

RESILIENCE, WELL-BEING, AND POST-TRAUMATIC STRESS IN THE SPANISH POPULATION IN THE LOCKDOWN AND PANDEMIC OF COVID-19

RESILIENCIA, BIENESTAR Y ESTRÉS POSTRAUMÁTICO EN POBLACIÓN ESPAÑOLA ANTE EL CONFINAMIENTO Y PANDEMIA DEL COVID-19

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Abstract

The COVID-19 pandemic and social distancing measures have had a negative impact on mental health. The main objective is to study the role of resilience as a protective factor, against the impact of the pandemic and the confinement of COVID-19. The sample consisted of 179 participants with a mean age of 40.85 years (SD = 13.7). The analyzes indicate that resilience is highly predictive of psychological well-being and mood and is a protective factor against post-traumatic stress. Also for the ease of carrying the pandemic, which may be mediated by other factors. The effects of the pandemic and confinement appear to have significantly increased post-traumatic stress symptoms. Women have more post-traumatic stress and less psychological well-being. The age group most affected is that of young people (18-25 years).

Keywords: resilience, well-being, post-traumatic stress, pandemic, quarantine, COVID-19

Resumen

La pandemia del COVID-19 y las medidas de distanciamiento social han supuesto un impacto negativo en la salud mental. El objetivo principal es estudiar el papel de la resiliencia como factor protector, ante el impacto de la pandemia y el confinamiento del COVID-19. La muestra fue de 179 participantes con una media de edad de 40,85 años (DE = 13,7). Los análisis indican que la resiliencia predice de forma muy significativa el bienestar psicológico y el estado de ánimo y es un factor protector ante el estrés postraumático. También para la facilidad de llevar la pandemia que puede estar mediado por otros factores. Los efectos de la pandemia y el confinamiento parecen haber elevado de forma muy significativa los síntomas de estrés postraumático. Las mujeres presentan más estrés postraumático y menos bienestar psicológico. El grupo de edad más afectado es el de los jóvenes (18-25 años).

Palabras clave: resiliencia, bienestar, estrés postraumático, pandemia, cuarentena, COVID-19

The current pandemic situation, and its associated consequences, is posing a significant social adaptation challenge given the strong impact it is having. The review of Brooks et al. (2020) of the psychological effects of lockdown in past pandemics reported negative psychological effects, including symptoms of post-traumatic stress disorder, confusion, and anger. The meta-analysis by Cénat et al. (2021), which includes 68 independent samples and subsamples from different countries, suggests that populations affected by the COVID-19 pandemic have a significantly higher prevalence of post-traumatic stress, anxiety, insomnia, psychological stress and depression compared to the general population under normal circumstances. Similarly, various studies with large samples carried out in different countries indicate that, throughout the lockdown, there is a progressive deterioration of mental health (Ammar et al., 2020a; 2020b). On the other hand, the application and the increase of the social distancing policy levels have been very useful helping to a significant reduction in the spread of the infection and the number of deaths (Daghriri, & Ozmen, 2021). Infection rates are drastically reduced when a social distancing intervention is implemented between 80% and 100%. Resilience is pointed out as a protective factor against adversity that prevents emotional problems and promotes well-being (Wadi et al., 2020; Wagnild, 2009). Resilience refers to the person's ability to recover after suffering a complex, stressful situation, adapting positively and creatively to adversity, overcoming it and, in general, feeling regenerated, strengthened and transformed for the better. The term, like that of stress, comes from physics and denotes the resistance capacity of a material to shock, tension, pressure and that allows it to return, whenever it is forced or violated, to its shape or form initial position (Carrobes & Benevides-Pereira, 2009). In short, it is the ability to adapt to changing and adverse circumstances (Block & Block, 1980). The study by Zayas et al. (2021) aimed to study resilience, dispositional optimism and psychological well-being in the Spanish population during the state of alarm and to investigate the mediation of resilience between optimism and psychological well-being. The participants were 566 volunteers (73.5% women; $M = 40.2$ years, $SD = 12.8$). Resilience was evaluated with the Wagnild and Young (1993) scale. Older people with a higher educational level presented greater optimism and psychological well-being. It was also found that more optimistic people have better psychological well-being and that this is increased by the mediation process of resilience.

