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Filipino Soldiers' Personal Resilience, Loneliness, Stress, Sleep Quality, and Perceived Health

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ABSTRACT

The aim of this study was to determine the level of personal resilience and its relationship with loneliness, stress, sleep quality, and perceived health among Filipino military personnel during the COVID-19 pandemic. This cross-sectional study involved 259 Filipino soldiers selected through simple random sampling in the Aurora province. Five self-report questionnaires were used to gather the data, and multiple linear regression was used for the data analysis. Data were gathered in October to November 2021. The Filipino soldiers reported normal resilience levels, moderate loneliness, and good quality of sleep and perceived health, and they also reported experiencing stress fairly often. We observed that loneliness and stress were significant negative predictors of resilience and that sleep quality and perceived health were significant positive predictors of resilience. Filipino soldiers reported normal resilience levels during the COVID-19 pandemic. Soldiers who reported high levels of loneliness and stress were less likely to be resilient, and those who reported good quality of sleep and perceived health were more likely to be resilient.

Keywords: COVID-19 pandemic, personal resilience, loneliness, sleep quality, Filipino soldiers

INTRODUCTION

It has been more than two years since coronavirus disease 2019 (COVID-19) emerged in Wuhan, China in December 2019. Following its emergence, the confirmed cases increased exponentially, and COVID-19 was eventually declared a Public Health Emergency of International Concern (Sohrabi et al., 2020) and a pandemic (Mahase, 2020). In the Philippines, the first confirmed case of COVID-19 was reported on January 20, 2020 (WHO, 2020). Like other nations, the increasing number of cases of COVID-19 in the country prompted the government to impose policies, guidelines, and procedures to prevent its spread, such as travel and mobility restrictions, the avoidance of mass gatherings, individual social distancing, the use of face masks and face shields, frequent hand hygiene practices, and other quarantine measures. However, despite these measures, the number of confirmed cases continuously increased. As of December 23, 2022, there were over 4 million confirmed cases and 65,172 deaths reported in the country (DOH, 2022).

The COVID-19 pandemic affected both the physical health and the psychosocial health of individuals. Specifically, one study found that adults who perceived high levels of stress from the pandemic and had negative coping styles tended to report higher levels of emotional distress (Yan et al., 2021). In addition, reports of insomnia and other sleep disruptions became more common during the pandemic, and these disruptions made it necessary for health authorities to formulate and provide effective therapeutic interventions to prevent negative consequences (Becker, 2021).

A systematic review of quantitative studies involving Western frontline health workers demonstrated the existence of psychological problems such as stress, anxiety, depressive symptoms, sleep disturbances, and burnout in this population. However, more positively, these health workers demonstrated interest in positive coping and psychological support measures to counteract their psychological problems (Danet, 2021). In a sample of nursing students, sleep quality was reported to be poor, but their perceived health was high. Their perceived health was also positively associated with their psychological well-being, which was demonstrated by their strength and resilience and supported by their connectedness and support systems (Falguera et al., 2020). Furthermore, studies with quarantine hotel employees (Teng et al., 2020) and university teachers (Rosaldo et al., 2020) during the pandemic also indicated that these individuals experienced symptoms of anxiety, depression, and stress.

Another common negative psychological experience during the pandemic was loneliness. Importantly, the subjective experience of loneliness has been linked to the development of depression and anxiety (McQuaid et al., 2021). Additionally, Wang et al. (2022) claimed that loneliness reduces individuals' resilience. Protective measures against loneliness have been identified, such as social support, coping behaviors, resilience (Labrague et al., 2021), self-efficacy, knowledge

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of the risk of COVID-19, and preparedness for COVID-19 (Padmanabhanunni et al., 2021). A comparative study conducted between the Philippines and China revealed that Filipino respondents were more likely to report higher levels of depression, stress, and anxiety than the Chinese respondents. Moreover, the Filipinos were more likely to report physical health concerns, such as physical symptoms indicative of COVID-19, low confidence in the use of medical services, dissatisfaction with the country's health information, and concerns regarding contact with COVID-19 (Tee et al., 2021).

During the pandemic, maintaining domestic order in society is integral. This role has been assumed by groups of people who have the authority to defend and protect the citizenry, such as the military (also known as soldiers). The military are placed on the front line to protect the people from crimes, terrorism, and violence, and military personnel also respond to health threats (Agulto, 2020) by filling the gaps in public health capabilities. For example, the military help to monitor public health programs, facilitate and guide health workers in mobilizing the flow of health information, and remind people to follow the protocols and community quarantine measures for preventing the spread of the disease. On the borders, the military are involved in checking passengers' body temperatures and the presence of other COVID-19 symptoms, as well as authorizing people or transactions to proceed across the borders (Alconel, 2020). Furthermore, the military provide logistical support, such as transporting food or essential supplies or increasing hospital capacities. During humanitarian emergencies, military forces assume their public health responsibilities to support people who are inadequately provided for by civilian health programs. During the COVID-19 pandemic, the military have been called to their duties and have risked their lives to ensure the security and safety of the Filipino people who are affected by or at risk of this serious disease.

