Resilience, Self-Efficacy, and Symptoms of Anxiety and Depression in Older Adults during COVID-19 Confinement

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Objective: This study examined the relationship between resilience, self-efficacy, anxiety, and depression to test whether self-efficacy affected anxiety and depression and compared how the participants in different age groups experienced anxiety, as well as the differences in anxiety between employed and unemployed participants.

Method: A cross-sectional web-based survey study that included adults aged 60 years or older living in Puerto Rico was performed during April and May 2020.

Results: A total of 299 older adults completed the online questionnaire (14% men, 83.6% women). Of the total sample, 25.4% reported having moderate to severe symptoms of anxiety, while 20.8% reported having moderate to severe symptoms of depression. Our path analysis model suggested that while self-efficacy did not directly affect anxiety, it had an impact on resilience, thereby reducing anxiety symptoms. The participants who were 71 years old or older had lower anxiety levels than their younger counterparts did. We also confirmed that work might serve as a protective factor against anxiety.

Conclusion: Our findings underscore the importance of resilience, self-efficacy, and working later in life to promote well-being and successful aging.

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Key words: Self-efficacy, Resilience, Anxiety, Depression, COVID-19, Older adults

Older adults make up the population most affected by the COVID-19 pandemic, with 95% of all deaths occurring in this age group (1). These individuals represent more than a quarter of the Puerto Rican population (26.7%) (2). Over the past 3 years, older adults in the island population have had to contend with several environmental disasters (a series of earthquakes and hurricanes Irma and Maria) as well as with the COVID-19 pandemic, all of which has transformed their lives—and not for the better. As a result of the previously mentioned disasters, these older adults are enduring the cumulative effects of multiple stresses, making them an important population for exploring the consequences of the COVID-19 pandemic.

Due to the rapid spread of the virus and its disproportional impact on older adults, strict quarantine and isolation measures were implemented by governments. These physical distancing measures led to social isolation, intensifying anxiety, depression, dementia, and suicidal ideation (3). Scientific evidence shows that social isolation and loneliness affect the psychological well-being of older adults and are linked to a high risk of obesity, cognitive decline, and cardiovascular and cerebrovascular morbidity (4).

On the other hand, resilience and self-efficacy are key elements in helping individuals of different populations deal with stressful situations across their lifespans (5). For instance, it has been found that resilience and self-efficacy play a vital role in alleviating symptoms of anxiety and depression (6,7). A study conducted with older adults found that, in this population, resilience and self-efficacy are critical psychological resources in terms of facing stressful life events (8).

Resilience, or the ability to adapt and thrive in the face of adversity, has been associated with successful aging (9), better psychological well-being, and reduced mortality risk in older adults (10). Research has found that high levels of resilience are associated with adaptive coping skills (11). From a social cognitive theory standpoint, the perceived ability to achieve a goal or exercise control over threatening situations plays an important role in anxiety arousal (12).

The term "self-efficacy" refers to an individual's belief that he or she has the wherewithal to execute a task or set of tasks to attain a specific goal or goals (5), and resilience is the capacity to overcome adverse circumstances (13). The relationship and significance of these 2 phenomena for human well-being are well documented in the psychological literature. Therefore, it is important to understand how resilience and self-efficacy contribute to psychological well-being and healthy aging during a pandemic.

In addition, a growing body of empirical studies has provided evidence that working later in life has been linked with positive health consequences, particularly for maintaining cognitive functioning (14) and physical health (15). Literature on the relationship between employment status and symptoms of anxiety and depression suggests that employment is associated with better quality of life and better psychological well-being (16), while

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unemployment has been correlated with high rates of mental disorders (17) and an elevated risk of psychological distress (18).

Conceptual Frameworks

This study draws from 2 theoretical frameworks: Bandura's social learning theory (SLT) of self-efficacy and a strength-focused approach known as resilience theory. Bandura's SLT provides a theoretical perspective for the construct of resilience (19). For instance, human behavior is a continuous interaction between cognitive, behavioral, and environmental factors contributing to the individual's selection, organization, and transformation of stressors that affect their self-perception of mastery. Consequently, this perception of mastery affects the individual's ability to cope with adversity.

Purpose of the Present Study

Researchers in the field of geriatrics are already identifying factors that contribute to healthy aging. However, there is scarce literature on the relationship between resilience, self-efficacy, depression, and generalized anxiety symptoms in older Latin American adults, specifically in the context of the COVID-19 pandemic. Therefore, we propose to close this gap by examining the direct and indirect effects of self-efficacy on generalized anxiety symptoms. We hypothesized that (H_1) self-efficacy has an indirect effect on anxiety through resilience and depression, that (H_2) there are differences in anxiety between participants of distinct age groups, and that (H_3) employed participants have lower levels of anxiety than unemployed participants do.

