

The Influence of Self-Reported Received and Perceived Social Support on Mental Health amid COVID-19 Pandemic in Chile

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COVID-19 Work in Progress Conference

Motivation



COVID-19 in Chile

First positive case in March 3rd.

School closures and stay-at-home orders since mid-March.

Dynamic lockdowns applied at the municipality (comuna) level. Some municipalities had one of the longest lockdowns in the world! (> 150 days).

In July, roughly 60 percent of the population and 65 percent of total GDP were on lockdown.

Chile just passed the milestone of 500,000 COVID-19 cases.

Top 10 in the world with most COVID-19 cases per million.

What we do

(RQ 1): Are health shocks induced by COVID-19 associated with mental health problems?

(RQ 2): Are economic shocks induced by COVID-19 associated with mental health problems?

(RQ 3): Do effective support offset the negative influence of pandemic-induced health and economic experiences on mental health?

(RQ 4): Do perceived support offset the negative influence of pandemic-induced health and economic experiences on mental health?

We study these questions empirically by analyzing two waves of a nationally representative, longitudinal survey fielded by LEAS.

First wave: Respondents were selected using probability sampling by a RDD of cellphone numbers. N = 1,604. AAPOR's RR 1 = 11 percent. August 2020. Mode: CATI

Second wave: Follow up respondents contacted in August. N = 606. RR = 53 percent. October 2020. Mode: web + CATI.

Data and method

Dependent variable: Mental health problems

- Feeling nervous, anxious or on edge
 - Not being able to stop or control worrying
 - Feeling down, depressed or hopeless
 - Little interest or pleasure in doing things
 - Having felt lonely
- } Household Pulse Survey (US Census Bureau)

Original responses were registered on a 4-point scale ranging from 1, “not at all”, to 4, “nearly every day”. We calculate a cumulative factor for our statistical analyses. Cronbach’s alpha = 0.82 in August (0.85 in October).

Data and method

Main independent variables:

Health shocks

- **Direct influence of COVID-19:** having been tested positively for COVID-19 and having had COVID-19 symptoms (Ranges from 0 to 2).
- **Indirect influence of COVID-19:** having people close to the respondent with COVID-19 symptoms, having had a loved one or person important to the respondent suffering from a severe illness, and incapacity to get medical treatment or medicines needed (Ranges from 0 to 3).

Economic shocks

- **Economic problems:** having lost the job, having had to close the business, having wage or income greatly reduced, having fallen behind on mortgage or rent payments, having had problems paying for basic utilities, having the head of the household lost the job.
- We calculate a cumulative factor for our statistical analyses (Cronbach's alpha = 0.68).

Data and method

Main independent variables:

Support

- **Perceived:** 1) having someone to ask for advice, 2) having someone to ask for economic help, 3) having someone that take you to the doctor, 4) having someone to have a good time with, 5) having someone to help you with household chores if you are sick, 6) having someone who understands your problems
 - We calculate a cumulative factor for our statistical analyses. Cronbach's alpha = 0.79 in August (0.83 in October).
- **Effective:** 1) Did you receive help from your neighbors?, 2) Did you receive help from your colleagues or schoolmates? 3) Did you receive help from your close friends and family members?
 - Ranges from 0 to 3.

Cross-sectional results

Variable	Model 1			Model 2			Model 3		
	Coef.	S.E.	Beta	Coef.	S.E.	Beta	Coef.	S.E.	Beta
Health Shocks									
Direct influence COVID-19	0.494	(0.449)	0.148	0.182**	(0.084)	0.054	0.192**	(0.083)	0.058
Indirect influence COVID-19	0.280***	(0.066)	0.109	0.667*	(0.383)	0.260	0.286***	(0.065)	0.111
Economic Shocks									
Economic Problems	0.470***	(0.067)	0.189	0.475***	(0.067)	0.191	1.493***	(0.339)	0.599
Lockdown									
Lockdown days	-0.000	(0.000)	-0.007	-0.000	(0.000)	-0.008	-0.000	(0.000)	-0.010
Support									
Perceived Support	-0.385***	(0.051)	-0.229	-0.338***	(0.064)	-0.201	-0.205***	(0.071)	-0.122
Effective Support	0.025*	(0.015)	0.043	0.009	(0.019)	0.015	0.022	(0.020)	0.038
Interactive variables									
Direct influence COVID-19 x Perceived Support	-0.123	(0.180)	-0.094						
Direct influence COVID-19 x Effective Support	0.002	(0.051)	0.001						
Indirect influence COVID-19 x Perceived Support				-0.190	(0.145)	-0.191			
Indirect influence COVID-19 x Effective Support				0.055	(0.044)	0.058			
Economic Problems x Perceived Support							-0.416***	(0.127)	-0.421
Economic Problems x Effective Support							0.013	(0.044)	0.015
Intercept	1.870***	(0.188)	.	1.772***	(0.219)	.	1.422***	(0.224)	.
Observations	1,436			1,436			1,436		
R-squared	0.264			0.265			0.270		
Robust standard errors in parentheses									
*** p<0.01, ** p<0.05, * p<0.1									

Method

Linear model using robust standard errors, controlling for demographics (August 2020).

We find that both the direct and indirect effects of Covid-19 are positively correlated with mental health problems. Although its betas are small. **(RQ 1)**

We find that economic problems are positively correlated with mental health problems, and the associated beta is large. **(RQ 2)**

Days in lockdown have no significant association with mental health problems.

Perceived support is negatively correlated with mental health problems, while effective support either has no significant correlation at 95 percent confidence level.