The presence of COVID-19 is new to everyone, and the COVID-19 pandemic has caused many unprecedented challenges for the general population across the globe. Military personnel are committed and dedicated to their sworn duty even during health crises such as the COVID-19 pandemic, and they are known to be brave and highly trained. Given these responsibilities and characteristics of military personnel, the researchers aim to investigate the psychosocial well-being of military personnel during the COVID-19 pandemic. Indeed, as human beings, military personnel have vulnerabilities. Like all other frontline personnel, they are at risk of the consequences of COVID-19 and the community lockdown measures. The findings of this study will guide high-ranking military officials and health authorities to design and implement strategies, programs, and policies for promoting the mental health of military personnel. Specifically, the findings of this study may help in designing a comprehensive mental health program, mental health and resilience activities, mental health seminars and workshops, and the like that will prevent development of mental health issues brought by any crisis like the COVID-19 pandemic while working as front liners and protectors of the civilian people. Likewise, this empirical evidence may provide insights to other soldiers that, as they are also human beings, they should not be consumed on the stigma or inhibitions associated with having mental health problems because such problems are a reality that needs proper behavioral management. Moreover, this study is one of the first preliminary studies to be conducted to investigate the psychosocial characteristics of military personnel in the Philippines.

Aims

This study aims to determine the perceived level of personal resilience and its relationship to loneliness, stress, sleep quality, and perceived health among Filipino military personnel during the COVID-19 pandemic. Specifically, the researchers propose the following hypotheses:

1. There is a significant negative relationship between Filipino military personnel's level of personal resilience and their perceived stress and loneliness.
2. There is a significant positive relationship between Filipino military personnel's level of personal resilience and their sleep quality and perceived health.

METHODOLOGY

Research Design

This was a cross-sectional study that used data collected through personal surveys from October 2021 to November 2021.

Respondents and Study Setting

The study population included military personnel from the 91st Infantry (Sinagtala) Battalion, 7th Infantry (Kaugnay) Division of the Philippine Army. The headquarters are in Barangay Calabuanan, Baler, Aurora. The battalion has four (4) line companies situated across the Aurora Province (Alpha Company in Dingalan, Bravo Company in Dinalungan, Charlie Company in San Luis, and Delta Company in Baler). For inclusion in the study, the military personnel had to have worked in the military for at least one year during the pandemic, and they had to provide consent to participate in this study. Military personnel who had signs and symptoms of COVID-19 and those who were on leave during the survey period were excluded.

Sampling Technique and Sample Size Determination

There are a total of 418 military personnel, including 19 military officers, in the 91st Infantry (Sinagtala) Battalion. Because of the constraints in terms of financial resources, availability of the respondents, and time, the researchers intended to determine the sample size. Initially, the researchers used the Slovin's formula in calculating the sample size as the researchers have no idea about the population's behavior. With this formula, the sample size needed for this study is 201. However, the researchers intended to go beyond the target sample size to have a better representative of the population and thus will provide more accurate results. One of the researchers is a member of military personnel in this battalion and, thus, was excluded from the study population. The respondents were selected through the simple random technique. Specifically, a sample frame was prepared within the

battalion, including the line companies, all the population elements were numbered from 1 to 417, and random numbers generated through Excel were used to determine the simple random sample. Those selected respondents who refused to participate in this study were replaced by respondents identified using the same procedure who had not been selected in the prior sampling procedure. This technique continued until the desired number of respondents was achieved.

Research Instruments

A self-report questionnaire was used to gather the data. The demographic characteristics of the respondents were assessed using a checklist, including their age, sex, work position, net monthly income, and the presence of communication with family and loved ones.

To assess the respondents' personal resilience, the six-item Brief Resilience Scale was used (Smith et al., 2008). The items were rated on a five-point Likert scale ranging from 1 = "almost never" to 5 = "almost always". The Cronbach's alpha reliability score of this scale in a previous study was 0.91 (Labrague & De los Santos, 2020), and the Cronbach's alpha of this scale in the current study was 0.95.