Materials and Methods

A cross-sectional web-based survey study was performed during April and May 2020. The inclusion criteria for this study were being an adult aged 60 years or older currently residing in Puerto Rico and being able to read and understand Spanish. The sample was selected by convenience.

For data collection, we used the Google Forms platform of the University of Puerto Rico. The participants were recruited using different strategies, including institutional communication via email, snowball recruitment using word of mouth, and a web link that was available on several social networks. In addition, to recruit more adults who were 60 years old and older, one author sent the link to the administrator of the senior living facility, who distributed it to the residents.

The online questionnaire that was developed included sociodemographic variables, the Generalized Anxiety Disorder Scale-7 (GAD-7), the Depression, Anxiety, and Stress Scale-21 (DASS-21), the General Self-Efficacy Scale-10 (GSE-10), and the Brief Resilient Coping Scale (BRCS-4). Basic sociodemographic information was gathered and included age, sex, education, annual income, employment status, and the district (according to the geographical districts of the island of Puerto Rico) in which he or she resided.

The GAD-7 is a 7-item self-reported screening tool to assess GAD symptoms (20). It includes questions about how often the respondent has been bothered by each of the core GAD symptoms during the 2 weeks prior to taking the survey. The responses

fall on a 4-point scale and range from 0 (not at all) to 3 (nearly every day). The total score can range from 0 to 21, with higher scores reflecting worse anxiety symptoms. At a threshold of 10, the GAD-7's sensitivity is 89% and its specificity is 82%. Scores of 0 to 4 indicate minimal anxiety, 5 to 9, mild anxiety, 10 to 14, moderate anxiety, and 15 or greater, severe anxiety (20). In a Puerto Rican study (21), the investigators examined the psychometric properties of the GAD-7 in a sample of 299 Puerto Rican adults. The results indicated excellent internal consistency (.92), with an adequate confirmatory factor analysis.

The DASS-21 is a self-reporting scale of 21 items. This 3-dimensional structure scale measures the negative emotional states of depression, anxiety, and stress. We used a Spanish version of the DASS-21 that had been translated and validated by Daza et al. (2002) with a sample of Hispanics living in the United States. Results indicated strong indices of internal consistency (total scale: $\alpha = .96$; subscales: depression, $\alpha = .93$; anxiety, $\alpha = .86$; stress, $\alpha = .91$). For this study, we used only the depression subscale. The internal consistency in our sample was an α of .90. The subscale items refer to the week prior to a participant's having taken the survey, and responses are rated on a 4-point Likert scale that ranges from 0 (never) to 3 (most of the time).

The GSE-10 is a 10-item measure that is rated on a 4-point Likert scale (from 1, not at all true, to 4, exactly true); it measures participants' general sense of perceived self-efficacy. We used the shortened, 5-item Spanish version of the GSE-10 for this study, which has shown good reliability (22). For example, two of the items contained on the Spanish version of the GSE-10 are (in their original English) "I am confident that I could deal efficiently with unexpected events" and "If I am in trouble, I can usually think of a solution." The internal consistency in our total sample was an α of .93. This scale (the Spanish version of the GSE) was used in Puerto Rico by Serra Taylor (2010) with a sample of 320 university students.

The BRCS-4 is a 4-item measure designed to assess an individual's ability to adaptively cope with stress. This scale was developed by Sinclair and Wallston (23). The BRCS can yield a total score ranging from 4 to 20, and the higher the score, the greater the resilience. We used the Spanish version of the BRCS (24) with our sample of older Spanish adults. The Cronbach's α of the BRCS scale was .86. The internal consistency in our total sample yielded an α of .89.

We employed descriptive statistics, correlations, linear regression, and path analysis. The statistical analyses were performed using R statistical software (v4.1.2; R Core Team 2019) (25). We used quantile–quantile plots (R's rstatix) (26) to examine whether the distribution of the GAD, BRCS, GSE, and DASS depression subscale met the parametric test assumptions. Since none of the variables met the normality assumption, we used the Wilcoxon's test and the Kruskal–Wallis tests as non-parametric alternatives to the t-test and 1-way analysis of variance. We used robust confidence intervals for the parameter estimates for the regression and multiple mediation analyses. Lastly, we used analysis of covariance (ANCOVA) (R's WRS2) (27) to perform a robust ANCOVA, with 20% trimmed means, and examined whether employment status had affected generalized anxiety, while controlling for age at 4 design points.

