



The effect of discrimination on Mental Health in the Chilean Population

El efecto de la discriminación en la salud mental en población chilena


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Abstract:

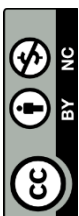
Introduction: Discrimination affects the health and well-being of those who experience it. The relationship between discrimination and mental health in migrant communities and in the Chilean child and youth population has been previously studied, however, there is little evidence regarding the effects of discrimination on the general population. **Objective:** To analyze the relationship between discrimination and the presence of anxious and depressive symptoms in the Chilean population. **Methods:** Prospective cross-sectional study evaluating 927 subjects in the cities of Arica, Antofagasta, and Santiago. To evaluate discrimination the Krieger Discrimination Experience Scale is used. To assess depressive and anxious symptomatology, the Beck scales for BDI Depression and BAI Anxiety were implemented. **Results:** The mean age of the sample is 33.9 years (Range 18-70 years; SD=13.13). 59.5% of the participants are female. 36% of the participants reported having experienced discrimination in some aspect of their lives. The highest perception of discrimination is associated with employment (42%) and the main reported causes are level of education or income, age, and gender. Experiences of discrimination exert statistically significant positive effects of moderate magnitude ($b>.30$) on depressive ($b=.460$, $p<.001$) and anxious ($b=.480$, $p<.001$) symptomatology, the latter being interrelated ($b=.636$, $p<.001$). **Conclusions:** More than a third of the population studied reported having been discriminated in some aspect of their lives. This perception is further accentuated in relation to employment. The perception of discrimination is associated with an increase in anxious and depressive symptoms in the Chilean population.

Keywords: mental health; anxiety; depression; discrimination.

Resumen:

Introducción: La discriminación afecta la salud y el bienestar de las personas que la experimentan. Se ha estudiado ampliamente la relación entre discriminación y salud mental en comunidades migrantes y en población infanto-juvenil chilena, sin embargo, existe escasa evidencia respecto a los efectos de esta en la población general. **Objetivo:** Analizar la relación entre discriminación y la presencia de sintomatología ansiosa y depresiva en población chilena. **Material y Método:** Estudio transversal prospectivo evaluando 927 sujetos en las ciudades de Arica, Antofagasta y Santiago. Para evaluar discriminación se utiliza la escala de experiencias de discriminación de Krieger. Para evaluar sintomatología depresiva y ansiosa se utilizan las escalas de Beck para Depresión BDI y Ansiedad BAI. **Resultados:** La edad promedio de la muestra es de 33,9 años (Intervalo de 18 a 70 años; DE=13,13). El 59,5% de los participantes son mujeres. Un 36% de los participantes declara haber experimentado discriminación en algún aspecto de su vida. La mayor percepción de discriminación se asocia al empleo (42%) siendo las principales causas reportadas el nivel educacional o de ingresos, la edad y el sexo. Las experiencias de discriminación ejercen efectos positivos estadísticamente significativos de magnitud moderada ($b>.30$) sobre sintomatología depresiva ($b=.460$, $p<.001$) y ansiosa ($b=.480$, $p<.001$) estando las últimas interrelacionadas entre sí ($b=.636$, $p<.001$). **Conclusión:** Más de un tercio de la población estudiada reporta haber sido discriminada en algún aspecto de su vida. Esta percepción se agudiza en torno a la obtención de empleo. La percepción de discriminación se asocia a incremento en sintomatología ansiosa y depresiva en la población chilena.

Palabras clave: salud mental; ansiedad; depresión; discriminación.



Introduction

Discrimination can be defined as different treatment either towards a group with common characteristics or towards a person belonging to such a group (Krieger, 2001). This would imply unjustifiable negative behavior toward a group or its members, with the understanding that the behavior includes both actions toward and judgments or decisions about group members (Ramiah et al., 2010).

Studies linking discrimination (feeling discriminated against) with negative effects on both health, either physical or mental, as well as on people's levels of well-being are abundant (Andrade et al., 2021; Harrell et al., 2003; Hu et al., 2021; Lewis et al., 2015; Panza et al., 2019; Schmitt et al., 2014; Vargas et al., 2020; Williams et al., 2019; Williams & Mohammed, 2009), there being, for example, evidence on the relationship between the presence of discrimination and objective clinical outcomes such as increased risk of mortality (Barnes et al., 2008), hypertension (Dolezsar et al., 2014), anxiety and depression (Gee et al., 2007), eating disorders (Durso et al., 2012), among many others.

