salud mental

Stigma towards people with mental disorders: perceptions of devaluation and discrimination in a sample of Chilean workers

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ABSTRACT

Introduction. Mental disorders represent one of the main causes of disease burden in the adult population. Negative public attitudes and behaviors toward people with mental disorders negatively affect the treatment, recovery, and social inclusion of those affected. Chile laks surveys on workers that address this issue. **Objective.** To describe the perceptions of devaluation and discrimination towards people with mental disorders in a sample of Chilean workers. **Method.** A cross-sectional study was carried out with 1 516 workers in the formal sector of four regions of Chile (Metropolitan Region [RM], Bío Bio [VIII], Valparaíso [V] and Coquimbo [IV]). The perception of discrimination and devaluation was explored through a modified version of the The perceived Devaluation-Discrimination Scale (PDD) comprising 15 questions. The relationship of each question with sociodemographic variables (age, sex, years of study, and region) and type of economic activity was assessed. **Results.** The study found a high percentage of perceptions of devaluation and discrimination in most aspects considered, particularly those related to hiring a person who has been hospitalized due to a mental illness (85%), feeling sorry for people with severe mental illnesses (80%), and the unwillingness to marry a person with a mental illness (78%). Significant differences were observed in the opinions by sociodemographic variables and region of residence. **Discussion and conclusion.** The perception of Chilean workers has high levels of stigma towards people living with mental disorders. It is necessary and urgent to develop effective anti-stigma public policies to promote a more inclusive, tolerant society.

Keywords: Social stigma, mental illness, workers, Chile.

RESUMEN

Introducción. Los trastornos mentales representan una de las principales causas de carga de morbilidad en la población adulta. Las actitudes y conductas públicas negativas hacia las personas con trastornos mentales inciden negativamente en el tratamiento, la recuperación e inclusión social de las personas afectadas. Chile no cuenta con encuestas en trabajadores que aborden este tema. **Objetivo.** Describir las percepciones de devaluación y discriminación hacia personas con trastornos mentales en una muestra de trabajadores chilenos. **Método.** Se realizó un estudio transversal con 1 516 trabajadores del sector formal de cuatro regiones de Chile (Región Metropolitana [RM], de Bío Bio [VIII], de Valparaíso [V] y de Coquimbo [IV]). Se exploró la percepción de discriminación y devaluación por medio de una versión modificada de la *Perceived Devaluation-Discrimination Scale* (PDD) con 15 preguntas. Se analizó la relación de cada pregunta con variables sociodemográficas (edad, sexo, años de estudio y región) y tipo de actividad económica. **Resultados.** Se detectó un alto porcentaje de percepción de devaluación y discriminación en la mayoría de los aspectos considerados, destacándose los relacionados con la contratación de una persona que ha sido hospitalizada por una enfermedad mental (85%), sentir pena por las personas con enfermedades mentales graves (80%) y el rechazo a casarse con una persona que tenga una enfermedad mental (78%). Se observaron diferencias significativas en las percepciones, según las variables sociodemográficas y las relativas a la región de residencia. **Discusión y conclusión.** La percepción de los trabajadores en Chile muestra altos niveles de estigma social hacia personas con trastornos mentales. Es necesario y urgente desarrollar políticas públicas antiestigma efectivas, promoviendo al mismo tiempo una sociedad más inclusiva y tolerante.

Palabras clave: Estigma social, trastornos mentales, trabajadores, Chile.

INTRODUCTION

Worldwide, mental health disorders represent one of the main causes of morbidity in the adult population, contributing to a high percentage of the global burden of disease in every region (Organización Mundial de la Salud, 2013). In Chile, neuro-psychiatric conditions account for 23.2% of years of life lost due to disability or death (AVISA) (Ministerio de Salud, 2008), and are the main cause of sick leave, especially among women (Superintendencia de Salud, 2018).

In a study conducted in 27 countries, Thornicroft, Brohan, Rose, Sartorius, and Leese (2009) identified a high perception of negative attitudes or stigma towards mental health service users. This stigma is a multidimensional phenomenon which, from one perspective, encompasses various problems related to inadequate knowledge and beliefs, a prejudiced attitude, and discriminatory behavior (Thornicroft et al., 2009), which may be internalized in people with mental health disorders (Corrigan, 2016). At the same time, stigma must also be analyzed from a broader perspective, in which various socio-cultural components interact and lead to the formation of a negative cultural stereotype and systematic social devaluation, which limits access to social and economic goods and therefore has negative effects at the social and health levels (Link & Phelan, 2001). In this respect, discrimination can either be experienced through individual interactions or be structural, when accumulated institutional practices create inequalities (Stuart, 2016). This constitutes a major barrier that delays access to treatment and rehabilitation, particularly in developing countries and among more vulnerable groups (Mascayano, Armijo, & Yang, 2015).