The main goal is to study the role of resilience as a protective factor, in the face of the impact of the pandemic and the lockdown of the first wave of COVID-19 in Spanish population, on psychological well-being, post-traumatic stress, ease of coping with the pandemic and mood. The differences of these psychological variables according to gender and age are also studied.

Method

Participants

We carried out a study with a sample of 179 participants with an average age of 40.85 years ($SD = 13.7$), 68.2% women and 31.8% men. Most participants have university studies (75.4%) and 85.5% report a medium socioeconomic level, 6.7% a low level and 7.8% a high level.

Instruments

Resilience Questionnaire (Wagnild & Young, 1987). Adaptation of Baños and Botella (2017). Evaluates the degree of individual resilience and the perspective of resilience as a positive personality characteristic that favours adaptation (Wagnild & Young, 1993). It is made up of 25 items written in a positive way, which are valued from 1 (disagree) to 7 (totally agree), where the results vary between 25 and 175 points. After repeated applications with a variety of samples, different ranges were established to provide a general profile of resilience where scores greater than 145 indicate a high level of resilience, 121-145 indicate moderate levels, and scores of 120 or less indicate little resilience capacity (Wagnild & Young, 1993). In addition to being able to calculate the total score of the scale, two main factors can be distinguished, which were named “acceptance of one’s own life” and “individual competence”. In a review of 12 articles developed by Wagnild (2009), the reliability of the scale was between .85 and .94. In our study, the internal consistency, *Cronbach’s alpha*, was .90.

Revised Post-Traumatic Stress Disorder Symptom Severity Scale (EGS-R, Echeburúa et al., 2016). Consists of 21 items: 5 refer to re-experiencing symptoms (range 0 to 15 points), 3 refer to behavioural/cognitive avoidance (range 0 to 9 points), 7 to cognitive alterations and negative mood (range 0 to 21 points) and 6 to symptoms of increased psychophysiological activation and reactivity (range 0 to 18 points). They are established based on the diagnostic criteria of the DSM-5 regarding post-traumatic stress disorder. The global instrument has shown high internal consistency ($\alpha = .91$). In our study, the internal consistency, *Cronbach’s alpha*, was .93. The range of the global scale varies from 0 to 63 points. The diagnostic efficacy of the scale is very high (82.5%) if a global cut-off point of 20 is settled.

Warwick-Edinburgh Mental Well-Being Scale (WEMWBS, Tennant et al., 2007). Spanish adaptation of López et al. (2012). This scale assesses positive mental health. It consists of 14 positive affirmations regarding hedonic and eudaemonic aspects of mental well-being. Each item is answered on the basis of a 5-point Likert scale from “never” to “all the time” and the final result is obtained from the sum of all items (range 14 to 70 points). A higher score indicates higher levels of mental well-being. It has been validated into Spanish in a sample of 1900 participants between 15 and 70 years (Castellví et al., 2013), with high internal consistency (*Cronbach’s alpha* = .93), good discriminative power and satisfactory adjustment

for multifactorial solutions. In our study, the internal consistency, *Cronbach's alpha*, was .92.

Collects the sociodemographic data and the following constructs measured: mood (“How would you rate your average mood for the last week, from 0 to 10, with 0 being very low and 10 being very high?”) and ease of coping with the pandemic (“To what extent, as an average of the last week, is it easy for you to handle this pandemic situation, from 0 to 10, 0 being very difficult and 10 very bearable?”).

Procedure

The review study implemented by Brooks et al. (2020), on the psychological impact of quarantines and pandemics, was the beginning of this project. The state of quarantine in Spain began on March 14, 2020 in the COVID-19 crisis.

