Global Survey on Stress & Resilience in the Face of the Novel Coronavirus (COVID-19)

(Interim Report)

Stress & Resilience Research Laboratories, University of Minnesota Medical School

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Global Survey on Stress & Resilience in the Face of the Novel Coronavirus (COVID-19)

Stress and Resilience Research Laboratories (SRRL)

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About SRRL

Our laboratories are located within the University of Minnesota Medical School, Duluth and Twin Cities campuses. The laboratories were established in 1997 to provide engagement in various research and training activities.

Our research programs

Research programs conducted within these laboratories seek to identify psychophysiological, neurobiological, and behavioral mechanisms mediating effects of stress on addictive behaviors and chronic diseases (obesity and hypertension). Our approach is transdisciplinary and our collaborators include experts in multiple fields of medicine, physiology, pharmacology, and behavioral sciences.

Funded research within the SRRL seeks to gain a deeper understanding of the mechanisms mediating effects of stress on addictive behaviors. Since 1997, these laboratories have served the global community in furthering the discussion surrounding addiction and stress in an effort to address obstacles to recover and to destigmatize addictive diseases. Over the years, the SRRL team has worked to extend their reach in the local communities of Duluth and Minneapolis.

COVID-19 Survey Team

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SUMMARY

Earlier this year, the world was confronted by a novel coronavirus (COVID-19) that created a global health challenge with profound effects on all aspects of life across continents and countries. The arrival of this coronavirus in the USA in January, 2020 and the escalation of the pandemic has produced a shock to the US and the world and will likely have an impact on our lives for years and possibly decades to come. The pandemic has shed light on how ill prepared our world is for such a challenge; and its effects impact mental health, substance use, and other behavioral risk factors.

We launched an English language version of this survey in late March, 2020 to capture the ongoing challenges that people were experiencing as they were starting to adjust their personal lives, work, and community activities to this epidemic. We subsequently translated the survey to seven other UN official languages that launched in April in countries affected by the pandemic. We used multiple approaches for recruitment, including professional contacts and social media to distribute the surveys in the USA and across the globe.

Preliminary observations of the responses index a great deal of uncertainty across multiple life domains, high levels of stress, changes in mood, and changes in health and substance use behaviors. These changes generally indicate increased psychological challenges. The changes could potentially usher a period of adjustment and ultimately produce significant mental and substance use problems, contributing to the global health burden. Our survey also included indicators of resilience at the community and personal levels.

In subsequent analyses, we plan to provide a full picture of the nature of the collected data. We will also use these data to plan future projects addressing the consequence of this pandemic on mental health and substance use.

INTRODUCTION AND METHODS

The novel coronavirus (COVID-19) is a global health challenge. Its impact is widespread and includes devastating effects on health, social, and economic wellbeing of the world. It represents an existential threat with many consequences. Adapting acutely to such threats requires significant changes in life and is associated with a tremendous cost to society, the family, and the individual. These changes can have significant costs for behavioral, mental, and physical health; and the changes can affect all facets of human activity (e.g., educational, economic, social).

There are factors that may buffer or help individuals and families cope with some of these adverse impacts. We consider these factors indicators of resilience, which can be defined as the "capacity of a system to adapt successfully to challenges that threaten system function, survival, or development" (Masten, 2014).

Risk factors for negative outcomes and adaptation processes may vary across groups, ages, sex, and cultures. In light of this diversity and considering the global nature of COVID-19, we sought to open this survey to a broad audience. In addition to launching an English language version of the survey, we translated the survey to other languages to enhance our reach.

Overall, the results from this project will shed light on the potential impact of social connectedness, social support, and available resources on perceived stress, negative mood, and impulsiveness. These relationships may vary as a function of sex and other sociodemographic factors. The results can be used to inform the development of targeted health promotion messages focusing on risk factors, such as stress, uncertainly, and social isolation.

AIMS

The main aims of this project are to provide data on the nature of psychosocial, economic, and health changes associated with the COVID-19 pandemic and to identify methods by which individuals around the globe are coping with these challenges and threats. We included in this survey multiple environmental, social, family, and individual factors that may enhance stress or contribute to resilience. We seek to examine the impact of these factors on behavioral and mental health.

Our goal was to collect these timely data while developing future plans to identify trends and changes in psychological and behavioral wellbeing in the coming years.

In this survey, we incorporated measures of multiple variables, including demographics; impacts of the novel coronavirus; attitudes, perceptions, and behaviors related to the virus; media consumption; experiences of stress, resilience, uncertainty, depression, and other related psychological symptoms; substance use; sleep; and a brief decision task that measures delay discounting (impulsivity). In this report, we present results from descriptive analyses on these measures. Detailed analyses and peer-reviewed publications with these data are also underway. The goal for this report is to provide a descriptive summary of the data we collected between March 31st and May 15, 2020, as COVID-19 spread throughout the USA and the globe.

After presenting an overview of our survey methodology, we present descriptive results in six sections: The first section focuses on demographic characteristics of the survey respondents. The second section includes information about attitudes, behaviors, and the experiences related to the coronavirus. The third section focuses on moods and uncertainty. The fourth section summarizes substance use. The fifth section examines sleep, stigma, perceived social support, and sleep. The sixth section focuses on impulsivity. The results are followed by a discussion and an outline of future analyses.

METHODOLOGY

This was a cross-sectional, descriptive study in which we utilized an online survey. The survey was built within the Qualtrics survey platform; and a link to the survey was distributed via email circulation in professional and social groups as well as via Facebook/Instagram and other social media advertisements. The survey took approximately 15 minutes to complete; it was anonymous; and no incentive was provided to respondents.

RESPONDENTS

Participants were qualified for the study if they were 18 years or older, which was confirmed at the start of the survey with a question regarding age. Respondents had to report being 18 years or older to access the survey.

The final sample included 5123 participants who provided complete or partial responses. Our sample size provides adequate power, even with attrition.

PROCEDURE

The content of the survey included items that were adopted from existing questionnaires and other questions developed by our team. The completed survey was translated by native speakers of 7 other languages: French, Spanish, Arabic, Italian, German, Russian, and Chinese. Existing translated versions of questionnaires were used when available. Each translation was reviewed by at least one expert other than the translator. The original and translated surveys were reviewed and approved by the University of Minnesota's Institutional Review Board.

MEASURES

Demographics. Comprehensive socio-demographic information was collected and included age, sex at birth, level of schooling completed, marital status, employment status, country of residence, urban/rural nature of their residence, household size, home ownership; and, for residents of the USA, state of residence, race/ethnicity, and annual income.

Coronavirus-related measures. This survey included specific questions related to the pandemic, including questions about attitudes and changes in behavioral routines as well as

perception of others' behaviors during the pandemic. Respondents were asked questions about their consumption of news media related to COVID-19; self- and others' social distancing and acquisition patterns of food and household supplies; perceptions of and experiences with COVID-19 testing; access to services; satisfaction with their government's response to the virus; perceptions about whether their community was working together to cope; and concerns for their own and other family members' risks for infection.

Respondents who reported being currently employed were asked about whether they have been working remotely due to COVID-19; and we asked all respondents about whether they have personally experienced negative consequences related to the coronavirus in any of several life domains, including education, employment, food or supply shortages, childcare, major life events (e.g., cancelled vacation, wedding, graduation, etc.), supportive care, and enduring hospitalization or death of loved ones due to the virus. We also asked respondents if they have experienced any positive outcomes as a result of the new coronavirus.

Negative mood, positive mood, and uncertainty. We included the PHQ-4 (Kroenke et al, 2009), a questionnaire that asks respondents about how often they have experienced feelings related to depression and anxiety, with a focus on their feelings in the time since the coronavirus began spreading. Respondents also indicated the extent to which these feelings have been affecting their work performance, home responsibilities, and personal relationships; and they indicated whether they have experienced an increase, decrease, or no change in these feelings compared to before the coronavirus began spreading. The survey also asked respondents about positive mood, negative mood, and feelings of uncertainty (regarding personal finances, job stability, access to food and household items, personal and family health/well-being) experienced both before the coronavirus began spreading and in the time since the coronavirus began spreading.

Substance use. Respondents were asked about their tobacco, cannabis, and alcohol use, including perceived changes in their use compared to before the coronavirus began spreading.

Resilience, sleep, stigma, & perceived social support. We measured resilience with the Brief Resilience Scale (Smith et al., 2008). We developed four questions to measure perceived stigma of having COVID-19. We also asked respondents to report the extent to which they have felt socially supported and socially isolated both before the coronavirus began spreading as well as in the time since the virus began spreading. Respondents were asked about their sleep (number of hours each night and perceived restfulness) both in the time since the coronavirus began spreading as well as before the virus began spreading. We also asked respondents about how much time they have been spending consuming entertainment media.

Impulsivity. We used a brief task (Koffarnus & Bickel, 2014) to capture a behavioral phenomenon called "delay discounting," which reflects the extent to which individuals lean towards choosing immediate, lower benefit rewards versus delayed, higher benefit rewards. For example, respondents were asked whether they would choose $500 now or $1000 in 3 weeks. Individuals who tend to be more impulsive tend to choose the immediate, smaller rewards more frequently than delayed, larger rewards.

DATA HANDLING

Data were examined and verified according to standard scientific procedures. A total of 5722 respondents consented to participate. We made a decision to limit the analysis to those who responded to at least one non-demographic question. Based on this criterion, the final sample of respondents in this report included 5123 individuals.

RESULTS

SOCIAL AND DEMOGRAPHIC BACKGROUND

Respondents completed the survey in one of 8 languages: Arabic (n = 605, 11.8%), English (n = 3042, 59.4%), European Spanish (n = 427, 8.3%), French (n = 387, 7.6%), German (n = 333, 6.5%), Italian (n = 186, 3.6%), Russian (n = 119, 2.3%), or Chinese (n = 24, 0.5%).

Respondents were from 106 countries; and the sample included ≥ 1% of respondents from 14 countries: Algeria, Argentina, Canada, Germany, India, Iraq, Italy, Mexico, Morocco, Peru, Russian Federation, Spain, Tunisia, United States of America (USA).

Respondents ranged from 18 to 95 years of age (M = 38.4, Mdn = 36.0, SD = 14.2); and the sample consisted of 67% (n = 3431) females.

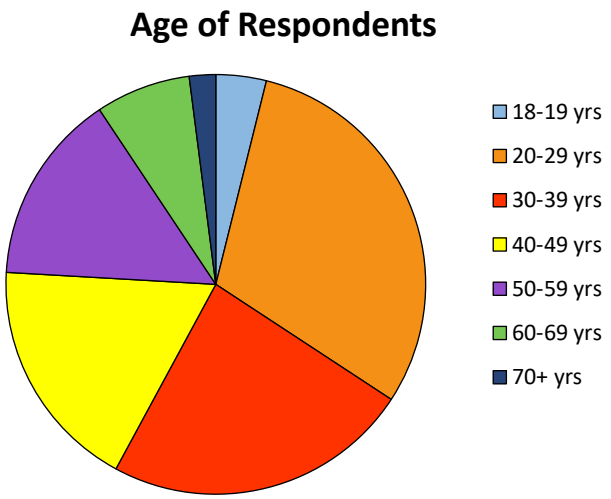
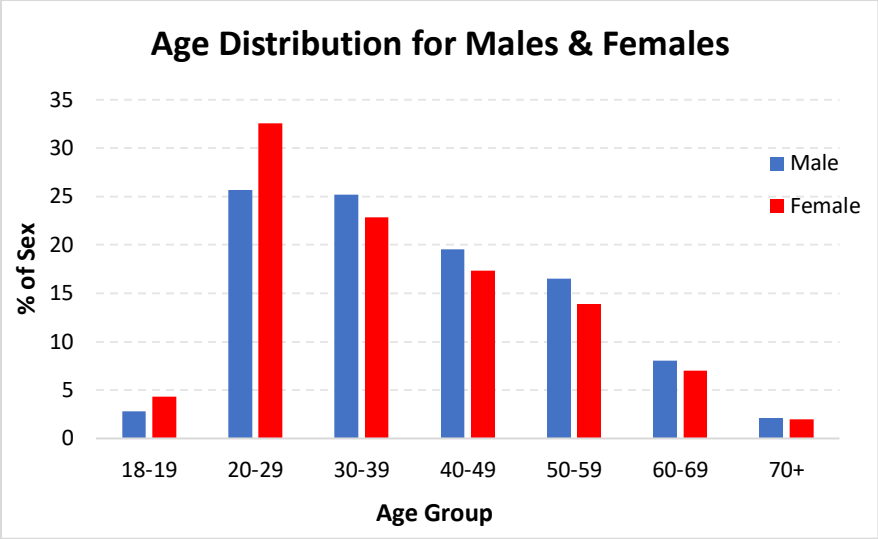


TABLE 1. AGES OF RESPONDENTS.

Age group	% of Sample (Frequency)
18-19	3.9% (199)
20-29	30.4% (1555)
30-39	23.7% (1212)
40-49	18.0% (923)
50-59	14.7% (755)
60-69	7.3% (375)
70+	2.0% (104)
Total	100% (5123)

AGE DISTRIBUTION BY SEX



Tables 2-9 present other demographic information, including marital and employment status, level of education, size of household, home ownership, urban/rural nature of residence, household income (USA residents), and ethnicity (USA residents).

TABLE 2. MARITAL STATUS FOR THE FULL SAMPLE AND BY COUNTRY FOR COUNTRIES THAT WERE REPRESENTED BY ≥1% OF THE SAMPLE.

Group	Group Size N (% of All)	# of Respondents N (% Group)	Never Married N (% of Group)	Married N (% of Group)	Married but Separated N (% of Group)	Divorced & Not Remarried N (% of Group)	Widowed & Not Remarried N (% of Group)
All Respondents	5123 (100%)	5005 (98%)	2065 (40%)	2509 (49%)	85 (2%)	301 (6%)	45 (1%)
Algeria	205 (4%)	201 (98%)	63 (31%)	132 (64%)	2 (1%)	3 (1%)	1 (0%)
Argentina	53 (1%)	49 (92%)	12 (3%)	24 (45%)	5 (9%)	7 (13%)	1 (2%)
Canada	224 (4%)	217 (97%)	120 (54%)	84 (38%)	2 (1%)	9 (4%)	2 (1%)
Germany	302 (6%)	296 (98%)	183 (61%)	92 (30%)	6 (2%)	13 (4%)	2 (1%)
India	413 (8%)	393 (95%)	229 (55%)	156 (38%)	4 (1%)	3 (1%)	1 (0%)
Iraq	60 (1%)	54 (90%)	18 (30%)	35 (58%)	1 (2%)	0 (0%)	0 (0%)
Italy	189 (4%)	181 (96%)	59 (31%)	92 (49%)	13 (7%)	15 (8%)	2 (1%)
Mexico	56 (1%)	53 (95%)	26 (46%)	17 (30%)	5 (9%)	4 (7%)	1 (2%)
Morocco	156 (3%)	153 (98%)	65 (42%)	79 (51%)	0 (0%)	9 (6%)	0 (0%)
Peru	74 (1%)	68 (92%)	27 (36%)	34 (46%)	5 (7%)	1 (1%)	1 (1%)
Russian Federation	71 (1%)	69 (97%)	23 (32%)	32 (45%)	2 (3%)	10 (14%)	2 (3%)
Spain	67 (1%)	65 (97%)	30 (45%)	27 (40%)	2 (3%)	6 (9%)	0 (0%)
Tunisia	402 (8%)	396 (99%)	118 (29%)	240 (60%)	6 (1%)	23 (6%)	9 (2%)
USA	2011 (39%)	2000 (99%)	813 (40%)	1019 (51%)	13 (1%)	141 (7%)	14 (1%)

TABLE 3. EMPLOYMENT STATUS FOR THE FULL SAMPLE AND BY COUNTRY FOR COUNTRIES THAT WERE REPRESENTED BY ≥1% OF THE SAMPLE.								
Group	**Group Size** N (% of All)	**# of Responses** N (% Group)	**Full-time (35+ hrs/wk)** N (% of Group)	**Part-time (<35 hrs/wk)** N (% of Group)	**Student** N (% of Group)	**Retired** N (% of Group)	**Disabled** N (% of Group)	**Unemployed** N (% of Group)
All Respondents	5123 (100%)	4976 (97%)	2691 (53%)	617 (12%)	877 (17%)	285 (6%)	24 (0%)	482 (9%)
Algeria	205 (4%)	200 (98%)	95 (46%)	34 (17%)	21 (10%)	25 (12%)	0 (0%)	25 (12%)
Argentina	53 (1%)	51 (96%)	18 (34%)	13 (25%)	5 (9%)	6 (11%)	1 (2%)	8 (15%)
Canada	224 (4%)	220 (98%)	118 (53%)	22 (10%)	49 (22%)	12 (5%)	3 (1%)	16 (7%)
Germany	302 (6%)	301 (100%)	107 (35%)	62 (21%)	114 (38%)	7 (2%)	2 (1%)	9 (3%)
India	413 (8%)	394 (95%)	161 (39%)	25 (6%)	181 (44%)	2 (0%)	0 (0%)	25 (6%)
Iraq	60 (1%)	53 (88%)	14 (23%)	16 (27%)	8 (13%)	6 (10%)	0 (0%)	9 (15%)
Italy	189 (4%)	173 (92%)	75 (40%)	41 (22%)	5 (3%)	18 (10%)	1 (1%)	33 (17%)
Mexico	56 (1%)	52 (93%)	26 (46%)	10 (18%)	8 (14%)	0 (0%)	0 (0%)	8 (14%)
Morocco	156 (3%)	147 (94%)	68 (44%)	18 (12%)	26 (17%)	8 (5%)	1 (1%)	26 (17%)
Peru	74 (1%)	66 (89%)	27 (36%)	10 (14%)	6 (8%)	0 (0%)	1 (1%)	22 (30%)
Russian Federation	71 (1%)	70 (99%)	39 (55%)	10 (14%)	13 (18%)	2 (3%)	0 (0%)	6 (8%)
Spain	67 (1%)	65 (97%)	40 (60%)	7 (10%)	13 (19%)	0 (0%)	1 (1%)	4 (6%)
Tunisia	402 (8%)	384 (96%)	193 (48%)	61 (15%)	32 (8%)	39 (10%)	1 (0%)	58 (14%)
USA	2011 (39%)	1997 (99%)	1263 (63%)	192 (10%)	290 (14%)	108 (5%)	10 (1%)	134 (7%)

