Original Article

Resilience and Social Support Decrease Job Burnout and COVID-19-Related Burnout in the General Population, Three Years after the COVID-19 Pandemic

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Abstract

Background: Psychological problems and burnout are major problems deriving from the COVID-19 pandemic.

Aim: To assess the impact of resilience and social support on job burnout and COVID-19-related burnout in the general population.

Methods: We conducted a cross-sectional study in Greece with 1256 participants from the general public. We measured sociodemographic characteristics of the participants, resilience with the Brief Resilience Scale, social support with the Multidimensional Scale of Perceived Social Support, and COVID-19-related burnout with the COVID-19 burnout scale.

Results: We found that individuals with higher resilience experienced lower COVID-19-related burnout, while those with higher resilience and more social support experienced lower levels of job burnout. Moreover, males, individuals with better health status, those who had not been infected with SARS-CoV-2, and those with fewer adverse events from the vaccination against COVID-19 experienced lower COVID-19-related burnout. Furthermore, males, individuals with better health status, those without any chronic disease, those who experienced fewer adverse events from COVID-19 vaccination, and those with lower educational level, experienced lower levels of job burnout.

Conclusions: Resilience and social support could act as protective factors against job burnout and COVID-19-related burnout in the general population. Psychological support of the general population is necessary to overcome the difficulties that have emerged during the COVID-19 pandemic.

Keywords: resilience, social support, COVID-19-related burnout, job burnout, general population

Introduction

SARS-CoV-2 is responsible for 691,228,421 confirmed cases and 6,898,447 deaths worldwide, as it is reported by the last update of the worldmeter on the 9th of July 2023 and the WHO dashboard (*WHO Coronavirus (COVID-19) Dashboard*, 2022; Worldometer, 2021). Furthermore, there is an extra burden to be added to the pandemic, since a large number of people who have recovered from COVID-19 infection, report to experience a number of persistent symptoms, four weeks to three months after the onset, usually referring to breathlessness, neurological symptoms, fatigue, cognitive impairment, anxiety and depression, a situation known as "long term" or "chronic COVID-19" (Abdel-Gawad et al., 2022; Ceban et al., 2022; Jennings et al., 2021; Premraj et al., 2022; Ramakrishnan et al., 2021). On the other hand, there are studies which confirm that resilience and social support can be proved as positive mediators to the burnout that people experience due to COVID-19 and decrease loneliness leading to a better quality of life (Galanis, Katsiroumpa, Sourtzi, Siskou, Konstantakopoulou, Katsoulas, et al., 2022b, 2022a; Galanis, Katsiroumpa, Vraka, Kosiara, Siskou, Konstantakopoulou, Katsoulas, et al., 2023c; Pineda et al., 2022).

Job burnout

Burnout has been defined by the WHO as a syndrome conceptualized as resulting from chronic workplace stress that has not been successfully managed. It is characterized by three dimensions; feelings of energy depletion or exhaustion, increased mental distance from one's job, or feelings of negativism or cynicism related to one's job, and reduced professional efficacy. Burnout refers specifically to phenomena in the occupational context and should not be applied to describe experiences in other areas of life (WHO, 2023).

The term was official used for the burnout that the professionals of health care jobs are experiencing (Maslach & Jackson, 1981), but nowadays, it is also detected in many other professions (Cartwright et al., 1995; González-Rico et al., 2022; Maslach & Jackson, 1981). Literature supports that occupational burnout is associated with depressive symptoms, psychosomatic problems, such as insomnia, irritability, stress, exhaustion, lack of effectiveness, life dissatisfaction and problems with social relations which leads to negative impact to the corporations, economy and the public health (Edú-Valsania et al., 2022; González-Rico et al., 2022; Hakanen & Schaufeli, 2012; Lo et al., 2018; Makara-Studzińska et al., 2020; Pelletier & Lutz, 1987).