This study was approved by the Institutional Review Board of the University of Puerto Rico in Río Piedras (IRB #1920-168). Electronic informed consent was obtained from each participant prior to his or her starting the online survey. A participant could withdraw from the survey at any time without being penalized.

Results

The sample consisted of 299 adults 60 years old and older (M = 65.6 years; range = 60–89 years) living in Puerto Rico. The sociodemographic information and anxiety and depression scores of the participants are presented in Table 1. Most of the participants were women (83.6%) aged 60–65 years (58.2%). A majority of participants were unemployed (64.2%), while 74.3% of them had a bachelor's degree or higher and 59.9% of them had an annual income of $20,000 or more. Moderate to severe generalized anxiety symptoms were reported (determined using the GAD-7) by 25.4% of the respondents, while moderate or extreme symptoms of depression were reported by 20.8% (as measured by the DASS depression subscale).

The Spearman rank-order correlation coefficients between the variables of interest are presented in Table 2. After these coefficients were assessed, 3 regression models were proposed (Table 3). The first model regressed generalized anxiety symptoms on self-efficacy. The second model regressed generalized anxiety symptoms on resilience and self-efficacy. Finally, the third model regressed generalized anxiety symptoms on resilience, self-efficacy, and depression.

The simple linear regression model of generalized anxiety symptoms predicted by self-efficacy was significant (b = -0.46, 95% CI [-0.57, -0.36]; R^2 = .20). Similarly, the second model of generalized anxiety symptoms explained by self-efficacy (b = -0.19, 95% CI [-0.35, -0.04]) and resilience (b = -0.66, 95% CI [-0.94, -0.33]) showed an improved fit, compared to the first model (R^2 = .28; ΔR^2 = .08). The third model of generalized anxiety symptoms regressed on self-efficacy (b = -0.10, 95% CI [-0.24, 0.04]), resilience (b = -0.25, 95% CI [-0.52, 0.03]), and depression (b = 0.74, 95% CI [0.55, 0.94]; R^2 = .49; ΔR^2 = .21) demonstrated the best fit of the 3 models. However, only the main effect of depression on generalized anxiety symptoms was significant in this model.

Path Analysis Model

We tested a path analysis model (that was based on the third regression model, described above) to examine whether self-efficacy exerts an indirect effect on generalized anxiety symptoms through resilience and depression. The functions in R's lavaan package (28) were used to examine the path analysis model. The parameters of the regression coefficients were estimated using the maximum likelihood method (29). The results show that self-efficacy exerts a significant indirect effect on generalized anxiety symptoms through depression (b = -0.26, bias-corrected and accelerated [BCa] 95% CI [-0.36, -0.17]), but not through resilience (b = -0.11, BCa 95% CI [-0.22, 0.01]). The direct effect of self-efficacy on generalized anxiety was non-significant (b = -0.10; P > .05). The path analysis model of the indirect effect of self-efficacy on generalized anxiety (through resilience and depression) is illustrated in Figure 1.

Table 1. Demographics and Scores of Anxiety and Depression (N = 299)

Variable	Frequency	Percentage
Sex		
Male	42	14.0
Female	250	83.6
Didn't respond	7	2.4
Sexual orientation		
Heterosexual	265	88.6
Homosexual	13	4.4
Bisexual	3	1.0
Didn't respond	18	6.0
Age (years)		
60–65	174	58.2
66–70	85	28.4
71 or older	40	13.4
Education		
Less than high school	2	0.7
High school diploma	28	9.4
Technical degree	12	4.0
Associate degree	34	11.3
Bachelor's degree	87	29.1
Master's degree	77	25.8
Doctorate	58	19.4
Did not respond	1	0.3
Income		
$19,999 or less	97	32.4
$20,000–$39,999	97	32.4
$40,000–$59,999	31	10.4
$60,000 or more	51	17.1
Did not respond	23	7.7
Employment		
Unemployed	192	64.2
Employed	103	34.4
Did not respond	4	1.4
Generalized anxiety (GAD-7)		
0–4 (minimal anxiety)	128	42.8
5–9 (mild anxiety)	95	31.8
10–14 (moderate anxiety)	32	10.7
15+ (severe anxiety)	44	14.7
Depression (DASS-21)		
0–4 (minimal depression)	210	70.2
5–6 (mild depression)	27	9.0
7–10 (moderate depression)	32	10.8
11–13 (severe depression)	15	5.0
14+ (extreme depression)	15	5.0