Permission was requested from the participants informing that they wanted to investigate emotional problems and levels of well-being in the population in relation to the effects of confinement and the COVID-19 pandemic. To guarantee the privacy and intimacy of the people who have carried out the study, as well as compliance with EU Regulation 679/2016 General Data Protection and Organic Law 3/2018 on Data Protection and Guarantee of Digital Rights, as well as Law 41/2002 on Patient Autonomy, we have taken the following measures: advice through legal experts on privacy and national and community regulations; creation of a form through third parties (Google) configured in such a way that personal data that could identify the person who filled out the form was not collected, in this way, from our study we worked with totally blind questionnaires; for the identification and inventory of the responses, we use the assignment of numerical codes; at the base of the forms, the information of the Treatment Managers, the purpose of the form, the anonymization characteristic, as well as the means by which the people who filled out the survey could exercise their rights and consult additional information were provided; in the information given to each of the people, they are informed of the nature and purpose of the study carried out. In this way, it is guaranteed that the person makes the decision to fill out the form in accordance with their own free will and we guarantee the fulfillment of their right to information. This guarantees that sufficient data could not be obtained for the identification of people and, on the other hand, the proactive responsibility required by law was exercised, by providing each of the participants with the basic information for compliance with the data protection regulations.

The data collection was carried out mainly in the period of the start of the de-escalation (May 1 to 10) to be able to assess mainly the impact of the confinement of the first wave. From May 2 to May 11, the quarantine ended and the de-escalation phases began. This period includes phase 0 in which you could go out 1 hour a day in the town of residence.

The statistical analyses performed focused on descriptive statistics, correlation analysis, regression analysis, analysis of differences of independent groups with

Student's t scores, F of the ANOVA and Tukey HSD multiple comparison test and calculation of the effect size (Cohen, 1988). For the d index, a score equal to or higher than 0.20 is considered low, equal to or higher than 0.50 medium and equal to or higher than 0.80 high. For the η^2_p index, a score equal to or higher than 0.1 is considered a low magnitude effect and a score equal to or higher than 0.25 is considered a high magnitude effect.

Results

Descriptive Statistics on Ease of Coping with the Pandemic, Mood, Well-Being, Post-Traumatic Stress, and Resilience

The participants reported a tendency to have an ease in dealing with the pandemic, as well as a tendency to present an adequate mood and psychological well-being if we focus on the interpretation of the values of the scales. High levels of resilience were found in 30% of the population (scores greater than 145), medium levels in 55% (between 121-145 indicate moderate levels) and low levels in 15% of the population (score of 120 or minors). In other words, medium or high levels were found in 85% of the sample. The arithmetic mean in post-traumatic stress was 17.01. The cut-off point with clinical significance is 20 in the measurement used (EGS-R). 41.3% of the sample in our study scored 20 or more on the EGS-R, that is, they present symptoms of post-traumatic stress with clinical relevance (table 1).

Table 1

Descriptive (Mean and Standard Deviation) of the Ease of Coping with the Pandemic, Mood, Well-Being, Post-Traumatic Stress, and Resilience

Variable	Average	n	SD
Ease of handling the pandemic	6.97	179	2.0
Mood	6.41	179	2.0
Psychological well-being	51.0	179	11.1
Post-traumatic stress	17.0	179	12.2
Resilience	136.31	179	18.7

Note: *SD* = standard deviation

Correlation Analysis Between Ease of Coping with the Pandemic, Mood, Well-Being, Post-Traumatic Stress, and Resilience

Significant and direct correlations were found between resilience with psychological well-being, mood, and the ease of coping with the pandemic. Significant and inverse correlations were also found between resilience and post-traumatic stress (see table 2).