The overall loneliness of the respondents was assessed using the six-item Loneliness Scale (Gierveld & Tilburg, 2006). The respondents answered the items on the questionnaire by choosing between three options: "yes", "more or less", or "no". A score of 1 was given when respondents answered "yes" or "more or less", and a score of 0 was given when respondents answered "no". The overall scores ranged from 0 to 6 and were categorized into three groups: 0–1 = "not lonely", 2–4 = "moderately lonely", and 5–6 = "severely lonely". A previous study using this scale demonstrated good internal consistency, with a Cronbach's alpha reliability value of 0.87 (Labrague et al., 2021), and the Cronbach's alpha of this scale in the current study was 0.72.

Perceived stress was measured using the four-item Perceived Stress Scale (Cohen et al., 1983). The items were rated on a five-point Likert scale ranging from 0 = "never" to 4 = "very often". The internal consistency and reliability of this scale were demonstrated by Figalova and Charvat (2021) who reported a Cronbach's alpha of 0.83. The Cronbach's alpha of this scale in the current study was 0.90.

A single-item questionnaire was used to measure the respondent's perceived health during the COVID-19 pandemic. The respondents were asked the following question: "Taking everything into consideration, how would you rate your health in general these days?". The response options were from 1 = "poor" to 5 = "excellent". The use of a single-item scale provides a valid, holistic measure. Given that responses for this measure are provided on a Likert scale, the analysis of this measure is statistically robust on the item level (Atroszko et al., 2015; Carifio & Perla, 2007)

Similarly, a single-item measure was used to assess the sleep quality of the respondents. This measure was developed by Snyder et al. (2018) and involves a single question: "During the past 7 days, how would you rate your sleep quality overall?". The response options for this question ranged from 0 = "terrible" to 10 = "excellent". The scores were interpreted according to five categories: 0 = terrible, 1–3 = poor, 4–6 = fair, 7–9 = good, and 10 = excellent. In a previous study, the tool provided favorable measurement characteristics, with a test-retest reliability score of 0.62 and an intraclass correlation coefficient of 0.74 (Snyder et al., 2018)

Data Collection Process

An administrative approval letter was secured from the Commanding Officer of the 91st Infantry Battalion, 7th Infantry Division of the Philippine Army to conduct the study with their personnel. Upon approval, the researchers coordinated with the line company heads and headquarters in charge to contact the potential respondents selected through simple random sampling. The researchers also secured a letter of approval and consent from each respondent indicating that they thoroughly understood the study in terms of its purposes, benefits, and possible risks. Participation in the study was voluntary, and the respondents could withdraw their participation at any time.

The target respondents were invited to an isolated, well-light, private area with open-air circulation within the quarters. These were performed to ensure privacy of the respondents in answering the survey questionnaire as well as in maintaining confidentiality of the responses. The survey, although was conducted in an private area, the respodents were still within the premises of their workplace. Moreover, the surveys were ensured that it followed the health protocols in preventing the spread of COVID-19. Only one respondent was present per survey session. The respondents were given 3 to 5 minutes to ask questions and seek clarification before participating in the study. Additionally, allowing them to ask questions and clarifications facilitate building rapport and ease in participating the study. The survey questionnaire lasted for 15–20 minutes. One of the researchers is a registered guidance counselor, and two of the researchers have basic training in mental health first aid. Those researchers were available to provide further assessment, counseling or psychological intervention, or a referral if the respondents experienced discomfort when answering the survey questionnaire. Fortunately, throughout the data gathering period, no respondents reported to have discomforts while answering the survey questionnaire. All the questionnaires collected were inspected as to the completeness and adequacy of the information provided. The questionnaires were given in English. At the end of the questionnaire, the respondents were given a message of gratitude for their participation.

Data Analysis

After completing the data collection, the information gathered was automatically tallied in a Google spreadsheet. The data were then entered into SPSS version 23 software (IBM Corp., Armonk, NY, USA) for statistical analysis. The descriptive statistics included frequency counts, percentages, weighted arithmetic mean,

and standard deviation. The inferential statistics applied to answer the research questions included the Pearson's R moment correlation coefficient and multiple linear regression analysis. The level of significance was set at $p < 0.05$.

Ethical Considerations of the Study

Approval from the commanding officer was obtained through a communication letter. Written consent was secured from every respondent before the data collection. The confidentiality and anonymity of the respondents were ensured throughout the study, and their names were not collected in the personal survey. Possible risks during this study included breaches of confidentiality and the associated consequences. The respondents were not paid for their participation. They were informed that they could withdraw their participation in the study at any time during the data collection period. Moreover, the researchers declared no conflicts of interest regarding this study. The data collected were utilized only for the purpose of this work. There was no available review ethics board within or near the research locale, but the study was conducted within the ethical principles of medical research involving human respondents as stipulated in the World Medical Association Declaration of Helsinki. Moreover, this study was approved by the research ethics committee of the college in following the technicalities and research ethics principles involving human respondents.