At the same time, personal beliefs about other people's attitudes towards those with mental health disorders affect the psychological well-being and quality of life of people with these disorders and those of their families (Link, Cullen, Struening, Shrout, & Dohrenwend, 1989), reducing opportunities for education, employment, and housing (World Health Organization, 2007), as well as their productivity (Link et al., 1989) and the personal fulfillment work can provide. Thus, people with mental disorders are also exposed to unequal conditions for the exercise of their rights (World Health Organization, 2005). Accordingly, those affected may be more prone to depressive disorders, to more severe psychiatric symptoms, and to lower levels of self-esteem and recovery in various cultures and contexts (Boyd, Adler, Otilingam, & Peters, 2014). Although in Latin America information exists on stigma towards people with mental health disorders in the general population, knowledge of this in the work environment is still limited. A study in Chile (Chuaqui, 2005) found that a high proportion of employers (businessmen) with a limited knowledge of mental health problems negatively evaluated the work skills of people with this type of problems, despite their being in optimal working conditions. Moreover, they perceived people with a mental health disorder as dangerous, violent, unstable, unreliable, and conflictive, with problems in interpersonal relationships and communication, as well as difficulties performing tasks. Stigma of these employers was largely based on the representations of popular culture, and the rumors or dramatization of social or mass media (Chuaqui, 2005). This perception may be shared with co-workers, which could further hinder any policy or initiative seeking social and labor inclusion.

In view of the foregoing, the purpose of this study was to describe the stigmatizing perceptions of devaluation and discrimination towards people with mental disorders in a sample of Chilean workers. The results show the extent of the problem at the population level, providing useful information for the development of general strategies focused on stigma reduction, thereby encouraging the social and labor inclusion of people with mental disorders.

METHOD

A cross-sectional investigation was conducted between October and December, 2014. This study was part of a larger survey, whose main objective was to describe perceptions of labor-related and non-labor-related risk in formal workers in Chile.

Sample description

The target population of the study corresponds to the totality of people over 18 years of age, employed nationwide. A stratified sampling of four regions in the country was conducted: the Metropolitan Region (RM), Bio Bio (VIII), Valparaíso (V), and Coquimbo (IV), since they have the greatest concentration of inhabitants and variability of fields of employment. Within each region, and in the largest cities, the neighborhood, the block and the first house in the sample were randomly selected.

For the selection of participants, quota sampling was used until the percentage distribution by field of employment, similar to that of the country was reached, with a sample size of 1 854 workers being calculated. In order to calculate the sample size, a stratified sample design with proportional allocation was used, defining the strata by region, sex, and fields of employment (Vivanco, 2005). The following inclusion criteria were considered: a) employees at companies with at least five workers; b) the field of employment was determined by the worker's company rather than their job; and c) workers had to belong to a company in the region where they lived. Being either freelance or retired workers were regarded as exclusion criteria. A maximum of three people were surveyed per company.

Instruments

For the present analysis, questions about sociodemographic aspects, economic activity group, and perception of discrimination or devaluation towards people with mental disorders were included. The sociodemographic variables considered were: age, categorized into three groups (18-30, 31-45 and 46-80 years), considering the distribution of the study population (tertiles); sex (man, woman); years of study categorized on the basis of the criteria used for education in Chile: basic education up to eight years, secondary school education (9-12 years), and higher education (≥ 13 years); and region of residence in Chile (IV, V, VIII, and Metropolitan Region).

The labor activity reported by each respondent was categorized on the basis of the International Standard Industrial Classification of All Economic Activities (CIIU-REV.3) (Naciones Unidas, 2005) considering the ten main groups of economic activity in Chile: a) agriculture, livestock, hunting and forestry, fishing; b) exploitation of mines and quarries; c) manufacturing industries; d) electricity, gas, and water supply; e) construction; f) trade, repairs, hotels, and restaurants; g) transport, storage, and communications; h) financial intermediation, real estate, business, and rental activity; i) public administration and defense, social and health services, community services, and j) domestic service in private homes.

The perception of discrimination and devaluation was explored using an adapted version of the Perceived Devaluation-Discrimination Scale (PDD), initially proposed by Link (Link, 1987; Link et al., 1989), validated in Spanish with an internal consistency of .87 (Cronbach's α) (Martinez-Zambrano et al., 2016), and widely accepted by the Chilean population (Sanz, 2016). This instrument seeks to measure social stigma considering the perception of "Most people" rather than individual attitudes. A semantic adaptation of the instrument was carried out to ensure that questions were properly understood. The version of the instrument used included 15 statements to explore beliefs, negative attitudes, and discriminatory acts towards people with a serious mental illness. Each item was measured on a Likert scale with four options: "Strongly disagree" = 1, "Disagree" = 2, "Agree" = 3 and "Strongly agree" = 4. Variables were re-categorized (Strongly disagree/Disagree = 1 and Agree/Strongly agree = 2), grouping together the answers expressing the greatest discrimination or devaluation. In five of the items (questions 3, 6, 9, 11, and 12), the meaning of the questions is expressed inversely with respect to the remaining ten questions.

