is also reliable to a lesser extent. Hence, it can be assumed that most of the time or for a long period of time the depression scale seems to be true to a particular extent. Anxiety also seems to dominate and finally stress seems to have existed to a lesser extent. Moreover, it was observed that the correlation coefficient indicated statistical significance and a strong relationship between depression and anxiety and stress. It was also revealed that the variances between stress and anxiety were approximately equal rendering therefore all categories of the questionnaire statistically significant. More specifically, regarding the

variable of depression, men were slightly more depressed than women, whereas they had a lower score in the stress variable compared to the more stressed female students. The results on the anxiety variable revealed that both sexes had almost the same anxiety levels, while concerning the variables of acceptance and control the average number of students answered that it was "sometimes true" for them. As previously noted, it was observed that the correlation coefficient of almost all variables of the mental resilience questionnaire met conventional levels of statistical significance, except for the variable of tolerance where it became evident that men are more positive than women. Similarly, the results regarding the variable of acceptance towards changes and secure relationships revealed that male students were more positive compared to female students, whereas women were more positive towards the variable of control. The meaning of life questionnaire assessed two factors. The first was whether the individual has meaning in life, and the second was whether they are looking for meaning. In this respect, the assessment results for both factors were statistically significant. However, while the results indicated that the average number of participants already had meaning in life, they revealed that the search for meaning in life was at higher levels in both groups of participants. In particular, the difference between female and male participants regarding the meaning of life was small, whereas concerning the search for meaning in life, it appeared that women look for it more than men. To study the relationship that resilience has with depression, anxiety and stress, and the meaning of life we used the Spearman's correlation coefficient of variables. The correlation of variables demonstrated a significant negative correlation between the resilience scale and the dimensions of "Depression", "Anxiety", and "Stress" as well as the overall score of the depression, anxiety, stress scale ($r(100)=-.51, p<.001$). In other words, higher levels of resilience were associated with fewer symptoms of depression, anxiety and stress. Regarding the correlation between resilience and meaning in life, the analysis showed that higher levels of resilience were related to a significantly lower score in the dimension of "Existence".

Limitations of the research

This study offers a theoretical framework and empirical assessment of the relation between resilience and the negative mental and psychological impact that the pandemic has had on the students at the University of Patras. It also constitutes a timely and comprehensive assessment on the affect that stress, depression and the search of meaning in life has had on the mental health of the students during the first lockdown. However, as in any study, there are several limitations which should be acknowledged. To begin with, in this research, as in any other correlation research, we can establish the existence or non-relationship between the variables, but we cannot answer why and how one variable affects the other. Therefore, since our results are based on correlations between the variables and not on causal relationships no causal conclusions can be drawn from the above results. Secondly, while the results were rigorously validated this research was based on quantitative data, while for a more detailed description of the variables both qualitative and quantitative methods should be used. Finally, although the study sample size ensured the precision of our estimates and empowered us to draw more solid conclusions the participants were adult students in the university of Patras and this fact may restrict the generalization of the results.

Table 1. Descriptive Statistics - Dass 21

	N	Minimum	Maximum	Mean	Std. Deviation
Depression	1016	1.00	4.86	3.4187	.70042
Anxiety	1016	1.00	5.00	3.7265	.77239
Stress	1016	1.00	4.71	3.1814	.84054
Valid N (listwise)	1016				
Descriptive Statistics - Mental resilience					
	N	Minimum	Maximum	Mean	Std. Deviation
Self-efficacy	1016	1.50	5.00	3.5422	.60673
Tolerance	1016	1.86	4.71	3.2431	.55312
Positive Acceptance	1016	1.60	5.00	3.4950	.69111
Control	1016	1.33	4.67	3.1588	.71545
Affect	1016	1.00	5.00	3.4818	1.07750
Valid N (listwise)	1016				
Descriptive Statistics - meaning of life					
	N	Minimum	Maximum	Mean	Std. Deviation
Meaning of life	1016	6.00	35.00	20.1230	4.84922
In search of meaning of life	1016	8.00	35.00	23.6683	6.08699
Valid N (listwise)	1016				

Table 2. Correlations

		Self-sufficiency	Forgiveness/tolerance	Positive acceptance	Control	Effects
Self-efficacy	PearsonCorrelation	1	.665**	.602**	.699**	.270**
	Sig. (2-tailed)		.000	.000	.000	.000
	N	1016	1016	1016	1016	1016
Tolerance	PearsonCorrelation	.665**	1	.588**	.604**	.007
	Sig. (2-tailed)	.000		.000	.000	.822
	N	1016	1016	1016	1016	1016
Positive Acceptance	PearsonCorrelation	.602**	.588**	1	.610**	.261**
	Sig. (2-tailed)	.000	.000		.000	.000
	N	1016	1016	1016	1016	1016
Control	PearsonCorrelation	.699**	.604**	.610**	1	.101**
	Sig. (2-tailed)	.000	.000	.000		.001
	N	1016	1016	1016	1016	1016
Affect	PearsonCorrelation	.270**	.007	.261**	.101**	1
	Sig. (2-tailed)	.000	.822	.000	.001	
	N	1016	1016	1016	1016	1016

** . Correlation is significant at the 0.01 level (2-tailed).

However, despite the abovementioned, the limitations of the present study do not reduce its importance since its results are a point of reference for further research.

Future research

The limitations of this research point towards topics to be addressed in the future and research should strive to lead the changes and further their understanding in order to provide substantially better evidence and more valuable information in various areas. Clearly intercultural and longitudinal future research could facilitate the investigation of the long-term psychological and mental impacts of the pandemic, while the emergence of more epidemiological studies may provide us with more factors that should be tested in the future. Therefore, although many questions still require answers, this study attempts to encourage progress in various areas. Some of these areas are the development of counseling and psychotherapeutic interventions, the creation and implementation of programs for the prevention of depressive and anxiety disorders, programs for mindfulness and strengthening mental resilience and consequently the reduction of psychiatric medication consumption which will subsequently lower the private and public financial costs for treatment.

Conclusion

The COVID-19 global health crisis has taken a heavy toll on the daily lives, psychological and emotional state of university students.

The findings of the study indicated that male students were slightly more depressed than female students and they experienced feelings of depression for a longer period of time. However, while both groups experienced almost the same levels of anxiety, men were less stressed compared to women. They were also more positive towards the changes happening in their lives, even though women seemed to possess the cognitive abilities of self-control, subjective experience and expressing emotions to a greater extent. The results of the study regarding the search for meaning in life showed that there was a correlation between the search for meaning in life and the time period studied, as women seemed to have more positive emotions and search more for happiness and meaning in their lives. In this context, related research indicates that people who have faced a moderate degree of hardship tend to have developed stronger levels of mental resilience than people who have not had to face hardship (Mancini *et al.*, 2016). These experiences to the extent that they remain manageable by the individual seem to make people more resilient and effective. This realization offers an alternative perspective in the difficult conditions of the pandemic: the possibility to face it as an opportunity to cultivate our mental resilience (Lakioti, 2011). With respect to mental resilience, the findings revealed that resilience was related to experiencing positive emotions, optimism and humor, which are characteristics that help people see difficulties from a different perspective. In this regard, resilience constitutes a protective factor, since the positive attitude contributes to a more positive meaning of the traumatic experience, while at the same time positive emotions compensate for the mental pain and suffering. Another

protective factor, according to the research findings, was the existence of a supportive social network. To this effect, studies have shown that when we are surrounded by people who understand us, we are able to express our feelings and receive support and acceptance (Smith and Hollinger-Smith, 2015).

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