There are several theories that explain the association between discrimination and poor health indicators. One of the most accepted is the stress theory (Kessler et al., 1999; Pascoe & Smart, 2009; Pearlin et al., 2005), which mainly considers the relationship between chronic stress and the increase in basal cortisol concentrations due to its contribution to the dysregulation of the hypothalamic-pituitary-adrenal axis, in addition to affecting the diurnal rhythm of cortisol release (Scholaske et al., 2021). Cortisol dysregulation would affect stress response, metabolic regulation, inflammatory response and immune function (Oakley & Cidlowski, 2013), thus being associated with poorer health (Adam et al., 2017).

There are several studies in Chile on discrimination, mainly related to specific groups. As an example, our research group has reported the effect that discrimination has on the migrant population living in the country (Urzúa et al., 2021a; Urzúa et al., 2021b; Urzúa et al., 2019a; Urzúa et al., 2019b; Urzúa et al., 2018); discrimination in native peoples has also been studied (Becerra et al., 2015; Mellor et al., 2009; Ortiz et al., 2016; Oyarzún et al., 2022; Ramírez et al., 2016), by gender (Sandoval et al., 2019), in LGBT population (Barrientos et al., 2010; Barrientos et al., 2014), or associated with overweight and obesity (Energici et al., 2017), among others. These studies report evidence of the relationship between feeling discriminated against and the presence of psychopathological symptoms (anxiety and depression), lower self-esteem, poorer self-reported physical health,

lower well-being, less active participation in learning in students, discontinuity of care in diabetic patients, among others.

Although Chile has specific legislation that establishes measures against discrimination (Law 20.609 of 2012, published in the Official Gazette on July 24, 2012), studies on this topic in the general population are scarce. The national literature presents mainly studies in the infant-juvenile population, where a relationship has been found between daily discrimination, substance use (Caqueo-Úrizar et al., 2021) and behavioral and emotional problems (Flores et al., 2021); and in primary care users, where discrimination is associated with the presence of substance use and mental health problems (Capezza et al., 2012).

In this context, the aim of this study is to analyze the effect of discrimination on mental health in the Chilean general population, evaluating the presence of anxious and depressive symptomatology in the context of perceived discrimination. Secondly, the main causes of discrimination reported by the participants evaluated are described.

Method

Participants

A total of 927 Chilean nationals were surveyed, of whom 468 (50.5%) were from Antofagasta, 240 (25.9%) from Arica, and 219 (23.6%) from Santiago. Regarding sex, 552 (59.5%) were female and 375 (40.5%) were male. Age ranged from 18 to 70 years ($M=33.92$; $SD=13.13$). The only inclusion criteria were age of majority and Chilean nationality. The exclusion criterion was to have a perceptible cognitive disability that prevented them from understanding the questionnaires applied.

Measures

Discrimination

Participants were asked about their experiences of discrimination and were also asked about their perception of the main cause they believed to be the reason for unfair treatment. For the description of perceived causes, the Williams discrimination scale (Krieger et al., 2005) was used, while for the analysis of the relationship with mental health, the major discrimination experience scale (EOD) of Krieger et al. (2005) was used. In this application, the scale had a Cronbach's alpha of .86.

Depressive symptoms

The BDI IA Inventory was used. This is an instrument for self-report of depressive symptomatology composed of 21 items, with 4 response options (0 to 3 points) that generate a score between 0 and 63 points. This questionnaire was developed by Beck et al. (1961), it has a version translated into Spanish - BDI IA (Sanz et al., 1998) and a version adapted for Chile (Valdés et al., 2017). This instrument has shown adequate psychometric properties (Beck et al., 1988a). The internal consistency for the present study was a Cronbach's alpha of .95.

Anxiety symptoms

The Beck Anxiety Inventory BAI (Beck et al., 1988b), composed of 21 items that evaluate common symptomatology associated with anxiety disorders, was used. Like the previous scale, each item is scored from 0 to 3 points. In this study, the Spanish version was used (Magan et al., 2008; Sanz et al., 2014). In this application, the internal consistency measured through Cronbach's alpha was .95.