Abbreviations: DASS-21, Depression, Anxiety, and Stress Scale-21; GAD-7, Generalized Anxiety Disorder Scale-7

To examine whether a relationship exists between generalized anxiety symptoms and age, we used the Kruskal–Wallis test. As expected, the omnibus test was significant for the between-group differences in generalized anxiety symptoms ($H2$ = 20.33; P < .001). The effect size of the differences had moderate practical importance (η^2 = .06). Then, we used 3 Wilcoxon rank-sum tests with the Bonferroni correction to examine the pairwise

Table 2. Medians, Interquartile Ranges, and Spearman Rank-order Correlations, with Confidence Intervals

Variable	*Mdn*	*IQR*	1	2	3
1. Generalized anxiety	5	8			
2. Resilience	16	4	-.52** [-.60, -.43]		
3. Self-efficacy	34	8	-.47** [-.55, -.37]	.67** [.60, .73]	
4. Depression	2	5.5	.73** [.67, .78]	-.56** [-.64, -.48]	-.50** [-.58, -.41]

Note. Mdn and *IQR* are used to represent the median and interquartile range, respectively. Values in square brackets indicate the 95% confidence interval for each Spearman rank-order correlation. The confidence interval is a plausible range of population correlations that could have caused the sample correlation (36). * P < .05; ** P < .01
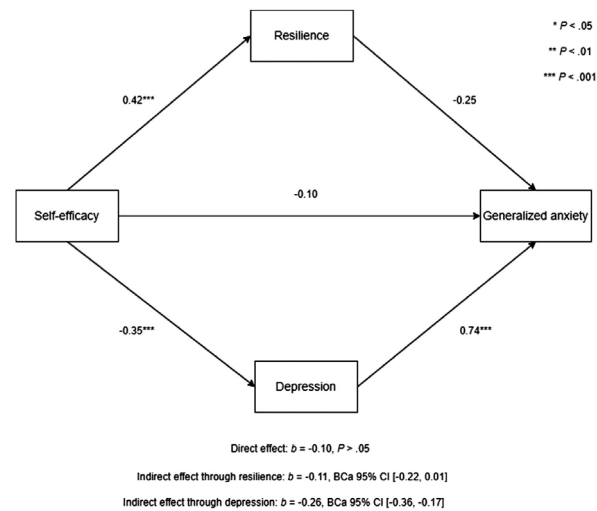
Figure 1. Path Analysis Model of the Indirect Effect of Self-efficacy on Generalized Anxiety, Through Resilience and Depression


Direct effect: *b* = -0.10, *P* > .05

Indirect effect through resilience: *b* = -0.11, BCa 95% CI [-0.22, 0.01]

Indirect effect through depression: *b* = -0.26, BCa 95% CI [-0.36, -0.17]

Abbreviation: BCa, bias-corrected and accelerated

comparisons. No differences were found between the 60- to 65-year-old participants (n = 174, *Mdn* = 6; *IQR* = 9) and the 66- to 70-year-old participants (n = 85, *Mdn* = 5; *IQR* = 6; W = 8,220; P > .05). However, participants 71 years old or older (n = 40, *Mdn* = 2; *IQR* = 5) demonstrated significantly lower levels of generalized anxiety symptoms than did their counterparts of 60 to 65 years (W = 5,018; P < .001) and 66 to 70 years (W = 2,340; P < .01). These differences had moderate practical importance, with the r for both being (30). The between-group differences in generalized anxiety symptoms by age are illustrated in Figure 2.

Relationship Between Generalized Anxiety Symptoms and Employment Status

Yuen's *t*-tests demonstrated no differences between employed and unemployed individuals in generalized anxiety symptoms, while controlling for age at 3 of the design points (age 60: *diff* = 3.23, 95% CI [-2.20, 8.66]; age 65: *diff* = 2.27, 95% CI [-4.13, 8.68]; age 70: *diff* = 1.67, 95% CI [-2.21, 5.55]). However, unemployed