TABLE 4. EDUCATION FOR THE FULL SAMPLE AND BY COUNTRY FOR COUNTRIES THAT WERE REPRESENTED BY ≥1% OF THE SAMPLE.							
Group	**Group Size** N (% of All)	**# of Responses** N (% of Group)	**No Formal Education (0 yrs)** N (% of Group)	**Primary (1-6 yrs)** N (% of Group)	**Lower Secondary (7-9 yrs)** N (% of Group)	**Upper Secondary (10-12 yrs)** N (% of Group)	**Post-Secondary/ Tertiary (>12 yrs)** N (% of Group)
All Respondents	5123 (100%)	4991 (97%)	4 (0%)	30 (1%)	96 (2%)	592 (12%)	4269 (83%)
Algeria	205 (4%)	201 (98%)	1 (0%)	1 (0%)	8 (4%)	24 (12%)	167 (81%)
Argentina	53 (1%)	50 (94%)	1 (2%)	1 (2%)	7 (13%)	6 (11%)	35 (66%)
Canada	224 (4%)	219 (98%)	0 (0%)	0 (0%)	1 (0%)	35 (16%)	183 (82%)
Germany	302 (6%)	301 (100%)	0 (0%)	0 (0%)	3 (1%)	70 (23%)	228 (76%)
India	413 (8%)	383 (93%)	0 (0%)	2 (0%)	1 (0%)	36 (9%)	344 (83%)
Iraq	60 (1%)	52 (87%)	0 (0%)	4 (7%)	2 (3%)	4 (7%)	42 (70%)
Italy	189 (4%)	181 (96%)	0 (0%)	1 (1%)	13 (7%)	48 (25%)	119 (63%)
Mexico	56 (1%)	50 (89%)	0 (0%)	1 (2%)	3 (5%)	7 (13%)	39 (70%)
Morocco	156 (3%)	152 (97%)	0 (0%)	1 (1%)	4 (3%)	23 (15%)	124 (79%)
Peru	74 (1%)	60 (81%)	0 (0%)	0 (0%)	5 (7%)	23 (31%)	32 (43%)
Russian Federation	71 (1%)	71 (100%)	0 (0%)	1 (1%)	0 (0%)	7 (10%)	63 (89%)
Spain	67 (1%)	64 (96%)	0 (0%)	0 (0%)	2 (3%)	4 (6%)	58 (87%)
Tunisia	402 (8%)	390 (97%)	0 (0%)	3 (1%)	19 (5%)	49 (12%)	319 (79%)
USA	2011 (39%)	2002 (100%)	0 (0%)	9 (0%)	5 (0%)	133 (7%)	1855 (92%)

TABLE 5. NUMBER OF INDIVIDUALS (INCLUDING THE RESPONDENT) LIVING IN THE HOUSE OR DWELLING.	
# of Individuals in House or Dwelling	**Frequency (% of full sample)**
1	520 (10.2%)
2	1233 (24.1%)
3	971 (19.0%)
4	1075 (21.0%)
5	622 (12.1%)
6	271 (5.3%)
7	111 (2.2%)
8	60 (1.2%)
9	35 (0.7%)
10	34 (0.7%)
11-20	46 (0.9%)
21-250	12 (0.2%)

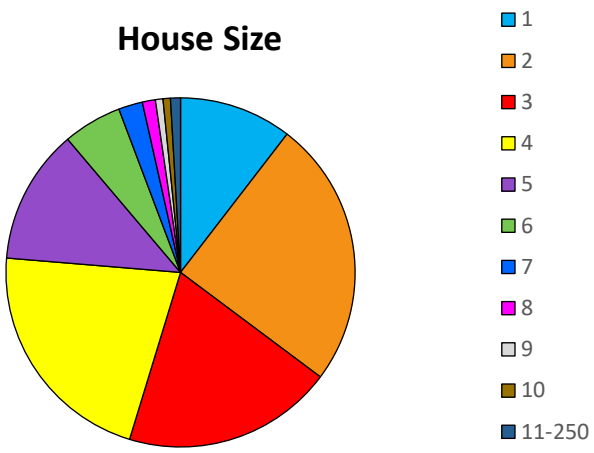


TABLE 6. NUMBER OF INDIVIDUALS WHO OWN THE HOUSE OR DWELLING WITHIN WHICH THEY LIVE.	
Owner of Residence	**Frequency (% of responses)**
No	2075 (42.0%)
Yes	2863 (58.0%)
Total	4938

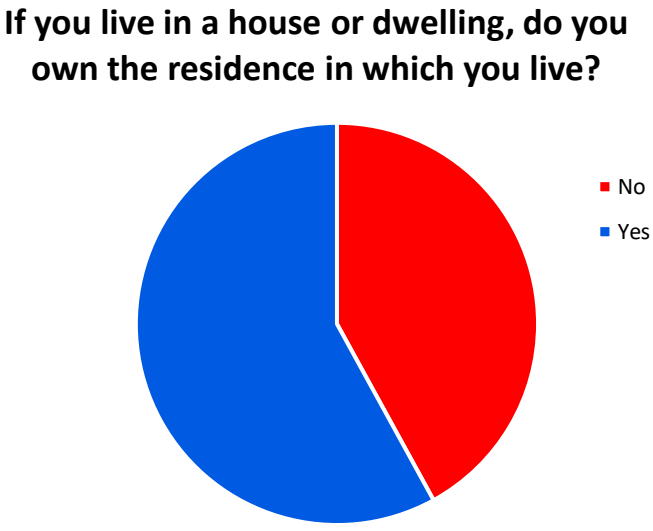
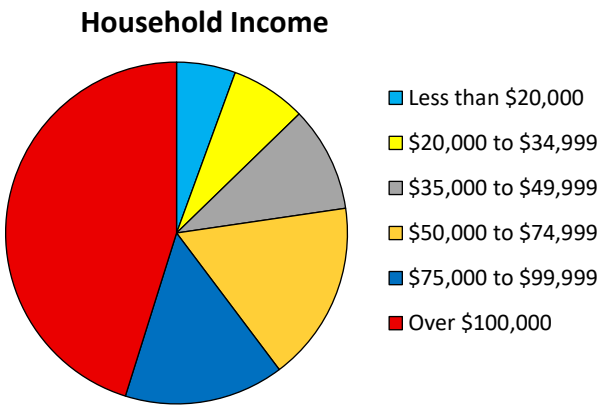


TABLE 7. URBAN OR RURAL NATURE OF RESIDENCE FOR THE FULL SAMPLE AND BY COUNTRY FOR COUNTRIES THAT WERE REPRESENTED BY ≥1% OF THE SAMPLE.

Group	Group Size N (% of All)	# of Responses N (% Group)	Urban Area (pop. 50,000+) N (% of Group)	Urban Cluster (pop. 2,500 - 49,999) N (% of Group)	Rural Area (pop. <2,500) N (% of Group)
All Respondents	5123 (100%)	5000 (98%)	3292 (64%)	1298 (25%)	410 (8%)
Algeria	205 (4%)	196 (96%)	130 (63%)	49 (24%)	17 (8%)
Argentina	53 (1%)	51 (96%)	40 (75%)	9 (17%)	2 (4%)
Canada	224 (4%)	221 (99%)	132 (59%)	60 (27%)	29 (13%)
Germany	302 (6%)	301 (100%)	170 (56%)	99 (33%)	32 (11%)
India	413 (8%)	400 (97%)	313 (76%)	60 (15%)	27 (7%)
Iraq	60 (1%)	53 (88%)	34 (57%)	13 (22%)	6 (10%)
Italy	189 (4%)	177 (94%)	68 (36%)	81 (43%)	28 (15%)
Mexico	56 (1%)	53 (95%)	44 (79%)	7 (13%)	2 (4%)
Morocco	156 (3%)	150 (96%)	104 (67%)	39 (25%)	7 (4%)
Peru	74 (1%)	66 (89%)	50 (68%)	8 (11%)	8 (11%)
Russian Federation	71 (1%)	71 (100%)	69 (97%)	1 (1%)	1 (1%)
Spain	67 (1%)	66 (99%)	44 (66%)	15 (22%)	7 (10%)
Tunisia	402 (8%)	390 (97%)	249 (62%)	115 (29%)	26 (6%)
USA	2011 (39%)	2002 (100%)	1284 (64%)	566 (28%)	152 (8%)

TABLE 8. ETHNICITY (SELECT ALL THAT APPLY), IF RESIDENT OF USA.	
Ethnicity	**Frequency (% of USA Residents)**
African American or Black	30 (1.5%)
American Indian or Alaska Native	28 (1.4%)
Asian	60 (3.0%)
White/Caucasian	1868 (92.9%)
Native Hawaiian or Pacific Islander	6 (0.3%)
Hispanic	53 (2.6%)
Multiracial	31 (1.5%)
Other	13 (0.6%)
# of Respondents:	1994 (99.2%)

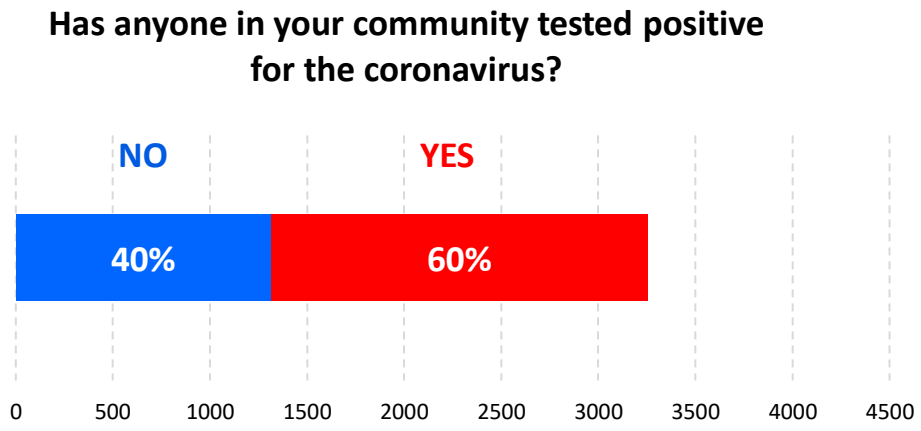
TABLE 9. ANNUAL HOUSEHOLD INCOME, IF RESIDENT OF USA.	
Income	**Frequency (% of USA Residents)**
Less than $20,000	106 (5.3%)
$20,000 to $34,999	136 (6.8%)
$35,000 to $49,999	189 (9.4%)
$50,000 to $74,999	324 (16.1%)
$75,000 to $99,999	287 (14.3%)
Over $100,000	858 (42.7%)



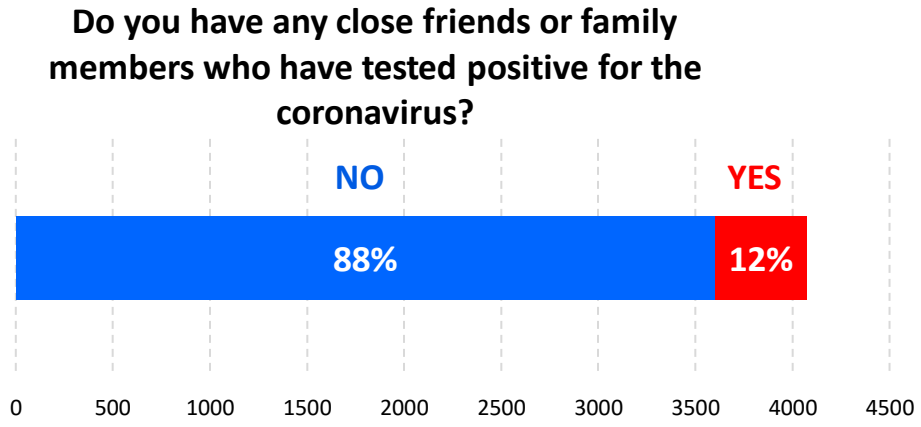
COVID-19 PERCEPTIONS, ATTITUDES, BEHAVIORS, AND EXPERIENCES

Most respondents lived in a community in which at least one individual had tested positive for COVID-19, but most did not have a friend or family member who had a positive test.

Community (Full Sample)	
No	1312
Yes	1942
Total	3254

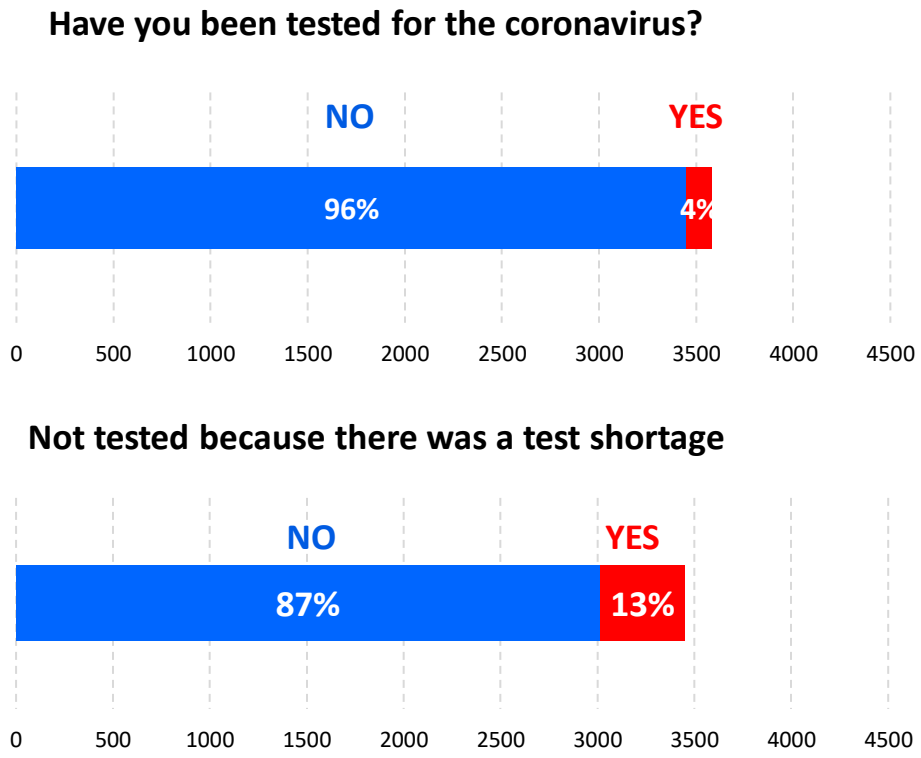


Friend or Family (Full Sample)	
No	3598
Yes	476
Total	4074

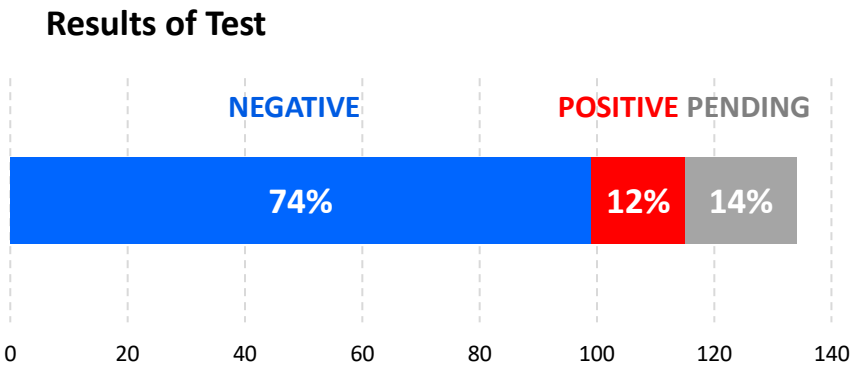


Most respondents had not personally been tested for COVID-19; and this was partially due to a shortage of tests.

Tested (Full Sample)	
No	3450
Yes	134
Total	3584



Of those who reported having been tested for the virus, most reported that they did not test positive for COVID-19.

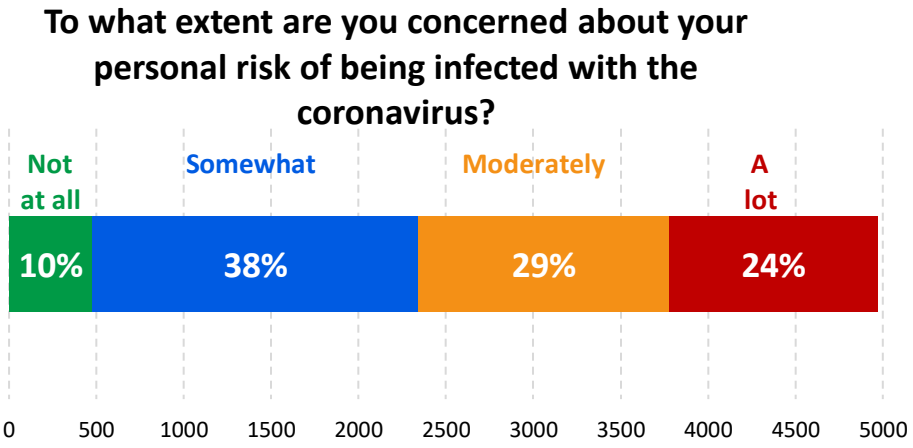


Most respondents reported consuming more than 30 minutes of news media coverage of COVID-19 each day.

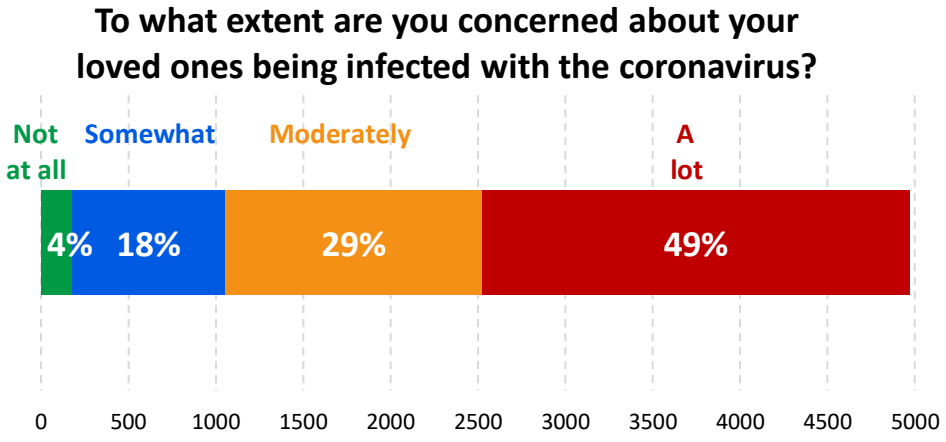
About how much time do you spend consuming news media (news on the internet, television, radio, newspaper, news on social media, press releases) coverage of the coronavirus each day?		
	Full Sample N (% responses)	USA Sample N (% USA responses)
0 - 30 minutes (i.e., 0 - 0.5 hour)	1228 (24.3%)	475 (23.9%)
31 - 60 minutes (i.e., 0.5 - 1 hour)	1432 (28.4%)	675 (34%)
61 - 90 minutes (i.e., 1 - 1.5 hours)	829 (16.4%)	403 (20.3%)
91 - 120 minutes (i.e., 1.5 - 2 hours)	594 (11.8%)	236 (11.9%)
121 - 240 minutes (i.e., 2 - 4 hours)	477 (9.5%)	140 (7%)
More than 240 minutes (i.e., more than 4 hours)	485 (9.6%)	58 (2.9%)
Total	5045	1987

Most respondents were at least somewhat concerned about their personal risk of contracting COVID-19; and many were significantly concerned about their loved ones contracting the virus.