RESULTS AND DISCUSSION

A total of 259 military personnel participated in the study. The vast majority of the respondents were male (n = 252 or 97.29%), and the mean age was 31.64 years (SD = 5.98). The majority were working in a military enlisted rank (n = 241 or 93.1%), and the most common net monthly income in the sample was P30,000 to P39,000 (n = 112 or 43.24%). Table 1 shows the summary of the socio-demographic profile of the respondents.

Table 2 presents the descriptive results of the variables of interest. The mean score on the resilience scale was 3.41 (SD = 1.11). The overall mean score on the loneliness scale was 1.83 (SD = 0.36); specifically, the mean score on the social loneliness subscale was 1.81 (SD = 0.64), while the mean composite score on the emotional subscale was 1.86 (SD = 0.56). The mean score on the

Table 1. Descriptive statistics of the soldiers' demographic characteristics (n = 259)

Characteristic	Frequency	%
Age		
Mean = 31.64 years		
SD = 5.98 years		
Sex		
Male	252	97.29
Female	7	2.71
Work Position		
Military Enlisted Rank	241	93.05
Military Officer Rank	18	6.95
Net Monthly Income		
Less than P10,000	11	4.24
P10,000 to P19,000	40	15.44
P20,000 to P29,000	58	22.39
P30,000 to P39,000	112	43.24
P40,000 to P49,000	25	9.65
P50,000 to P59,000	9	3.50
P60,000 to P69,000	4	1.54

Table 2. Descriptive statistics of the key variables

Variable	Mean	SD
Resilience	3.41	1.11
Loneliness	1.83	0.36
Emotional Loneliness	1.86	0.56
Social Loneliness	1.81	0.64
Perceived Stress	3.01	0.28
Sleep Quality	7.82	2.11
Perceived Health	4.48	0.79

Table 3. Correlations between resilience and psychological responses

Variables	1	2	3	4	5
1. Resilience	1				
2. Loneliness	−.195**	1			
3. Perceived Stress	−.150*	.060	1		
4. Sleep Quality	.195**	.001	.134	1	
5. Perceived Health	.268**	−.194**	.010	.399*	1

Table 4. Regression analysis on the influence of resilience on psychological responses

Independent Variables	B	SE	β	t	p-values	95% CI
Constant	4.461	.870		5.127	<.001	2.747 to 6.174
Loneliness	-.456	.182	-.150	-2.500	.013	-.815 to -.097
Stress	-.647	.235	-.163	-2.750	.006	-1.111 to -.184
Sleep Quality	.076	.034	.145	2.236	.026	.009 to .142
Perceived Health	.256	.091	.183	2.800	.005	.076 to .435

perceived stress scale was 2.01 (SD = 0.28). Finally, the mean composite scores on the sleep quality and perceived health scales were 7.82 (SD = 2.11) and 4.48 (SD = 0.79), respectively.

Table 3 presents the correlations between resilience and psychological responses among the military personnel. There was a significant negative relationship between resilience and the respondents' overall loneliness levels ($r = -0.195$, $p < 0.01$) and perceived stress levels ($r = -0.150$, $p < 0.05$). Furthermore, there was a significant positive relationship between the respondents' resilience and their sleep quality ($r = 0.195$, $p < 0.01$) and perceived health ($r = 0.268$, $p < 0.01$). Notably, there was also a significant negative relationship between respondents' overall loneliness and perceived health ($r = -0.194$, $p < 0.01$) and a significant positive relationship between perceived health and sleep quality ($r = 0.399$, $p < 0.05$).

Table 4 depicts the results of the multiple linear regression analysis to determine the predictors of resilience. The regression model was statistically significant ($F = 9.567$, $p < 0.001$) and accounted for 13.1% of the variance in personal resilience. Overall loneliness and perceived stress were statistically significant negative predictors of resilience ($\beta = -0.150$, $p = 0.013$ and $\beta = -0.163$, $p = 0.006$, respectively). This finding indicates that the military personnel with high levels of loneliness and perceived stress were more likely to report low personal resilience, thus supporting hypothesis 1. On the contrary, sleep quality and perceived health were statistically significant positive predictors of resilience ($\beta = 0.145$, $p = 0.026$ and $\beta = 0.183$, $p = 0.005$, respectively). This result indicates that military personnel with high scores on sleep quality and perceived health were more likely to report high personal resilience levels, thus supporting hypothesis 2.