The instrument was applied at the home address of each employee by previously trained interviewers and under a strict quality control in the data registration. Moreover, 20% of the surveys that each interviewer had conducted were supervised, considering: a) compliance with the study methodology; b) correct classification of the field of economic activity of the company to which the respondent belonged; and c) form of exploring and classifying the risks declared by the respondent.

Statistical analysis

Categorical variables were expressed in terms of absolute and relative frequency. The comparison between each item in the PDD instrument and the different groups was carried out using the Chi-square test, which was reported together with the p-value (two tailed) for all cases, considering an alpha error < .05 as significant. The interview was concluded in digital format and subsequently exported to SPSS Statistics Version 25 for analysis.

Ethical considerations

The study followed the recommendations for integrity in research (Resnik & Shamoo, 2011) at every stage of the study.

Likewise, all participants were told about the objectives of the study and asked to sign an informed consent form.

Voluntary participation was respected at all times.

RESULTS

A total of 1 583 people participated in the study, achieving a participation rate of 85.4%. Subsequently, during the process of monitoring and reviewing the quality of the surveys, 67 surveys (4.2%) were eliminated due to incomplete data or disagreement with a second re-check survey, leaving a total of 1 516 surveys for the study.

Of the 1 516 participants, 58% were male, under 45 (74%), married or partnered (40%), had completed 13 or more years of study (66%), and were mainly employed in the commerce, repair, hotel and restaurant sectors (23%), and in public administration and defense, social, and health services and community services (22%) (Table 1). Sixty-three per cent (944 participants) lived in the Metropolitan Region (RM), where a higher percentage of people lived with a partner, whereas the IV region had a higher percentage of people under 30 with more years of study (Table 1).

The results showed a high percentage of perception of devaluation and discrimination in most of the aspects considered. With the exception of three items, PDD2 "Most people believe that having a mental illness is worse than being a drug addict," 7 "Most people believe that receiving psychiatric treatment is a sign of personal failure," and 13 "Most people believe that people with severe mental illness have not entrusted themselves enough to God," over half the respondents felt that people with mental disorders could face significant situations of devaluation and discrimination. The highest percentages are related to the hiring by employers of a person who has been hospitalized for a men-

Table 1

Description of the sample of workers included in the study by region (n = 1516)

Variable	Total* n = 1516		Region IV** N = 94		Region V** N = 238		Region VIII** N = 222		RM** N = 944		p*** Value (χ^2)
	n	%	n	%	n	%	n	%	n	%	
Sex											
Man	883	58.2	55	58.5	135	56.7	135	60.8	546	57.8	.83
Woman	633	41.8	39	41.5	103	43.3	87	39.2	398	42.2	(χ^2 = .89)
Age (years)											
18 - 30	564	37.2	67	71.3	97	40.8	148	66.7	245	26.0	< .01
31- 45	553	36.5	16	17.0	87	36.6	41	18.5	401	42.5	(χ^2 = .182.66)
≥ 46	399	26.3	11	11.7	54	22.7	33	14.9	298	31.6	
Marital status											
Single	803	53	69	73.4	145	60.9	168	75.5	411	43.5	< .01
Partnered	608	40.1	21	22.3	76	31.9	50	22.5	454	48.1	(χ^2 = 103.43)
Separated	105	6.9	4	4.3	17	7.1	4	1.8	79	8.4	
Years of study (years)											
≤ 8	67	4.4	0	.0	5	2.1	6	2.7	54	5.7	< .01
9-12	450	29.7	13	13.8	57	23.9	45	20.3	330	35.0	(χ^2 = 56.95)
≥13	999	65.9	81	86.2	176	73.9	171	77.0	560	59.3	
Main economic activity****											
Agriculture, livestock, forestry, hunting and fishing.	123	8.1	10	10.6	17	7.1	14	6.3	79	8.4	.98 (χ^2 = 13.93)
Exploitation of mines and quarries	51	3.4	4	4.3	8	3.4	7	3.2	31	3.3	
Manufacturing industries	174	11.5	6	6.4	25	10.5	30	13.5	112	11.9	
Electricity, gas and water supply	18	1.2	1	1.1	4	1.7	2	.9	10	1.1	
Construction	132	8.7	5	5.3	20	8.4	22	9.9	83	8.8	
Business, repairs, hotels and restaurants	352	23.2	25	26.6	57	23.9	55	24.8	212	22.5	
Transport, storage and communications	113	7.5	8	8.5	17	7.1	19	8.6	69	7.3	
Financial intermediation, real estate, business and leading activity	125	8.2	5	5.3	18	7.6	15	6.8	87	9.2	
Public administration and defense, social and health services, community services	332	21.9	22	23.4	57	23.9	44	19.8	202	21.4	
Domestic service in private homes	96	6.3	8	8.5	15	6.3	14	6.3	59	6.3	

*No region was registered for 18 people.
**RM: Metropolitan Region, Bio Bio (VIII), Valparaíso (V) and Coquimbo (IV).
***Chi-square test (χ^2).
****Based on the International Standard Industrial Classification of All Economic Activities (ISIC, 4th. Revision).

tal illness (PDD5: "Most employers would not hire a person who has been hospitalized for a mental illness": 85%), the belief that people "feel sorry" for people with severe mental illness (PDD14: "Most people 'feel sorry' for people with severe mental illness": 80%), or the unwillingness to marry a woman with a mental illness (PDD8: 78%) (Table 2).

