Fear of COVID-19 and its impact on loneliness during mandatory confinement in Greece

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ABSTRACT: This study aimed to investigate if increased levels of loneliness could be predicted by increased COVID-19 related fear and specific socio-demographic characteristics during mandatory confinement. The current online exploratory cross-sectional study was administrated from 8 until November 28, 2020. A total of 262 Greek individuals were included in the study. This study's findings show that the participants who were more concerned about the COVID-19 and more overwhelmed by it were more likely to report feeling lonely. This study's findings underline the need to understand the determinants of loneliness during the COVID-19 outbreak and develop preventive approaches to ameliorate the emotional consequences of the COVID-19 pandemic.

Keywords: COVID-19, fear, loneliness, Greece, mandatory confinement

INTRODUCTION

COVID-19 pandemic has compelled exceptional measures such as physical-social distancing and quarantine all over the world (Cihan & Gökgöz, 2021). Although from a public health perspective these precautions are necessary, they can have profound negative psychological effects on individuals (Groarke et al., 2020).

Restriction of meeting with friends and relatives during the pandemic outbreak together with the postponement of home visits may cause an increase in loneliness (Cihan & Gökgöz, 2021). As Voitsidis et al. (2020) report stress and fear levels increased especially in elderly people as a result of the change in their everyday routine life because of physical-social distancing. Also, Shirira et al., (2020) using the UCLA loneliness scale found that the feelings of loneliness due to the pandemic outbreak were increased in the geriatric population who felt older than their actual age. Holmes et al. (2020) note that rates of loneliness will rise since physical distancing measures may cause a decrease in social life.

As Groarke et al., (2020) argue, the pandemic outbreak poses various challenges for managing feelings of loneliness. Recent studies report that people struggle to adjust to a new way of life because of the mandatory measures and present various negative psychological reactions to quarantine, including loneliness (Brooks et al., 2020). According to Losada-Baltar et al., (2020) during physical social distancing in Spain, younger people, females and individuals with less social relationships reported higher loneliness. In the same line, Bu et al., (2020) reported that being younger, female, and single increased the likelihood of being lonely. Research data emerging mainly from studies with older adults provide a framework to understand risk factors for loneliness

(Groarke et al., 2020). Specifically, there is a positive association between age and loneliness (Cohen- Mansfield et al., 2016) whereas gender differences have been diverse, with some studies suggesting higher levels of loneliness in females (Pinquart & Sorensen, 2010) and other studies reporting no effect on gender (Mullen et al., 2019). However, as Groarke et al. (2020) suggest, more studies are needed in relation to acknowledging the risk factors for loneliness in the pandemic context.

Perlman & Peplau (1981) defined loneliness as a psychological state where there is an inconsistency between the level of social interaction someone wishes for and what she/he actually receives. Loneliness is often associated with a decreased sense of satisfaction and happiness, depressive mood, and physical complaints. The pandemic outbreak has also increased the frequency of pathological factors related to loneliness (El Hayek et al., 2020; Patel et al., 2007). Thus, loneliness is a significant issue for research to better understand the psycho-social effect of the COVID-19 pandemic (Holmes et al., 2020).

Moreover, due to the fast spread of coronavirus throughout the world, the measures to contain it, and people's concern for their health, fear has been one of the most significant psychological reactions during the pandemic outbreak (Wang et al., 2020).

Specifically, de Hoog et al. (2008) defined fear as an unpleasant emotion caused by a threatening stimulus. In addition, COVID-19 related fear can have either positive (such as stricter conformity to public health measures) or negative/ unwanted consequences (such as increased substance use and negative psychological outcomes) (Harper et al., 2020). Having suffered oneself, having a close friend, or a family member suffering from the COVID-19 coronavirus, were all substantially linked with fear (Mistry et al., 2021).

The current study

During the second wave of the Covid-19 pandemic, Greece has taken all the measures to reduce its spread in the country. The authorities suggested people to stay at home and avoid social interaction to prevent being infected. Greek research findings report that being older and female were associated with higher COVID-19 related fear (Parlapani et al., 2020). Due to mandatory confinement measures, Greece has also experienced a significant decrease in physical-social contact (Parlapani et al., 2020).

These periods of acute lockdown with physical-social distancing are likely to be reinforced with new waves of transmission (Groarke et al., 2020).