DISCUSSION

The purpose of our study was to determine the resilience levels of military personnel and their association with loneliness, stress, sleep quality, and perceived health. The results of our study showed that the military personnel demonstrated considerable personal resilience during the COVID-19 pandemic. Personal resilience is the ability of an individual to recover, adapt, or adjust in response to adversity, misfortune, threats, trauma, and other kinds of pressure or stressors (Garcia-Dia et al., 2013). The previous literature shows that these stressors and adversities are antecedent factors that are required for the development of resilience.

Indeed, it is clear that the COVID-19 pandemic has been the major stressor and health threat in the past 2 years for the global population. Depending on an individual's perception and response to the stressor, they may be able to develop certain protective factors, which may ultimately reduce the negative effects of the stress, risk, or threat (Garcia-Dia et al., 2013).However, personal resilience does not rely only on external factors (i.e., the COVID-19 pandemic and other situational or environmental particularities) but also on internal factors such as the individual's abilities and traits (Chiu et al., 2021). In addition, the majority of our respondents were relatively young, and previous studies have shown that, in the military field, younger age is one of the basic determinants of resilience (Fogle et al., 2020; Valladares-Garrido et al., 2022).

Overall, the soldiers in this study reported themselves to have been "moderately lonely", including in terms of both the emotional and social loneliness sub-scales, during the COVID-19 pandemic. Additionally, the soldiers reported experiencing stress "fairly often". Individuals working in the military or security fields are generally exposed to various stressful conditions as part of their daily routines and duties (Goodwin et al., 2015). Indeed, military personnel are known to experience long periods of isolation and fears for their safety when in operation. Furthermore, military personnel also carry the burden of responsibility for the safety and security of the citizenry and assume other roles and military tasks that could aggravate their perceived stress (Schaubroeck et al., 2011), especially during a health threat such as the COVID-19 pandemic.

Interestingly, despite the COVID-19 pandemic, the military personnel reported having good sleep quality and perceived health. This finding regarding sleep quality

contrasts with a previous study that reported that soldiers on active duty and with an enlisted rank were more likely to have poor sleep than those in the reserve section or with an officer rank (Lentino et al., 2013). A more recent study revealed similar finding indicating a good sleep quality and a lower insomnia prevalence among soldiers working during th COVID-19 pandemic. It claimed that having a good quality of sleep among soldiers was partially attributable to changes within the military operations such as working within the health protocols in preventing the spread of COVID-19 (Markwald et al., 2021). The report of good perceived health by the military personnel in this study is similar to the results of previous studies, which emphasized the need to support soldiers to engage in aerobic and strength exercises (Warr et al., 2013) as well as good dietary habits (Hollerbach et al., 2022) during deployment. Perceived health, otherwise known as self-rated health, is an individual's cognitive interpretation of their physiological and psycho-social status, and the metric of perceived health is widely known and useful for assessing an individual's health (Golenbock et al., 2017). Our study further demonstrated the positive relationship between sleep quality and perceived health. This finding is consistent with a previous study that linked sleep quality with physical performance, nutritional habits, and emotional, social, and family health (Warr et al., 2013). Moreover, short sleep duration and low sleep quality have been associated with adverse mental health outcomes such as depression and substance abuse (Kim et al., 2016).

The first and second hypotheses were confirmed by the results of the present study. Indeed, the results demonstrated the negative influence of loneliness and stress on personal resilience. Previous studies have associated both loneliness (Grossman et al., 2021) and stress (Liu et al., 2016) with low resilience. Paradoxically, stress is also regarded as an important factor in developing psychological resilience. Therefore, it is important to carefully consider the timing of research studies in relation to events such as health crises and the number or severity of stressful life events experienced by an individual, which, instead of developing resilience, may lead to mental health vulnerabilities (Arora et al., 2022). Nevertheless, resilience has been identified as a protective factor against various stressors, and those individuals who report high resilience are less likely to report mental health problems (Chen et al., 2018).

Furthermore, our study also showed that sleep quality and perceived health positively influenced resilience in the military personnel. This finding supports a more recent systematic review and meta-analysis that reported that healthy individuals who achieve enough sleep and good quality sleep are less likely to have chronic diseases and more likely to have better hormone regulation. Accordingly to that study, those individuals may have better coping mechanisms against various stressors and, thus, may ultimately develop higher levels of resilience (Arora et al., 2022). Similarly, a study among police officers showed that those who had better perceived health were more resilient during the COVID-19 pandemic (Talavera-Velasco et al., 2021).

