

# Associations of the COVID-19 Pandemic With Social Wellbeing Indicators in Mexico

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## Research Article

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# Abstract

**Background:** Public health measures for COVID-19 containment have implied economic and social life disruptions, which have been particularly deleterious in low- and middle-income countries (LMIC) due to high rates of informal employment, overcrowding, and barriers to accessing health services, amongst others social determinants. Mexico, a LMIC, is a country with a high COVID-19 mortality in which there has been a very limited governmental response to help mitigate such COVID-related disruptions. This study analyzes the association of the first wave of the COVID-19 crisis in Mexico with four wellbeing indicators: income, employment, anxiety, and food security.

**Methods:** It uses pooled cross-sectional data (n=5,453) of five monthly nationally representative surveys collected between April and August 2020. Probit models are estimated to assess the association of the pandemic with job loss and anxiety; a multinomial logistic regression is estimated for food security, and an ordinary least squares regression assesses the association between the pandemic and changes in household's income.

**Results:** Females were significantly associated with worse outcomes for the 4 wellbeing measures with an average reduction of 2.3% in household income compared to pre-COVID-19 levels, an increased probability (6.4 pp) if being in a household that had lost jobs, decreased probability of food security (6.9 pp), and an increased risk of anxiety symptoms (8.5 pp). In addition, those with lower SES and household with children also reported worse outcomes for employment, income and food security. The month variable was also statistically significant in these models suggesting that as more months of the pandemic elapsed the effects persisted.

**Conclusion:** The current study documents how the COVID-19 pandemic is associated with different wellbeing indicators in a LMIC. It suggests the urgent need to take actions to support vulnerable groups, particularly women, households with children and those in the lowest SES. If policy actions are not taken, the pandemic will increase social and gender disparities, and will jeopardize childhood development

## Background

The SARS-CoV-2 (COVID-19) pandemic has expanded globally. The public health guidelines have included hand hygiene, respiratory etiquette, physical distancing, and self-isolation in case of showing symptoms (1). Going to work has been limited only if physical presence is essential, setting working from home and distant schooling as a "default" option in many regions. These measures have unfolded with extreme speed and have sparked fears of an impending economic crisis and recession, as they have led to a reduced workforce across many economic sectors (2). The scale of ongoing containment and mitigation public health policies is unprecedented in the modern era and, while needed, they are impacting the economy and social life. Together with the fear of COVID-19 as a new disease, this is increasing the sense of uncertainty and impacting the wellbeing of populations (3).

The pandemic is having sustained effects on income and consumption. According to a global study (4) this will increase poverty levels. In some regions the adverse impacts could result in poverty levels similar to those reported 30 years ago, hence profoundly impacting the fulfillment of the Sustainable Development Goals (SDGs) and reversing decades of progress in poverty global reduction. Sumner et al (4) estimate that even a

small contraction of 5% in income as a result of the COVID-19 pandemic, would increase the incidence of income-based poverty, although the impact will most likely not be evenly distributed across regions.

International agencies and academic communities alike have warned that food insecurity will most likely be a key consequence of the COVID-19 pandemic (5–7). In the US, studies have documented that the pandemic has disrupted food access and impacted food insecurity. For example, in Vermont a cross-sectional survey showed a 33% increase in household food insecurity; with 35.6% of food insecure households classified as newly food insecure due to the pandemic and job loss being a main predictor (8). A study of five repeated online surveys of the Supplemental Nutritional Assistance Program recipients (SNAP), when compared to a similar period in 2018, identified that food insecurity and debt had worsened significantly between April and June 2020 (9). A longitudinal survey collected in Southern California –the Understanding Coronavirus in America cohort– found that 40.5% of those living in households earning less than \$75,000 and employed in February 2020 lost their job during the COVID-19 – 31% of them reported food insecurity. Moreover, they estimated that receiving unemployment insurance (\$600/week) was associated with a decline in food insecurity (10).

The effects of the pandemic have also been documented in other countries. An online cross-sectional survey conducted in two favelas in Sao Paulo, Brazil, 89% reported uncertainty to access food, 64% were eating less than they should, and 39% skipped a meal (11). Other studies have documented effects of the pandemic in food insecurity as well as in mental health. For example, in Bangladesh, a study of families in a rural area based on an interrupted time-series design with a probabilistic sample identified that before the pandemic, 5.6% and 2.7% experienced moderate and severe food insecurity, respectively, and during lockdown it raised to 36.5% and 15.3%. Overall, food insecurity increased by 51.7% (12). On the other hand, depression symptoms increased 6 percent points during lockdown, reaching a prevalence of 10%. Another study using Amazon’s Mechanical Turk collected a convenience sample of 1,517 Americans with household food insecurity and found they were 2.09 and 1.88 times more likely to report anxiety and depression, respectively (13).