At the same time, some statistically significant differences were observed in some items of the instrument when compared with sociodemographic variables. A higher percentage of women than men believe that people despise those who have undergone psychiatric hospitalization (70% *vs*.65%; *p* value < .05). Older people also perceived greater discrimination and devaluation in questions PDD8 ("Most men would not marry a woman with a mental illness"), PDD13 ("Most people believe that people with severe mental illness have not entrusted themselves enough to

God"), and PDD15 ("Most people prefer to omit their opinions regarding psychiatric patients") compared to younger age groups, whereas item PDD6 ("Most people think that mentally ill people are as intelligent as ordinary people"), reported a lower perception of discrimination and devaluation (Table 3). In six of the items (PDD1, 3, 6, 7, 11, 12), people with a higher level of educational attainment perceived greater discrimination and devaluation, whereas in all the items (except PDD7), people residing in the IV region perceived greater discrimination and devaluation (Table 3). Finally, when comparing this perception by group of economic activity, it is observed that, although not in all cases, economic activities related to public administration and defense, social services and health, and community services displayed a higher perception of discrimination and devaluation (Table 4).

Table 2

Opinions of discrimination and devaluation in workers, towards people with mental illness (n = 1 516)

		Strongly agree		Agree		Disagree		Strongly disagree	
		n	*%*	*n*	*%*	*n*	*%*	*n*	*%*
PDD 1	Most people believe that a person with a severe mental disease is dangerous and unpredictable	261	17.2	822	54.2	389	25.7	44	2.9
PDD 2	Most people believe that having a mental disease is worth than being a drug addict	87	5.7	425	28.0	864	57.0	140	9.2
PDD 3*	Most people would accept a person with a severe mental illness as a close friend	50	3.3	538	35.5	756	49.9	172	11.3
PDD 4	Most people disparage people after psychiatric hospitalization	177	11.7	837	55.2	463	30.5	39	2.6
PDD 5	Most employers would not hire a person who has been hospitalized for a mental illness	413	27.2	868	57.3	211	13.9	24	1.6
PDD 6*	Most people think that people with mental illness are as intelligent as ordinary people	44	2.9	417	27.5	862	56.9	193	12.7
PDD 7	Most people believe that receiving psychiatric treatment is a sign of personal failure	107	7.1	625	41.2	688	45.4	96	6.3
PDD 8	Most men would not marry a woman with a mental illness	405	26.7	777	51.3	300	19.8	34	2.2
PDD 9*	Most people would accept a fully recovered psychiatric patient as their child/children's teacher	32	2.1	321	21.2	776	51.2	387	25.5
PDD 10	Most people would take the opinion of people who have been psychiatric patients less seriously	151	10.0	1002	66.1	335	22.1	28	1.8
PDD 11*	Most people believe that a psychiatric patient is as trustworthy as any other citizen	28	1.8	463	30.5	864	57.0	161	10.6
PDD 12*	Most people would relate to a person with mental illness in the same way as they would to anyone else	32	2.1	412	27.2	907	59.8	165	10.9
PDD 13	Most people believe that people with a severe mental illness have not sufficiently entrusted themselves to God	46	3.0	260	17.2	814	53.7	396	26.1
PDD 14	"Most people 'feel sorry' for people with severe mental illness	245	16.2	961	63.4	277	18.3	33	2.2
PDD 15	Most people prefer to omit their opinions on psychiatric patients	191	12.6	933	61.5	355	23.4	37	2.4

* Questions in the opposite sense of discrimination/devaluation.

DISCUSSION AND CONCLUSION

The present study explored the perception of discrimination and devaluation towards people with mental disorders and their relationship with sociodemographic and labor characteristics in a representative sample of Chilean salaried workers. The results reported a high perception of discrimination and devaluation, which may vary by age, gender, level of educational attainment, region of residence, and economic activity group in which they work.

The results show similar percentages of discrimination and devaluation to those reported in the 1989 study by Link of the general population (Link et al., 1989), although they are higher than the public perception described by people currently in contact with a mental health services (Lundberg, Hansson, Wentz, & Bjorkman, 2007) or with a severe mental disorder (Thornicroft et al., 2009). Although these differences may reflect the different level of progress of na-

tional mental health programs, no other studies with a population perspective and using the same instrument have been found in Chile or Latin America with which they could be compared. However, a study in China showed very similar percentages of social stigma in some of the items explored (Li et al., 2018).