Personal Risk (Full Sample)	
Not at all	476
Somewhat	1866
Moderately	1433
A lot	1194
Total	4969



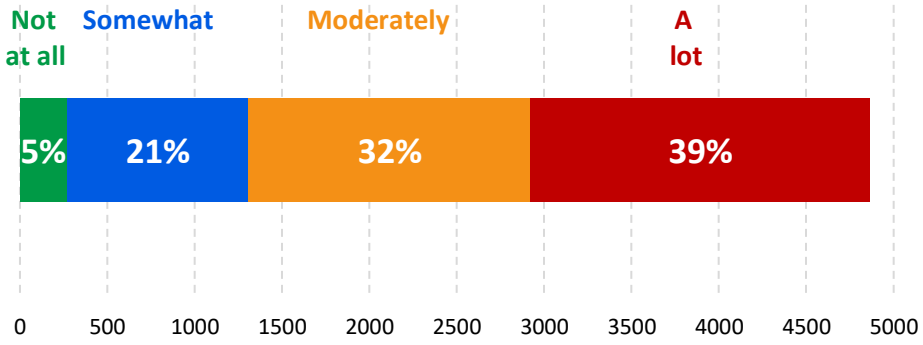
Loved Ones' Risk (Full Sample)	
Not at all	176
Somewhat	879
Moderately	1466
A lot	2449
Total	4970



Most respondents perceived that others in their community were stocking-up on more household supplies or food due to COVID-19.

Full Sample	
Total	4865

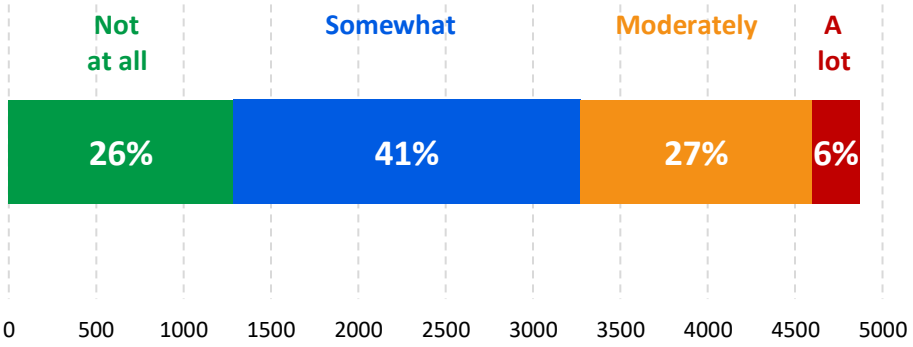
To what extent do you feel that most people in your community stocked-up on a larger supply of basic household supplies (e.g., toilet paper, hand sanitizer, cleaning supplies) or food than they usually do because of the coronavirus?



Many respondents also reported personally stocking-up on more household supplies or food.

Full Sample	
Total	4869

To what extent did you stock-up on a larger supply of basic household supplies (e.g., toilet paper, hand sanitizer, cleaning supplies) or food than you usually do because of the coronavirus?



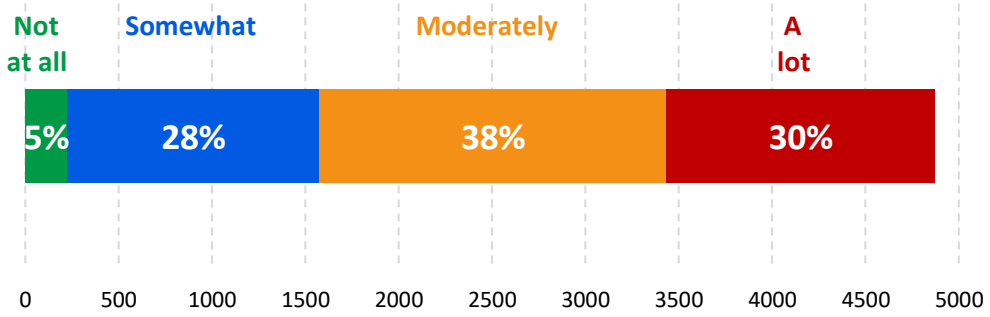
SELF vs. OTHERS

Respondents who perceived that others were stocking-up on more household supplies or food due to the virus tended to also personally stock-up on these items, $r(4863) = .27$, $p < .001$.

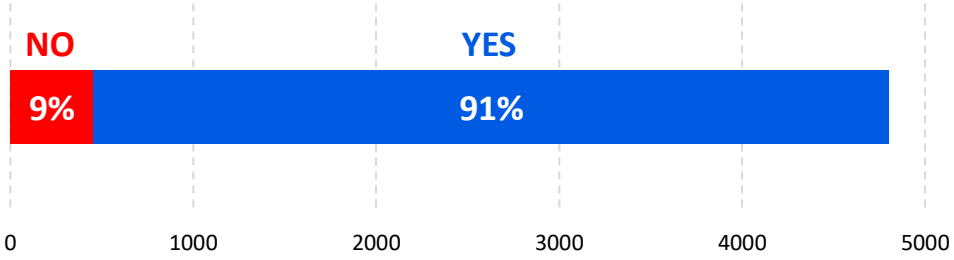
Most respondents perceived that others around them were practicing social distancing.

Full Sample	
Total	4871

To what extent do you feel that others around you have been practicing social distancing (i.e., limiting physical interactions with others and maintaining at least 6 feet/1.8 meters between oneself and other individuals) to prevent spreading the coronavir



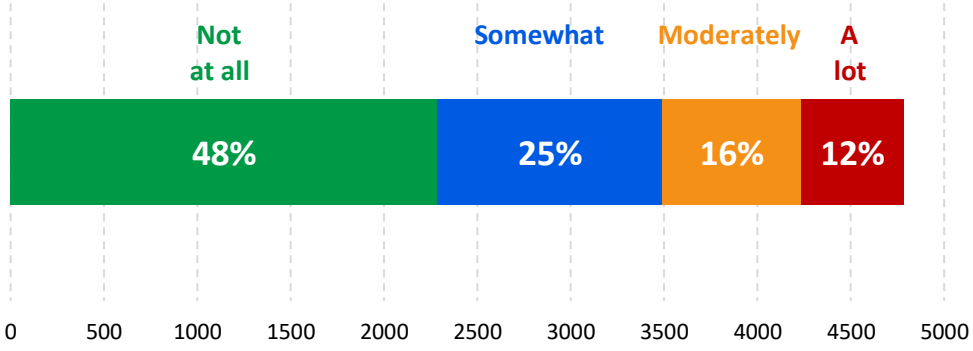
Most respondents (4352 of 4805) reported having a safe space to practice social distancing.



However, many reported having obligations or restrictions that made it difficult for them to practice social distancing.

Full Sample	
Total	4783

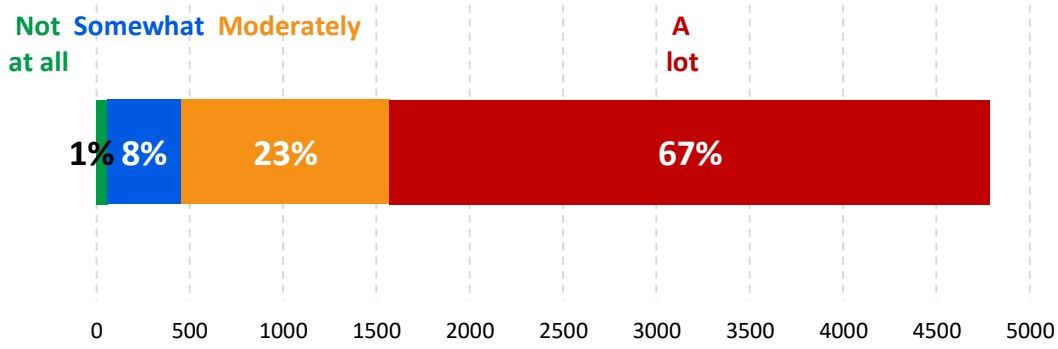
To what extent do you feel like your work, housing, or other restrictions/obligations make it difficult for you to physically distance yourself from other individuals?



Despite perceived difficulties, most respondents reported personally practicing social distancing.

Full Sample	
Total	4787

To what extent have you personally been practicing social distancing (i.e., limiting your physical interactions with others and maintaining at least 6 feet/1.8 meters between you and other individuals) to prevent spreading the coronavirus?

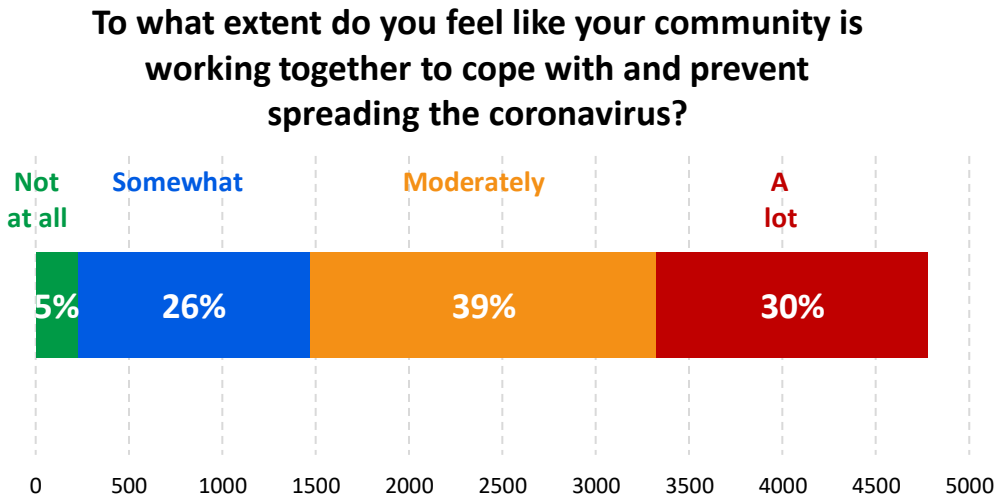


BARRIERS and SELF vs. OTHERS

Having a safe place to social distance was positively related to self-reported social distancing, $r(4723) = .30$, $p < .001$. Perceiving that others were practicing social distancing was also positively related to respondents' personal social distancing, $r(4782) = .32$, $p < .001$. Perceiving restrictions and obligations that made it difficult to social distance was negatively related to self-reported social distancing, $r(4782) = -.24$, $p < .001$.

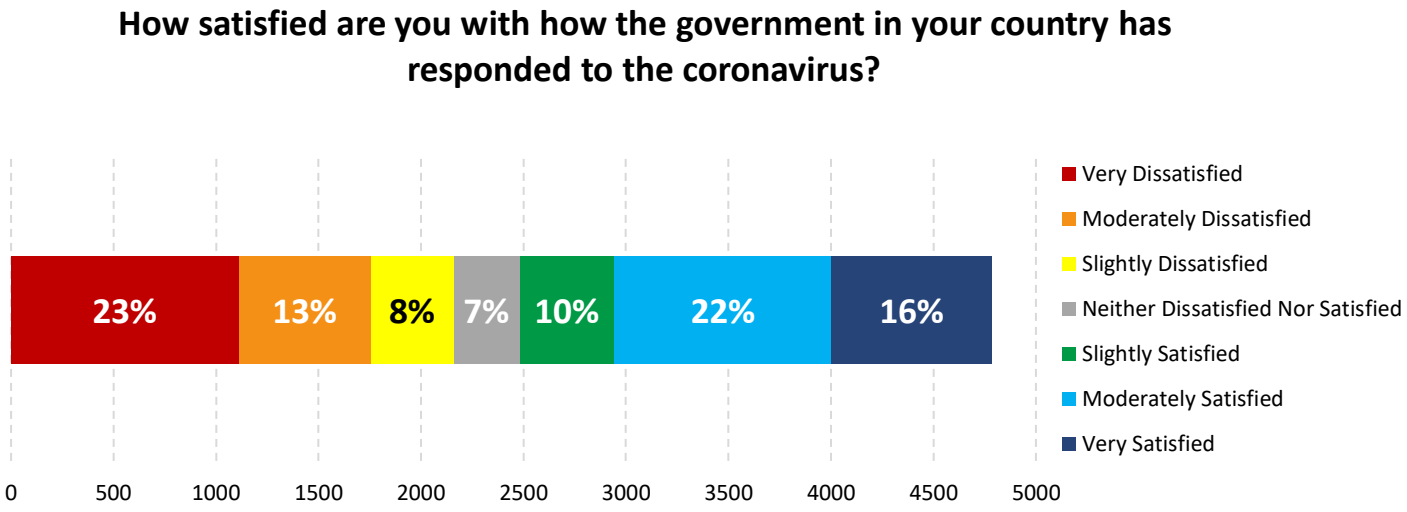
Most respondents reported feeling like their community was working together to prevent spread of the virus.

Full Sample	
Not at all	223
Somewhat	1248
Moderately	1854
A lot	1454
Total	4779



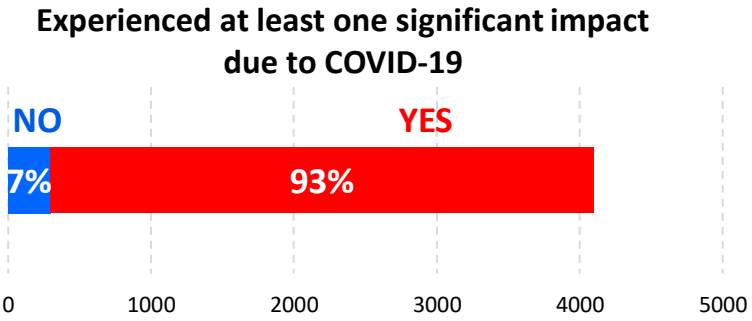
There was considerable variation in how satisfied respondents were with how the government in their country responded to COVID-19.

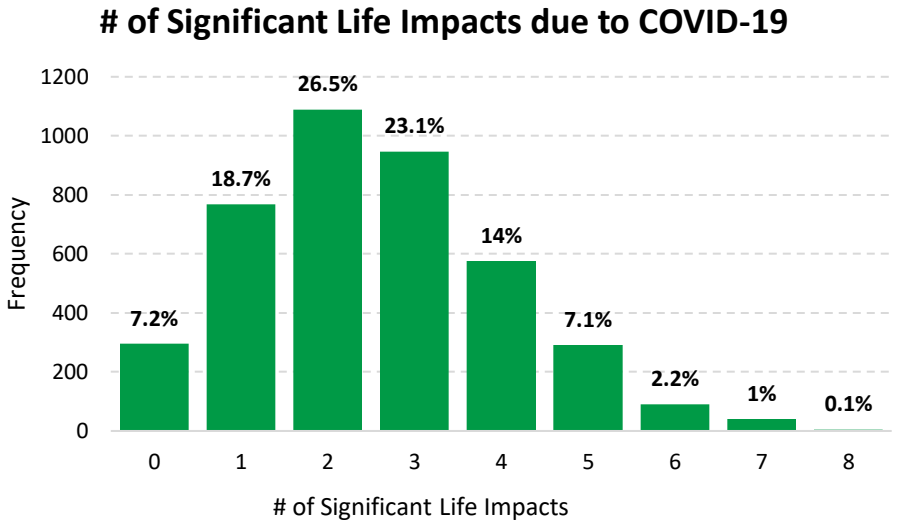
Very Dissatisfied	Moderately Dissatisfied	Slightly Dissatisfied	Neither Dissatisfied Nor Satisfied	Slightly Satisfied	Moderately Satisfied	Very Satisfied	Total (Full Sample)
1112	643	404	321	464	1060	779	4783



Respondents were asked about whether they had experienced seven specific and any other significant life impacts due to COVID-19.

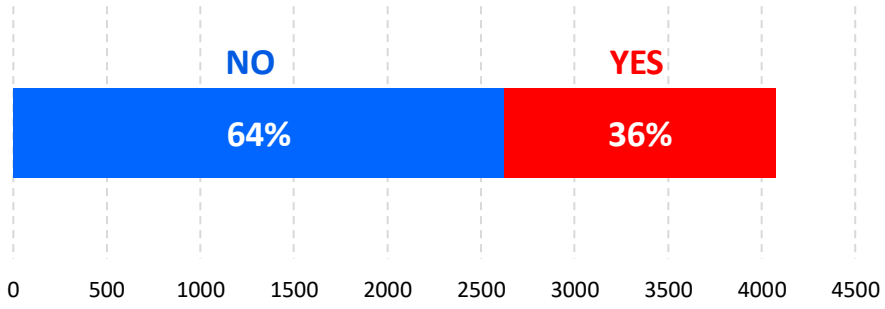
Full Sample	
No	295
Yes	3805
Total	4100





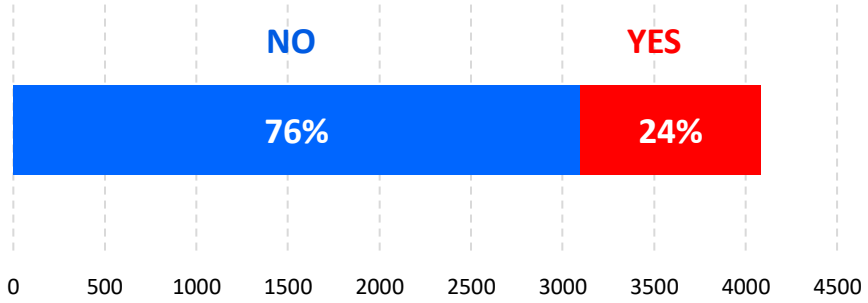
"I had to stop taking school classes or switch to alternative formats due to termination of in-person classes as a result of the coronavirus."