Other studies have centered in solely documenting the toll of the pandemic on mental health. For example, a cross-sectional study in Italy found that after the first wave of the pandemic, 5.1% of the population showed post-traumatic stress disorder symptoms and 48.2% lower psychological wellbeing linked to the COVID-19 (14). Similarly, a cohort study in the United Kingdom comparing tendencies pre and post COVID-19 first wave, showed that mental health deteriorated (15). This coincides with a panel of experts who suggested that due to the pandemic and its associated economic downturn there is a risk that the prevalence of people with anxiety, depression and engaging in harmful behaviors will rise, as this has been a trend in prior epidemics (16). Furthermore, it is important to consider that the pandemic can have an unequal effect on societies, as the crisis can increase disproportionately unemployment, financial insecurity and poverty among those who were already vulnerable, hence, placing them at higher risk of mental health conditions.

In terms of the inequities that are unfolding with the pandemic, it is of key relevance to underline that following the recommended public health measures in low- and middle-income countries is challenging, due to factors such as high rates of informal employment, suboptimal housing conditions, and low quality basic services such as running water, drainage and waste collection amongst others (17). When such social determinants are in place, complying with social distancing and quarantine is more difficult. For example, for many who are informally employed there has been no option rather than showing up to work, as their daily wages are used

for subsistence. Not recognizing these dynamics jeopardizes the survival of large segments of vulnerable populations (17).

Mexico is an upper-middle income country facing one of the highest COVID-19 mortality. According to data from *Worldometer* on May 26, 2021, more than 222,000 deaths had been reported, only below the US, Brazil, and India. Excess mortality data analyses suggest that the mortality has been underestimated, most likely, due to the low levels of testing in the country (18). Households in Mexico, as in other low- and middle-income countries, share social determinants that can magnify the impact of the crisis in wellbeing such as a fragmented health system with lack of adequate public investment, large income inequalities, high levels of poverty, a large informal economy, and high levels of unplanned urbanization with low quality basic services.

While other Latin American countries expanded social assistance to offset the impacts of the pandemic (19), in Mexico there has been a very slow and limited expansion of social assistance (20), exposing the population to undesirable side effects of the lockdown measures implemented. The aim of this study is to describe the association of the first wave COVID-19 crisis in four wellbeing indicators in Mexico – employment, income, anxiety and food security – and assess the role of pre-COVID vulnerabilities (i.e. socioeconomic level) on such outcomes.

## Methods

### Design and data

This study is based on a pooled cross-sectional analysis of five monthly waves of the ENCOVID-19, a nationally representative telephone survey of Mexicans 18 years and older who have a mobile phone. The ENCOVID-19 was first fielded in April 2020 and it will be collected at least until December 2021(21). It collects data on employment, income, food security and mental health to document the impacts of the pandemic and to inform key stakeholders. The survey follows a one-stage stratified probabilistic sampling of mobile telephone numbers which are randomly selected from the publicly available National Dialing Plan (22). As of 3 April 2020, the coverage of mobile phones in Mexico was 96% (23). Sampling weights correct for minor deviations from the Mexican population's demographic structure. Weights are estimated using the 2015 mid-census survey data from National Bureau of Statistics (INEGI for its acronym in Spanish) and adjust the sample by state, gender, age, and socioeconomic status. Further details of ENCOVID-19 and the composition of the sample are available elsewhere (21).

Data is collected by trained interviewers using Computer Assisted Telephone Interviewing software (CATI). An assistant supervised the quality of interviews using the CATI software. On average, the interview takes 18 minutes. The data collection periods and analytical sample used in the current study are: April 6–14 (n = 762); May 20–25 (n = 598); June 5–17 (n = 1,435); July 8–17 (n = 1,338), and August 19 – 2 Sept (n = 1,320).

### Measures

The study assessed the associations of the pandemic on four dependent variables: employment, income loss, anxiety, and food security. For employment and income loss we used the following proxy variables: (i) loss of income, defined as the percentage of change in the participant's total household income in the month prior to

the application of the survey compared to February 2020 (pre-COVID), and (ii) employment, was operationalized as a binary variable that identified individuals living in households in which a job or source of income was lost between February 2020 and the month prior to the application of the survey.