At the same time, this study supports the idea that cultural aspects could determine various forms of discrimination and devaluation (Angermeyer, Buyantugs, Kenzine, & Matschinger, 2004), finding a significantly different perception of certain components of stigma for certain age groups, years of schooling, and place of residence. This difference could be explained by the varying degrees of exposure to or awareness of mental health issues. In this respect, having a higher level of educational attainment was shown to be related to a greater perception of discrimination and devaluation towards people with mental disorders in certain components, which could be a reflection of a greater awareness

Table 3

Perception of discrimination and devaluation in workers, towards people with mental disorders, by sociodemographic variables (agree/strongly agree categories; n = 1 516)

	Sex			Age				Years of study				Region of the Country				
	Man (n = 883)	Woman (n = 633)	p* Value (χ^2)	≤ 30 (n = 564)	31-45 n = 553	≥ 46 n = 399	p* Value (χ^2)	≤ 8 n = 67	9-12 n = 450	≥ 13 n = 399	p* Value (χ^2)	IV n = 94	V n = 238	VIII n = 222	RM[2] n = 944	p[1] value (χ^2)
PDD 1	619 (70.1)	464 (73.3)	.17 (χ^2 = 1.85)	408 (72.3)	402 (72.7)	273 (68.4)	.30 (χ^2 = 2.43)	41 (61.2)	295 (65.6)	747 (74.8)	< .01 (χ^2 = 16.53)	85 (90.4)	166 (69.7)	151 (68.0)	670 (71.0)	< .01 (χ^2 = 18.35)
PDD 2	294 (33.3)	218 (34.4)	.64 (χ^2 = .22)	185 (32.8)	182 (32.9)	145 (36.3)	.45 (χ^2 = 1.60)	23 (34.3)	134 (29.8)	355 (35.5)	.10 (χ^2 = 4.61)	46 (48.9)	54 (22.7)	71 (32.0)	336 (35.6)	< .01 (χ^2 = 24.42)
PDD 3***	535 (60.6)	393 (62.1)	.56 (χ^2 = .35)	353 (62.6)	323 (58.4)	252 (63.2)	.23 (χ^2 = 2.92)	38 (56.7)	249 (55.3)	641 (64.2)	< .01 (χ^2 = 10.79)	80 (85.1)	131 (55.0)	104 (46.8)	601 (63.7)	< .01 (χ^2 = 48.08)
PDD 4	572 (64.8)	442 (69.8)	.04 (χ^2 = 4.24)	377 (66.8)	368 (66.5)	269 (67.4)	.96 (χ^2 = .08)	42 (62.7)	283 (62.9)	689 (69.0)	.06 (χ^2 = 5.74)	84 (89.4)	150 (63.0)	132 (59.5)	635 (67.3)	< .01 (χ^2 = 28.60)
PDD 5	741 (83.9)	540 (85.3)	.46 (χ^2 = .54)	469 (83.2)	470 (85.0)	342 (85.7)	.52 (χ^2 = 1.33)	57 (85.1)	372 (82.7)	852 (85.3)	.44 (χ^2 = 1.64)	90 (95.7)	206 (86.6)	165 (74.3)	805 (85.3)	< .01 (χ^2 = 27.84)
PDD 6***	621 (70.3)	434 (68.6)	.46 (χ^2 = .54)	413 (73.2)	387 (70.0)	255 (63.9)	< .01 (χ^2 = 9.65)	38 (56.7)	270 (60.0)	747 (74.8)	< .01 (χ^2 = 37.49)	89 (94.7)	167 (70.2)	150 (67.6)	635 (67.3)	< .01 (χ^2 = 30.78)
PDD 7	410 (46.4)	322 (50.9)	.09 (χ^2 = 2.91)	270 (47.9)	276 (49.9)	186 (46.6)	.59 (χ^2 = 1.07)	32 (47.8)	192 (42.7)	508 (50.9)	.02 (χ^2 = 8.33)	46 (48.9)	125 (52.5)	96 (43.2)	453 (48.0)	.26 (χ^2 = 3.99)
PDD 8	689 (78.0)	493 (77.9)	.95 (χ^2 = 0.01)	421 (74.6)	428 (77.4)	333 (83.5)	< .01 (χ^2 = 10.73)	49 (73.1)	353 (78.4)	780 (78.1)	.61 (χ^2 = .98)	93 (98.9)	155 (65.1)	154 (69.4)	767 (81.3)	< .01 (χ^2 = 62.52)
PDD 9***	675 (76.4)	488 (77.1)	.77 (χ^2 = .09)	424 (75.2)	432 (78.1)	307 (76.9)	.50 (χ^2 = 1.37)	50 (74.6)	329 (73.1)	784 (78.5)	.08 (χ^2 = 5.18)	88 (93.6)	186 (78.2)	153 (68.9)	721 (76.4)	< .01 (χ^2 = 22.86)
PDD 10	670 (75.9)	483 (76.3)	.85 (χ^2 = .04)	425 (75.4)	408 (73.8)	320 (80.2)	.06 (χ^2 = 5.49)	53 (79.1)	338 (75.1)	762 (76.3)	.75 (χ^2 = .59)	85 (90.4)	189 (79.4)	153 (68.9)	712 (75.4)	< .01 (χ^2 = 18.54)
PDD 11***	585 (66.3)	440 (69.5)	.18 (χ^2 = 1.79)	373 (66.1)	382 (69.1)	270 (67.7)	.58 (χ^2 = 1.11)	39 (58.2)	285 (63.3)	701 (70.2)	< .01 (χ^2 = 9.45)	86 (91.5)	162 (68.1)	123 (55.4)	642 (68.0)	< .01 (χ^2 = 39.68)
PDD 12***	620 (70.2)	452 (71.4)	.62 (χ^2 = .26)	390 (69.1)	405 (73.2)	277 (69.4)	.26 (χ^2 = 2.69)	47 (70.1)	290 (64.4)	735 (73.6)	.02 (χ^2 = 12.50)	87 (92.6)	177 (74.4)	113 (50.9)	682 (72.2)	< .01 (χ^2 = 66.31)
PDD 13	189 (21.4)	117 (18.5)	.16 (χ^2 = 1.95)	111 (19.7)	94 (17.0)	101 (25.3)	< .01 (χ^2 = 10.09)	25 (37.3)	93 (20.7)	188 (18.8)	< .01 (χ^2 = 13.42)	15 (16.0)	45 (18.9)	77 (34.7)	165 (17.5)	< .01 (χ^2 = 34.58)
PDD 14	695 (78.7)	511 (80.7)	.34 (χ^2 = .92)	457 (81.0)	436 (78.8)	313 (78.4)	.54 (χ^2 = 1.23)	54 (80.6)	345 (76.7)	807 (80.8)	.19 (χ^2 = 3.28)	88 (93.6)	194 (81.5)	177 (79.7)	732 (77.5)	< .01 (χ^2 = 14.32)
PDD 15	650 (73.6)	474 (74.9)	.58 (χ^2 = .31)	438 (77.7)	389 (70.3)	297 (74.4)	.02 (χ^2 = 7.82)	47 (70.1)	345 (76.7)	732 (73.3)	.29 (χ^2 = 2.45)	91 (96.8)	153 (64.3)	176 (79.3)	692 (73.3)	< .01 (χ^2 = 40.74)