Table 3. Regression Results using Generalized Anxiety as the Criterion

Predictor	*b*	*b* 95% CI [LL, UL]	*beta*	*beta* 95% CI [LL, UL]	sr^2	sr^2 95% CI [LL, UL]	*r*	Fit	Difference
(Intercept) self-efficacy	22.15** -0.46**	[18.60, 25.69] [-0.57, -0.36]	-0.45	[-0.54, -0.35]	.20	[.12, .29]	-.45**	R^2 = .199** 95% CI [.12, .29]	
(Intercept) self-efficacy resilience	23.22** -0.19** -0.66**	[19.65, 26.74] [-0.35, -0.04] [-0.94, -0.33]	-0.18 -0.39	[-0.34, -0.04] [-0.54, -0.20]	.02 .08	[.00, .06] [.02, .16]	-.45** -.51**	R^2 = .278** 95% CI [.19, .38]	ΔR^2 = .079** 95% CI [.02, .17]
(Intercept) self-efficacy resilience depression	11.21** -0.10 -0.25 0.74**	[6.90, 15.49] [-0.24, 0.04] [-0.52, 0.03] [0.55, 0.94]	-0.09 -0.15 0.56	[-0.23, 0.03] [-0.31, 0.02] [0.43, 0.68]	.00 .01 .22	[.00, .03] [.00, .05] [.13, .32]	-.45** -.51** .68**	R^2 = .494** 95% CI [.40, .60]	ΔR^2 = .216** 95% CI [.13, .32]

Note. A significant *b*-weight indicates that the beta-weight and semi-partial correlation are also significant. In this table, *b* represents unstandardized regression weights, *beta* indicates the standardized regression weights, sr^2 represents the semi-partial correlation squared, *r* represents the zero-order correlation, and *LL* and *UL* indicate the lower and upper limits of a given confidence interval, respectively.
* P < .05; ** P < .01

Figure 2. Box Plots with *P* values to Illustrate the Between-group Differences in Generalized Anxiety by Age
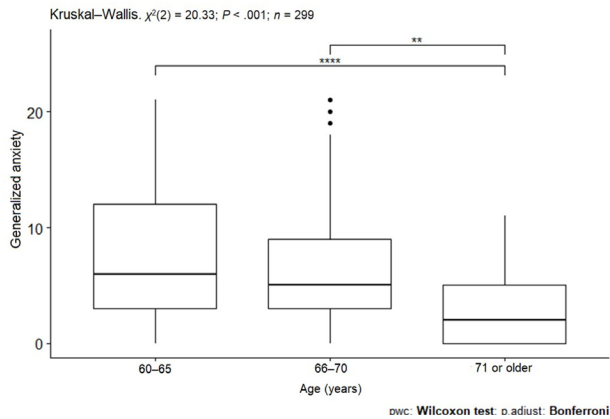
Abbreviations: pwc, pairwise comparisons; p. adjust, *P*-value adjustment method for pairwise comparisons

participants showed higher levels of generalized anxiety symptoms than did their employed counterparts at one of the design points (age 66: *diff* = 3.78, 95% CI [0.57, 6.98]). Figure 3 shows the results of the robust ANCOVA model.

Figure 3. Robust ANCOVA Model of the Differences in Generalized Anxiety by Employment Status, while controlling for Age at 4 Design Points
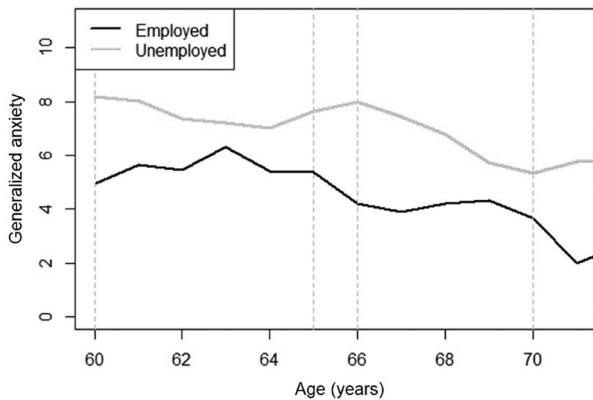
Note: The nonparametric regression lines for both groups are shown. The vertical gray lines show the design points our comparisons are based on (i.e., ages 60, 65, 66, and 70).
Abbreviation: ANCOVA, analysis of covariance

Discussion

This study sheds light on older adults, the population that was most affected by the COVID-19 pandemic. It highlights a strength-focused approach by considering resilience and self-efficacy as important factors for successful aging. Many of the older adults who participated in this study manifested anxiety and depression symptoms. Similar results have been found in other studies on the impact of the social isolation necessitated by the COVID-19 pandemic on the mental health of older adults (30).