The COVID-19 pandemic has added a significant burden to the occupational burnout, especially among the healthcare employees, increasing the psychological strain, stress, depressive symptoms and exhaustion that people are experiencing (Azoulay et al., 2020; Barello et al., 2020; Galanis, Katsiroumpa, Sourtzi, Siskou, Konstantakopoulou, Katsoulas, et al., 2022b, 2022a; Matsuo et al., 2020; Serrano-Ripoll et al., 2020; T. Wu et al., 2021; Y. Wu et al., 2020). Additionally, a new phenomenon is emerged in the post-COVID-19 similar to the job burnout. In particular, the phenomenon of "quiet quitting" seems to be another issue for the employees after the pandemic adding more burden to them (Galanis, 2023; Galanis et al., 2023, 2023; Galanis, Katsiroumpa, Vraka, Siskou, Konstantakopoulou, Katsoulas, Moisoglou, et al., 2023a, 2023b).

COVID-19-related burnout and mental health in the COVID-19 era

The daily presence of the pandemic, such as the protective measures, the vaccination and the changes of lifestyle, had been frustrating and exhausting (Teixeira da Silva, 2021). The pandemic has caused a wide range of psychological problems in general population such as depression, fear, stress, anxiety, post-traumatic stress disorder, psychological distress, and insomnia (Galanis, Katsiroumpa, Sourtzi, Siskou, Konstantakopoulou, & Kaitelidou, 2022; Luo et al., 2020; T. Wu et

al., 2021; Xiong et al., 2020). More specific, a meta-analysis concerning the general population found that the overall prevalence of anxiety is 38.1%, of depression is 34.3% and the overall prevalence of psychological distress is 37.5% during the COVID-19 pandemic (Necho et al., 2021).

Moreover, scholars found that the main predictors of psychological problems were female gender, younger age, lower socioeconomic status, presence of a chronic condition, social isolation, and unemployment (Luo et al., 2020; Xiong et al., 2020). Haktanir et al. found that the fear general population is experiencing, and the intolerance against the uncertainty and ambiguity, have a direct effect to the pandemic fatigue, with the 34.4% of participants reporting that they have decreased the precaution levels nowadays since the onset of the pandemic, while self-care which is an important prevention against the negative mental health, was reported to be significantly higher in individuals with lower levels of apathy (Haktanir et al., 2022).

According to Tee et al. the psychological impact of COVID-19 was high, e.g. 16.3% of participants classified the psychological impact as moderate-to-severe, 16.9% stated moderate to severe depressive symptoms, 28.8% reported moderate-to-severe anxiety levels, while the stress levels were found severe-to-moderate for the 13.4%; in addition, there was found greater psychological impact and higher levels of stress, anxiety and depression for participants of female gender, youth age, single status, recent imposed quarantine, long period at home, poor health and family concern (Tee et al., 2020). These results are also supported by an another study in USA where 13.6% of the participants reported serious psychological distress, and higher levels were detected among younger individuals (McGinty et al., 2020).

Literature also supports that the burnout of general population during the COVID-19, deriving from lockdown, uncertainty of the future and the end of the pandemic, post COVID-19 syndrome, the new waves and the

variants of the virus, vaccination and the measures against COVID-19, has a significant relationship with fear, increased levels of stress, post-traumatic stress, physical and emotional exaction, lower willingness of vaccination, lower quality of life, increased anxiety and depressive symptoms, and lower work productivity (Galanis, Katsiroumpa, Sourtzi, Siskou, Konstantakopoulou, Katsoulas, et al., 2022a; Galanis, Katsiroumpa, Vraka, Kosiara, Siskou, Konstantakopoulou, Katsoulas, et al., 2023b, 2023a; Jennings et al., 2021; Lau et al., 2022).

On the other hand, literature suggests that resilience and social support act negatively to the burnout of COVID-19, improving mental health and the quality of life and reducing anxiety and depression in individuals (Aldhahi et al., 2021; Färber & Rosendahl, 2018; Galanis, Katsiroumpa, Vraka, Kosiara, Siskou, Konstantakopoulou, Katsoulas, et al., 2023c; Hu et al., 2015; Jeamjitvibool et al., 2022).