Procedures

A non-experimental, cross-sectional design was used. People were invited to participate under a intentional snowball sampling, complying with the inclusion and exclusion criteria. Different social and contact networks of the people surveyed were used to initiate the sampling in the three chosen cities, as well as different places of affluence of people (health, recreation, commercial centers, etc.), aiming at different levels of income and education. The data collection procedure was face-to-face, using self-report questionnaires. The surveyors were psychology students, both undergraduate and graduate, hired and trained for this purpose in the cities mentioned.

Ethical Issues

The present report is part of a larger research project, which was reviewed and approved by the Scientific Ethics Committee of the Universidad Católica del Norte, which is accredited. The information from the records obtained was handled anonymously and informed consent was obtained from each participant. The analysis, data processing and reporting of results were carried out in accordance with the Declaration of Helsinki.

Statistical analysis

First, the measurement models were tested and adjusted through confirmatory factor analysis of the scales on the experiences of discrimination,

anxiety and depression. Once the measurement models were estimated, a structural equation model was tested to estimate the effect of discrimination experiences on the anxiety and depression presented by the Chilean participants (Figure 1).

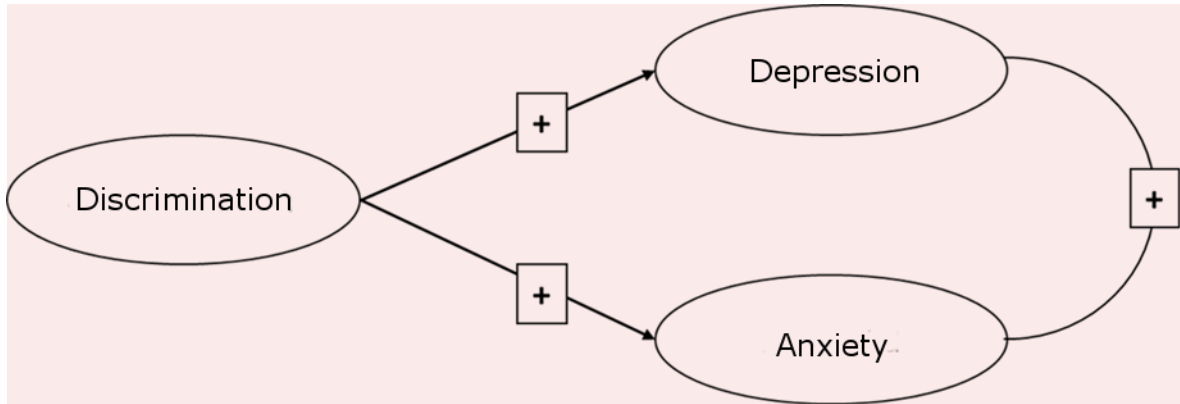


Figure 1. Hypothetical model representing the effect of Discrimination Experiences on Depression and Anxiety.

Analyses were performed with Mplus 8.2 software, using the Weighted Least Square Mean and Variance (WLSMV) estimation method, which is robust to non-normal ordinal variables (Beauducel et al., 2006). The goodness of fit of all structural models were estimated using Chi-square (χ^2) values, root mean square error of approximation (RMSEA), comparative fit index (CFI) and Tucker Lewis index (TLI). According to the standards recommended by the literature (Schreiber, 2017), values $RMSEA \leq .08$, $CFI \geq .95$, and $TLI \geq .95$ are considered adequate and indicative of a good fit.

Results

Participants

Table 1 shows the characterization of the participants in terms of educational level, income, employment and perceived phenotype. In general terms, more than

70% have secondary education or higher, more than 50% are working and 46% phenotypically perceive themselves as white.