Table 2
Correlations Between Ease of Coping with the Pandemic, Mood, Well-Being, Post-Traumatic Stress, and Resilience

	1	2	3	4	5
1. Ease of handling the pandemic	--				
2. Mood	0.65***	--			
3. Psychological well-being	0.32***	0.57***	--		
4. Post-traumatic stress	-0.48***	-0.54***	-0.37***	--	
5. Resilience	0.30***	0.50***	0.72***	-0.36***	--

Note: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

Resilience as a Predictor Variable of Ease of Coping with the Pandemic, Mood, Well-Being, and Post-Traumatic Stress

Regression analyses (table 3) indicate that resilience predicts, with a large effect size magnitude, psychological well-being and mood and, with a medium effect size magnitude, ease of coping with the pandemic and post-traumatic stress.

Table 3
 Resilience as a Predictor Variable of Ease of Coping with the Pandemic, Mood, Well-Being And Post-Traumatic Stress

Resilience	<i>R</i>	<i>R</i> ²	Corrected <i>R</i> ²	Standard error of estimation	<i>F</i>	SIG.	Effect size magnitude
Ease of handling the pandemic	.304	.093	.088	1.882	18.082	.000	Medium
Mood	.502	.252	.248	1.760	59.617	.000	High
Psychological well-being	.718	.516	.513	7.769	188.699	.000	High
Post-traumatic stress	.362	.131	.126	11.436	26.620	.000	Medium

Difference of the Psychological Factors, Ease of Coping with the Pandemic, Mood, Well-Being, Post-Traumatic Stress, and Resilience According to Gender

Women present more post-traumatic stress in a statistically significant way with a low effect size magnitude. They also present, marginally significantly, less psychological well-being with a low effect size magnitude. There are no statistically significant differences in resilience, ease of coping with the pandemic and mood according to gender (table 4).

Table 4
Comparisons of Means of the Psychological Factors, Ease of Coping with the Pandemic, Mood, Well-Being, Post-Traumatic Stress, and Resilience According to Gender

Variable	Women			Men			<i>t</i> (<i>gl</i>)	<i>p</i>	Effect size
	Average	<i>n</i>	<i>SD</i>	Average	<i>n</i>	<i>SD</i>			
Ease of handling the pandemic	7.12	122	1.93	6.65	57	2.01	1.50 (177)	.134	.24
Mood	6.24	122	2.2	6.77	57	1.53	-1.64 (177)	.101	-.26
Post-traumatic stress	18.30	122	12.78	14.26	57	10.55	2.07 (177)	.040	.33
Psychological well-being	49.91	122	11.20	53.33	57	10.71	-1.93 (177)	.055	-.31
Resilience	135.48	122	19.21	138.09	57	17.66	-.869 (177)	.386	-.13

Note. *SD* = standard deviation.

Difference of the Psychological Factors, Ease of Coping with the Pandemic, Mood, Well-Being, Post-Traumatic Stress, and Resilience According to Age

ANOVA analyses (table 5) indicate that there are significant differences in all variables by age groups. The most affected age group is the one of young people (18 to 25 years old). They have less facility with the pandemic, mood, resilience, well-being, and more post-traumatic stress symptoms than the rest of the age groups according to the Tukey HSD multiple comparison test (see attached file). In fact, in post-traumatic stress the average of young people (18 to 25 years) exceeds the clinical cut-off point of 20.

Table 5
Comparisons of Means of Psychological Factors, Ease of Coping with the Pandemic, Mood, Well-Being, Post-Traumatic Stress, and Resilience According to Age

Dimension	Age group	<i>n</i>	<i>M</i>	<i>SD</i>	ETM	<i>gl</i>	<i>F</i>	<i>p</i>	η^2_p
Ease of handling the pandemic	18-25	37	5.95	2.25	.37	5	4.227	.001	.113
	26-35	16	6.75	1.65	.41				
	36-45	58	6.91	2.04	.27				
	46-55	30	7.47	1.36	.25				
	56-65	27	7.96	1.67	.32				
	66-75	4	7.75	2.06	1.03				
	TOTAL	172	6.97	1.98	.15	171			