*Chi-square test (χ^2).

**Metropolitan Region.

***The answers correspond to the categories "Disagree/Strongly disagree".

Note: PDD1: Most people believe that a person with a severe mental illness is dangerous and unpredictable; PDD2: Most people believe that having a mental illness is worse than being a drug addict; PDD3: Most people would accept a person with a severe mental illness as a close friend; PDD4: Most people disparage people after psychiatric hospitalization; PDD5: Most employers would not hire a person who has been hospitalized for a mental illness; PDD6: Most people believe that those with a mental illness are as intelligent as most people; PDD7: Most people believe receiving psychiatric treatment is a sign of personal failure. PDD8: Most men would not marry a woman with a mental illness; PDD9: Most people would accept a fully recovered psychiatric patient as their child/children's teacher; PDD10: Most people take the opinion of people who have been psychiatric patients less seriously; PDD 11: Most people believe that a psychiatric patient is as trustworthy as any other citizen; PDD12: Most people would establish a relationship with a person with a mental illness in the same way as they would with anyone else; PDD13: Most people believe that people with a severe mental illness have not sufficiently entrusted themselves to God; PDD 14: Most people ´feel sorry' for people with severe mental illnesses; PDD15: Most people prefer to omit their opinions on psychiatric patients.

Table 4

Perception of discrimination and devaluation in workers, towards people with mental disorders, by sociodemographic variables (agree/strongly agree categories; n = 1 516)