Consistent with previous studies, we found a strong correlation between self-efficacy and resilience (31), as well as between anxiety and depression (32), in that, in terms of the latter, many older adults who show high levels of depression will also show high levels of anxiety. However, the relationship between depression and anxiety with resilience or self-efficacy was strong and negative. Older adults who have control over adverse situations and show the skills to cope with adversity will show low levels of anxiety and depression. According to the SLT of self-efficacy and the resilience theory, an individual who believes that he or she has the ability to succeed in difficult situations and control challenging environmental demands will experience less negative emotional arousal (19). Furthermore, high self-efficacy beliefs can positively affect motivational processes and promote resilience (33). Our results are consistent (8) and strongly suggest that self-efficacy and resilience are critical psychological resources for adults when facing stressful life events.

We were able to confirm 2 of the 3 hypotheses proposed in this study. For our first hypothesis, our path analysis model showed that self-efficacy had an indirect effect on anxiety through resilience and depression. Although self-efficacy, by itself, did not directly affect anxiety, it affected resilience, which, in turn, affected anxiety. Our model also showed that self-efficacy had a direct impact on reducing symptoms of depression. These results suggest that to prevent the psychological well-being of older adults from deteriorating, we must develop interventions to strengthen their resilience and self-efficacy skills to adequately handle adverse situations.

The second hypothesis was partially confirmed. Although we could not find any differences by age in terms of symptoms of anxiety in the participants who were 60 to 65 and 66 to 70 years old, we found differences in those who were 71 years old or older. This demonstrates that older people show fewer anxiety symptoms. Thus, although the evidence is not conclusive, some studies suggest that as people get older, anxiety symptoms are less prevalent. However, it has been suggested that this may be explained by problems with sampling (34). Therefore, we believe that studies with more representative and probabilistic samples are needed to reach a conclusion.

Our last hypothesis was not supported in its entirety, but we found statistically significant differences when comparing those in the age group of 66- years-old. People in this age group who were employed showed fewer anxiety symptoms than did those who were unemployed. These results suggest that work may be a protective factor against anxiety in this population. We believe that this is because the members of this population feel more productive and more capable of meeting their economic needs because of that work. Our result is consistent with Wickrama et al.'s (14) findings on the benefits of working in later years. Life expectancy has increased worldwide, and early mortality has decreased due to advances in medicine (35). Therefore, there is a need to promote healthy and active aging. Working in later years has been associated with a protective factor and active aging.

Empirical studies have evidenced that working or volunteering in later years provides social support and contributes to protecting cognitive function and minimizing both physical disability and depressive symptoms (14). We believe that work offers people the possibility of feeling productive and useful, which promotes a state of optimal well-being and contributes to a healthy aging process. However, further study is needed to understand the pathways for the benefits and the adverse impact, should one exist, of working later in life.

This study had some limitations. We used a non-representative, convenience sample, which limits our capacity to generalize or make inferences about the total population. Though appropriate for maintaining physical distance, as required by public health and government authorities, the web-based nature of the study could have contributed to specific sampling selection bias. For example, there was an unbalanced gender ratio, with more female respondents, and we had a highly educated sample. In addition, we excluded, by design, people who did not have internet access and were not regular users of it or who were not on any social network(s). Despite these limitations, our findings provide valuable information on how the initial stage of the COVID-19 pandemic lockdown in Puerto Rico affected a population group that has not been consistently studied in the scientific literature, more specifically, the subgroup consisting of older Hispanic adults.

In conclusion, our study provides significant evidence that the isolation caused by the COVID-19 pandemic adversely affected many older adults. However, many such adults have also shown resilience and self-efficacy skills as protective factors. Our results underscore the importance of resilience and self-efficacy in promoting well-being. Therefore, interventions with this population should strengthen self-efficacy skills to prevent psychological deterioration and promote healthy and successful aging. In addition, we should consider alternative ways to engage this population in work-related activities that may make them feel that they are productive members of society.

Resumen

Objetivo: En este estudio examinó la relación entre la resiliencia, la autoeficacia, la ansiedad y la depresión para comprobar si la autoeficacia afectaba la ansiedad y la depresión, y comparó cómo experimentaban la ansiedad los participantes de distintos grupos de edad, así como las diferencias en la ansiedad entre las personas empleadas y desempleadas. Método: Se realizó un estudio de encuesta transversal basado en la web durante abril y mayo de 2020 que incluyó a adultos de 60 años o más que residían en Puerto Rico al momento del estudio. Resultados: Un total de 299 adultos mayores completaron el cuestionario en línea (14% hombres y 83.6% mujeres). Del total de la muestra, el 25.4% reportó tener síntomas de ansiedad de moderados a severos, mientras que el 20.8% reportó síntomas de depresión de moderados a severos. Nuestro modelo de análisis de caminos sugirió que la autoeficacia no afectaba directamente a la ansiedad, sino que influía en la resiliencia, y reducía los síntomas de ansiedad. Los participantes de 71 años o más presentaban niveles de ansiedad más bajos que sus homólogos jóvenes. También confirmamos que el trabajo podría servir como factor protector contra la ansiedad. Conclusiones:

Nuestros hallazgos subrayan la importancia de la resiliencia, la autoeficacia y el trabajo en etapas posteriores de la vida para promover el bienestar y el envejecimiento exitoso.