The two-item Generalized Anxiety Disorder scale (GAD-2) (24) measures the frequency by which the participant felt during the last two weeks: (i) nervous, anxious, or on edge; and (ii) not being able to stop or control worrying. Response options were “never”; “several days”; “more than half of days”; and “almost every day”. An additive score was computed (range 0 to 6), and a cut-off point of 3 or more was classified as having anxiety disorder symptoms. Prior studies have documented that the GAD-2 has appropriate psychometric properties when applied through telephone surveys (25).

Food security was measured with the 8-item adult version of the ELCSA. The ELCSA asks if, in the last three months, due to a lack of money or other resources, the respondent or any other adult in the household occasionally: (i) worried you might run out of food; (ii) were unable to eat healthy, balanced, and nutritious food; (iii) ate only a few kinds of foods; (iv) skipped breakfast, lunch or dinner; (v) ate less than s/he thought should have; (vi) ran out of food; (vii) were hungry but did not eat; and (viii) went without eating for a whole day. All item-responses are dichotomous (i.e., Yes/No). Through a total summative score, four levels of food security were estimated: food security (total score = 0), mild food insecurity (total score = 1–3), moderate food insecurity (total score = 4–6), and severe food insecurity (total score = 7–8). The telephone application of the ELCSA was recently validated (26).

Time for each cross-section of the survey, a key independent variable, was operationalized as a dichotomous variable. In addition, other control variables included in the analyses were: household socioeconomic status (SES), age, gender, household size and households with children. Household SES was measured with the assets-based AMAI index (27), which combines six household indicators: (i) education level of the head of household; (ii) number of complete bathrooms; (iii) number of cars or vans; (iv) having internet connection; (v) number of household members 14 years or older who are working; and (vi) number of bedrooms. With a summative score and standard cut-off points, SES is classified into seven mutually exclusive categories, ranging from “A/B” to “E”, where A/B represents the highest level and E the lowest SES level, leading to a 4-level variable (i.e. A/B, C, D, E - hereinafter referred to as high, medium, medium-low, and low, respectively). Age and household size were kept as continuous variables, and gender and households with children were transformed into a dichotomous variable.

## Analysis

Descriptive statistics were computed for each cross-section and prevalence across time for each outcome was graphically depicted. Subsequently, we estimated probit models for employment loss and anxiety, a multinomial logistic regression for food insecurity, and an OLS regression for the change in households’ income. All models were adjusted for the previously mentioned covariates. Additionally, for the model estimating anxiety symptoms as the dependent variable we adjusted by food insecurity. For a more explicit interpretation in terms of probabilities, results are presented as the average marginal effects, namely, the marginal effects of each variable on the dependent variable, setting the rest of the variables at their average values. All analyses were estimated in STATA 13 (STATA Corp., 2013) using the svy module to account for the sampling design.

## Results

Table 1 summarizes the sample characteristics for each monthly cross-section between April and August 2020. Resulting from the sampling process, sociodemographic characteristics of participants were similar in each cross-section. Fifty-one per cent of the participants were female; mean age was approximately 40 years; mean household size around 4 members; and approximately 10% of the participants lived in low SES households, 48% in medium-low, 36% medium, and 5% high. In terms of the four dependent variables of interest, the prevalence of anxiety symptoms was relatively stable at approximately 32%. Food security decreased in each cross-section (from 40–25%), except in August that showed a similar level as in July. Coupled with this process, food insecurity increased over time and severity level. For example, severe food insecurity increased from 10–12%. When compared to pre-COVID household conditions in February 2020, the month prior to each cross-section (i.e. if the cross-sectional survey was collected in May it inquired about April compared to February), approximately a third of the respondents established that someone in their household had lost a job. The highest percentage was in April (37%), showing lower levels thereafter. Similarly, compared to pre-COVID, in the month prior to each cross-section, on average participants reported that their household had seen a reduction in income of 28%, showing a relatively constant trend through the months April to August 2020.