	Agriculture, livestock, forestry, hunting and fishing (n = 123)	Exploitation of mines and quarries (n = 51)	Manu-facturing industries (n = 174)	Electricity, gas and water supply (n = 18)	Construc-tion (n = 132)	Business, repairs, hotels and restaurants (n = 352)	Transport, storage and communi-cations (n = 113)	Financial intermedi-ation, real estate, business and leading activity (n = 125)	Public adminis-tration and defense, social and health services, community services (n = 332)	Domestic service in private homes (n = 96)	p¹ Value (χ²)
PDD 1	89 (72.4)	35 (68.6)	125 (71.8)	9 (50.0)	77 (58.3)	255 (72.4)	79 (69.9)	99 (79.2)	250 (75.3)	65 (67.7)	< .01 (χ² = 22.50)
PDD 2	36 (29.3)	22 (43.1)	62 (35.6)	3 (16.7)	41 (31.1)	105 (29.8)	35 (31.0)	47 (37.6)	126 (38.0)	35 (36.5)	.18 (χ² = 12.74)
PDD 3**	75 (61.0)	31 (60.8)	109 (62.6)	10 (55.6)	77 (58.3)	204 (58.0)	65 (57.5)	83 (66.4)	223 (67.2)	51 (53.1)	.21 (χ² = 12.10)
PDD 4	81 (65.9)	33 (64.7)	111 (63.8)	9 (50.0)	87 (65.9)	243 (69.0)	70 (61.9)	77 (61.6)	238 (71.7)	65 (67.7)	.32 (χ² = 10.33)
PDD 5	103 (83.7)	45 (88.2)	144 (82.8)	13 (72.2)	111 (84.1)	302 (85.8)	97 (85.8)	106 (84.8)	280 (84.3)	80 (83.3)	.92 (χ² = 3.81)
PDD 6**	81 (65.9)	37 (72.5)	114 (65.5)	11 (61.1)	90 (68.2)	238 (67.6)	79 (69.9)	89 (71.2)	258 (77.7)	58 (60.4)	.03 (χ² = 18.09)
PDD 7	54 (43.9)	24 (47.1)	83 (47.7)	8 (44.4)	64 (48.5)	167 (47.4)	56 (49.6)	64 (51.2)	171 (51.5)	41 (42.7)	.89 (χ² = 4.28)
PDD 8	99 (80.5)	41 (80.4)	134 (77.0)	14 (77.8)	103 (78.0)	264 (75.0)	94 (83.2)	105 (84.0)	258 (77.7)	70 (72.9)	.49 (χ² = 8.41)
PDD 9**	94 (76.4)	37 (72.5)	129 (74.1)	11 (61.1)	105 (79.5)	273 (77.6)	82 (72.6)	94 (75.2)	269 (81.0)	69 (71.9)	.33 (χ² = 10.29)
PDD 10	87 (70.7)	44 (86.3)	123 (70.7)	14 (77.8)	100 (75.8)	278 (79.0)	83 (73.5)	97 (77.6)	254 (76.5)	73 (76.0)	.36 (χ² = 9.90)
PDD 11**	83 (67.5)	35 (68.6)	107 (61.5)	11 (61.1)	83 (62.9)	255 (72.4)	69 (61.1)	91 (72.8)	237 (71.4)	54 (56.3)	.02 (χ² = 20.02)
PDD 12**	83 (67.5)	40 (78.4)	112 (64.4)	9 (50.0)	99 (75.0)	252 (71.6)	73 (64.6)	86 (68.8)	256 (77.1)	62 (64.6)	.01 (χ² = 21.06)
PDD 13	30 (24.4)	8 (15.7)	37 (21.3)	4 (22.2)	31 (23.5)	62 (17.6)	26 (23.0)	26 (20.8)	55 (16.6)	27 (28.1)	.24 (χ² = 11.54)
PDD 14	96 (78.0)	40 (78.4)	136 (78.2)	13 (72.2)	105 (79.5)	279 (79.3)	95 (84.1)	100 (80.0)	268 (80.7)	74 (77.1)	.96 (χ² = 3.10)
PDD 15	81 (65.9)	42 (82.4)	124 (71.3)	10 (55.6)	96 (72.7)	277 (78.7)	89 (78.8)	88 (70.4)	235 (70.8)	82 (85.4)	< .01 (χ² = 24.63)

*Chi Square Test (χ²).
**The answers correspond to the categories Disagree/strongly disagree.
Note: PDD1: Most people believe that a person with a severe mental illness is dangerous and unpredictable; PDD2: Most people believe that having a mental illness is worse than being a drug addict; PDD3: Most people would accept a person with a severe mental illness as a close friend; PDD4: Most people disparage people after psychiatric hospitalization; PDD5: Most employers would not hire a person who has been hospitalized for a mental illness; PDD6: Most people believe that people with a mental illness are as intelligent as ordinary people; PDD7: Most people believe receiving psychiatric treatment is a sign of personal failure. PDD8: Most men would not marry a woman with a mental illness; PDD9: Most people would accept a fully recovered psychiatric patient as their child/children's teacher; PDD10: Most people take the opinion of people who have been psychiatric patients less seriously; PDD 11: Most people believe that a psychiatric patient is as trustworthy as any other citizen; PDD12: Most people would establish a relationship with a person with a mental illness in the same way as they would with anyone else; PDD13: Most people believe that people with a severe mental illness have not sufficiently entrusted themselves to God; PDD 14: Most people ´feel sorry' for people with severe mental illnesses; PDD15: Most people prefer to omit their opinions on psychiatric patients.