Dimension	Age group	<i>n</i>	<i>M</i>	<i>SD</i>	ETM	<i>gl</i>	<i>F</i>	<i>p</i>	η^2_p
Mood	18-25	37	4.95	2.04	.33	5	8.011	.000	.194
	26-35	16	6.44	2.33	.58				
	36-45	58	6.21	1.96	.26				
	46-55	30	7.27	1.23	.22				
	56-65	27	7.48	1.45	.28				
	66-75	4	7.25	2.50	1.25	166			
	TOTAL	172	6.37	2.03	.155	171			
Post-traumatic stress	18-25	37	24.97	14.83	2.44	5	4.318	.001	.115
	26-35	16	14.25	8.61	2.15				
	36-45	58	15.74	11.71	1.54				
	46-55	30	13.93	10.06	1.84				
	56-65	27	15.52	10.24	1.97				
	66-75	4	12.25	12.74	6.37	166			
	TOTAL	172	17.16	12.33	.940	171			
Resilience	18-25	37	126.19	22.10	3.63	5	3.557	.004	.097
	26-35	16	134.25	17.66	4.42				
	36-45	58	138.07	17.12	2.25				
	46-55	30	142.77	18.82	3.44				
	56-65	27	140.89	15.30	2.94				
	66-75	4	130.25	14.86	7.43	166			
	TOTAL	172	136.24	19.04	1.45	171			
Psychological well-being	18-25	37	42.35	12.69	2.08	5	8.253	.000	.199
	26-35	16	46.94	11.34	2.83				
	36-45	58	54.66	10.47	1.37				
	46-55	30	54.03	7.53	1.37				
	56-65	27	52.89	8.00	1.54				
	66-75	4	57.50	7.94	3.97	166			
	TOTAL	172	50.97	11.30	.86	171			

Discussion and conclusions

The main objective of the study was to analyze the role of resilience as a protective factor, in the face of the impact of the pandemic and the lockdown of COVID-19, on ease of coping with the pandemic, mood, psychological well-being and post-traumatic stress,. The differences of these psychological variables according to gender and age were also studied.

The participants reported a tendency to have an ease in dealing with the pandemic, as well as a tendency to present an adequate mood and psychological well-being if we focus on the interpretation of the values of the scales. High levels of resilience were found in 30% of the population, medium levels in 55% and low levels in 15% of the population. In other words, medium or high levels were found

in 85% of the sample. Similar resilience means were found to other studies that have used the same evaluation scale (Ruiz et al., 2012; Wagnild & Young, 1993) and to the study Zayas et al. (2021) also carried out during confinement and the COVID-19 pandemic.

41.3% of the sample in our study scored 20 or more on the EGS-R, this means that they present symptoms of post-traumatic stress with clinical relevance. In our study we found a higher score than in other studies. For example, Valiente et al. (2020) concludes 19.7% with significant symptoms of post-traumatic stress. This study uses another measure, a stratified sample, and the survey was conducted between April 8 and 10. In our study, it is between May 1 and 10, which is one more month exposed to lockdown and our sample is not stratified (it has a higher percentage of women). The arithmetic mean in post-traumatic stress symptoms in our study (normative group after lockdown: $n = 179$; $M = 17.01$; $SD = 12.23$) is higher, practically double, than the normative group in the study by Echeburua et al. (2016): normative group ($n = 193$; $M = 9.50$; $SD = 8.81$) and clinical group ($n = 526$; $M = 23.83$; $SD = 12.02$) using the same scale in both studies. According to these results, lockdown could have resulted in an increase of post-traumatic stress symptoms, as indicated in the study by Cénat et al. (2021).

The arithmetic mean in the well-being measure ($M = 51$; $SD = 11.14$) is somewhat lower than in the article on adaptation to the Spanish population ($M = 59$; $SD = 7.8$) by Castellví et al. (2013) using the same measure of well-being (WE-MWBS), so it seems that the lockdown and pandemic could also have decreased psychological well-being.