Table 1  
 Characteristics of individuals in the analytic sample, ENCOVID-19

	April	May	June	July	August	All
Sample size (n)	762	598	1,435	1,338	1,320	5,453
Gender, % (n)						
Male	49 (336)	49 (268)	49 (656)	47 (612)	48 (639)	48 (2,511)
Female	51 (426)	51 (330)	51 (779)	53 (726)	52 (681)	52 (2,942)
Anxiety, % (n)						
No symptoms	68 (514)	72 (425)	67 (963)	67 (921)	67 (899)	68 (3,722)
With symptoms	32 (248)	28 (173)	33 (472)	33 (417)	33 (421)	32 (1,731)
Socioeconomic status, % (n)						
E (low SES)	8 (67)	13 (45)	13 (91)	9 (65)	10 (85)	10 (353)
D (low-medium SES)	41 (318)	48 (258)	45 (581)	53 (556)	51 (549)	48 (2,262)
C (medium SES)	43 (316)	34 (260)	37 (665)	34 (599)	35 (597)	36 (2,437)
A/B (high SES)	7 (61)	5 (35)	5 (98)	4 (118)	3 (89)	5 (401)
Food insecurity, % (n)						
Food secure	40 (310)	36 (233)	30 (465)	25 (392)	25 (416)	30 (1,816)
Mild food insecure	33 (255)	4 (244)	4 (576)	46 (612)	44 (572)	41 (2,259)
Moderate food insecure	17 (125)	12 (62)	19 (256)	17 (205)	19 (211)	18 (859)
Severe food insecure	10 (72)	11 (59)	11 (138)	12 (129)	12 (121)	11 (519)
Job lost by a household member, % (n)						
No	63 (482)	75 (434)	73 (1,012)	71 (968)	68 (925)	7 (3,821)
Yes	37 (280)	25 (164)	27 (423)	29 (370)	32 (395)	3 (1,632)
Household size, mean (se)	4.6 (0.1)	3.5 (0.1)	3.6 (0.1)	4.04 (0.1)	3.98 (0.1)	3.94 (0.0)

	<b>April</b>	<b>May</b>	<b>June</b>	<b>July</b>	<b>August</b>	<b>All</b>
Age, mean (se)	40 (0.5)	41.6 (0.8)	41.3 (0.5)	40.07 (0.5)	40.09 (0.5)	40.57 (0.2)
Percentage change in household income, mean (se)	-26.3 (1.3)	-28.5 (1.5)	-28.4 (1)	-29.09 (1)	-27.91 (1)	-28.17 (0.5)

The OLS model assessing the change in total household income with respect to pre-COVID-19 time (Table 2) shows that compared to households in the lowest SES level, the medium and high SES categories were associated with positive and significant increases in the percentage change in income's household. Additionally, females and household with children were associated with relative reduction in household income of 2.3% and 5.6%, respectively. For each additional person in the household, a reduction in household income of approximately 1.6% was estimated. The time variable showed that compared to April, May and June still exhibited statistically significant declines in the percentage of income lost compared to pre-COVID levels (3.6% and 3.2% respectively), the changes in July and August were also negative although smaller and not statistically significant.

Table 2

Associations between social and health indicators with socioeconomic variables during the COVID – 19 pandemic

Average marginal effect							
	<i>Change in household income</i>	<i>Job lost by a household member</i>	<i>Symptoms of anxiety</i>	<i>Food insecurity</i>			
	OLS Regression	Probit	Probit	m-logit			
				<i>Food secure</i>	<i>Mild FI</i>	<i>Moderate FI</i>	<i>Severe FI</i>
Socioeconomic status (ref: E)							
D	0.290	-0.015	0.049+	0.079**	0.061+	-0.093**	-0.048+
C	6.630**	-0.105**	0.043	0.307**	0.04	-0.192**	-0.155**
A/B	14.038**	-0.157**	0.033	0.536**	-0.071+	-0.267**	-0.198**
Age	0.017	-0.002**	0.002**	0.001**	-0.001+	0	0
Gender (ref: male)							
Female	-2.299*	0.064**	0.085**	-0.069**	0.011	0.018	0.04**
Households with children (ref: no)							
Yes	-5.554**	0.052**	0.016	-0.034*	0	0.03*	0.004
Household size	-1.567**	0.041**	0.007*	-0.029**	0.013**	0.007*	0.009**
Month (ref: April)							
May	-3.559+	-0.084**	-0.045+	-0.046+	0.082**	-0.051*	0.015
June	-3.282*	-0.072**	-0.013	-0.105**	0.073**	0.018	0.014
July	-2.194	-0.072**	-0.027	-0.135**	0.122**	-0.004	0.018
August	-1.028	-0.046*	-0.024	-0.128**	0.101**	0.014	0.013
Food insecurity (ref: food secure)							
Mild FI			0.128**				