Table 1. *Sociodemographic characteristics of the sample*

Variable	Category	Arica	Antofagasta	Santiago	Total
		<i>n</i> (%)	<i>n</i> (%)	<i>n</i> (%)	<i>n</i> (%)
		240 (25.9)	468 (50.5)	219 (23.6)	927
Education	Incomplete primary	3 (0.3)	13 (1.4)	0 (0)	16 (1.7)
	Complete primary	11 (1.2)	72 (7.9)	1 (0.1)	84 (9.2)
	Secondary education	63 (6.9)	118 (12.9)	68 (7.4)	249 (26.9)
	Incomplete technical	24 (2.6)	40 (4.4)	24 (2.6)	88 (9.5)
	Technical	51 (5.6)	106 (11.6)	25 (2.7)	182 (19.6)
	Incomplete university	53 (5.8)	73 (8.0)	45 (4.9)	171 (18.4)
	Complete university	28 (3.1)	36 (3.9)	39 (4.3)	103 (11.1)
	Postgraduate degree	2 (0.2)	8 (0.9)	13 (1.4)	23 (2.5)
Employment status*	Working	109 (11.8)	248 (27.0)	148 (16.1)	505 (54.5)
	Retired	12 (1.3)	17 (1.8)	1 (0.1)	30 (3.2)
	Unemployed	11 (1.2)	46 (5.0)	3 (0.3)	60 (6.8)
	Housework	21 (2.3)	34 (3.7)	3 (0.4)	58 (6.3)
	Studying	76 (8.3)	118 (12.8)	63 (6.8)	257 (27.7)
Monthly income *	<125 US\$	8 (0.9)	42 (4.7)	2 (0.2)	52 (5.6)
	126–375 US\$	65 (7.3)	78 (8.7)	12 (1.3)	155 (16.7)
	376–750 US\$	76 (8.5)	144 (16.1)	39 (4.4)	259 (27.9)
	751–1,250 US\$	46 (5.1)	99 (11.0)	69 (7.7)	214 (23.1)
	1,251–1,875 US\$	24 (2.7)	52 (5.8)	46 (5.1)	122 (13.2)
	>1,876 US\$	8 (0.9)	49 (5.5)	36 (4.0)	93 (10.0)
Self-reported phenotype*	White	60 (6.6)	246 (27.0)	122 (13.4)	428 (46)
	Indigenous	24 (2.6)	17 (1.9)	7 (0.8)	48 (5.2)
	Mestizo	85 (9.3)	151 (16.6)	78 (8.6)	314 (33.9)
	Afrodescendant	16 (1.8)	0 (0)	0 (0)	16 (1.7)
	Mulatoo	32 (3.5)	25 (2.7)	4 (0.4)	61 (6.6)
	Others	7 (0.8)	11 (1.2)	2 (0.2)	20 (2.2)
* variable with missing data					

Experiences of discrimination

As can be seen in Table 2, about 36% of the participants report some experience of feeling discriminated against in some situation, a perception that reaches its highest point with 42% in the area of employment. The main causes reported are mainly educational level or income, age and gender.

Table 2. *Percentage of perception of unfair treatment*

	YES	%	NO	%	Principales causas atribuidas
Have you been unfairly dismissed?	332	35,0	617	65,0	11,6% education or incomes 9,5% being Chilean 6,3% age 4,2 % physical disability 2,1 % gender 2,1 % height or weight
Have you been denied employment?	400	42,1	550	57,9	23,4 % Age 18,0 % education or incomes 7,2% % height or weight 6,6% gender 4,8% physical disability 3,6% being Chilean
Have you been denied a promotion at work?	364	38,4	585	61,6	16,5% Age 13,9% education or incomes 10,1% skin color 5,1% gender
Have you been stopped, physically searched, interrogated, threatened or unfairly abused by the police?	338	35,5	614	64,2	14,9% skin color 10,8% Age 8,1% gender 6,8% being Chilean 2,7% education or incomes
Have you been unfairly discouraged by a teacher or counselor from continuing your education?	369	38,9	580	61,1	18,6% education or incomes 15,5% height or weight 12,4% gender 6,2% Age 6,2% religion
Have you been prevented from moving into a neighborhood because a property owner or home seller refused to sell or lease you a house or apartment?	294	31	654	69	28,6% Age 14,3% height or weight 14,3% education or incomes
Have you moved to another neighborhood where the neighbors have made life difficult for you and your family?	309	32,6	640	67,4	20% sexual orientation 16% skin color 12% gender
Have you been unfairly denied a bank loan?	336	35,4	613	64,6	62,3% education or incomes 2,9% Age
Have you received worse service from someone like a gas fitter, plumber, auto mechanic, compared to what they give to other people?	305	32,1	644	67,9	24,2% education or incomes 24,2% gender 15,2% Age

La tabla 3 muestra los estadísticos de las variables incorporadas en el modelo a evaluar, así como la correlación entre estas. Se ha considerado la media del puntaje dado a cada pregunta (0 a 3 puntos).