Resilience

Resilience is used to describe individual's capability to face difficulties and adversities e.g., trauma, stress, tragedy, etc and be able to recover from them, adapting a positive attitude despite harsh situations and bad conditions (Luthar et al., 2000). Furthermore, the term is used to define the time it takes to individuals to recover when they experience a stressful situation, as resilient individuals seem to revert to their peace easier and quicker (Galanis, Katsiroumpa, Vraka, et al., 2022; Galanis, Katsiroumpa, Vraka, Kosiara, Siskou, Konstantakopoulou, Katsoulas, et al., 2023c; Jackson et al., 2007; Jeamjitvibool et al., 2022; Tugade & Fredrickson, 2004).

Literature, especially during the COVID-19 era, suggests that resilience has negative relationship to distress symptoms in general populations (Kimhi et al., 2020), but also to COVID-19 patients (Jeamjitvibool et al., 2022) and long term COVID-19 patients (Galanis, Katsiroumpa, Vraka, Kosiara, Siskou, Konstantakopoulou, Katsoulas, et al.,

2023c). It is also found that resilience plays a mediating role between the impact of COVID-19 burnout and individuals' intention to receive a booster dose against COVID-19 (Galanis, Katsiroumpa, Sourtzi, Siskou, Konstantakopoulou, Katsoulas, et al., 2022a).

Literature also confirms that resilience, both at the individual and organizational level, plays a vital role by enhancing wellbeing in healthcare and non-healthcare workers (Finstad et al., 2021), improving mental health and decreasing COVID-19 related burnout (Aldhahi et al., 2021; Galanis, Katsiroumpa, Vraka, et al., 2022; Hu et al., 2015; Labrague, 2021; Pineda et al., 2022; Yıldırım & Solmaz, 2022).

Social support

COVID-19 brought a number of measures including isolation and spread of digital communication, working and education (Viner et al., 2020). This new form of lifestyle led to a number of problems, such as difficulties individuals were experiencing due to worries for their families who were in distance, isolation, loneliness, worries concerning the successful fulfill of their assignments (Schiff et al., 2021). Labrague et al. found that loneliness during the pandemic era was high among students and that social support played a protective role against loneliness (Labrague et al., 2021). Pineda et al. found that there is a positive relation between social support and social relationships and that the quality of life is positively affected by social support and negatively by loneliness; furthermore, loneliness has a mediating impact in the relationship between the quality of life and social support by decreasing the effect of social support (Pineda et al., 2022).

Social support seems to be a major factor for the maintenance of wellbeing and mental health among healthcare workers during the COVID-19 pandemic, helping them to bounce back from traumatic stress, emotional distress and burnout, while the support that they experienced from colleagues, friends, peers and families is associated with reduced levels of traumatic stress and emotional distress reporting significant reduction in burnout symptoms (Blanco-Donoso et al., 2021; Chew et al., 2020; Dong et al., 2020; Giusti et al., 2020; Labrague, 2021).

Methods

Study design

We conducted a cross-sectional study in Greece with a convenience sample from the general public. Data were collected during September 2022 through an online questionnaire. We created our study questionnaire with Google forms and then we disseminated it through social media and e-mail contacts. Adults that can understand the Greek language can participate in our study. Data collection was performed in an anonymous and voluntary basis.

We measured sociodemographic characteristics of the participants, resilience, social support, COVID-19-related burnout and job burnout. In particular, sociodemographic characteristics included gender, age, educational level, chronic disease, self-perceived health status, SARS-CoV-2 infection, and adverse effects because of COVID-19 vaccination.

We used the Brief Resilience Scale (BRS) to measure participants' resilience. BRS includes six items and total score ranges from 1 (low resilience) to 5 (high resilience) (Smith et al., 2008). In our study, Cronbach's alpha for the BRS was 0.818.

We used the Multidimensional Scale of Perceived Social Support (MSPSS) to measure social support that participants receive from family, friend, and significant others (Zimet et al., 1988). MSPSS includes 12 items and total score ranges from 1 (low levels of support) to 7 (high levels of support). In our study, Cronbach's alpha for the three scales ranged from 0.798 to 0.898.

We used the COVID-19 burnout scale (COVID-19-BS) to measure participants' burnout due to pandemic (Galanis, Katsiroumpa, Sourtzi, et al., 2023). COVID-19-BS includes 13 items and total score ranges from 1 (low levels of burnout) to 5 (high levels

of burnout). In our study, Cronbach's alpha for the COVID-19-BS was 0.919.