FI: food insecurity. \*\*=significant at 1%; \*=significant at 5%; +=significant at 10%

Average marginal effect	
Moderate FI	0.274**
Severe FI	0.420**
<i>FI: food insecurity. **=significant at 1%; *=significant at 5%; +=significant at 10%</i>	

Table 2 also summarizes the estimations of the Probit model on jobs loss in the household compared to pre-COVID conditions. Compared to those in the lowest socioeconomic category, households with higher SES were significantly less likely to be affected, while a females and households with children showed a significant increase in the probability of having lost a job, by 6.4 and 5.2 percentage points, respectively. In addition, for each additional individual in the household, the probability of having lost a job increased by 4.1 percentage points. Compared to April, households surveyed in subsequent months showed a significant association in the probability of having someone losing a job or source of income, although the magnitude tended to be smaller over time – May by 8.4 percentage points, June 7.2, July 7.2 and August 4.6.

In the Probit model predicting anxiety symptoms (Table 2), age and gender (i.e. female) were associated with an increase in the probability of reporting anxiety symptoms, by 0.2 and 8.5 percentage points respectively. The household size variable suggested that for each additional individual in the household, the probability of having anxiety symptoms increases by 0.7 percentage points. The month variable was not a significant predictor, suggesting that anxiety might have increased early in the pandemic (i.e. April), with no modifications over time. On the other hand, there was a positive association between severity of food insecurity and increased probability of anxiety symptoms by 12.8, 27.4 and 42 percentage points for moderate, mild, and severe food insecurity respectively.

The last columns in Table 2 summarize the multinomial logistic regression model estimating food insecurity. The estimations suggested that compared to the lowest socioeconomic category, those in higher SES were associated with larger probabilities of being food secure in a dose-response manner (i.e. medium-low SES 7.9 percentage points, medium SES 30.7, and high SES 53.6, respectively). In a similar way, there was a significant association with lower probabilities of moderate and severe food insecurity with the same type of dose-response between higher SES categories exhibiting lower probabilities. On the other hand, women showed a significant reduction in the probability of food security by 6.9 percentage points, and an increased probability of severe food insecurity by 4 percentage points. In terms of household characteristics, those with children, showed a significant association with decreased probability of food security (3.4 percentage points) and an increased probability of moderate food insecurity (3 percentage points). Moreover, each additional person in the household was associated with a reduction in the probability of food security of 2.9 percentage points, and increased probability of all types of food insecurity (mild 1.3 percentage points, moderate 0.7 and severe 0.9). The time variable suggests an association of constant significant decrease in food security compared to April's prevalence through each month (May 4.6 percentage points, June 10.5, July 13.5 and August 12.8). Coupled with such estimated decreases in food security, a significant association was reported in a sustained increased of mild food insecurity (8.2 percentage points in May, 7.3 in June, 12.2 in July and 10.1 in August).

The effects observed for moderate food insecurity are not significant and vary in direction and magnitude, but those for severe food insecurity are not significant but consistently associated with an increased prevalence.

Figure 1 summarizes the prevalence as well as the predicted probability of the outcome variables in each of the cross-sections.

## Discussion

Prior literature has documented the associations between the COVID-19 pandemic and economic and wellbeing indicators (28, 29). The current study contributes to such body of evidence by using nationally representative monthly cross-sectional data in Mexico. In terms of economic related indicators, the study showed a sustained effect on job loss at the household level when compared to February 2020 pre-COVID-19 conditions. Even though lockdown measures were relaxed during the summer 2020, the study showed continued associations with loss of employment. Descriptive data suggested that in April 2020 the average percentage change on household income – comparing March to February 2020 – had already decreased by 26%, and in the adjusted model, all models showed continued negative effects (i.e. larger percental losses), although only statistically significant in May and June. This suggests that income loss persisted and no signs of recovery emerged from the model.

It is fundamental to stress that the Mexican government has not taken actions to safeguard wellbeing of households during the COVID-19 pandemic. This is even more worrisome because effects have been larger among households who were already vulnerable prior to the pandemic, such as those with lower SES. Consistent with prior evidence (30, 31), this study highlighted that the impacts on both income and employment were worse among females, as well as in households with children. This is particularly worrisome as it can lead to increasing gender gaps, as well as long-term effects among the affected children (32). The potential effect on vulnerable households with children could have been minimized through specific subsidies, which despite being costed early in the pandemic to facilitate policy action (33), have not been implemented.