Table 3. Means of the variables included in the model and intervariable correlation

Variables	n	M	SD	DEP	ANS
DIS	923	1.41	0.52	0.41*	0.43*
DEP	922	0.35	0.41		0.64*
ANS	926	0.59	0.61		

Note: DIS = Discrimination; DEP = Depression; ANS = Anxiety. $p < 0.05$ *

Measurement models

Table 4 summarizes the goodness-of-fit indices of the measurement models analyzed. Both the scale on experiences of discrimination, depression and anxiety presented, in general, goodness-of-fit indicators close to the standards recommended by the literature (Schreiber, 2017). However, in the case of the scale on discrimination experiences, it presented an RMSEA value far from the recommended standards, so the results associated with this variable should be analyzed with caution.

Table 4. Indicators of global fit of structural equation models.

Models	Parameters	χ^2	fd	p	CFI	TLI	RMSEA	RMSEA IC 90%	
								Lower	Superior
DIS	36	442.862	27	.00	.948	.930	.129	.119	.140
DEP	80	1095.824	170	.00	.942	.935	.077	.073	.081
ANS	84	1293.633	189	.00	.957	.952	.079	.075	.084

Note: DIS = Discrimination; DEP = Depression; ANS = Anxiety.

Structural equation model

The structural equation model examined the effect of discrimination experiences on anxiety and depression in the Chilean participants. The estimated model presented good fit indices, which allows us to state that the model is a good representation of the observed relationships (Par = 213; χ^2 [1412] = 3899.056; $p < .001$; CFI = .939; TLI = .936; RMSEA = .045). In Figure 2, it can be seen that discrimination experiences exert statistically significant positive effects of moderate magnitude (Cohen, 2013) ($b > .30$) on depression ($b = .460$, $p < .001$) and anxiety

($b=.480$, $p<.001$). Finally, as expected depression, was positively related to anxiety ($b=.636$, $p<.001$).

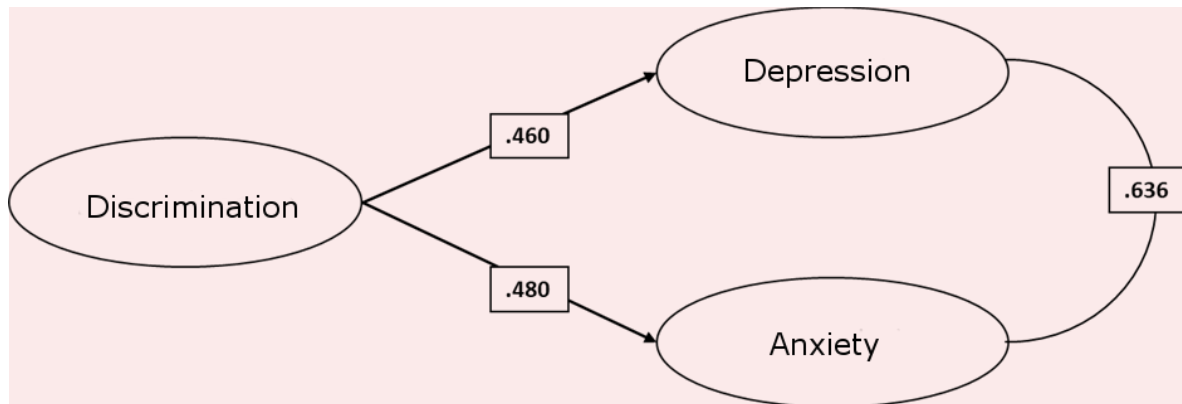


Figure 2. Model representing the effect of Discrimination Experiences on Depression and Anxiety.
 (Note: Analyses were controlled for sex, age, and stated phenotype. $p<.05$. Coefficients are standardized).

Discussion

More than one third of the surveyed population reports having been discriminated against at some point in their lives in the aspects evaluated. It is important to note that this perception of discrimination is more acute in the area of employment, since a significant percentage of the surveyed population perceives having been discriminated against either when applying for a new job or when being promoted within their workplace. Among the causes identified, age, education, income and gender stand out. Although age and education could be factors that determine greater or lesser preparation for a particular job and could be relativized as factors of discrimination, being differentiated in terms of income and sex of the applicant are unjustifiable negative behaviors towards a specific group, which would be consistent with the definition of discrimination. Despite the legislation against these practices, these antecedents are important to highlight and show a margin for improving such policies. In terms of unfair treatment by the police, the skin color variable is the most widely reported factor. This is consistent with evidence from around the world where darker skin color is associated with a higher probability of being arrested (Finkeldey & Demuth, 2021). Finally, sexual orientation stands out as the main factor of perceived discrimination with respect to access to housing in a given neighborhood, a factor that does not appear in the other items evaluated.

