Psychological impact of coronavirus-related social isolation in Colombia after a year of lockdown

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Abstract

Several repercussions of the COVID-19 pandemic and its subsequent isolation period have been reported worldwide. In this paper, we analyze the behavioral and emotional effects of one year of coronavirus-related lockdown in Colombia. A cross-sectional correlational design was used on a sample of 1853 participants from different regions, and with different levels of education, socioeconomic status, and employment situations. The fear of coronavirus scale was employed, as well as a scale to measure emotions designed by the authors and based on the circumplex model of affect. Our data shows that women, participants who were unemployed during the lockdown, and participants that study or work in legal or related fields, have been more affected in terms of emotionality, fear of illness, and changes in daily routines. The least amount of behavioral changes in response to the lockdown was found in participants working during that period, while students or professionals of careers related to security were the less affected with respect to emotions.

Keywords

COVID-19; Social Deprivation; Mental Health; Coping Strategies; Pandemic; Lockdown; Contagious Disease.

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1. Introduction

The first COVID-19 infection was identified in the Hubei province, near Wuhan City (China) on November 17, 2019 (Infobae, March 13, 2020). Since then, more than 600 million cases of infection and six million deaths have been reported worldwide. Only in Colombia, over six million cases of infection and around 139,000 deaths have been identified (MinSalud, n.d.).

In this paper, we analyze the behavioral and emotional effects of the social isolation generated by the COVID-19 pandemic in Colombia after a year of lockdown. We emphasize the stress associated with the possibility of contagion, the self-care behaviors, and the emotions experienced during the lockdown.

2. Method

2.1. Design and subjects

A cross-sectional correlational design was used on a sample of 1853 participants (1155 women, 681 men, 17 others), with an average age of 32 years (further details in Table 1). Data was collected between April and May 2021.

Table 1: Participants' sociodemographic features

		F	%
Gender	Women	1155	62.3
	Men	681	36.8
	Other	17	0.9
Age	Between 18 and 27	950	51.3
	Between 28 and 37	360	19.4
	Between 38 and 47	322	17.4
	Between 48 and 57	154	8.3
	More than 57	67	3.6
Income	Less than the MW*	878	47.4
	Between 1 and 2 times the MW	574	31
	Between 3 and 4 times the MW	252	13.6
	Between 5 and 6 times the MW	65	3.5
	More than 6 times the MW	74	4
	No answer	10	0.5
Socio-economic status	Low-Low	145	7.8
	Low-High	678	36.6
	Middle-Low	749	40.4
	Middle-High	235	12.7
	High-Low	36	1.9
	High-High	10	0.5
Scholar level	Basic	48	2.6
	High school	708	38.2

	Bachelor´s degree	868	46.8
	Postgraduate	229	12.4
Employment situation	Currently working	1210	65.3
	Working before pandemic	285	15.4
	Job loss due to pandemic	1655	89.3

* MW = Minimum wage

2.2. Instruments

The following instruments were used:

1. The fear of coronavirus scale (FCS), originally developed in Spain by Sandín et al. (2020). This scale includes 18 items related to fears and preoccupations regarding psychosocial aspects of coronavirus, such as fear that a relative gets the virus, or that basic products will become scarce. The instrument is answered with a five-point Likert scale from 0 (not at all) to 4 (very much or extremely). A detailed account of the adaptation and validation of this scale for Colombia can be found in Gómez and Barón (2022).

2. We also developed a scale to measure emotions based on the circumplex model of affect (Russell, 1980). According to this model all affective states are a linear combination of two dimensions (a) valence: a pleasure–displeasure continuum; and (b) arousal: an activation–deactivation continuum. Being alert, excited, elated, or happy is considered an activating pleasant emotion; while being tense, nervous, stressed, or upset is considered an activating unpleasant emotion. Likewise, being contented, serene, relaxed, or calm is considered a deactivating pleasant emotion; while being sad, depressed, or bored is considered a deactivating unpleasant emotion (Posner et al., 2005).