We used one single item burnout measure to measure participants' job burnout. We asked participants to rate their job burnout in a scale from 0 (not at all burnout) to 10 (extreme levels of burnout). One single item burnout measure is proven as a reliable and valid tool to measure job burnout in Greek populations (Galanis, Katsiroumpa, Vraka, Siskou, Konstantakopoulou, Katsoulas, Gallos, et al., 2023).

Ethics

We informed the participants about the aim and the design of our study and they gave their informed consent to participate in our study. Also, we applied the guidelines of the Declaration of Helsinki in our study. Moreover, our study protocol was approved by the Ethics Committee of Faculty of Nursing, National and Kapodistrian University of Athens (reference number; 370, 02-09-2021).

Statistical analysis

We use numbers and percentages to present categorical variables. Moreover, we use mean and standard deviation to present continuous variables. We considered sociodemographic characteristics of the participants, resilience, and social support as the independent variables. Also, we considered COVID-19-related burnout and job burnout as the dependent variables. Dependent variables followed normal distribution and thus we used the linear regression models. In particular, we conducted univariate and multivariable linear regression analysis to assess the impact of independent variables on the COVID-19-related burnout and job burnout. In regression models, we calculated unadjusted and adjusted coefficients beta, 95% confidence intervals (CI), p-values, and coefficients of determination (R^2). P-values less than 0.05 were considered as statistically significant. We used the IBM SPSS 21.0 (IBM Corp. Released 2012. IBM SPSS Statistics for Windows, Version 21.0. Armonk, NY: IBM Corp.) for the analysis.

Results

Study population included 1256 individuals. Sample characteristics are presented in detail in Table 1. Mean age of the participants was 39.2 years. Most of them were females (69.9%) and possessed a University degree (82.2%).

Among participants, 19.4% had a chronic disease and 69.4% have been infected by SARS-CoV-2 during the pandemic. Most of the participants experienced adverse effects due to COVID-19 vaccination (78.2%).

Mean resilience score was 3.4 indicating a moderate level of resilience. Moreover, participants experienced high levels of social support since mean family support score was 6, mean friends support score was 5.8, and mean significant others support was 6.2.

Mean score on COVID-19-related burnout scale was 3 indicating a moderate level of burnout. Also, job burnout was moderate since mean score on the single item was 5.3 in a scale from 0 to 10.

Univariate and multivariable linear regression analysis with COVID-19-related burnout as the dependent variable is shown in Table 2. We found that males (beta = 0.38, 95% CI = 0.25 to 0.51, p < 0.001), individuals with better health status (beta = -0.09, 95% CI = -0.17 to -0.02, p = 0.012), those who had not been infected with SARS-CoV-2 (beta = 0.16, 95% CI = 0.03 to 0.28, p = 0.015), those with fewer adverse events from the vaccination against COVID-19 (beta = 0.06, 95% CI = 0.04 to 0.09, p < 0.001), and those with higher resilience (beta = -0.52, 95% CI = -0.61 to -0.44, p < 0.001) experienced lower COVID-19-related burnout.

We present the predictors of job burnout in Table 3. Multivariable linear regression analysis identified that males (beta = 0.53, 95% CI = 0.20 to 0.87, p = 0.002), individuals with better health status (beta = -0.55, 95% CI = -0.74 to -0.36, p < 0.001), those without any

chronic disease (beta = 0.56, 95% CI = 0.18 to 0.95, p = 0.004), those who experienced fewer adverse events from COVID-19 vaccination (beta = 0.27, 95% CI = 0.20 to 0.33, p < 0.001), those with lower educational level (beta = 0.67, 95% CI = 0.18 to 1.16, p = 0.007), those with higher resilience (beta = -0.59, 95% CI = -0.81 to -0.38, p < 0.001), and those with more social support (beta = -0.17, 95% CI = -0.32 to -0.02, p = 0.027) experienced lower levels of job burnout.

Table 1. Sociodemographic characteristics, resilience, social support, COVID-19-related burnout, and job burnout of the study population (N=1256).