References

1. Centers for Disease Control and Prevention. COVID Data Tracker. Atlanta, GA: US Department of Health and Human Services, CDC; 2023, August 21. https://covid.cdc.gov/covid-data-tracker

2. Oficina del Procurador de las Personas de Edad Avanzada. Perfil Demográfico de La Población de Edad Avanzada: Puerto Rico y El Mundo. Oficina del Procurador de las Personas de Edad Avanzada. Estado Libre de Puerto Rico; 2019.

3. Mannix R, Lee LK, Fleegler EW. Coronavirus disease 2019 (COVID-19) and firearms in the United States: Will an epidemic of suicide follow? Ann Intern Med. 2020;173:228-229. doi:10.7326/M20-1678

4. National Academies of Sciences, Engineering, and Medicine; Division of Behavioral and Social Sciences and Education; Health and Medicine Division; Board on Behavioral, Cognitive, and Sensory Sciences; Board on Health Sciences Policy; Committee on the Health and Medical Dimensions of Social Isolation and Loneliness in Older Adults. Social Isolation and Loneliness in Older Adults: Opportunities for the Health Care System. Washington (DC): National Academies Press (US); February 27, 2020.

5. Schwarzer R, Warner LM. Perceived self-efficacy and its relationship to resilience. In: Prince-Embury S, Saklofske DH, eds. Resilience in Children, Adolescents, and Adults. The Springer Series on Human Exceptionality. Springer; 2013:139-150. doi:10.1007/978-1-4614-4939-3_10

6. Liu L, Xu N, Wang L. Moderating role of self-efficacy on the associations of social support with depressive and anxiety symptoms in Chinese patients with rheumatoid arthritis. Neuropsychiatr Dis Treat. 2017;13:2141-2150. doi:10.2147/NDT.S137233

7. Schönfeld P, Brailovskaia J, Zhang XC, Margraf J. Self-Efficacy as a mechanism linking daily stress to mental health in students: A three-wave cross-lagged study. Psychol Rep. 2019;122(6):2074-2095. doi:10.1177/0033294118787496

8. Gerino E, Rollè L, Sechi C, Brustia P. Loneliness, resilience, mental health, and quality of life in old age: A structural equation model. Front Psychol. 2017;8:2003. doi:10.3389/fpsyg.2017.02003 doi:10.3389/fpsyg.2017.02003

9. Jeste DV, Savla GN, Thompson WK, et al. Association between older age and more successful aging: critical role of resilience and depression. Am J Psychiatry. 2013;170(2):188-196. doi: 10.1176/appi.ajp.2012.12030386

10. Smith JL, Hollinger-Smith L. Savoring, resilience, and psychological well-being in older adults. Aging Ment Health. 2015;19(3):192-200. doi:10.1080/13607863.2014.986647

11. MacLeod S, Musich S, Hawkins K, Alsgaard K, Wicker ER. The impact of resilience among older adults. Geriatr Nurs. 2016;37(4):266-272. doi:10.1016/j.gerinurse.2016.02.014

12. Bandura A. Self-efficacy conception of anxiety. Anxiety Res. 1988;1:77-98. doi:10.1080/10615808808248222

13. Konaszewski K, Kolemba M, Niesiobędzka M. Resilience, sense of coherence and self-efficacy as predictors of stress coping style among university students. Curr Psychol. 2021;40:4052-4062. doi:10.1007/s12144-019-00363-1

14. Wickrama KK, O'Neal CW, Kwag KH, Lee TK. Is working later in life good or bad for health? An investigation of multiple health outcomes. J Gerontol B Psychol Sci Soc Sci. 2013;68(5):807-815. doi:10.1093/geronb/gbt069

15. Hinterlong JE, Morrow-Howell N, Rozario PA. Productive engagement and late life physical and mental health: Findings from a nationally representative panel study. Res Aging. 2007;29(4):348-370. doi:10.1177/0164027507300806

16. Perreault M, Touré EH, Perreault N, Caron J. Employment status and mental health: Mediating roles of social support and coping strategies. Psychiatr Q. 2017;88(3):501-514. doi:10.1007/s11126-016-9460-0