Full Sample	
No	2626
Yes	1449
Total	4075



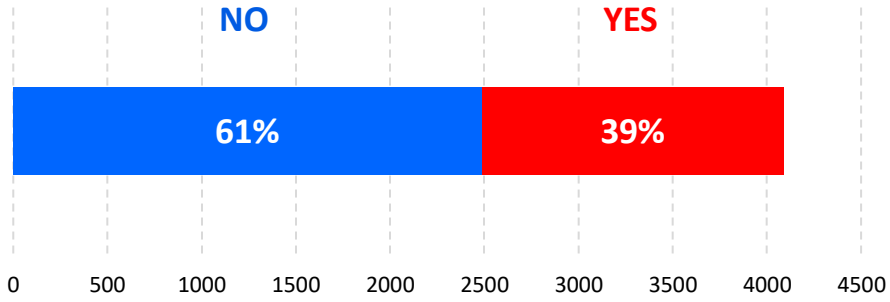
"I lost my job or my hours were significantly reduced because of the coronavirus."

Full Sample	
No	3096
Yes	987
Total	4083



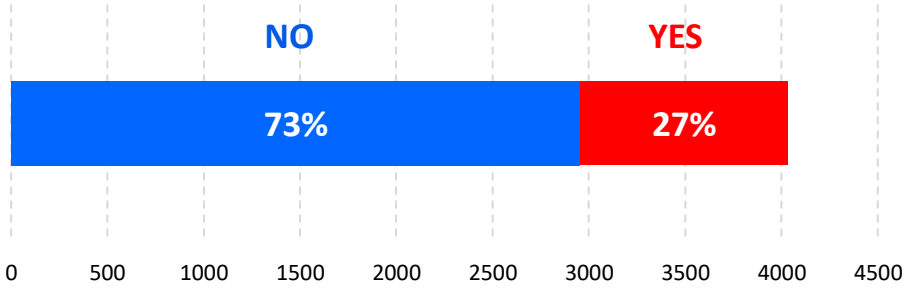
"I was unable to purchase basic household supplies (e.g., toilet paper, hand sanitizer, cleaning supplies) or food needed to feed myself or my household due to store or retailer shortages resulting from the coronavirus."

Full Sample	
No	2488
Yes	1599
Total	4087



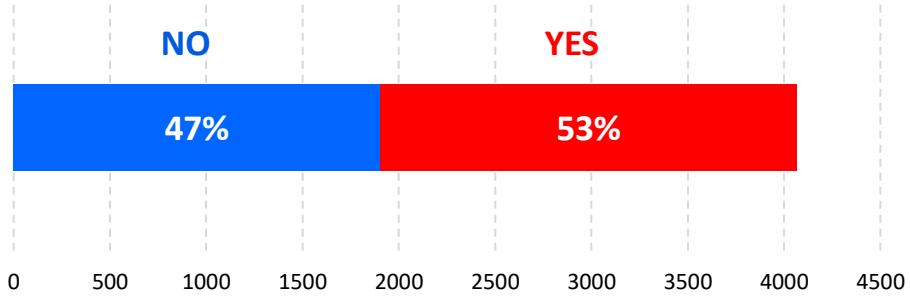
"I lost childcare or my child's school was closed because of the coronavirus."

Full Sample	
No	2954
Yes	1078
Total	4032



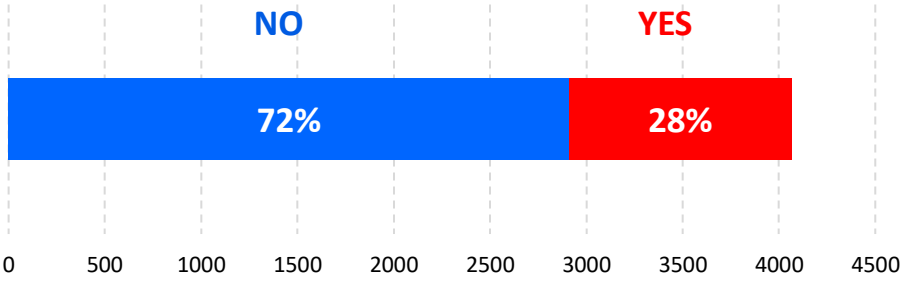
“My vacation, my wedding, my graduation, my baby shower, or another significant event of mine was cancelled due to the coronavirus.”

Full Sample	
No	1901
Yes	2166
Total	4067



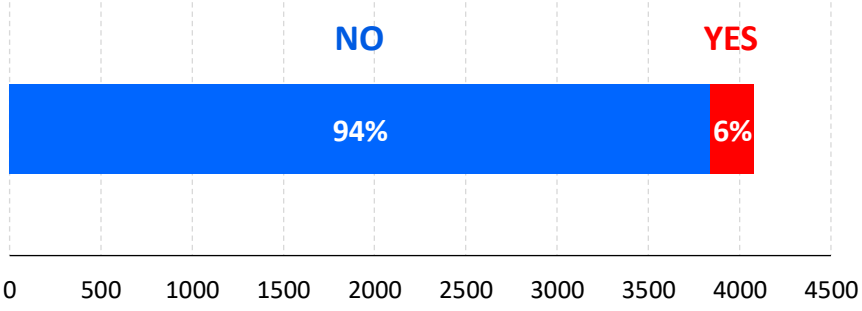
“Because of the coronavirus, I was banned from visiting someone I love who is/was in hospice, a nursing home, or the hospital.”

Full Sample	
No	2907
Yes	1158
Total	4065



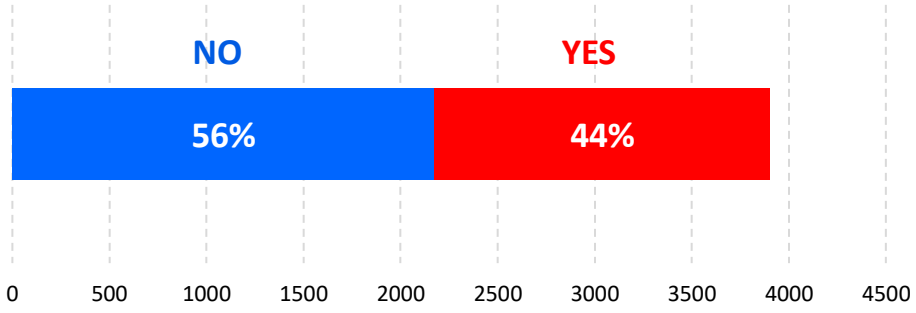
“I had a close friend or family member hospitalized or die as a result of the coronavirus.”

Full Sample	
No	3839
Yes	238
Total	4077



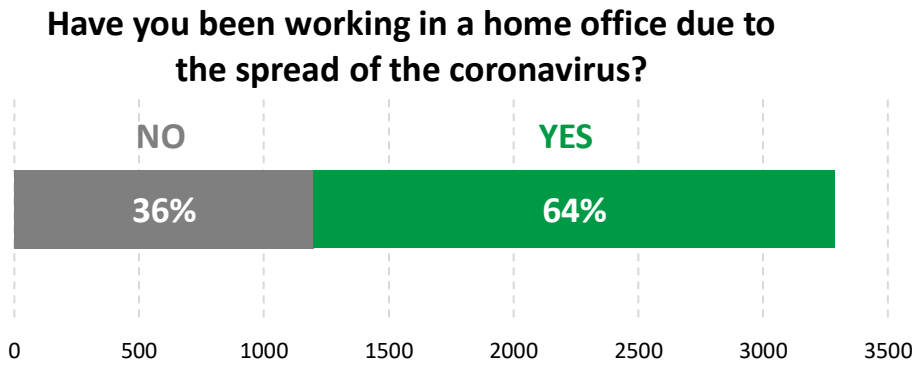
“Has your life been impacted by the coronavirus in any other significant ways?”

Full Sample	
No	2174
Yes	1731
Total	3905



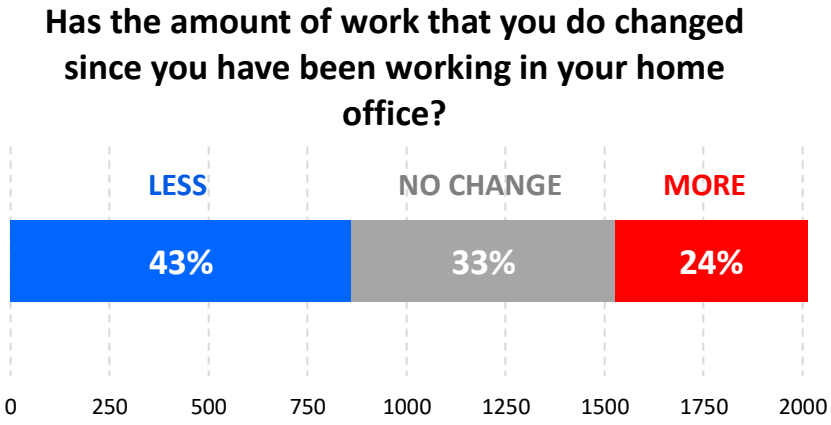
Of those who reported current full- or part-time employment, most reported that they were currently working from home due to the virus.

Full Sample	
Total	3288



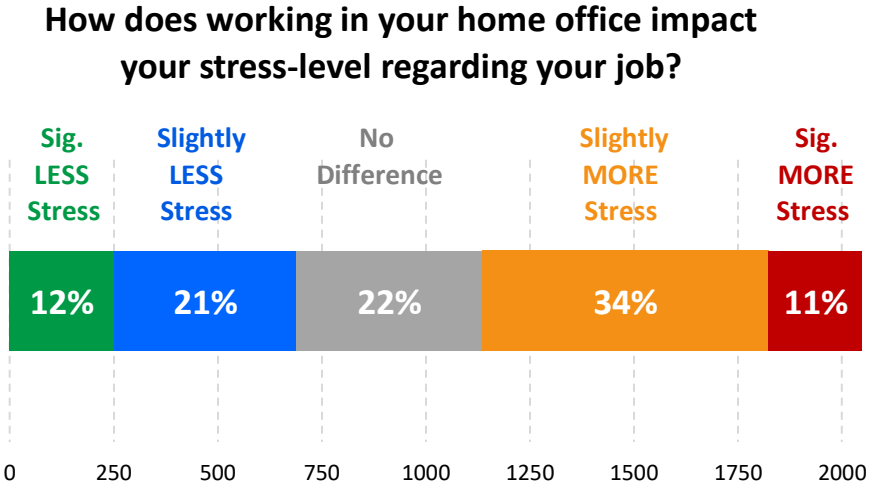
Of those who reported working remotely due to the virus, most reported experiencing a change in how much work they complete.

Full Sample	
I complete less work	861
I complete the same amount of work	665
I complete more work	485
Total	2011



Many respondents reported changes in stress levels attributable to working from home.

Full Sample	
Total	2049



We also asked respondents if they had experienced any positive outcomes as a result of the new coronavirus.

USA Responses: Sample of Topics Mentioned in Open-Ended Responses about Positive Outcomes (n = 1426 responses)	
Topic	**Frequency**
Recharging (sleep, reflecting, etc.)	115
Food (cooking, eating healthier, etc.)	161
Free time or hobbies	164
Time with pets	175
Time outdoors	310
Exercise	319
Communicating or connecting	459
Friends or loved ones	785

MOOD AND UNCERTAINTY

Overall, the sample reported mild depression symptoms.

	PHQ Score	Full Sample N (% of All Responses)	Full Sample N (% of All Responses)	USA N (% of USA Responses)	USA N (% of USA Responses)
Normal	0	499 (11.4%)	1488 (33.9%)	208 (11%)	711 (37.7%)
	1	464 (10.6%)		246 (13%)	
	2	525 (12%)		257 (13.6%)	
Mild	3	499 (11.4%)	1441 (32.9%)	223 (11.8%)	631 (33.5%)
	4	590 (13.5%)		243 (12.9%)	
	5	352 (8%)		165 (8.7%)	
Moderate	6	279 (6.4%)	744 (17.0%)	121 (6.4%)	325 (17.2%)
	7	221 (5%)		117 (6.2%)	
	8	244 (5.6%)		87 (4.6%)	
Severe	9	179 (4.1%)	710 (16.2%)	66 (3.5%)	219 (11.6%)
	10	159 (3.6%)		53 (2.8%)	
	11	111 (2.5%)		44 (2.3%)	
	12	261 (6%)		56 (3%)	
	Total (N)	4383		1886	
	Mean	4.53		4.11	
	SD	3.49		3.19	

Many respondents reported that their depression symptoms had been making it difficult for them to work, take care of things at home, or get along with other people in the time since the coronavirus began spreading.

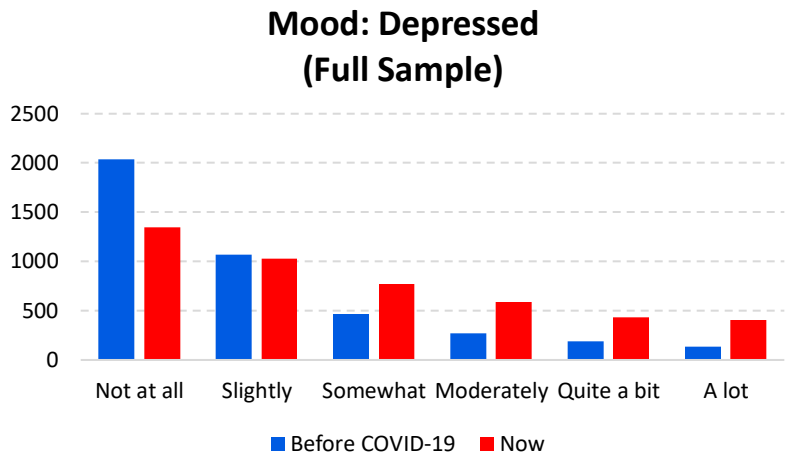
		Not at all difficult	Somewhat difficult	Very difficult	Extremely difficult	Total
Full Sample	% All Responses (N)	33% (1448)	45.6% (2000)	14.3% (626)	7.1% (311)	4385
USA	% USA Responses (N)	35.6% (671)	49.5% (933)	10.9% (205)	4.1% (77)	1886

When asked whether they had noticed any changes in how their depression symptoms bother them now compared to before COVID-19 began spreading, nearly half of the respondents reported that they are a lot more bothered now.

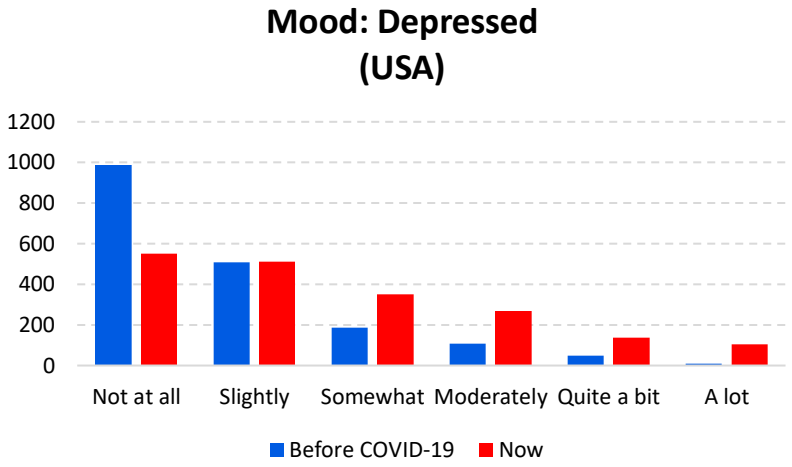
		A lot less bothered	About the same	A lot more bothered	Total
Full Sample	% All Responses (N)	11.4% (500)	40.5% (1772)	48% (2099)	4371
USA	% USA Responses (N)	6.2% (117)	44.7% (842)	49.1% (924)	1883

Overall, respondents reported feeling somewhat more depressed in the time since the virus began spreading compared to before the virus began spreading.

Mood: Depressed Full Sample		
Timeframe	Mean (SD)	N
Before COVID-19	1.02 (1.34)	4162
Now	1.77 (1.63)	4580

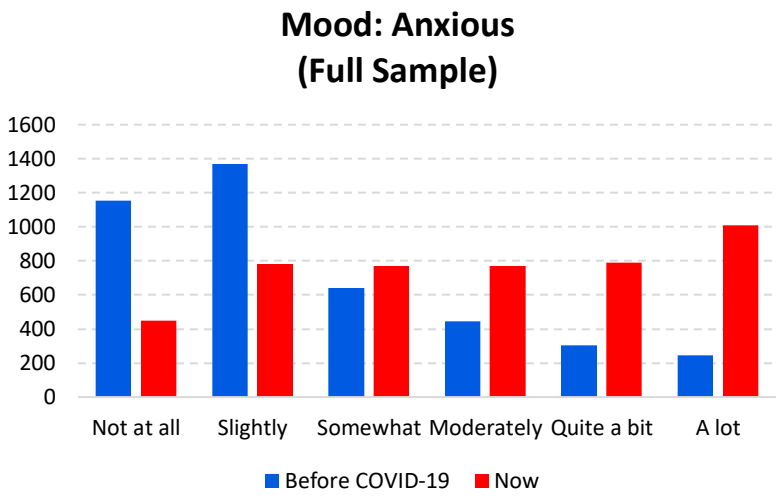


Mood: Depressed USA		
Timeframe	Mean (SD)	N
Before COVID-19	0.78 (1.06)	1850
Now	1.6 (1.47)	1920

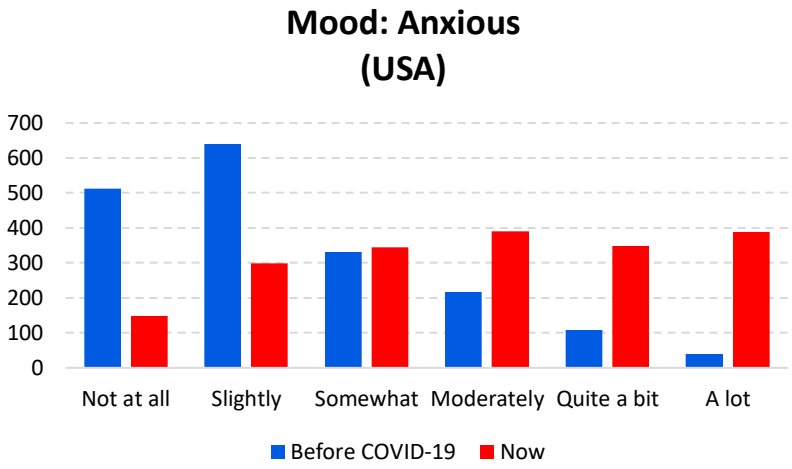


Respondents also reported feeling somewhat more anxious and nervous now compared to before COVID-19 began spreading.