This study aimed to investigate potential risk factors for loneliness during pandemic lockdown. In particular, if specific emotional reactions to COVID-19 outbreak and socio-demographic factors may predict the increase in loneliness during mandatory confinement. Considering the aforementioned studies together with the significant changes in the social context because of the contagious nature of the COVID-19 coronavirus and the risk of spreading the virus through face-to-face contact we expected increased levels of loneliness to be predicted by increased COVID-19 related fear and specific demographic characteristics.

METHODS

Study design and sample

The current online exploratory cross-sectional study was administrated from 8 until November 28, 2020, and used snowball sampling as a recruitment method. The questionnaire (in Google forms) was circulated through social media platforms (e.g. Facebook) and respondents were asked for distribution in their turn. Potential respondents were called to take part voluntarily. Confidentiality and anonymity were guaranteed. All respondents were informed about the study's aims and measures used. Willingness to participate and being an adult were the inclusion criteria of this study. The study was conducted in agreement with the Declaration of Helsinki's ethical principles. Also, this research complied with all ethical instructions of the institution to which the researcher belongs. A total of 262 Greek individuals participated in the study. The mean age of the participants was 23.24 (SD= 7.30; min 18- max 55) years old.

Measures

To collect the data needed, the fear of COVID-19 scale, the UCLA Loneliness Scale, and a socio-demographic characteristics questionnaire were used. Total COVID-19 and loneliness scores were calculated.

Outcome measure

The UCLA Loneliness scale.
Participants' current level of loneliness was measured by the UCLA Loneliness Scale. This scale is a 20- item

self-report measure in which participants rate each item on a 4- point scale (1= never to 4= often) (e.g. "How often do you feel left out?", "How often do you feel part of a group of friends?"). This study made use of the Greek version of the UCLA Loneliness scale by Anderson and Malikiosi-Loizos (1992). The UCLA Loneliness Scale was completed by participants as a measure of their current level of loneliness. Loneliness scores were calculated by adding all items (after reversing the appropriate items). Total scores vary from 20 to 80, with higher scores showing higher levels of loneliness. In the present study, Cronbach's alpha was found a =.88.

Explanatory variables

The fear of COVID-19 scale (FCV-19S).

A one-dimensional scale for evaluating COVID-19 related fear was used in this study. The FCV-19S is a self-report measure (e.g. item 1, "I am most afraid of coronavirus-19) based on a 5-point scale (1= strongly disagree to 5= strongly agree). Total scores range between 7 and 35. Higher scores show greater fear of COVID-19. The original scale reported very good internal consistency (a=.82) (Ahorsu et al., 2020). This study made use of the Greek version of FCV-19S by Tsipropoulou et al. (2020). Adapted to the Greek culture, the scale comprises of 7 items. In the present study, Cronbach's alpha was found a=.82.

Socio-demographic characteristics questionnaire

The demographic characteristics form included questions regarding age, gender, living in urban area/ rural area, tested positive for COVID-19 (yes/no), know anybody infected with COVID-19 (yes/no), and the number of people living in the same household.

Statistical Analysis

Statistical Analysis was carried out using the Statistical Package for Social Sciences version 19 software to evaluate data. Descriptive results were expressed as mean, standard deviation, and minimum-maximum values. Kolmogorov-Smirnov test was used to determine the normal distribution of the dataset. Pearson correlation analysis was used.

DESCRIPTIVE RESULTS

To investigate the relationship between the variables of the research, Pearson correlation analysis was performed between all variables of interest, after the statistical assumptions were checked. The results are presented in Table 2. Loneliness was found to be positively correlated with fear of COVID ($r_{262}< .26$, $p< .001$). No other significant association of interest was found. Descriptive statistics and correlations among the variables are shown in Table 1 and Table 2 respectively.