Variables	N	%
Gender		
Males	378	30.1
Females	878	69.9
Age (years)[a]	39.2	11.9
Educational level		
High school	224	17.8
University degree	1032	82.2
Chronic disease		
No	1012	80.6
Yes	244	19.4
Self-perceived health status		
Very poor	28	2.2
Poor	6	0.5
Moderate	96	7.6
Good	678	54.0
Very good	448	35.7
SARS-CoV-2 infection		
No	384	30.6
Yes	872	69.4
Adverse effects because of COVID-19 vaccination[a]	2.5	2.4
Resilience[a]	3.4	0.7

Family support[a]	6.0	1.3
Friends support[a]	5.8	1.3
Significant others support[a]	6.2	1.2
COVID-19-related burnout[a]	3.0	1.1
Job burnout[a]	5.3	2.8

[a] mean, standard deviation

Table 2. Univariate and multivariable linear regression analysis with COVID-19-related burnout as the dependent variable.

Independent variables	Univariate model		Multivariable model	
	Unadjusted coefficient beta (95% CI)	P-value	Adjusted coefficient beta (95% CI)[a]	P-value
Females vs. Males	0.54 (0.41 to 0.67)	<0.001	0.38 (0.25 to 0.51)	**<0.001**
Age (years)	-0.009 (-0.01 to -0.004)	0.001	-0.003 (-0.01 to 0.003)	0.269
University degree vs. high school	0.004 (-0.15 to 0.16)	0.962	-0.06 (-0.25 to 0.13)	0.535
Chronic disease (yes vs. no)	0.13 (-0.02 to 0.28)	0.097	0.02 (-0.13 to 0.17)	0.819
Self-perceived health status (good/very good vs. very poor/poor/moderate)	-0.22 (-0.27 to -0.12)	0.001	-0.09 (-0.17 to -0.02)	**0.012**
SARS-CoV-2 infection (yes vs. no)	0.07 (-0.07 to 0.20)	0.320	0.16 (0.03 to 0.28)	**0.015**
Adverse effects because of COVID-19 vaccination	0.10 (0.08 to 0.13)	<0.001	0.06 (0.04 to 0.09)	**<0.001**
Resilience	-0.61 (-0.68 to -0.53)	<0.001	-0.52 (-0.61 to -0.44)	**<0.001**
Family support	-0.07 (-0.12 to -0.03)	0.002	0.03 (-0.04 to 0.09)	0.423
Friends support	-0.03 (-0.07 to 0.02)	0.234	0.04 (-0.02 to 0.10)	0.173
Significant others support	-0.07 (-0.12 to -0.02)	0.008	-0.06 (-0.14 to 0.02)	0.157

Bold p-values indicate statistically significant associations in the multivariable model. CI: confidence interval [a] p-value for ANOVA<0.001; R^2 for the final multivariable model was 21.6%

Table 3. Univariate and multivariable linear regression analysis with job burnout as the dependent variable.

Independent variables	Univariate model		Multivariable model	
	Unadjusted coefficient beta (95% CI)	**P-value**	**Adjusted coefficient beta (95% CI)[a]**	**P-value**
Females vs. Males	1.12 (0.79 to 1.45)	<0.001	0.53 (0.20 to 0.87)	**0.002**
Age (years)	-0.02 (-0.04 to -0.01)	<0.001	-0.01 (-0.03 to 0.004)	0.141
University degree vs. high school	0.11 (-0.29 to 0.51)	0.595	0.67 (0.18 to 1.16)	**0.007**
Chronic disease (yes vs. no)	0.78 (0.39 to 1.16)	<0.001	0.56 (0.18 to 0.95)	**0.004**
Self-perceived health status (good/very good vs. very poor/poor/moderate)	-0.59 (-0.77 to -0.39)	0.001	-0.55 (-0.74 to -0.36)	**<0.001**
SARS-CoV-2 infection (yes vs. no)	-0.12 (-0.45 to 0.21)	0.480	0.05 (-0.28 to 0.37)	0.775
Adverse effects because of COVID-19 vaccination	0.33 (0.27 to 0.39)	<0.001	0.27 (0.20 to 0.33)	**<0.001**
Resilience	-0.95 (-1.15 to -0.75)	<0.001	-0.59 (-0.81 to -0.38)	**<0.001**
Family support	-0.19 (-0.31 to -0.08)	0.001	-0.17 (-0.32 to -0.02)	**0.027**
Friends support	-0.09 (-0.20 to 0.03)	0.133	0.04 (-0.02 to 0.10)	0.173
Significant others support	-0.10 (-0.22 to 0.03)	0.126	0.14 (-0.07 to 0.34)	0.198