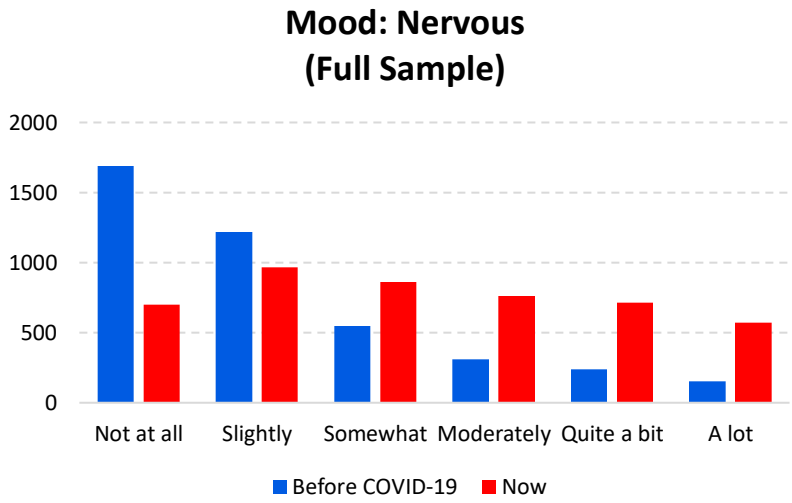
Mood: Anxious Full Sample		
Timeframe	Mean (SD)	N
Before COVID-19	1.55 (1.47)	4160
Now	2.81 (1.66)	4573



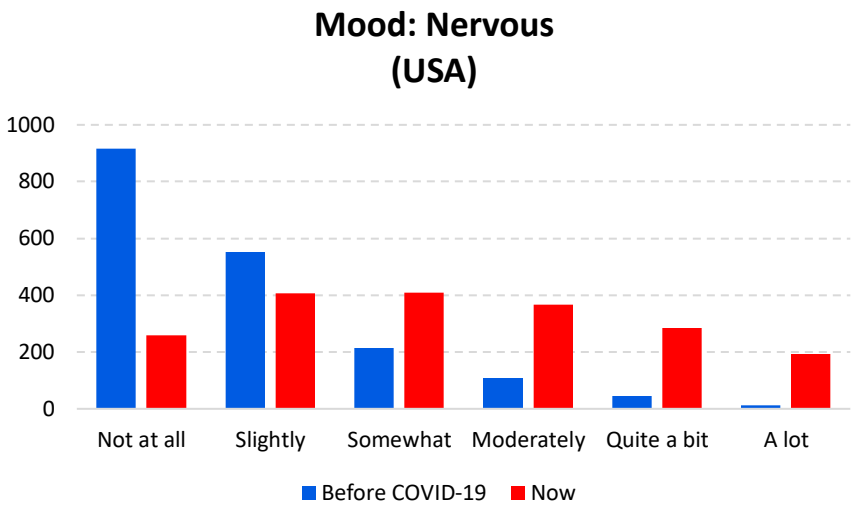
Mood: Anxious USA		
Timeframe	Mean (SD)	N
Before COVID-19	1.4 (1.28)	1848
Now	2.86 (1.57)	1920



Mood: Nervous Full Sample		
Timeframe	Mean (SD)	N
Before COVID-19	1.19 (1.38)	4158
Now	2.34 (1.62)	4577

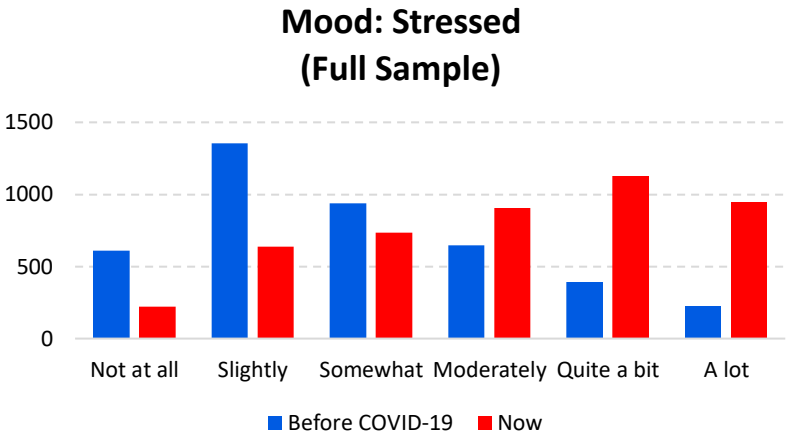


Mood: Nervous USA		
Timeframe	Mean (SD)	N
Before COVID-19	0.84 (1.07)	1849
Now	2.31 (1.53)	1920

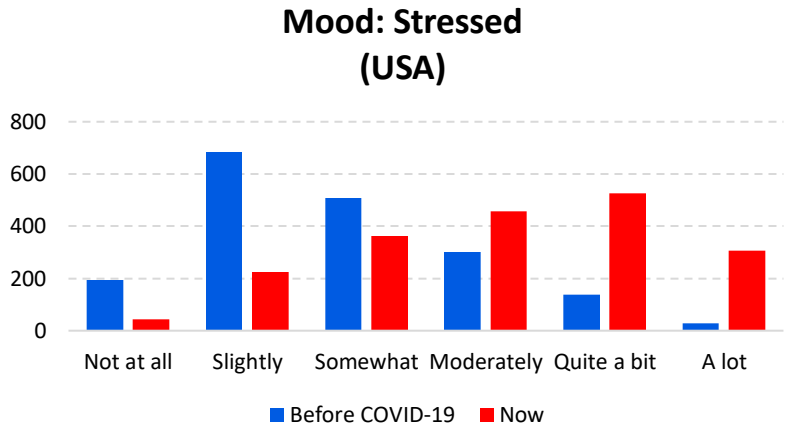


Respondents also reported feeling somewhat more stressed now compared to before COVID-19 began spreading.

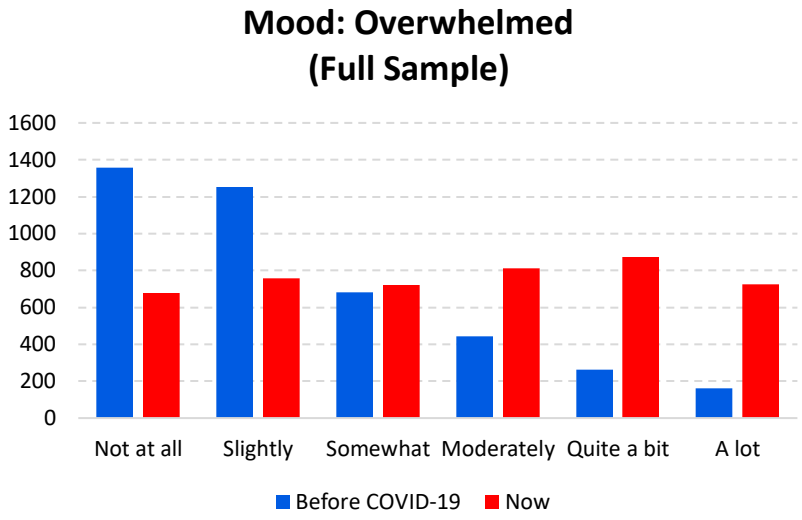
Mood: Stressed Full Sample		
Timeframe	Mean (SD)	N
Before COVID-19	1.89 (1.38)	4171
Now	3.08 (1.49)	4580



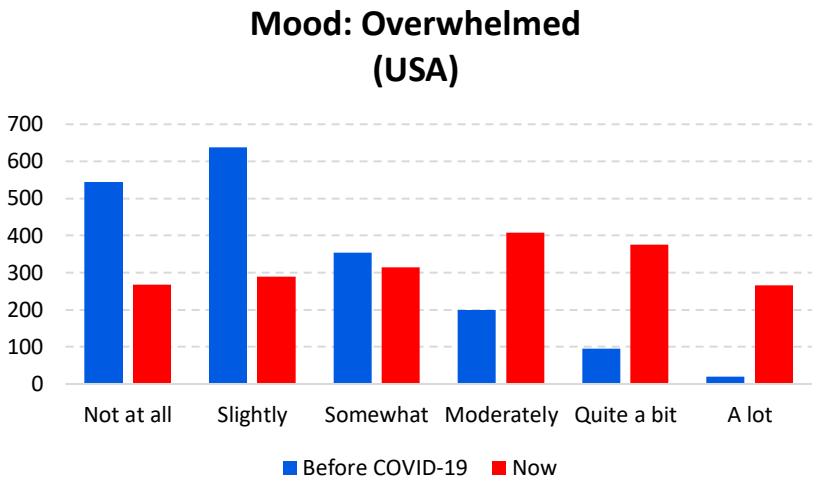
Mood: Stressed USA		
Timeframe	Mean (SD)	N
Before COVID-19	1.78 (1.15)	1851
Now	3.1 (1.33)	1920



Mood: Overwhelmed Full Sample		
Timeframe	Mean (SD)	N
Before COVID-19	1.4 (1.4)	4162
Now	2.57 (1.67)	4571

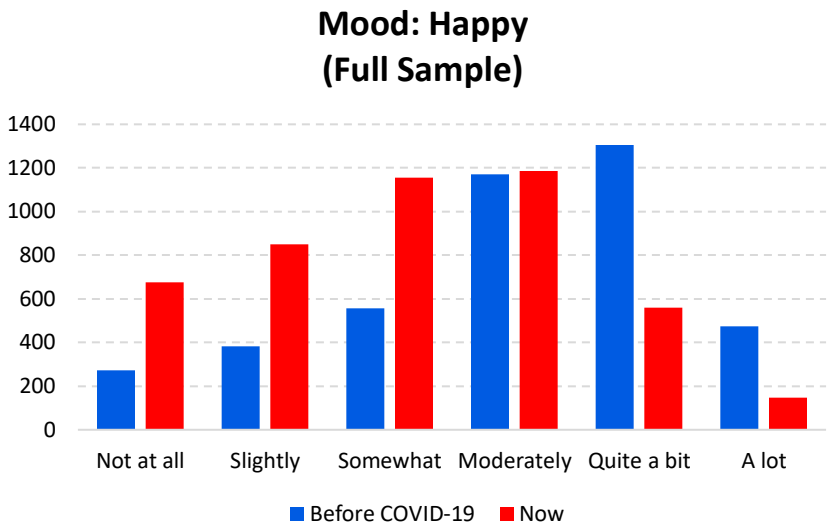


Mood: Overwhelmed USA		
Timeframe	Mean (SD)	N
Before COVID-19	1.31 (1.21)	1850
Now	2.59 (1.61)	1920

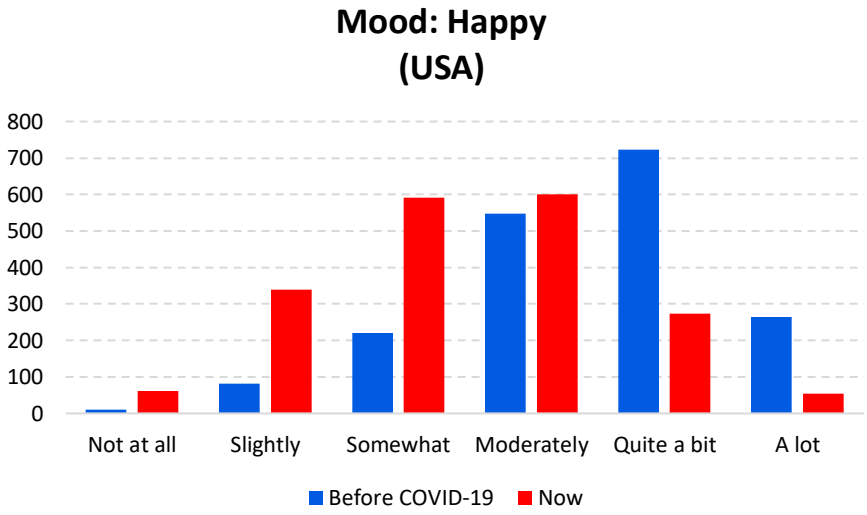


Respondents reported feeling somewhat less happy and less cheerful now compared to before COVID-19 began spreading.

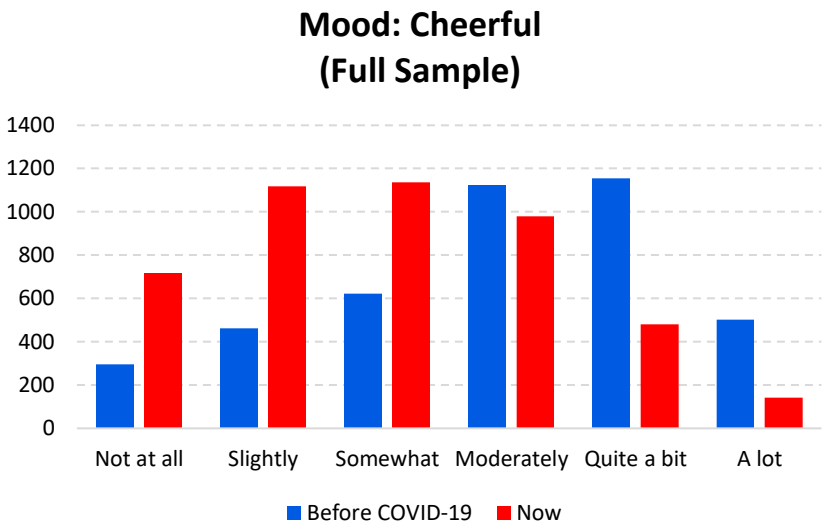
Mood: Happy Full Sample		
Timeframe	Mean (SD)	N
Before COVID-19	3.03 (1.36)	4161
Now	2.12 (1.34)	4576



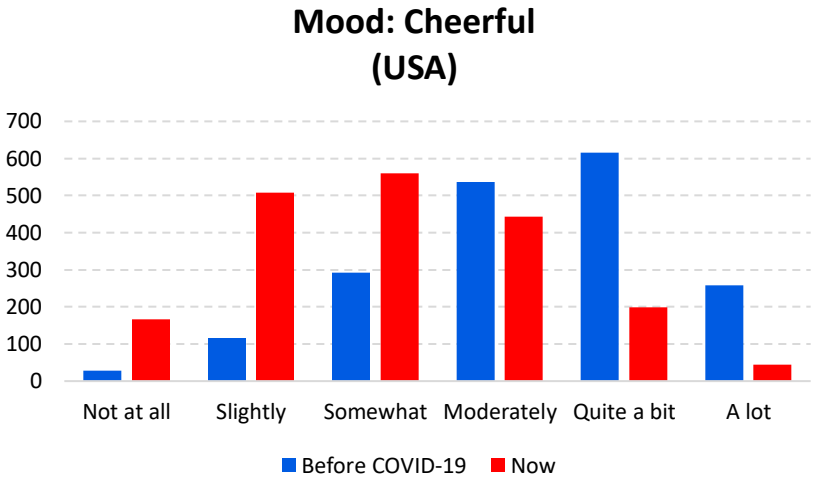
Mood: Happy USA		
Timeframe	Mean (SD)	N
Before COVID-19	3.45 (1.05)	1849
Now	2.44 (1.12)	1920



Mood: Cheerful Full Sample		
Timeframe	Mean (SD)	N
Before COVID-19	2.93 (1.41)	4163
Now	1.96 (1.34)	4575

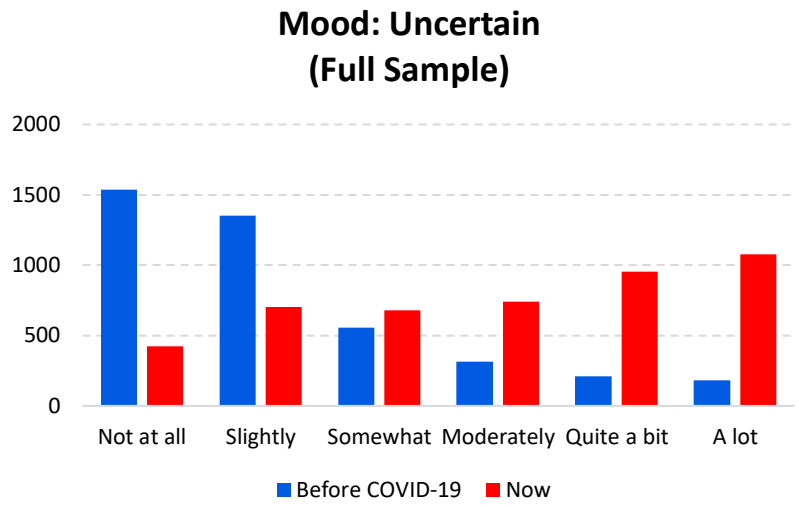


Mood: Cheerful USA		
Timeframe	Mean (SD)	N
Before COVID-19	3.28 (1.17)	1849
Now	2.07 (1.21)	1920

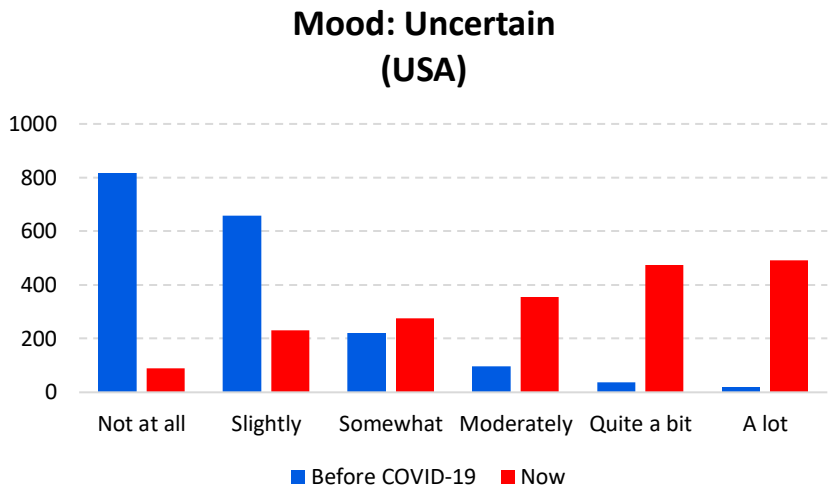


Overall, the sample reported feeling more uncertain now compared to before COVID-19 began spreading.