Cross-sectional results

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Method

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Effective support does not offset the direct and indirect negative effects of COVID-19 on mental health, nor the effects of economic problems on mental health. **(RQ 3)**

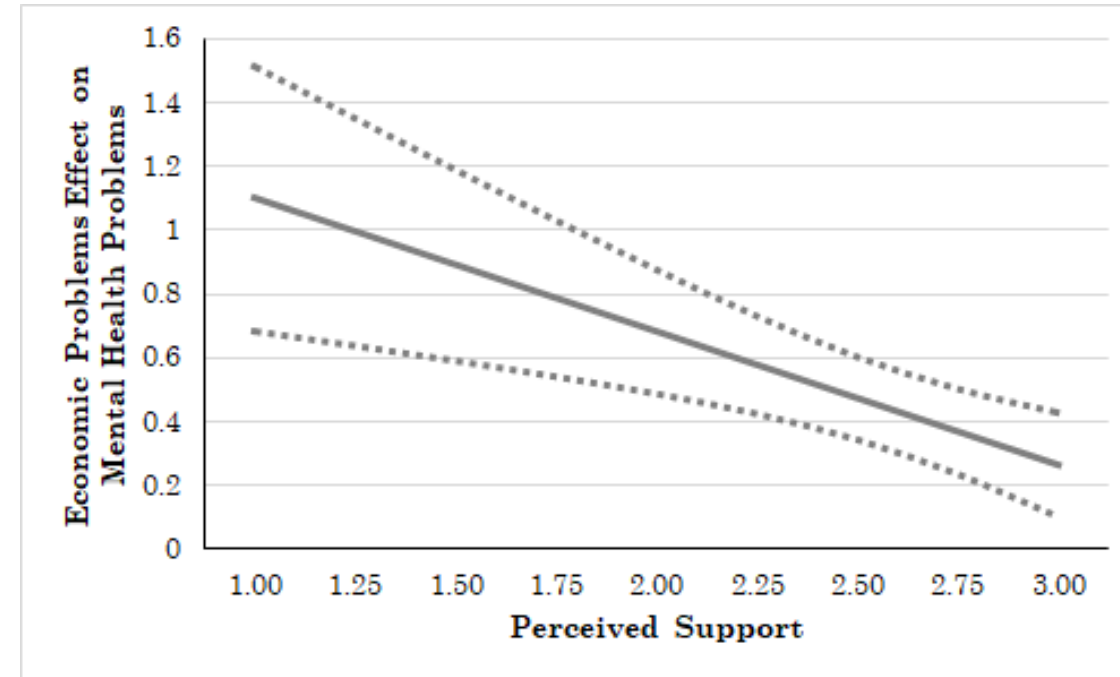
Perceived support only compensates the effects of economic problems on mental health. **(RQ 4)**

Predictive margins

Variable	Model 1			Model 2			Model 3		
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Economic Problems x Perceived Support							-0.416***	(0.127)	-0.421
Economic Problems x Effective Support							0.013	(0.044)	0.015
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Observations	1,436			1,436			1,436		
R-squared	0.264			0.265			0.270		

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1



Effect of Perceived Support on Mental Health Problems by Economic Problems.
Note: 95% confidence intervals obtained via the delta method, and with variables set at their observed values.

Longitudinal results

Variable	Model 1			Model 2			Model 3			Model 4		
	Coef.	S.E.	Beta	Coef.	S.E.	Beta	Coef.	S.E.	Beta	Coef.	S.E.	Beta
Support												
Perceived Support	-0.250***	(0.055)	-0.169	-0.263***	(0.058)	-0.177	-0.310***	(0.078)	-0.209	-0.244***	(0.090)	-0.165
Effective Support	0.020	(0.085)	0.009	0.070	(0.090)	0.030	0.170	(0.118)	0.072	0.077	(0.135)	0.033
Other variables												
Employment	-0.010	(0.057)	-0.006	-0.011	(0.057)	-0.007	-0.007	(0.057)	-0.004	-0.008	(0.057)	-0.005
Month (1=October)	-0.163***	(0.035)	-0.110	-0.163***	(0.035)	-0.110	-0.166***	(0.035)	-0.113	-0.164***	(0.036)	-0.111
Interactive variables												
Direct influence COVID-19 x Perceived Support				0.112	(0.199)	0.089						
Direct influence COVID-19 x Effective Support				-0.616*	(0.362)	-0.096						
Indirect influence COVID-19 x Perceived Support							0.192	(0.178)	0.212			
Indirect influence COVID-19 x Effective Support							-0.527*	(0.291)	-0.124			
Economic Problems x Perceived Support										-0.010	(0.177)	-0.010
Economic Problems x Effective Support										-0.152	(0.287)	-0.039
Constant	1.656***	(0.159)	.	1.670***	(0.159)	.	1.666***	(0.159)	.	1.651***	(0.160)	.
Observations (Both Periods)	1,202			1,202			1,202			1,202		
R-squared	0.063			0.068			0.070			0.064		
Observations per Period	606			606			606			606		

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Method

Fixed effects linear model as indicated by Hausman's test (August & October 2020).

Perceived support continues to be a relevant variable for mental health.

The variable for the month of October is significant, implying that general mental conditions improved during that month.

However, the perceived support interactions are no longer significant.

Similar results are obtained if the unbalanced panel is used.

Future work



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- The influence of Covid-19 on people's mental health goes beyond the direct and indirect effects of the pandemic on people's health. Economic shock has a major impact on mental health.
- Causality claims between received and perceived social support and these sources of social support and mental health.
- Increase sample sizes by recruiting more individuals to participate in our panel.
- New waves every other month monitoring mental health, social support and other variables.

Thank you!

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