To date, there has been limited research on personal resilience, loneliness, stress, sleep quality, and perceived health in the Filipino military population. The results of our study may guide the government leaders, military officials, and mental health agencies and advocates in designing and strengthening mental health and resilience programs and services for the military personnel who are always on duty to protect the Filipino people even during health crises. During health crises such as the COVID-19 pandemic, fostering resilience is key to reducing the negative psychological consequences of the crisis and improving the overall health of the military personnel.

CONCLUSIONS

This study provides information about personal resilience and psychological responses among Filipino military personnel during the COVID-19 pandemic. Overall, Filipino soldiers are resilient even when experiencing moderate stress and loneliness. The military personnel reported having good sleep quality and perceived health status. Furthermore, the results highlight the negative influence of loneliness and stress and the positive influence of sleep quality and perceived health on the soldiers' personal resilience.

Limitations of the Study

This study acknowledges some limitations. Firstly, the data were obtained through self-reports and, thus, may not truly reflect the actual psychological responses and resilience levels of the soldiers. Secondly, the cross-sectional design used in this study means that causal relationships cannot be inferred between the variables of interest. Thirdly, the respondents were recruited only from the 91st Infantry (Sinagtala) Battalion, 7th Infantry (Kaugnay) Division of the Philippine Army, and the results may not be applicable to other soldiers from various infantry battalions across the Philippine archipelago. Therefore, further related studies must be conducted, such as a longitudinal study, that can clearly determine the causal relationships between the variables of interest and provide results that are generalizable to the entire military personnel population of the country.

REFERENCES

Agulto, A. B. (2020). Battle against an unseen enemy: The efforts of Philippine Army in combatting the COVID-19. The Academic Journal of the Philippine Army 17(2), 9-11.

Alconel, A. P. (2020). Beyond the military response: The role of the Armed Forces of the Philippines in mitigating the Novel Coronavirus Disease 2019. The Academic Journal of the Philippine Army 17(2), 4-8.

Arora, T., Grey, I., Östlundh, L., Alamoodi, A., Omar, O. M., Lam, K. B. H., & Grandner, M. (2022). A systematic review and meta-analysis to assess the relationship between sleep duration/quality, mental toughness and resilience amongst healthy individuals. Sleep Medicine Reviews, 62, 101593. https://doi.org/10.1016/j.smrv.2022.101593

Atroszko, P., Bagińska, P., Mokosińska, M., & Atroszko, B.

(2015). Validity and reliability of single-item self-report measures of general quality of life, general health and sleep quality. Retrieved: https://depot.ceon.pl/handle/123456789/11796

Becker P. M. (2021). Overview of sleep management during COVID-19. Sleep Medicine, S1389-9457(21)00248-3. Advance online publication. https://doi.org/10.1016/j.sleep.2021.04.024

Carifio, J., & Perla, R. J. (2007). Ten common misunderstandings, misconceptions, persistent myths and urban legends about Likert scales and Likert response formats and their antidotes. Journal of Social Sciences, 3(3), 106-116.

Chen, K. J., Yang, C. C., & Chiang, H. H. (2018). Model of coping strategies, resilience, psychological well-being, and perceived health among military personnel. Journal of Medical Sciences, 38(2), 73-80. https://www.jmedscindmc.com/text.asp?2018/38/2/73/230014

Chiu, P. L., & Yu, Y. M. (2021). Resilience and Covid-19: action plans and strategies in a military community. Asia Pacific Journal of Social Work and Development, 31(1-2), 115-122. https://doi.org/10.1080/02185385.2020.1828156

Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A global measure of perceived stress. Journal of Health and Social Behavior, 24(4), 385–396.

Danet A. (2021). Psychological impact of COVID-19 pandemic in Western frontline healthcare professionals. A systematic review. Medicina Clinica (English ed.), 156(9), 449–458. https://doi.org/10.1016/j.medcle.2020.11.003

Department of Health (DOH). (2022). COVID-19 Case Tracker – DOH COVID-19 Nationwide Cases Data. Retrieved: https://doh.gov.ph/covid19tracker

Falguera, C. C., Labrague, L. J., & De los Santos, J. A. (2020). The Relationship between COVID-19 Anxiety and Student Nurses' Perceived Health, Sleep Quality, and Psychological Well-being. Acta Medica Philippina. https://doi.org/10.47895/amp.vi0.4486

Figalová, N., & Charvát, M. (2021). The perceived stress scale: reliability and validity study in the Czech Republic. Československá Psychologie, 65(1), 46-59. https://doi.org/10.51561/cspsych.65.1.46