The scale evaluates to what extent have participants experimented one of the different emotions with a four-point Likert scale from 1 (not at all) to 4 (extremely). In our statistical analyses the scale of activating pleasant emotions obtained a McDonald's ω of 0.887, while deactivating pleasant emotions obtained a 0.799. On the other hand, the activating unpleasant emotions obtained a McDonald's ω of 0.846 while deactivating unpleasant emotions obtained a 0.868. Items that measured emotions such as fear, amazement and surprise did not contribute significantly to their respective scales, so they were excluded in the reliability analysis and were

not involved in the exploratory factor analysis. The exploratory factor analysis passed the Bartlett's test of sphericity [$x^2(210) = 3165$; $p<0.01$] and the sample adequacy test (KMO = 0.924). However, the model of factor extraction based on maximum likelihood with direct oblimin rotation only grouped the pleasant emotions from the unpleasant ones.

2.3. Procedure and statistical analysis

Participants were contacted virtually through social networks or direct invitation using a snowball sampling. They were asked to sign an informed consent and complete a sociodemographic variables questionnaire (see Tables 1 and 2). Data was audited to detect repeated participants or falsified information, and then it was statistically processed using SPSS.23. Since the variables did not show a tendency to normality, analyses were performed using non-parametric tests.

Table 2: Participants' type of career and type of contract

		F	%
Type of career	Administration, economics, or accounting	223	12
	Anthropology or related disciplines	34	1.8
	Computing or related disciplines	29	1.6
	Law or related disciplines	77	4.2
	Entertainment	27	1.5
	Philosophy or theology	6	0.3
	Geology or related disciplines	2	0.1
	Hospitality, tourism, gastronomy, or related disciplines	31	1.7
	Engineering	162	8.7
	Modern languages, philology, or related disciplines	40	2.2
	Mathematics, statistics, physics, or related disciplines	21	1.1
	Medicine or related disciplines	106	5.7
	Marketing, advertising, or related disciplines	39	2.1
	Psychology	95	5.1
	Chemistry	6	0.3
	Security, military, and related disciplines	11	0.6
	Other	944	50.9
Type of contract	Fixed term	245	13.2
	Indefinite term	507	27.4
	For a specific project or service (*Obra o labor*)	138	7.4
	For provision of services (*Civil por prestación de servicios*)	113	6.1
	Learning contract	49	2.6
	Occasional	158	8.5
	Other	643	34.7

3. Results

3.1. Gender

Regarding social isolation, men showed more activating (Mann-Whitney U = 359966; $p < 0.01$) and deactivating pleasant emotions (Mann-Whitney U = 301886; $p < 0.001$) compared to women. Also with respect to social isolation, women showed more self-care behaviors when leaving the house (Mann-Whitney U = 429884; $p < 0.001$), more fear of the pandemic (Mann-Whitney U = 487128; $p < 0.001$), and more activating (Mann-Whitney U = 469917; $p < 0.001$) and deactivating unpleasant emotions (Mann-Whitney U = 459772; $p < 0.001$).

3.2. Employment situation

Compared to employed participants, unemployed ones showed more activating (U of Mann-Whitney = 472116; $p < 0.001$) and deactivating unpleasant emotions (U of Mann-Whitney = 486728; $p < 0.001$) regarding social isolation, as well as a greater amount of changes in daily behaviors associated with confinement (such as sleeping, internet use, and grooming) (U of Mann-Whitney = 462326; $p < 0.001$). On the other hand, employed participants showed more activating (Mann-Whitney U = 331564; $p < 0.001$) and deactivating pleasant emotions (Mann-Whitney U = 352396; $p < 0.001$) regarding social isolation.

3.3. Type of career

Compared to other types of careers (see Table 2), participants who study or dedicate themselves to law or related disciplines showed higher levels of activating unpleasant emotions regarding social isolation (Kruskal Wallis = 45.8; $p < 0.001$). Those who study or pursue careers related to security or military issues showed lower levels of deactivating unpleasant emotions regarding social isolation (Kruskal Wallis = 52.3; $p < 0.001$).

Moreover, participants who study or dedicate themselves to computing or related disciplines showed higher levels of deactivating pleasant emotions (Kruskal Wallis = 56.51; $p < 0.001$), while participants who study or work in the field of psychology showed a greater amount of changes in daily behaviors associated with confinement (Kruskal Wallis = 50.38; $p < 0.001$).