Food security has also been greatly affected by the pandemic in Mexico. Prior analyses have shown that compared to data from national pre-COVID-19 surveys, in April food security had already shown decreased prevalence coupled by an increase in mild food insecurity (26). This study showed that the effects persisted across the first semester of the pandemic, suggesting a trend of lower levels of food security, which have not returned to pre-COVID-19 levels, and a dynamic process in which initially mild food insecurity increased, but as time has elapsed it has shifted towards increases in more severe levels. Although these trends are not significant in the analysis, but if this trend continues, it is likely to become significant in subsequent months. This should be a national policy priority due to the previously documented deleterious associations between more severe levels of food insecurity have on health indicators (34). Findings of the study also suggests that such trends can lead to further health and nutrition inequities in households with children and among women.

Food insecurity was associated with higher probabilities of symptoms of anxiety. This is an expected association as food insecurity is a known predictor of mental health conditions (35). Nevertheless, this relationship is particularly relevant in a situation in which food insecurity is getting worse through time. Unfortunately, in Mexico there was no nationally representative data of pre-COVID-19 anxiety prevalence. The

observed prevalence in the ENCOVID-19 cross-sections suggests a high prevalence in April, and was sustained at around the same level throughout the study period (April-August). It can be that increasing food insecurity has been a constant stressor, coupled with lower incomes and lost employment compared to pre-COVID-19 levels. This suggests a syndemic effect of the indicators taken together in the wellbeing of individuals and households. It is of surmount importance to consider such parallel processes to understand the sustained pressure and vulnerability of households, especially among those already facing disadvantages prior to the pandemic. Without an integral social policy, this will magnify economic, health and nutrition related inequities, as well as gender disparities. In the long-run it can furthermore jeopardize the health and adequate development of children.

Our study had some limitations. Although the ideal design would have been a longitudinal/panel study, in its inception the ENCOVID-19 emerged as an emergency response survey trying to fill the gaps of data that stopped being collected by governmental agencies. This led to initial limited resources. In addition, when designed in March 2020 none of the involved researchers foresaw the extended temporality of the pandemic. Hence, as reality evolved, newer cross-sections were added to keep measuring wellbeing indicators. Additionally, in the Mexican context these types of surveys were usually collected face-to-face. The pandemic forced the use of a telephone survey that requires shorter versions of scales (36), which in some cases also needed to be adapted and validated (25, 26). This has led to slight modifications in the measurement of some variables.

## **Conclusions**

This study documents the sustained and continued tension in four wellbeing indicators during the initial five months of the pandemic in Mexico, and the increased deleterious association of such process with pre-COVID-19 vulnerabilities according to SES, gender and among households with children. The indicators studied have the potential of syndemic associations that would require multisectoral policy interventions, which are far from the public agenda in the country.

## **List Of Abbreviations**

AMAI	Mexican Association of Market and Opinion Intelligence Agencies (for its acronym in Spanish)
CATI	Computer Assisted Telephone Interviewing software
COVID-19	Severe acute respiratory syndrome coronavirus 2
ELCSA	Latin American and Caribbean Food Security Scale
ENCOVID-19	Survey on COVID-19 Effects on Wellness in Mexican Households (for its acronym in Spanish)
GAD-2	Generalized Anxiety Disorder Scale
INEGI	Mexican National Bureau of Statistics
SDG	Sustainable Development Goals
SES	Socioeconomic status

## Declarations

### Author's Contributions:

**Mireya Vilar-Compte:** Conceptualization, Methodology, Formal Analysis, Writing – Original Draft, Supervision. **Mauricio Hernandez-F:** Methodology, Data curation, Formal Analysis, Writing – Reviews and Editing. **Pablo Gaitan-Rossi:** Methodology, Formal Analysis, Writing – Reviews and Editing. **Víctor Pérez:** Data collection, Data curation. **Graciela Teruel:** Conceptualization, Writing – Reviews and Editing.

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### Ethics approval and consent to participate:

The study was reviewed and approved by the Universidad Iberoamericana Research Ethics Committee (CONBIOÉTICA-09–CEI-008-2016060). Verbal informed consent was obtained from all participants.