Mood: Uncertain Full Sample		
Timeframe	Mean (SD)	N
Before COVID-19	1.25 (1.38)	4159
Now	2.95 (1.66)	4578

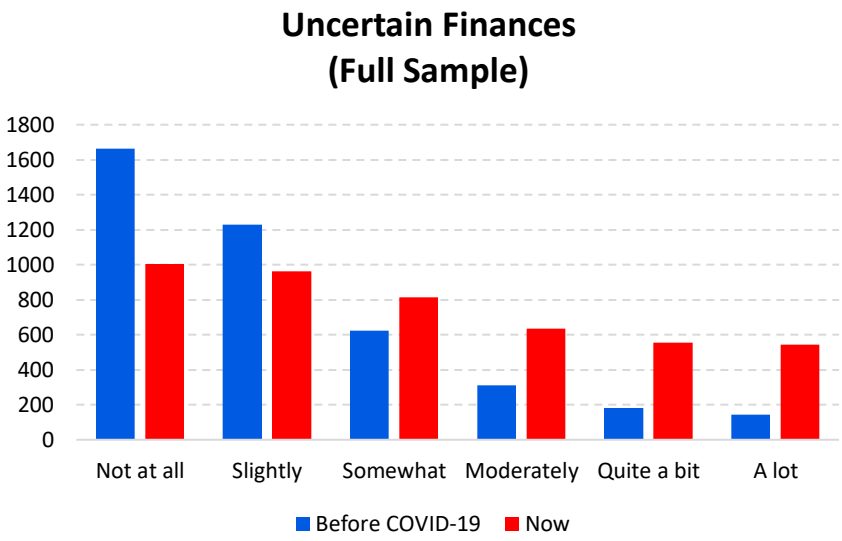


Mood: Uncertain USA		
Timeframe	Mean (SD)	N
Before COVID-19	0.88 (1.05)	1849
Now	3.23 (1.51)	1920

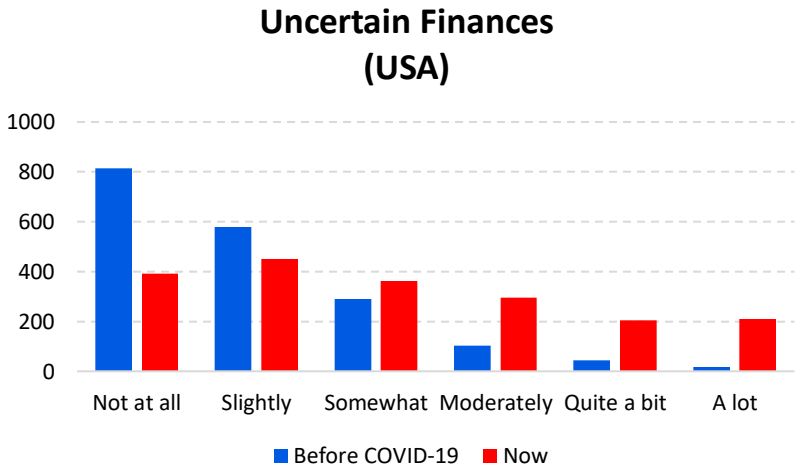


Respondents reported the extent to which they felt uncertain about several domains both since COVID-19 began spreading as well as prior to the virus. Domains included: (a) finances, (b) job stability, (c) having enough to eat or enough toilet paper, soap/sanitizer, or other household supplies, (d) personal health or well-being, and (e) the health or well-being of a close friend or family member.

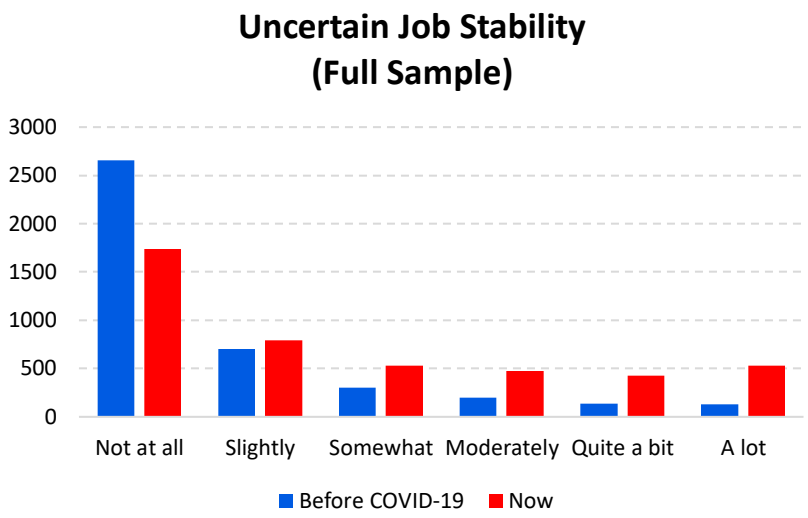
Uncertain Finances Full Sample		
Timeframe	Mean (SD)	N
Before COVID-19	1.17 (1.33)	4152
Now	2.09 (1.68)	4511



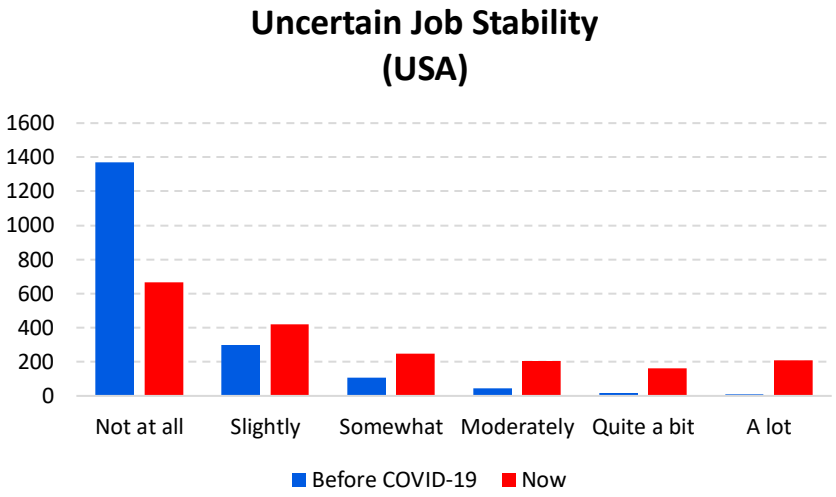
Uncertain Finances USA		
Timeframe	Mean (SD)	N
Before COVID-19	0.94 (1.08)	1849
Now	2.05 (1.62)	1912



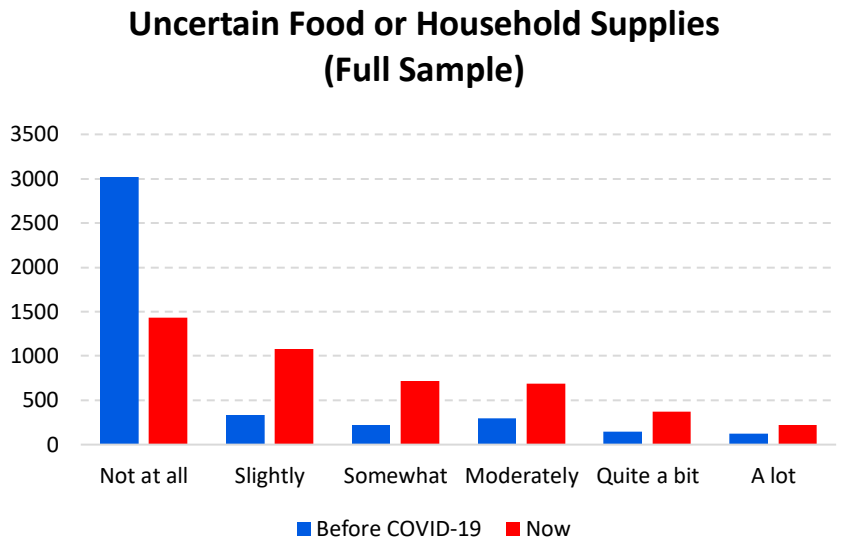
Uncertain Job Stability Full Sample		
Timeframe	Mean (SD)	N
Before COVID-19	0.76 (1.29)	4134
Now	1.70 (1.79)	4491



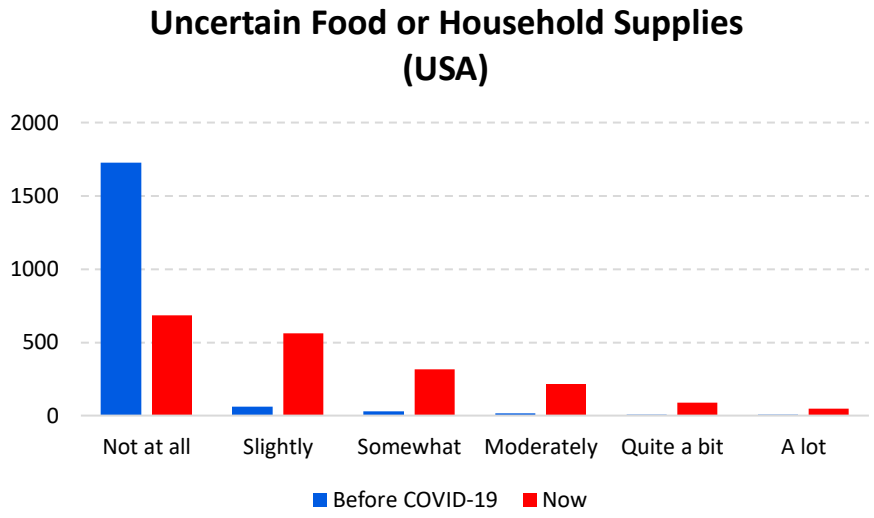
Uncertain Job Stability USA		
Timeframe	Mean (SD)	N
Before COVID-19	0.41 (0.84)	1846
Now	1.69 (1.72)	1909



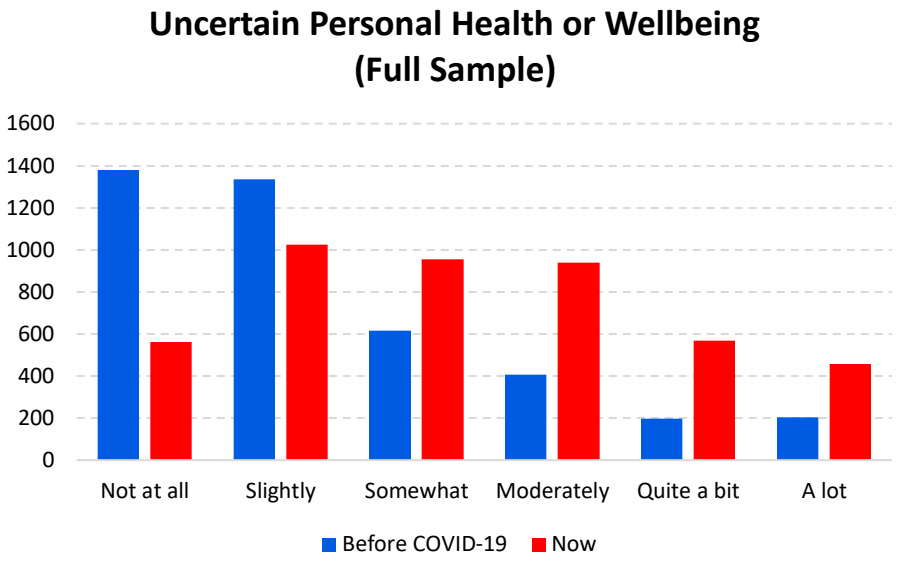
Uncertain Food or Household Supplies Full Sample		
Timeframe	Mean (SD)	N
Before COVID-19	0.69 (1.33)	4137
Now	1.59 (1.5)	4512



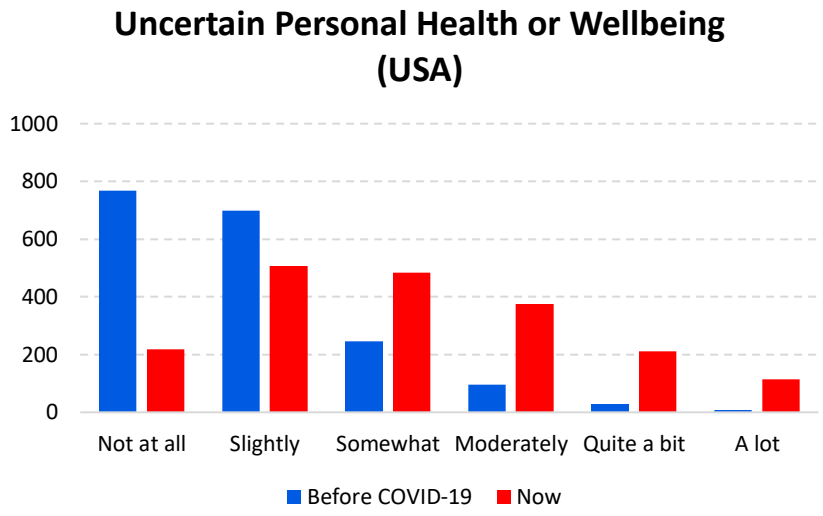
Uncertain Food or Household Supplies USA		
Timeframe	Mean (SD)	N
Before COVID-19	0.12 (0.54)	1848
Now	1.27 (1.31)	1912



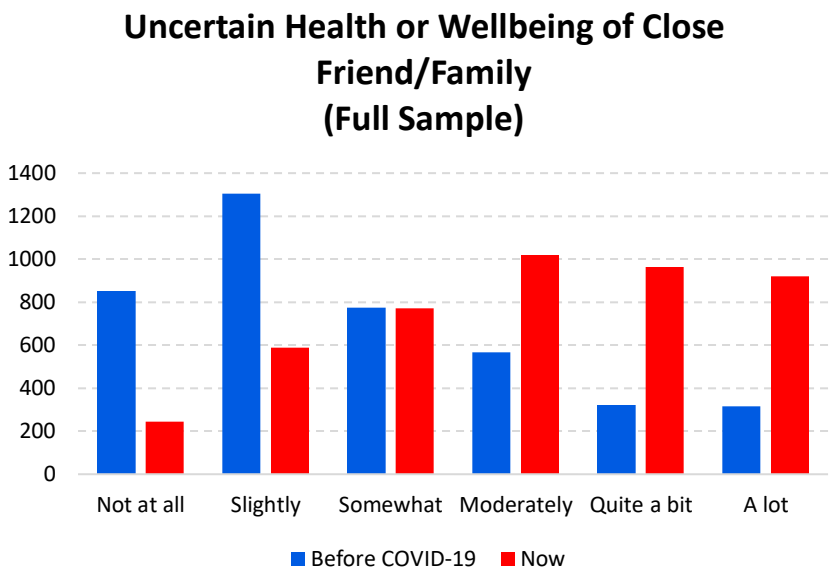
Uncertain Personal Health or Wellbeing Full Sample		
Timeframe	Mean (SD)	N
Before COVID-19	1.35 (1.4)	4136
Now	2.29 (1.51)	4507



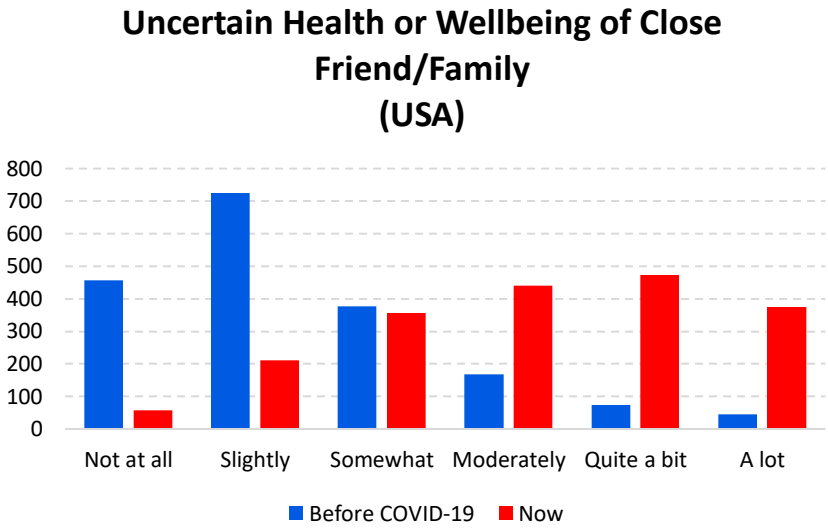
Uncertain Personal Health or Wellbeing USA		
Timeframe	Mean (SD)	N
Before COVID-19	0.89 (0.98)	1847
Now	2.1 (1.37)	1912



Uncertain Health or Wellbeing of Close Friend/Family Full Sample		
Timeframe	Mean (SD)	N
Before COVID-19	1.8 (1.5)	4138
Now	3.03 (1.49)	4508



Uncertain Health or Wellbeing of Close Friend/Family USA		
Timeframe	Mean (SD)	N
Before COVID-19	1.36 (1.2)	1847
Now	3.14 (1.38)	1912

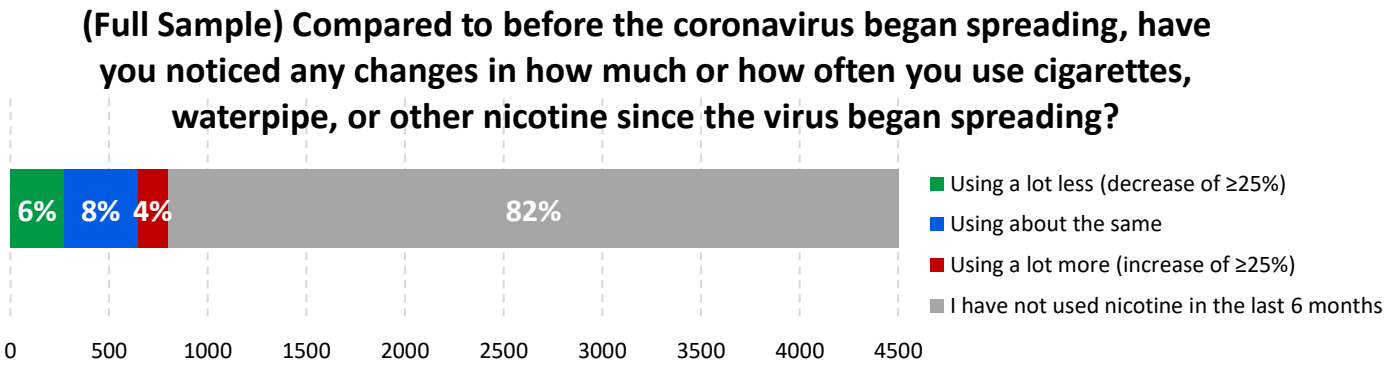


SUBSTANCE USE

NICOTINE

Most of the sample reported not using **nicotine** during the last 6 months. Of those who reported using nicotine during the last 6 months, respondents reported using cigarettes an average of 12 times per day (M = 11.7, SD = 9.9), e-cigarettes 4 times per day (M = 3.7, SD = 18.5), and waterpipe 2 times per day (M = 1.9, SD = 1.9) before the virus began spreading.