Fogle, B. M., Tsai, J., Mota, N., Harpaz-Rotem, I., Krystal, J. H., Southwick, S. M., & Pietrzak, R. H. (2020). The National Health and Resilience in Veterans Study: A Narrative Review and Future Directions. Frontiers in Psychiatry, 11, 538218. https://doi.org/10.3389/fpsyt.2020.538218

Garcia-Dia, M. J., DiNapoli, J. M., Garcia-Ona, L., Jakubowski, R., & O'Flaherty, D. (2013). Concept analysis: resilience. Archives of Psychiatric Nursing, 27(6), 264–270. https://doi.org/10.1016/j.apnu.2013.07.003

Gierveld, J. D. J., & Tilburg, T. V. (2006). A 6-item scale for overall, emotional, and social loneliness: Confirmatory tests on survey data. Research on Aging, 28(5), 582-598. https://doi.org/10.1177/0164027506289723

Golenbock, S., Kazman, J. B., Krauss, S., & Deuster, P. A. (2017). General health status in army personnel: relations with health behaviors and psychosocial variables. Quality of Life Research : An International Journal of Quality of Life Aspects of Treatment, Care and Rehabilitation, 26(7), 1839–1851. https://doi.org/10.1007/s11136-017-1523-7

Goodwin, L., Wessely, S., Hotopf, M., Jones, M., Greenberg, N., Rona, R. J., ... Fear, N. T. (2015). Are common mental disorders more prevalent in the UK serving military compared to the general working population?. Psychological Medicine, 45(9), 1881–1891. https://doi.org/10.1017/S0033291714002980

Grossman, E. S., Hoffman, Y. S. G., Palgi, Y., & Shrira, A. (2021). COVID-19 related loneliness and sleep problems in older adults: Worries and resilience as potential moderators. Personality and Individual Differences, 168, 110371. https://doi.org/10.1016/j.paid.2020.110371

Hollerbach, B. S., Haddock, C. K., Kukić, F., Poston, W. S., Jitnarin, N., Jahnke, S. A., ... Heinrich, K. M. (2022). Comparisons of Baseline Obesity Prevalence and Its Association with Perceived Health and Physical Performance in Military Officers. Biology, 11(12), 1789. https://doi.org/10.3390/biology11121789

Kim, T. K., Lee, H. C., Lee, S. G., Han, K. T., & Park, E. C. (2016). The Combined Effect of Sleep Duration and Quality on Mental Health Among Republic of Korea Armed Forces. Military Medicine, 181(11), e1581–e1589. https://doi.org/10.7205/MILMED-D-15-00538

Labrague, L. J., & De los Santos, J. A. A. (2020). COVID-19 anxiety among front-line nurses: Predictive role of organisational support, personal resilience and social support. Journal of Nursing Management, 28(7), 1653-1661.

Labrague, L. J., De Los Santos, J., & Falguera, C. C. (2021). Social and emotional loneliness among college students during the COVID-19 pandemic: The predictive role of coping behaviors, social support, and personal resilience. Perspectives in Psychiatric Care, 10.1111/ppc.12721. Advance online publication. https://doi.org/10.1111/ppc.12721

Lentino, C. V., Purvis, D. L., Murphy, K. J., & Deuster, P. A. (2013). Sleep as a component of the performance triad: the importance of sleep in a military population. U.S. Army Medical Department Journal, 98–108.

Liu, X., Liu, C., Tian, X., Zou, G., Li, G., Kong, L., & Li, P. (2016). Associations of Perceived Stress, Resilience and Social Support with Sleep Disturbance Among Community-dwelling Adults. Stress and Health : Journal of the International Society for the Investigation of Stress,

32(5), 578–586. https://doi.org/10.1002/smi.2664

Mahase E. (2020). Covid-19: WHO declares pandemic because of "alarming levels" of spread, severity, and inaction. BMJ (Clinical Research Ed.), 368, m1036. https://doi.org/10.1136/bmj.m1036

Markwald, R. R., Carey, F. R., Kolaja, C. A., Jacobson, I. G., Cooper, A. D., & Chinoy, E. D. (2021). Prevalence and predictors of insomnia and sleep medication use in a large tri-service US military sample. Sleep health, 7(6), 675–682. https://doi.org/10.1016/j.sleh.2021.08.002

McQuaid, R. J., Cox, S., Ogunlana, A., & Jaworska, N. (2021). The burden of loneliness: Implications of the social determinants of health during COVID-19. Psychiatry Research, 296, 113648. https://doi.org/10.1016/j.psychres.2020.113648

Padmanabhanunni, A., & Pretorius, T. B. (2021). The unbearable loneliness of COVID-19: COVID-19-related correlates of loneliness in South Africa in young adults. Psychiatry Research, 296, 113658. https://doi.org/10.1016/j.psychres.2020.113658

Rosaldo, A. G., Falguera, C. C., Tandinco, F. D., Valencia, J. A., & Firmo, C. N. (2020). Immediate psychological responses and coping styles of tertiary school employees during the COVID-19 pandemic. Philippine Journal of Health Research and Development, 24(4), 20-32.