Bold p-values indicate statistically significant associations in the multivariable model. CI: confidence interval [a] p-value for ANOVA<0.001; R^2 for the final multivariable model was 16.9%

Discussion

We aimed to assess the impact of resilience and social support on job burnout and COVID-19-related burnout in the general population. We conducted a cross-sectional study in Greece with a convenience sample which was collected from the general public through an online questionnaire. Our results agree with our hypothesis.

More specific, the individuals from our sample who reported lower COVID-19-related burnout had higher resilience levels. This finding complies with the literature that resilience is a critical factor for individuals to maintain a good mental health and bounce back easier from stressful and negative incidents (Hu et al., 2015; Tugade & Fredrickson, 2004). Concerning the relationship between COVID-19-related burnout and resilience, researchers support that resilience not only play a protective role against the COVID-19-related burnout but it also decreases the levels of burnout and improves the mental health (Aldhahi et al., 2021; Färber & Rosendahl, 2018; Jeamjitvibool et al., 2022; Kimhi et al., 2020; Labrague, 2021; Pineda et al., 2022; Yıldırım & Solmaz, 2022). Resilience has a significant role in improving the quality of life of nurses who were experiencing burnout during the pandemic and of people with post COVID-19 syndrome (Galanis, Katsiroumpa, Vraka, et al., 2022; Galanis, Katsiroumpa, Vraka, Kosiara, Siskou, Konstantakopoulou, Katsoulas, et al., 2023c, 2023b, 2023a).

It is clear that resilience and social support are essential to improve health of general population especially after the COVID-19 pandemic. During the pandemic, individuals have suffered from several mental health issues, e.g. anxiety, depression, insomnia, sleep disturbances, etc. Additionally, a significant percentage of COVID-19 infected patients have also presented post-COVID-19 symptoms that threaten physical and mental health of patients. In this context, resilience and social support are necessary especially in the post-COVID-19 to give individuals the ability to deal with their problems. Among others, resilience and social support can improve individuals' ability deal with job burnout and COVID-19-related burnout.

In addition, our findings indicate that lower COVID-19-related burnout were detected in those with better health status or those who had not been infected by SARS-CoV-2. These findings can be explained due to the lower burden these individuals have concerning the COVID-19 and the burnout related to the disease.

Also, those who did not experience any adverse event from the vaccination against the COVID-19 were found to rank lower score of COVID-19-related burnout. Vaccine fatigue is a phenomenon among general population but also among doctors and parents, detected mostly in the pre-vaccination than the post vaccination stage. It derives from a number of factors such as the frequent, demand for vaccination, adverse events following the vaccination, misconception concerning vaccines and the severity of diseases, lack of trust towards the governments (Su et al., 2022).

Limitations: Our study had several limitations. We conducted a cross-sectional study with a convenience sample. Thus, a selection bias is probable in our study. Moreover, a causal relationship between resilience and social support decrease job burnout and COVID-19-related burnout in the general population cannot be established. We used self-reported questionnaires to collect our data. Thus, an information bias could be arising in our study. We investigated the impact of resilience and social support on job burnout and COVID-19-related burnout in the general population but several other variables could be predictor of burnout.

Conclusions: In conclusion, resilience as an internal factor and social support as an external factor can act as protective factors in the general population. In this context, resilience and social support can improve mental health of individuals by providing support to deal with their problems in personal and occupational life. In this context, resilience and social support can reduce job burnout and COVID-19-related burnout among the general population. Thus, policy makers should develop and implement appropriate interventions to improve individuals' resilience and social support.

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