3.4. Type of contract

Compared to other types of contracts (see Table 2), participants with learning contracts showed higher levels of deactivating pleasant emotions (Kruskal Wallis = 27.44; $p < 0.001$). Likewise, participants with contracts for a specific project or service showed the fewer amount of changes in daily behaviors associated with confinement (such as sleeping, internet use, and grooming), while participants with occasional contracts showed the higher amount of changes in daily behaviors due to social isolation (Kruskal Wallis = 58; $p < 0.001$). Finally, participants with contract for provision of services showed the lowest levels of deactivating unpleasant emotions (Kruskal Wallis = 100.86; $p < 0.001$).

3.5. Income

Compared to other amounts of income (see Table 1), participants who earned more than five times the minimum wage showed the lower amount of fear of the pandemic (Kruskal Wallis = 10; $p < 0.05$). Likewise, participants who earned more than six times the minimum wage showed the lower amount of activating (Kruskal Wallis = 49.6; $p < 0.001$) and deactivating unpleasant emotions (Mann-Whitney U = 95.1; $p < 0.001$) regarding social isolation, while participants who earned less than the minimum wage showed the higher amount of both types of emotions.

3.6. Socio-economic status

Compared to other levels of socio-economic status (see Table 1), participants between middle-low and high-low levels showed the higher amount of self-care behaviors when leaving the house (Kruskal Wallis = 32; $p < 0.001$).

3.7. Scholar level

Compared to other educational levels (see Table 1), participants holding a postgraduate degree showed the lower amount of fear of the pandemic, while participants with a basic educational level showed the higher amount (Kruskal Wallis = 28.6; $p < 0.001$). Likewise, compared to the rest of scholar levels, participants holding a postgraduate degree showed the lower amount of

activating (Kruskal Wallis = 24; $p < 0.005$) and deactivating unpleasant emotions (Mann-Whitney U = 46.7; $p < 0.001$) regarding social isolation.

3.8. Correlations

A weak positive correlation was found between the amount of changes in daily behaviors due to social isolation and the amount of activating ($r = 0.3$; $p < 0.001$) and deactivating unpleasant emotions ($r = 0.31$; $p < 0.001$). Also, a moderate positive correlation was found between the amount of activating unpleasant emotions and the level of fear of the disease ($r = 0.42$; $p < 0.001$).

4. Discussion

In line with the results of Sandín et al. (2020) and Mendoza et al. (2020), our data shows that women have been more affected than men during the confinement in terms of fear of illness and emotional affectation, which in turn, may have induce the higher levels of self-care observed in women. Additionally, people who were unemployed during the lockdown exhibited greater emotional affectation with respect to employees, which may have induced the greater number of changes in their daily routines, also observed. In contrast, the fact that the least amount of behavioral changes in response to the lockdown was found in participants currently working may be understood considering variables such as educational level, belief in science (see Brzezinski et al., 2020), and the types of media to which persons are mostly exposed (see Sandín et al., 2020).

Regarding the profession being practiced or studied, participants belonging to legal and related fields exhibited greater emotional affectation, while students or professionals of careers related to security or military affairs were the less affected with respect to emotions. This result can be interpreted in terms of resilience and adaptability associated with personality traits, which in turn would influence the career choice. This very fact may also help to understand why students or professionals in the computer sciences and related fields present a high degree of pleasant emotions related to the isolation period.

A relevant theoretical framework for understanding the psychological effects of social isolation is the resilience approach, which seeks to identify the way in which people adapt to adverse situations, including preparation, assimilation, and recovery phases (Trump et al., 2017). In this scenario, individuals with high economical incomes, often associated with holding a postgraduate degree, may adapt better to the challenges originated during a lockdown, experiencing less unpleasant emotions and less fear of the pandemic, as showed in our study. Having less economic resources, or/and a lower educational level, may imply a great struggle to adapt, and a higher degree of unpleasant emotions and fear related to the pandemic or isolation measures.

Furthermore, some maladaptive reactions to social isolation due to a pandemic may be explained by the phenomenon of perceived invulnerability (Sandler et al., 2020). In such a situation, people think that if they have not yet been infected, their behavior and that of their peers will not increase the risk of contagion, so the precautions and recommendations of health control entities are overlooked. This behavior may reach a point in which individuals dismiss health regulations, even denying the effect of developed vaccines.

Acknowledgements and Conflict of Interest

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