17. Honkonen T, Virtanen M, Ahola K, et al. Employment status, mental disorders and service use in the working age population. Scand J Work Environ Health. 2007;33(1):29-36. doi:10.5271/sjweh.1061

18. Sidorchuk A, Engström K, Johnson CM, Kayser Leeoza N, Möller J. Employment status and psychological distress in a population-based cross-sectional study in Sweden: the impact of migration. BMJ Open. 2017;7(4):e014698. Published 2017 Apr 7. doi:10.1136/bmjopen-2016-014698

19. Bandura A. Self-Efficacy: The Exercise of Control. Freeman; 1997.

20. Spitzer RL, Kroenke K, Williams JB, Löwe B. A brief measure for assessing generalized anxiety disorder: the GAD-7. Arch Intern Med. 2006;166(10):1092-1097. doi:10.1001/archinte.166.10.1092

21. Pagán-Torres O, González-Rivera JA, Rosario-Hernández E. Reviewing the psychometric properties and factor structure of the Generalized Anxiety Disorder-7 (GAD-7) in a sample of Puerto Rican adults. Int J Recent Sci Res. 2020;11(1):36885-36888. http://dx.doi.org/10.24327/ijrsr.2020.1101.5017

22. Schönfeld P, Brailovskaia J, Bieda A, Zhang XC, Margraf J. The effects of daily stress on positive and negative mental health: Mediation through self-efficacy. Int J Clin Health Psychol. 2016;16(1):1-10. doi:10.1016/j.ijchp.2015.08.005

23. Sinclair VG, Wallston KA. The development and psychometric evaluation of the Brief Resilient Coping Scale. Assessment. 2004;11:94-101. doi:10.1177/1073191103258144

24. Moret-Tatay, C, Fernández Muñoz, JJ, Civera Mollá, C, Navarro-Pardo, E, & Alcover de la Hera, CM. Propiedades psicométricas y estructura factorial del BRCS en una muestra de personas mayores españolas. Anales de Psicología. 2015; 31(3): 1030-1034. https://doi.org/10.6018/analesps.31.3.188401

25. R Core Team. R: A language and environment for statistical computing. 2019. R foundation for statistical computing, Vienna, Austria. https://www.R-project.org/

26. Kassambara A. rstatix: Pipe-friendly framework for basic statistical tests. Published online 2021.

27. Mair P, Wilcox R. Robust statistical methods in R using the WRS2 package. Behav Res Methods. 2020;52:464-488. doi:10.3758/s13428-019-01246-w

28. Rosseel Y. lavaan: An R Package for Structural Equation Modeling. J Stat Softw. 2012;48:1-36.

29. Hair JF, Sarstedt M, Hopkins L, Kuppelwieser VG. Partial least squares structural equation modeling (PLS-SEM): An emerging tool in business research. Eur Bus Rev. 2014;26(2):106-121. doi:10.1108/EBR-10-2013-0128

30. Sepúlveda-Loyola W, Rodríguez-Sánchez I, Pérez-Rodríguez P, et al. Impact of Social Isolation Due to COVID-19 on Health in Older People: Mental and Physical Effects and Recommendations. J Nutr Health Aging. 2020;24(9):938-947. doi:10.1007/s12603-020-1469-2

31. Sagone E, De Caroli ME, Falanga R, Indiana ML. Resilience and perceived self-efficacy in life skills from early to late adolescence. Int J Adolesc Youth. 2020;25(1):882-890. doi:10.1080/02673843.2020.1771599

32. Potochnick SR, Perreira KM. Depression and anxiety among first-generation immigrant latino youth: Key correlates and implications for future research. J Nerv Ment Dis. 2010;198(7):470-477. doi:10.1097/NMD.0b013e3181e4ce24

33. Rutter M. Psychosocial resilience and protective mechanisms. Am J Orthopsychiatry. 1987;57(3):316-331. doi:10.1111/j.1939-0025.1987.tb03541.x

34. Bryant C, Jackson H, Ames D. The prevalence of anxiety in older adults: Methodological issues and a review of the literature. J Affect Disord. 2008;109(3):233-250. doi:10.1016/j.jad.2007.11.008

35. Hewitt PS; The CSIS Commission on Global Aging. Meeting the Challenge of Global Aging. Center for Strategic & International Studies. 2002.

36. Cumming G. The new statistics: Why and how. Psychol Sci. 2014;25(1):7-29. doi:10.1177/0956797613504966