Table 1. Socio-demographic characteristics of the participants

	n	**%**
Gender		
Women	218	82.5
Men	46	17.5
Living in urban area/ rural area		
urban area	204	77.3
rural area	60	22.7
Tested positive for COVID-19		
Yes	13	4.9
No	251	95.1
Know anybody infected with COVID-19		
Yes	190	72
No	74	28

Table 2. Means, standard deviations, and correlations among variables (*N*= 264)

	1	2	3	4	5	6	7	8	9	*M* (SD)
1. Living in urban area/ rural area										
2. Loneliness scale	0.31									45.30 (11.84)
3. FCV-19S	-.035	.267**								14.69 (5.04)
4. Gender	.076	-.067	-.015							
5. Tested positive for COVID-19	-.044	.096	.000	-.099						
6. Know anybody infected with COVID-19	.024	-.019	-,083	-.045	.142*					
7. Household Size	.214**	-.081	-.080	.006	.013	.053				3.84 (1.23)
8. Age	-.118	-.71	.139*	-.040	-.008	-.063	.162**			23.24 (7.30)

Note. * p < .05, ** p < .01

Hierarchical regression analysis

Hierarchical linear multiple regression analysis was conducted to examine the effects of participants' specific demographic characteristics and fear of COVID-19 on loneliness scores (Table 3). Results of the multiple linear regression analysis showed that there was a collective significant effect (F= 4.00, p<.001). The total proportion of variance explained by all the independent variables was 10% (adjusted R2 =.100). According to the standardized regression coefficient, only fear of COVID-19 (β=.266; p<.001) was significantly related to loneliness. Thus, higher levels of COVID-19 related fear increase the odds of feeling lonely.

Table 3. Results of hierarchical regression analysis predicting loneliness (*N*= 264)

	B	SE *B*	*β*
Living in urban area/ rural area	1.88	1.72	.068
FCV-19S	.628	.144	.266*
Gender	-1.94	1.56	-.075
Tested positive for COVID-19	5.08	3.26	.095
Age	-.179	.099	-.111
Household Size	-.886	.594	-.093
Know anybody infected with COVID-19	-.710	1.58	-.027

Note. * p<.001

CONCLUSION

Public health measures such as limited social mobility and quarantine were enforced by the Greek government and are still recommended to protect the people from the COVID-19 coronavirus (Cihan & Gökgöz, 2021). However, physical-social distancing measures and keeping people at home may have a significant negative impact, such as immobilization, depression, and loneliness (Patel & Clark-Ginsberg, 2020). As Groarke et al. (2020) report, self-isolating for self-protection is related to loneliness.

This study aimed to investigate if increased levels of loneliness could be predicted by increased COVID-19 related fear and specific socio-demographic characteristics. In this study, the total loneliness scale scores were above average, implying a significant emotional burden in participants. Moreover, this study's findings show that the participants who were more concerned about the COVID-19 and more overwhelmed by it were more likely to report feeling lonely. This was anticipated as fear of COVID-19 may be triggered by the lethality of COVID-19 coronavirus, leading to physical-social isolation to avoid being infected with it. Thus, fear of COVID-19 constitutes an important risk factor for individuals' mental health during COVID-19 mandatory confinement.This study's results also coincide with previous research data reporting no gender effect (Mullen et al., 2019). In antithesis with what was expected age, having suffered oneself, and knowing anybody with COVID-19 were not significant predictors of loneliness. Also, there was no significant relationship between

where participants live (urban area/ rural area) and total loneliness scores. However, since older respondents and male individuals were underrepresented in this study's sample, clearly defined conclusions as to age or gender differences cannot be offered. A larger age range may return significant differences in analysis. Also, household size has already been studied as a possible risk or protective factor during mandatory confinement but effects as in the current study are still not conclusive (Wang et al., 2020)

Overall, as people may be asymmetrically affected by COVID-19 mandatory confinement measures, a multi-level approach is needed to study the variety of risk factors that may predict loneliness. This study's findings emphasize that interventions to ameliorate the negative impact of the COVID-19 outbreak should also focus on those who are at most risk of loneliness because of the current crisis. Priority should be given to social support and preventive approaches (e.g. cognitive-behavioral counseling) to ameliorate the emotional consequences of the COVID-19 pandemic. Strengthening community engagement may also promote mental wellbeing.

The main limitation of this study concerns the mode of data collection, which may have restricted results' impact because of the volunteer effect. In addition due to the cross-cultural design of the study, causality cannot be determined.

However, this study's results show that psychological consequences may develop because of the the mandatory confinement measures taken against the COVID-19 pandemic. All in all, this study identified a key risk factor and contributes to research evidencing the determinants of loneliness during the COVID-19 outbreak.

Ethical Compliance Section

Funding

The authors have no funding to disclose

Compliance with Ethical Standards

All procedures performed in this study involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards

Conflicts of Interest

The author declares he has no conflict of interest

Informed Consent

Informed consent was obtained from all individual adult participants included in the study.

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