### Consent for publication:

Not applicable

### Availability of data and materials:

The ENCOVID-19 datasets used during the current study are available in the Zenodo repository, on the following link: <http://doi.org/10.5281/zenodo.4602374>. The specific STATA Code is available upon request

## Competing interests:

“The authors declare that they have no competing interests”

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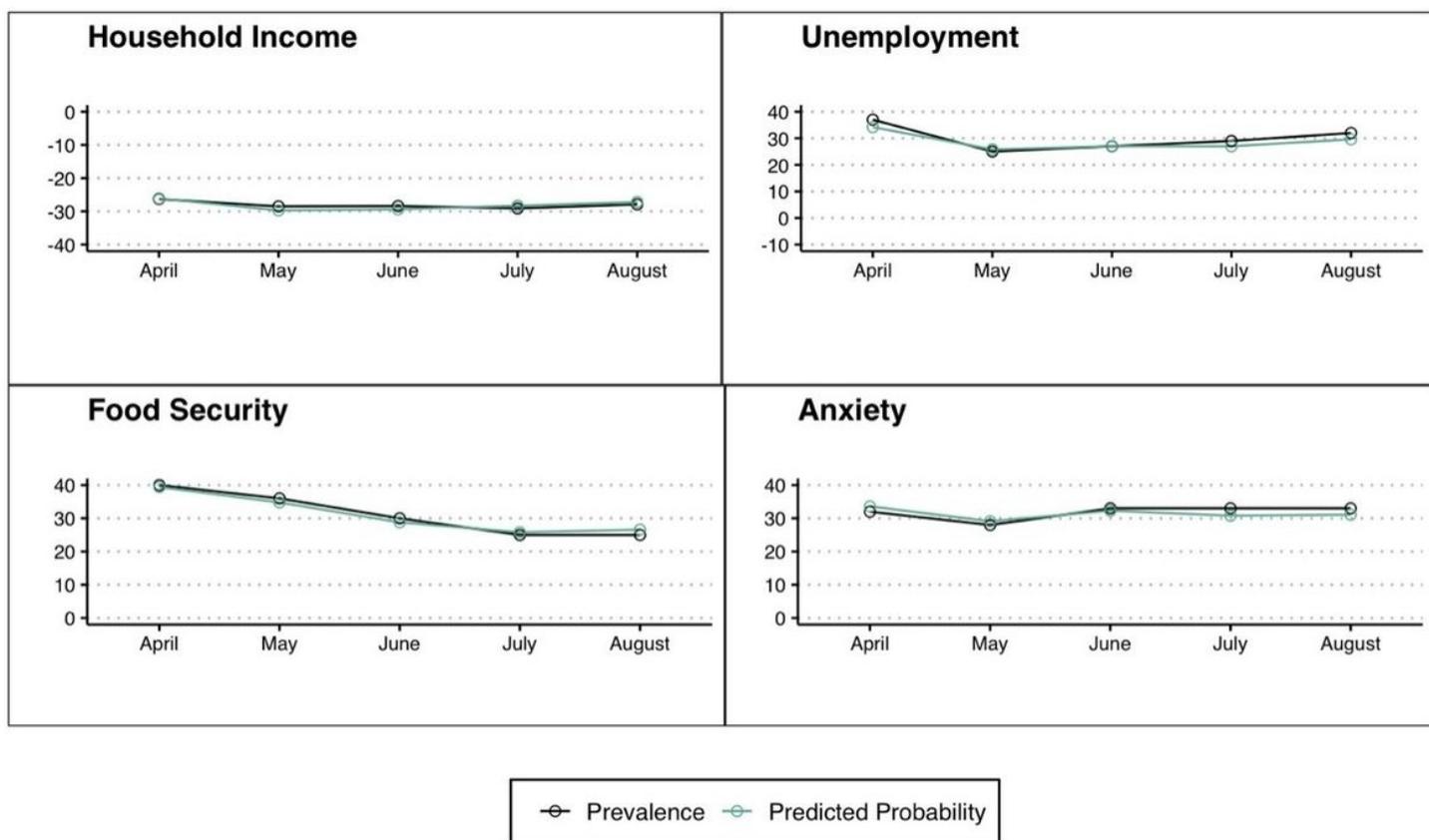
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## Figures



**Figure 1**

Outcomes and predicted probabilities of wellbeing outcome variables. Note: Household income refers to relative change and unemployment to employment loss