of the issue in this group. Differences in stigma by cultural aspects have also been found in other studies (Koschorke, Evans-Lacko, Sartorius, & Thornicroft, 2017). Although the study had national rather than regional representativeness, the differences found when comparing the perceptions between regions, which coincide with the differences found by other authors regarding countries, regions, and localities, are striking (Lau et al., 2016; Semrau, Evans-Lacko, Koschorke, Ashenafi, & Thornicroft, 2015). These differences could be explained by the sample characteristics, since in region IV, the study population was significantly younger and with more years of schooling in comparison with the other regions included in the study. However, the above could explain some of the differences according to the economic activity in which the study population operates. It is striking that, globally, people employed in the public administration and defense, social services, and health and community services sectors perceive a higher percentage of

social stigma, possibly due to a greater awareness of the issue. In this regard, the contact hypothesis states that people with the greatest contact or who have the most experience with a stigmatizing condition are more tolerant and have more positive attitudes (Corrigan, 2016; Van Boekel, Brouwers, Van Weeghel, & Garretsen, 2013). However, in these groups it is not possible to distinguish between the job or the tasks performed, which makes it necessary to explore this aspect in greater depth.

Limitations of the study include the fact that since the sample did not include workers in the informal sector of the economy or freelance workers, the generalization of the study is limited to formal workers, as a result of which the perception of discrimination and devaluation in certain components may be over- or under-estimated. Although the response rate was over 85%, it is possible that people who did not agree to participate in the main study perceive greater labor-related or non-labor-related risk, and therefore their

perception of public stigma could be slightly different due to the type of work in which they are engaged. At the same time, the comparison of certain items could be affected by the presence of type II error, related to the sample size, particularly in subgroup comparisons, meaning that it is necessary to consider this aspect in the interpretation.

Another limitation is related to the instrument used. Although a validation study of the instrument in Chile exists (Sanz, 2016), it has included patients with schizophrenia and other mental disorders, in addition to considering a brief version of the instrument. The questions included in the instrument measure social stigma and do not incorporate questions that investigate self-perception as in other versions of the questionnaire. Although the instrument has been used to measure social stigma in the general population (Li et al., 2018; Zieger et al., 2016), validation studies of the same instrument in the general population have not been found in Chile, and it is possible that, despite the semantic validation undertaken for this study, there are cultural aspects in Chile that could affect the performance of the instrument. Some questions may not be entirely clear, despite the reliability of the instrument. Question PDD 8 refers to gender, when there might be differences if it were framed differently. These limitations had already been described by some authors in relation to the ambiguity of certain terms and the need to specify aspects associated with the contents of certain items (Mora-Rios, Bautista-Aguilar, Natera, & Pedersen, 2013). Although the questions in the questionnaire have been widely used and tested to assess changes in public attitudes, they explore the perceptions of other people ("most people") towards people with mental disorders rather than directly examining individual attitudes (Schomerus, Matschinger, Kenzin, Breier, & Angermeyer, 2006), meaning that results should be interpreted with caution.

Chile has made significant progress with public mental health policies, implementing the National Mental Health and Psychiatry Plan, which incorporated various guidelines suggested by the World Health Organization, such as the development of mental health services and the creation of inter-sectoral links to facilitate the social inclusion of users, respecting their rights and those of their families (República de Chile, 2000). Likewise, in one of its seven lines of action, the current mental health plan suggests working in the areas of Regulation and Human Rights, emphasizing aspects related to social inclusion within the framework of the current integral health model with a family and community approach (Ministerio de Salud, 2017) with a human rights perspective and support for the exercise of the latter, seeking recovery and socio-community inclusion with inter-sectorally coordinated actions (Ministerio de Salud, 2018). In this respect, a great deal of progress has been recorded as regards the inquiry into, access to and quality of mental health services. However, legal loopholes and gaps remain such as the lack of human resources training with skills in the community model (Minoletti & Zaccaria, 2005) and the existence of cultural conceptions that might encourage stigma (Mascayano et al., 2016).

At the same time, it is essential to advance the development of work spaces that respect differences and are committed to respecting the human rights of every person. Several studies suggest that anti-stigma interventions designed for the workplace may be very effective in bringing about a positive change in the knowledge, attitudes and supportive behavior of workers towards people with mental health disorders, possibly due to the high participation and intensity with which the information is delivered (Hanisch et al., 2016). Anti-stigma interventions implemented in the workplace that have proven effective include role play, on-line training, workshops, psycho-education, trauma risk management, crisis intervention training (Hanisch et al., 2016), and training based on digital games for managers (Hanisch, Birner, Oberhauser, Nowak, & Sabariego, 2017), among others. In this respect, several authors agree on the importance of focusing anti-stigma programs on specific population groups in which particular social and organizational factors are incorporated to obtain better results (Hanisch et al., 2017; Stuart, 2016).

The results of the study showed that among Chilean workers in the formal sector, there is a high perception of discrimination and devaluation towards people with mental disorders, with differences by sociodemographic and employment characteristics. It is therefore recommended that these differences be analyzed in greater depth and taken into account to focus and contextualize anti-stigma initiatives in an attempt to promote a more inclusive, tolerant society.

Funding

Conflicts of interest

The authors declare they have no conflicts of interest.

Acknowledgements

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