Regarding the self-perceived phenotypic character of the surveyed population, it stands out that almost half of the sample self-perceives themselves as white. This phenomenon is interesting to explore, since the northern regions included in the study, contain an important portion of the population belonging to the Aymara and Atacameño peoples (National Institute of Statistics - INE, 2018), together with the Metropolitan Region which, in absolute terms, represents the national territory with the largest number of inhabitants belonging to some native people. The aforementioned phenomenon is concordant with what is reported by the National Institute of Human Rights (in Spanish *Instituto Nacional de Derechos Humanos* - INDH), where they highlight that the Northern regions and the Metropolitan Region are the regions with the highest phenotypical self-perception as white (INDH, 2017). This could have significant implications in the appearance of anxious and depressive symptoms, since the feeling of belonging to an ethnic group, ethnic identity and ethnic affirmation have been identified as protective factors that could mitigate the influence that exposure to discrimination could exert on the different domains of the individual's psychological well-being (Hughes et al., 2009).

As for the central hypothesis of this study, it is established that perceived discrimination is related to an increase in anxious and depressive symptomatology, and that such symptomatology, both in the mood and anxious spheres, are interrelated. Such relationships have been extensively studied and previously identified in the context of racial/ethnic discrimination in Latino migrant communities (Pascoe & Richman, 2009); however, the novelty of this study lies in the fact that it explores the concept of discrimination from a broader sphere, in the general population, without specifying it to the racial context and obtaining similar results.

Among the strengths of this study are the number of individuals recruited and the fact that they included cities where the migratory phenomenon and environmental control play an important role in the psychological well-being of their inhabitants. Arica, being a border city, presents unique demographic phenomena in terms of movement of people and floating population. Antofagasta, being an important mining city, has a population whose economy revolves around mining and where an important portion of job offers revolves around it. Finally, Santiago, being the capital, is a key city to study, together with the two other cities previously mentioned.

Among the limitations of the study is the fact that it did not include regions of southern Chile, which have the largest indigenous population in terms of their

inhabitants (INE, 2018), which could generate subtle differences in the demographics presented and have implications for ethnic self-determination and its corresponding effects on the mental health of these populations in particular. On the other hand, although the analyses were controlled for age, no differentiation was made by age range. Although age was included as a cause of perceived discrimination, it has been shown that belonging to different age groups determines a greater or lesser perception of discrimination and affects these individuals differently depending on the stage of the life cycle in which they are (Giasson et al., 2017), the latter being an interesting topic for further research in the future.

Finally, this research contributes with background information on the main causes of perceived discrimination in the general Chilean population, and the main reasons why this population perceives this treatment. It also establishes known relationships between perceived discrimination and the development of anxious and depressive symptoms, and how this affects the mental health of Chileans, providing evidence of the negative impact of this phenomenon on the mental health of the population, especially considering the high prevalence of anxiety and depression symptoms in the general population in Chile (22% for moderate and severe anxiety and 15% for mild, moderate and severe depression) (Urzúa et al., 2020), constituting an important public health problem. In this sense, the implementation of public policies with a greater impact on the reduction of the phenomenon of discrimination in the general population, and not only in specific groups, will contribute in a preventive way to improve the mental health and well-being of our population, reducing the risk by intervening in one of its potential causes.

Conclusions

Despite the fact that Chile is a country with a rich and varied ethnic ancestry, a significant percentage of respondents perceive themselves as phenotypically white. This could have implications for the sense of ethnic belonging and coping mechanisms in the face of discrimination. As for discrimination itself, a considerable number of respondents claim to have been victims of discrimination. This phenomenon occurs mainly in the workplace and its reported causes represent an important topic for improvement in terms of non-discrimination policies. Finally, the association between discrimination and symptomatology turned out to be statistically significant, with a moderate effect size for these symptoms, which are interrelated.

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