Compared to before the coronavirus began spreading, have you noticed any changes in how much or how often you use cigarettes, waterpipe, or other nicotine since the virus began spreading?		
	Full Sample N (% All Responses)	USA N (% USA Responses)
Using a lot less (decrease of ≥25%)	273 (6%)	36 (2%)
Using about the same amount	370 (8%)	93 (5%)
Using a lot more (increase of ≥25%)	158 (4%)	48 (2%)
I have not used nicotine in the last 6 months	3702 (82%)	1745 (91%)
Total	4503	1922



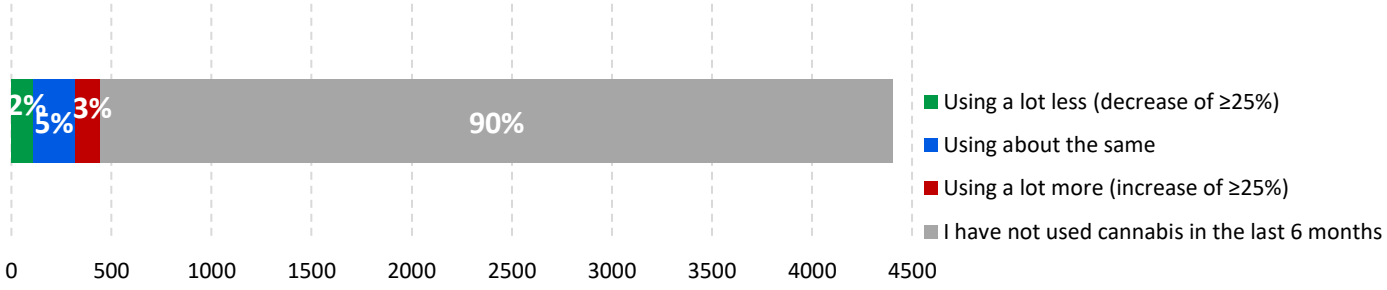
		Compared to before the coronavirus began spreading, have you noticed any changes in how much or how often you use cigarettes, waterpipe, or other nicotine since the virus began spreading?		
		Using a Lot Less	Using About the Same	Using a Lot More
Used cigarettes or e-cigarettes daily before COVID-19?	No	113	113	44
	Yes	151	251	107

		Compared to before the coronavirus began spreading, have you noticed any changes in how much or how often you use cigarettes, waterpipe, or other nicotine since the virus began spreading?		
		Using a Lot Less	Using About the Same	Using a Lot More
Used waterpipe daily before COVID-19?	No	254	351	148
	Yes	13	11	5

CANNABIS

Most respondents had not used **cannabis** during the last 6 months. Of those who reported using cannabis during the last 6 months, respondents reported using cannabis an average of about 6 times per week (M = 5.7, SD = 6.7) before COVID-19 began spreading.

Compared to before the coronavirus began spreading, have you noticed any changes in how much or how often you use cannabis (marijuana) since the virus began spreading?		
	Full Sample N (% All Responses)	USA N (% USA Responses)
Using a lot less (decrease of ≥25%)	110 (2%)	50 (3%)
Using about the same amount	209 (5%)	122 (6%)
Using a lot more (increase of ≥25%)	128 (3%)	78 (4%)
I have not used cannabis in the last 6 months	3957 (90%)	1672 (87%)
Total	4404	1922

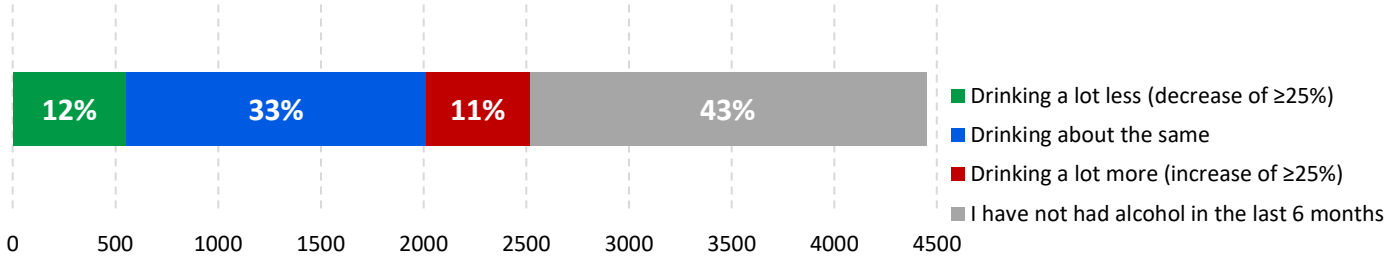


		Compared to before the coronavirus began spreading, have you noticed any changes in how much or how often you use cannabis (marijuana) since the virus began spreading?		
		Using a Lot Less	Using About the Same	Using a Lot More
Used cannabis daily or weekly before COVID-19?	No	68	112	59
	Yes	40	94	67

ALCOHOL

A little over half of the respondents had used **alcohol** during the last 6 months. Of those who reported consuming alcohol during the last 6 months, respondents consumed alcohol an average of 2.2 days per week (SD = 1.7) before the virus began spreading; and they consumed an average of 2.4 drinks (SD = 2.2) on the days that they consumed alcohol prior to COVID-19.

Compared to before the coronavirus began spreading, have you noticed any changes in how much or how often you drink alcohol since the virus began spreading?		
	Full Sample N (% All Responses)	USA N (% USA Responses)
Drinking a lot less (decrease of ≥25%)	554 (12%)	233 (12%)
Drinking about the same	1460 (33%)	953 (49%)
Drinking a lot more (increase of ≥25%)	502 (11%)	363 (19%)
I have not had alcohol in the last 6 months	1934 (43%)	378 (20%)
Total	4450	1927



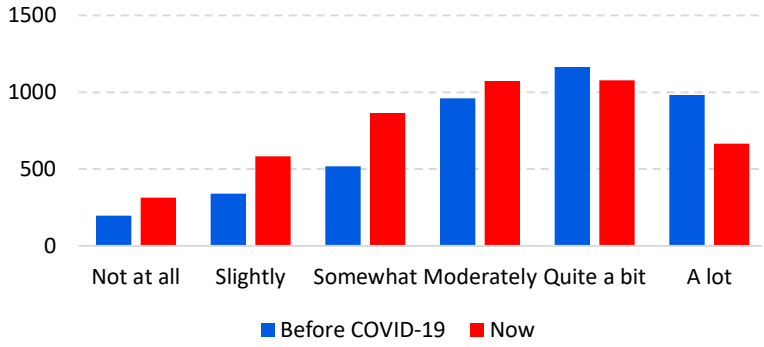
RESILIENCE, SLEEP, STIGMA, & PERCEIVED SOCIAL SUPPORT

Respondents were asked to report the extent to which they have felt socially supported and socially isolated both before COVID-19 began spreading as well as in the time since the coronavirus began spreading. Overall, respondents in the sample reported feeling less socially supported and more socially isolated in the time since COVID-19 began spreading compared to before the virus began spreading.

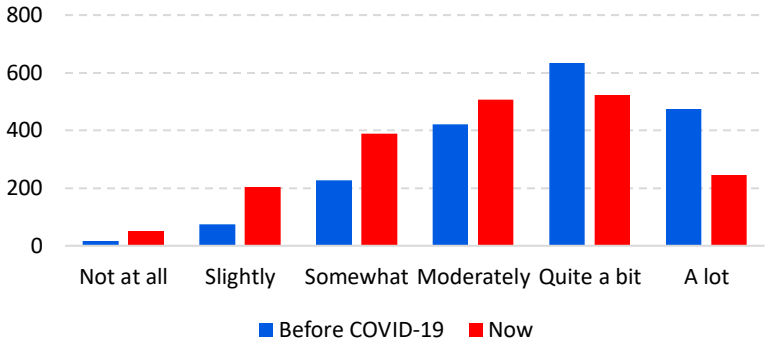
Socially Supported - Full Sample	
Timeframe	Mean (SD)
Before COVID-19	3.32 (1.41)
Now	2.88 (1.45)

Socially Supported - USA	
Timeframe	Mean (SD)
Before COVID-19	3.63 (1.16)
Now	3.03 (1.29)

Socially Supported (Full Sample)

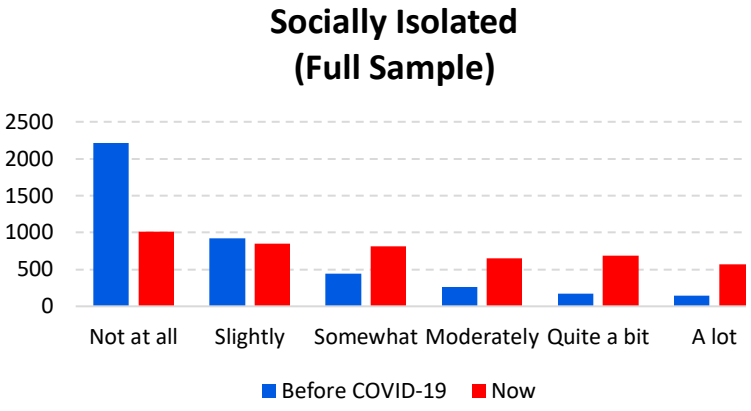


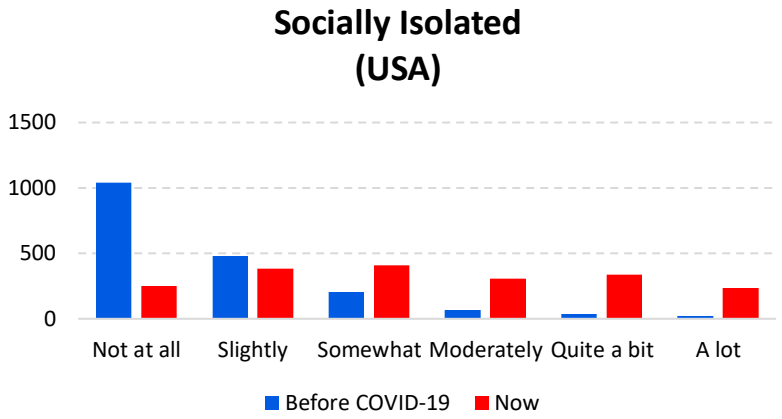
Socially Supported (USA)



Socially Isolated - Full Sample	
Timeframe	Mean (SD)
Before COVID-19	0.96 (1.35)
Now	2.19 (1.70)

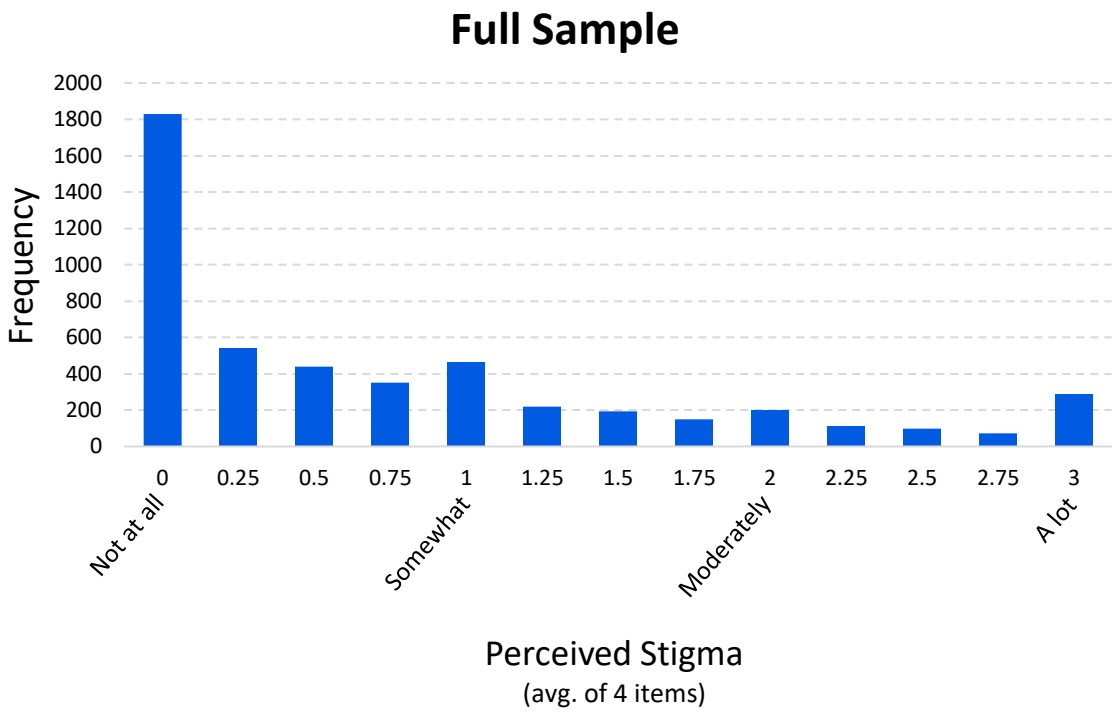
Socially Isolated - USA	
Timeframe	Mean (SD)
Before COVID-19	0.72 (1.04)
Now	2.42 (1.58)

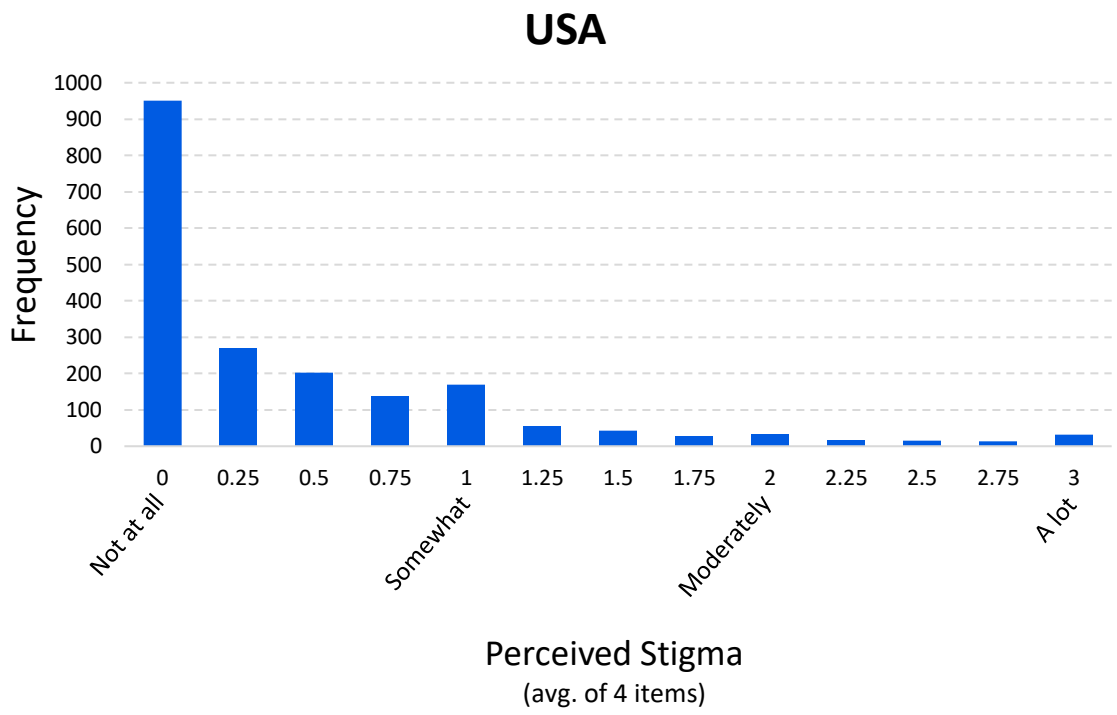




STIGMA

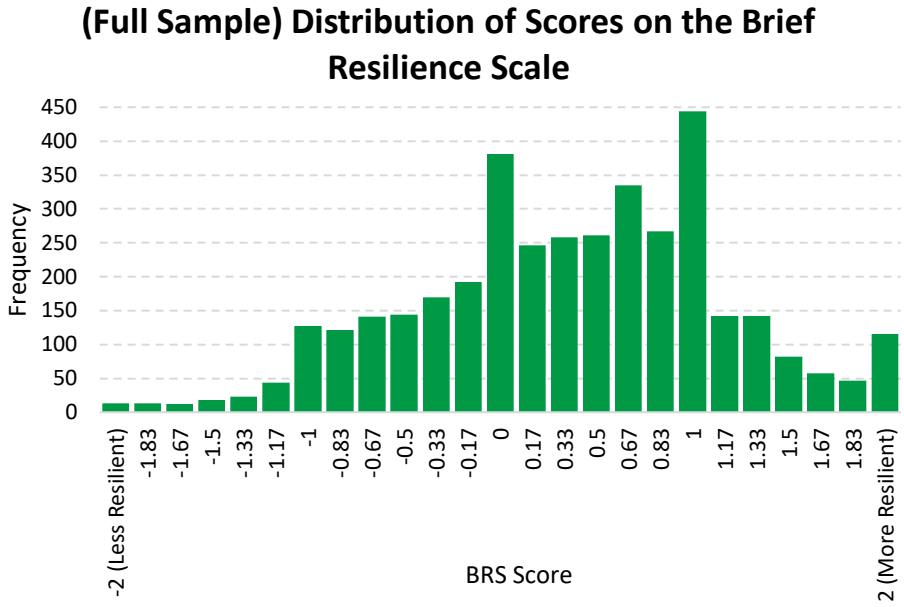
Respondents tended to report low levels of COVID-19 stigma; average stigma was 0.78 (SD = 0.91; n = 4957) for the full sample and 0.46 (SD = 0.67, n = 1969) for USA respondents.