In the correlation analyses, significant and direct correlations were found between resilience with the ease of coping with the pandemic, mood, and psychological well-being, as in the study by Zayas et al. (2021). Significant and inverse correlations were also found between resilience and post-traumatic stress. Resilience predicts, with a large effect size magnitude, psychological well-being and mood and, with a medium effect size magnitude, ease of coping with the pandemic and post-traumatic stress. The ease of carrying the pandemic may be influenced by other factors involved that were not analyzed in this study (type of housing, profession, level of exposure to COVID-19...). These data are consistent with the scientific literature that identifies resilience as a protective factor against adversity that prevents emotional problems and promotes well-being (Wadi et al., 2020; Wagnild, 2009) even in the context of confinement and COVID-19 pandemic (Zayas et al., 2021).

Regarding the group differences in gender, women present more post-traumatic stress, in a statistically significant way, and less psychological well-being with a marginally significant difference. There are no statistically significant differences in resilience, as in the study by Zayas et al. (2021), nor in the ease of coping with the pandemic and mood.

The analyses indicate significant differences in all the variables by age groups. The most affected age group is the one of young people (18 to 25 years old). They

have less facility to cope with the pandemic, mood, resilience, well-being, and more post-traumatic stress symptoms than the other age groups. In fact, the average of post-traumatic stress symptoms in young people (18 to 25 years) exceeds the clinical cut-off point of 20. In the study by Zayas et al. (2021), resilience correlates statistically significantly and directly with age, that is, resilience increases with age and vice versa.

These findings, regarding gender and age, coincide with what was found in other studies such as that of Valiente et al. (2020). Other studies also indicate that women (Forte et al., 2021; Petzold et al., 2020) and young people (Justo-Alonso et al., 2020) have been the most affected group by the lockdown and pandemic.

Other interesting variables in other studies, such as that of Sánchez-Hernández, García, and Canales (2020), found higher scores in post-traumatic stress (EGS-R) in “healthcare workers” ($M = 20.17$) and in “people in lockdown unable to perform their job” ($M = 23.10$). This last group presented significant differences with the group of “people in lockdown, but at least one member of the family being able to telework” ($M = 14.2$). One hypothesis might be financial concerns. In the study by Valiente et al. (2020), the symptoms are doubled for those who are very concerned about COVID 19, or its economic consequences. These results are similar to the ones we found in our study. Another hypothesis is the lack of behavioural activation. This means, being locked down without work activity could aggravate pathological symptoms. Interestingly, they did not find more cases of post-traumatic stress in people who had risk factors associated with COVID-19, nor in those who had had a direct experience with the infection, as in the study by Valiente et al. (2020).

We can conclude from this presented study that resilience predicts very significantly psychological well-being and mood and is a protective factor against post-traumatic stress in the face of the COVID-19 pandemic and lockdown. It also predicts the ease of carrying the pandemic, although this variable may be mediated by other factors (type of housing...). The effects of the pandemic and lockdown appear to have significantly increased post-traumatic stress symptoms. Women have more post-traumatic stress and less psychological well-being. The most affected age group is the one of young people (18 to 25 years old). They have less facility to cope with the pandemic, mood, resilience, well-being, and more post-traumatic stress symptoms than the other age groups. The results fit with the positive effects associated with resilience, the study being of interest in understanding the impact of the pandemic and lockdown. Given the limitations of the study, it is suggested to contrast with other studies with larger and stratified samples. In the study by Zayas et al. (2021) the need to carry out interventions to promote resilience for the general population in times of pandemic is pointed out, alluding to the study of the “Resilience and Well-being Program: Stay at Home” (Sánchez-Hernández y Canales, 2021; Sánchez-Hernández and Canales, 2020a; 2020b). Clinical trials that provide scientific information on interventions to prevent emotional problems and promote well-being and healthy behaviours that keep down infection are needed

to successfully cope with this COVID-19 pandemic (Gilbody et al., 2021).

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