Schaubroeck, J. M., Riolli, L. T., Peng, A. C., & Spain, E. S. (2011). Resilience to traumatic exposure among soldiers deployed in combat. Journal of Occupational Health Psychology, 16(1), 18–37. https://doi.org/10.1037/a0021006

Smith, B. W., Dalen, J., Wiggins, K., Tooley, E., Christopher, P., & Bernard, J. (2008). The brief resilience scale: assessing the ability to bounce back. International Journal of Behavioral Medicine, 15(3), 194-200.

Snyder, E., Cai, B., DeMuro, C., Morrison, M. F., & Ball, W. (2018). A new single-item sleep quality scale: results of psychometric evaluation in patients with chronic primary insomnia and depression. Journal of Clinical Sleep Medicine : JCSM : Official Publication of the American Academy of Sleep Medicine, 14(11), 1849–1857. https://doi.org/10.5664/jcsm.7478

Sohrabi, C., Alsafi, Z., O'neill, N., Khan, M., Kerwan, A., Al-Jabir, A., ... Agha, R. (2020). World Health Organization declares global emergency: A review of the 2019 novel coronavirus (COVID-19). International Journal of Surgery (London, England), 76, 71–76. https://doi.org/10.1016/j.ijsu.2020.02.034

Talavera-Velasco, B., Luceño-Moreno, L., García-Albuerne, Y., & Martín-García, J. (2021). Perception of Health, Resilience, and Engagement in Spanish Police Officers During the COVID-19 Pandemic. Psicothema, 33(4), 556–563. https://doi.org/10.7334/psicothema2021.153

Tee, M., Wang, C., Tee, C., Pan, R., Reyes, P. W., Wan, X., ... Ho, R. (2021). Impact of the COVID-19 Pandemic on Physical and Mental Health in Lower and Upper Middle-Income Asian Countries: A Comparison Between the Philippines and China. Frontiers in Psychiatry, 11, 568929. https://doi.org/10.3389/fpsyt.2020.568929

Teng, Y. M., Wu, K. S., Lin, K. L., & Xu, D. (2020). Mental Health Impact of COVID-19 on Quarantine Hotel Employees in China. Risk Management and Healthcare Policy, 13, 2743–2751. https://doi.org/10.2147/RMHP.S286171

Valladares-Garrido, M. J., Picón-Reátegui, C. K., Zila-Velasque, J. P., Grados-Espinoza, P., Hinostroza-Zarate, C. M., Failoc-Rojas, V. E., & Pereira-Victorio, C. J. (2022). Suicide Risk in Military Personnel during the COVID-19 Health Emergency in a Peruvian Region: A Cross-Sectional Study. International Journal of Environmental Research and Public Health, 19(20), 13502. https://doi.org/10.3390/ijerph192013502

Wang, H., Hou, Y., Zhang, L., Yang, M., Deng, R., & Yao, J. (2022). Chinese elderly migrants' loneliness, anxiety and depressive symptoms: The mediation effect of perceived stress and resilience. Frontiers in Public Health, 10, 998532. https://doi.org/10.3389/fpubh.2022.998532

Warr, B. J., Scofield, D. E., Spiering, B. A., & Alvar, B. A. (2013). Influence of training frequency on fitness levels and perceived health status in deployed National Guard soldiers. Journal of Strength and Conditioning Research, 27(2), 315–322. https://doi.org/10.1519/JSC.0b013e31827e1347

World Health Organization (WHO). (2020). Coronavirus disease (COVID-19) Situation Report 1 Philippines 9 March 2020. Retrieved from: https://www.who.int/docs/default-source/wpro---documents/countries/philippines/emergencies/covid-19/who-phl-sitrep-1-covid-19-9mar2020.pdf?sfvrsn=2553985a_2

Yan, L., Gan, Y., Ding, X., Wu, J., & Duan, H. (2021). The relationship between perceived stress and emotional distress during the COVID-19 outbreak: Effects of boredom proneness and coping style. Journal of Anxiety Disorders, 77, 102328. https://doi.org/10.1016/j.janxdis.2020.102328