RESILIENCE

The average score on the Brief Resilience Scale was just over the midpoint of the scale for the full sample (n = 3795; M = 0.36; SD = 0.79) and for the subset of respondents from the USA (n = 1801; M = 0.51; SD = 0.80).



SLEEP

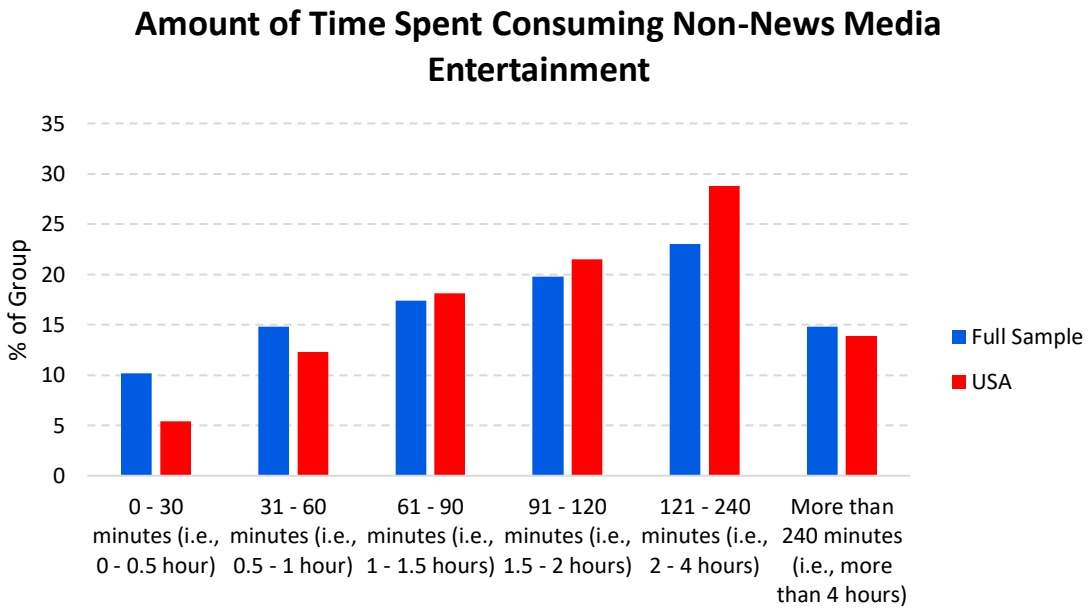
Full Sample: On average, respondents reported sleeping 7.1 hours per night now (SD = 1.6) compared to 7.3 hours per night before COVID-19 began spreading (SD = 1.2). Respondents reported currently experiencing somewhat to moderately restful sleep (M = 1.5; SD = 0.9) compared to moderately restful sleep prior to the spread of the virus (M = 2.0; SD = 0.8).

USA Respondents: On average, USA respondents reported sleeping 7.2 hours per night now (SD = 1.5) compared to 7.3 hours per night before COVID-19 began spreading (SD = 1.0). Average restfulness of sleep for USA respondents was nearly identical to the full sample, with respondents reporting currently somewhat to moderately restful sleep (M = 1.5; SD = 0.9) compared to moderately restful sleep prior to the spread of COVID-19 (M = 2.0; SD = 0.7).

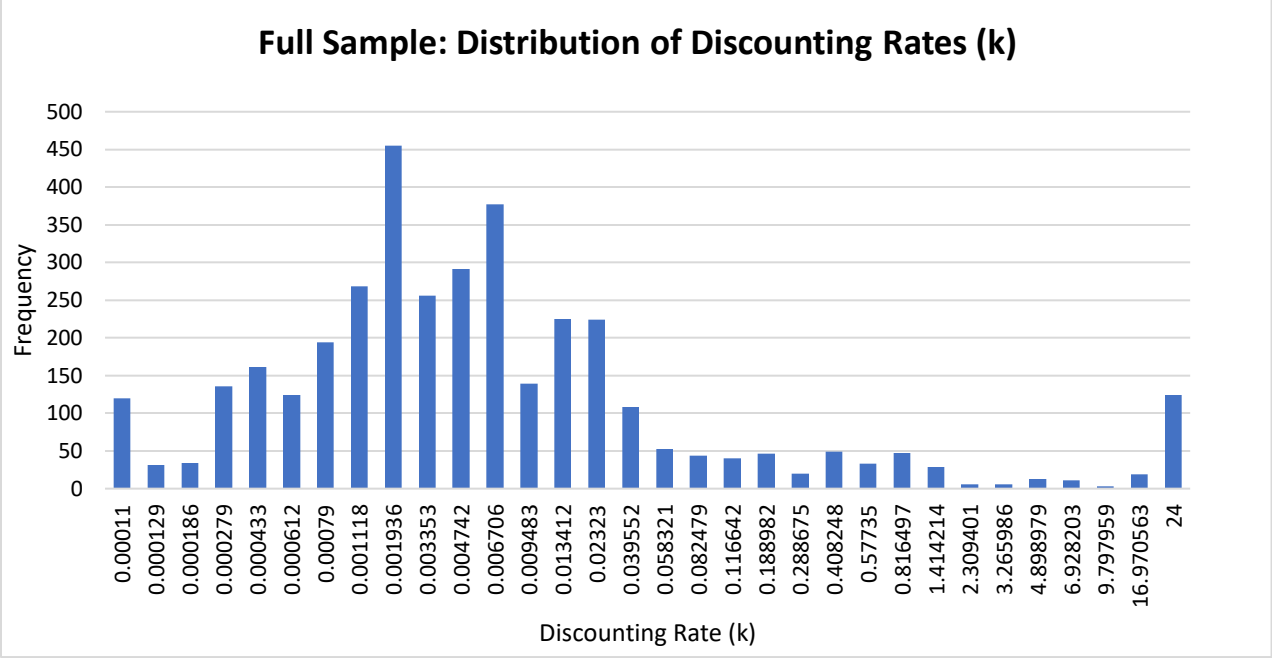
MEDIA ENTERTAINMENT

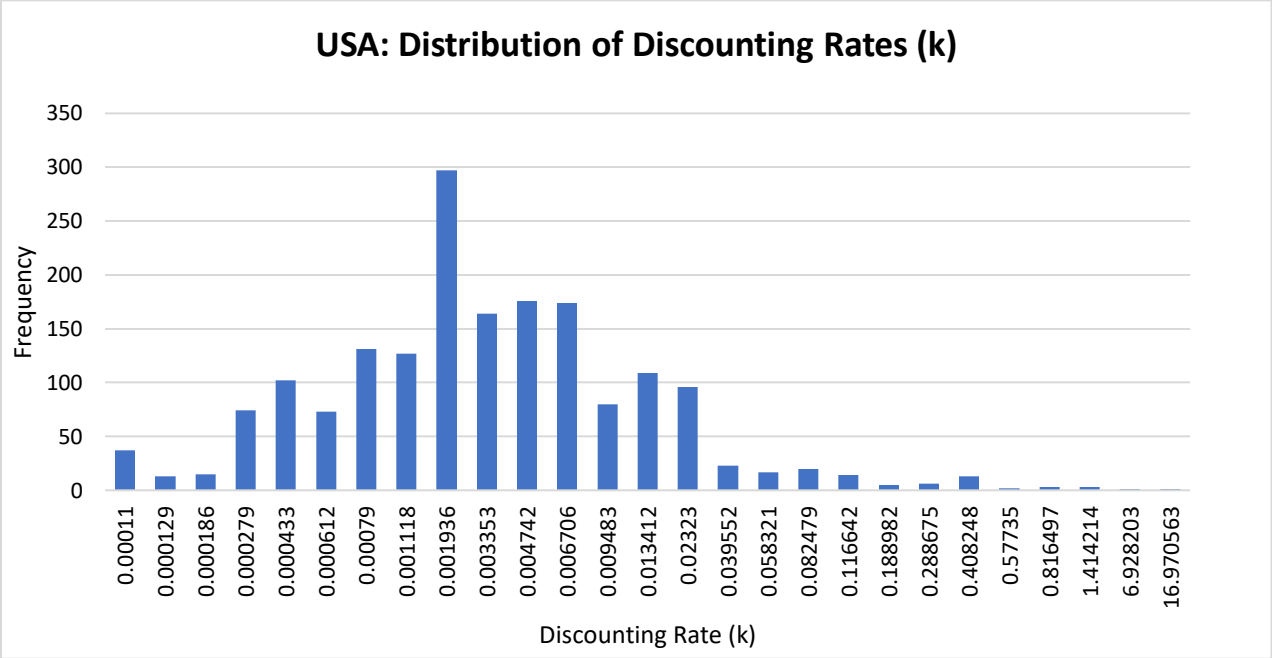
"About how much time do you spend consuming entertainment media other than news (e.g., movies, TV series, music, video games, books, non-news social media) each day?"

	Full Sample N (% All Respondents)	USA N (% USA Respondents)
0 - 30 minutes (i.e., 0 - 0.5 hour)	515 (10.2%)	107 (5.4%)
31 - 60 minutes (i.e., 0.5 - 1 hour)	748 (14.8%)	245 (12.3%)
61 - 90 minutes (i.e., 1 - 1.5 hours)	875 (17.4%)	359 (18.1%)
91 - 120 minutes (i.e., 1.5 - 2 hours)	996 (19.8%)	427 (21.5%)
121 - 240 minutes (i.e., 2 - 4 hours)	1161 (23%)	572 (28.8%)
More than 240 minutes (i.e., more than 4 hours)	746 (14.8%)	277 (13.9%)
Total Respondents	5041	1987



IMPULSIVITY





DISCUSSION AND FUTURE ANALYSES

This survey was prepared in March 2020, as the pandemic was spreading within the shores of the USA. Recruitment started on March 31st and lasted until May 15. The survey was launched initially in the English Language and then, approximately one week later, the first batch of translated versions (French, German, Arabic, Spanish, and Italian) were published. The Russian and the Chinese versions were launched one week after the first batch of translated surveys. Notwithstanding the challenges related to the global reach of this survey, our efforts yielded a significant number of participants representing 13 other countries (Algeria, Argentina, Canada, Germany, India, Iraq, Italy, Mexico, Morocco, Peru, Russian Federation, Spain, and Tunisia). Many additional countries (92 countries) provided data, but at low frequencies (less than 1% of the sample). It should be noted that we had less recruitment through the Russian and Chinese languages, but this may have been due to the logistical issues we encountered related to access to, or popularity of, the recruitment platforms that we used in these countries.

Examining the demographic characteristics of the sample, we observed that 67% of the respondents were females. The majority of all respondents (60%) were 40 years old or younger; and age distribution was comparable in men and women. Although the survey was delivered in 8 languages, the majority of respondents (59%) completed the English language version, with 66% of these respondents coming from the US.

Most respondents (65%) reported having full- or part-time employment and 9% indicated they were unemployed. The remaining respondents reported being students, retired, or disabled. Close to 49% were currently married and 40% were never married. Most of the sample (83%) reported more than 12 years of education. Most of the respondents (64%) reported living in urban communities with 50,000 or more inhabitants. The question about annual income was asked only for residents of the USA; and 60% of the respondents reported an annual income of $75,000 or more.

The social and community contexts within which respondents live may influence perceptions of and concerns about COVID-19. Therefore, we assessed experiences related to the virus and perceptions of community burden associated with this pandemic. Most respondents reported living in a community in which at least one individual had tested positive for COVID-19, but only a small minority (9%) reported having a friend or family member who had a positive test. Most respondents had not personally been tested for COVID-19; and this was partially due to a shortage of tests. Of those who reported having been tested for the virus, most (74%) reported that they did not test positive for COVID-19. The vast majority of the respondents (90%) reported being at least somewhat concerned about their personal risk of contracting

COVID-19; and many (96%) reported being concerned about their loved ones contracting the virus. Most respondents indicated that their community was working together to prevent spread of the virus, but level of satisfaction with how the government in their country responded to COVID-19 varied.

The spread of COVID-19 brought about perceived changes in patterns of consumption and concerns about having enough supplies. As expected, respondents reported patterns of consumer behaviors that are consistent with coping and preparation for a potential quarantine, including stocking-up on more household supplies or food and perceiving others in their community as stocking-up on more household supplies or food due to COVID-19. We also asked questions about how much time respondents spend consuming news media related to COVID-19 as well as how much time they spend consuming entertainment media other than news (e.g., movies, TV series, music, video games, books, non-news social media) each day. Most respondents reported consuming more than 30 minutes of COVID-19 news media (76%) and more than 1 hour of entertainment media (75%) each day. Moreover, approximately 10% of respondents reported consuming more than 4 hours of news related to COVID-19 and 15% of respondents reported consuming more than 4 hours of entertainment media each day.

Regarding adjustment and social distancing measures, most respondents (95%) reported that others around them were practicing social distancing to some extent. Although 91% reported having a safe space to personally practice social distancing, 52% of the sample reported at least some difficulties practicing social distancing due to other obligations or restrictions. Despite perceived challenges, the vast majority (92%) reported managing to practice social distancing. Having a safe place and perceiving others as practicing social distancing were associated with personal social distancing behaviors. Having restrictions or obligations that make it difficult to social distance was associated with less personal social distancing.

As a way to capture the direct impact of COVID-19, we also asked about whether respondents had experienced specific and significant life impacts due to the virus, including loss of employment; inability to purchase basic household supplies or food; losing childcare or experiencing closure of child's school; cancelation of vacation, wedding, graduation, or other significant events; being banned from visiting someone they love in hospice, a nursing home, or the hospital; or having a close friend or family member hospitalized or die as a result of the coronavirus. A sizable number of respondents (93%) reported experiencing at least one of these events, though the frequency with which the specific impacts were experienced varied across items.

One of the initial adjustments that countries have made in an attempt to reduce the spread of the coronavirus was to encourage people to work from home. Therefore, we assessed the

prevalence of working from home and its impact on work-related stress of respondents. Most respondents (64%) who indicated current employment reported that they were currently working from home due to the virus. Of whom, 43% reported working less and 24% reported working more now that they were working from home. Approximately 45% reported at least slightly more stress due to working from home.

We also asked about positive mood, depression symptoms, anxiety, and feelings of uncertainty (regarding personal finances, job stability, access to food and household items, personal and family health/well-being) experienced both before the coronavirus began spreading and in the time since the virus began spreading. These questions were meant to assess changes due to the pandemic. Overall, the sample reported mild depression symptoms, with approximately 16% overall (12% in the USA) reporting depression symptoms in the severe range. The majority (67%) indicated that their depression symptoms have made it at least somewhat difficult to work, take care of things at home, or get along with other people in the time since the coronavirus began spreading. In addition, 48% reported that they are more bothered by these depression symptoms now compared to before COVID-19 began spreading.

Respondents generally felt more stressed, more depressed, more anxious and nervous, and more overwhelmed in the time since COVID-19 began spreading compared to before the virus began spreading. Respondents also expressed higher levels of uncertainty in the time since the virus began spreading, especially uncertainty about finances, job security, personal health and wellbeing, the health or wellbeing of close friends and family, or about food and household supplies.

Focusing on substance use, we inquired about the use of nicotine, cannabis, and alcohol in the past 6 months; and we asked about changes in using these substances since the spread of coronavirus. Related to tobacco use, 18% of respondents in the total sample (9% of those residing in the USA) reported nicotine use during the last 6 months, with respondents reporting using cigarettes an average of 12 times per day, e-cigarettes 4 times per day, and waterpipe 2 times per day before the virus began spreading. Most of these respondents reported maintaining nicotine use at the same or higher rate since the beginning of COVID-19.

Approximately 10% of the total sample (13% of the USA sample) reported using cannabis during the last 6 months. Of those who reported using cannabis, respondents reported using it an average of about 6 times per week before the virus began spreading. Most of these respondents reported continuing to use at the same or a higher rate since the beginning of COVID-19.

For alcohol, 57% of respondents in the total sample (80% from the USA sample) reported alcohol use during the last 6 months. Respondents reported consuming alcohol an average of 2.4 drinks per day on an average of 2.2 days per week prior to COVID-19. Most of these respondents reported maintaining alcohol use at the same or higher rate since the spread of the virus. The reduced prevalence of alcohol consumption in the total sample may reflect restrictions due to religious or cultural factors as well as limited access to alcohol in some countries.

Considering the roles of perceived social support and social isolation in mediating behaviors related to health and mental wellbeing, we asked specific questions about respondents' perceived support and isolation both before COVID-19 began spreading as well as in the time since the virus began spreading. Overall, respondents reported feeling less socially supported and more socially isolated in the time since COVID-19 began spreading compared to before the virus began spreading.

Sleep is also an important factor that is affected by stress and can contribute to significant adverse effects on mental health. Thus, we asked respondents about sleep (number of hours each night and perceived restfulness) both in the time since COVID-19 began spreading as well as before the virus began spreading. On average, respondents reported sleeping 7.1 hours per night now compared to 7.3 hours per night before the virus. Respondents reported currently experiencing less restful sleep compared to before COVID-19.

FUTURE ANALYSES

We have several projects underway for future analyses of these data, including the following:

- Examining the relationship between perceived stress and delay discounting.
- Examining the relationship between delay discounting and impulse-related behaviors, such as hoarding behavior, social distancing, and substance use.
- Examining the relationship between stress, concerns about the virus, negative mood, and substance use.
- Examining the relationships between buffering factors, such as resilience and social support, and mood as well as other COVID-related changes.
    - Including examination of the relationships between perceived social support, mood, and uncertainty.
- Examining concerns about stigma related to COVID-19 and how they may relate to perceived stress and social support.
- Examining potential differences in the impact of COVID-19 based on socioeconomic factors.
- Examining the impact of working from home due to COVID-19 on work-related stress and examining how these factors relate to other obligations, such as having to care for children.
- Examining the role of age in determining the influence of COVID-19.
- Examining patterns of adjustment and coping in urban versus rural communities.
- Examining sex differences, including the potential moderating role of sex in patterns of association among different measures.
- Examining non-additive relationships, such as interactions between age and sex.
- For countries with adequate representation, future analyses may also consider country-specific effects.

If you are interested in accessing data from this survey,
please contact the PI, Dr. Mustafa al'Absi, at malabsi@d.umn.edu

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