

Waves 5 and 6 Reconnect Research 2020 Coronavirus Survey Results

Research conducted by Paul J. Lavrakas, PhD.

April 28, 2020



Wave 5 and 6, n = 8,514 U.S. adults 18+; Sampled via RICS¹; Weighted by Census Region, Sex, Age, Race, Hispanicity, Education, and Party ID; Fielded April 12-24, 2020

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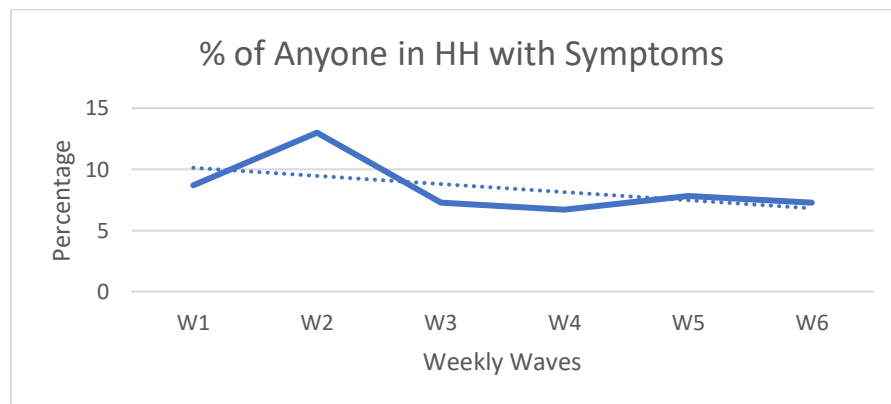
¹ Levine, B., Krotki, K., and Lavrakas, P.J. (2019). Redirected Inbound Telephone Call Sampling (RICS): Telephone Surveying via a New Sampling Paradigm. *Public Opinion Quarterly*, n fz024, <https://doi.org/10.1093/pog/nfz024>

Executive Summary. The fifth and sixth waves of a daily U.S. national survey of the reactions of adults (18 years of age or older) to the coronavirus was conducted by Reconnect Research; Wave 5 was conducted April 12-17; Wave 6 was conducted from April 18-24. Results from more than 8,500 new interviews show that approximately 1 in 27 residents (< 4%) report that they are experiencing symptoms that may be related to the virus, which was unchanged from Wave 4. Approximately two-fifth of them reportedly contacted a medical professional about their symptoms, and 1.3% of all those interviewed reported that they were told that they had the coronavirus. A noticeable larger proportion (two-fifths) of Wave 5 and 6 respondents reported that they believed the spread of the virus was under control than was reported in Wave 4 (one-third). Among those who believed the virus was not yet under control, a smaller portion (one-seventh) of Wave 5 and 6 respondents reported thinking it would be under control within a month or two compared to the portion (nearly one-fourth) who reported expecting that to happen in Wave 4. Educational attainment, gender, age, and political party affiliation are related to various reactions that the public has regarding the virus. In particular, younger, less educated, Republican males tend to hold different attitudes and have different expectations about the virus and its severity, than do demographically different types of persons.

Details of the survey’s methodology appear in Appendix A. At the end of the Appendix, there is a section providing a Total Survey Error perspective on Waves 5 and 6 and the other survey waves. The summary of that section states: “Taking into account the arguably likely nature of coverage error, nonresponse error, and respondent-related measurement error, it seems more likely that these survey waves somewhat *over-represent* the behaviors and attitudes of those exposed to, or concerned about, the virus than they under-represent them.”

<i>Are you, or someone else in your household, experiencing any health symptoms that may be related to the coronavirus?</i>						
	<i>Wave 1</i>	<i>Wave 2</i>	<i>Wave 3</i>	<i>Wave 4</i>	<i>Wave 5</i>	<i>Wave 6</i>
<i>% YES</i>	<i>8.7</i>	<i>13.0</i>	<i>7.3</i>	<i>6.7</i>	<i>7.8</i>	<i>7.3</i>

Compared to Wave 4, a slightly larger proportion of Wave 5 and 6 households reported someone living there was experiencing symptoms possibly related to the virus. Since Wave 2, this rate has basically stabilized, showing slight wave-to-wave variation.



In Waves 5 and 6, those most likely ($p < .001$)² to report having someone in their household with virus-like symptoms lived in the Northeast, were younger adults, of Hispanic origin, and had attained their Bachelor degree.

Crosstab

% within DAGE Age group

		DAGE Age group					Total
		1 18-24 years	2 25-34 years	3 35-49 years	4 50-64 years	5 65 years or older	
QSYMPTOMS Are you, or someone else in your household, experiencing any health symptoms that may be related to the coronavirus?	1 YES	11.8%	7.0%	7.0%	6.4%	4.6%	6.8%
	2 NO	88.2%	93.0%	93.0%	93.6%	95.4%	93.2%
Total		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Crosstab

% within DHISPANIC Are you of Hispanic, Latino or Spanish origin?

		DHISPANIC Are you of Hispanic, Latino or Spanish origin?		Total
		1 YES	2 NO	
QSYMPTOMS Are you, or someone else in your household, experiencing any health symptoms that may be related to the coronavirus?	1 YES	9.9%	6.2%	6.8%
	2 NO	90.1%	93.8%	93.2%
Total		100.0%	100.0%	100.0%

Crosstab

% within educ4 4-level Educational attainment

		educ4 4-level Educational attainment				Total
		1.00 Not HS Grad	2.00 HS Grad, No College	3.00 Some College	4.00 Bachelor degree	
QSYMPTOMS Are you, or someone else in your household, experiencing any health symptoms that may be related to the coronavirus?	1 YES	6.0%	6.0%	5.6%	8.7%	6.8%
	2 NO	94.0%	94.0%	94.4%	91.3%	93.2%
Total		100.0%	100.0%	100.0%	100.0%	100.0%

² Based on a multivariate regression procedure.

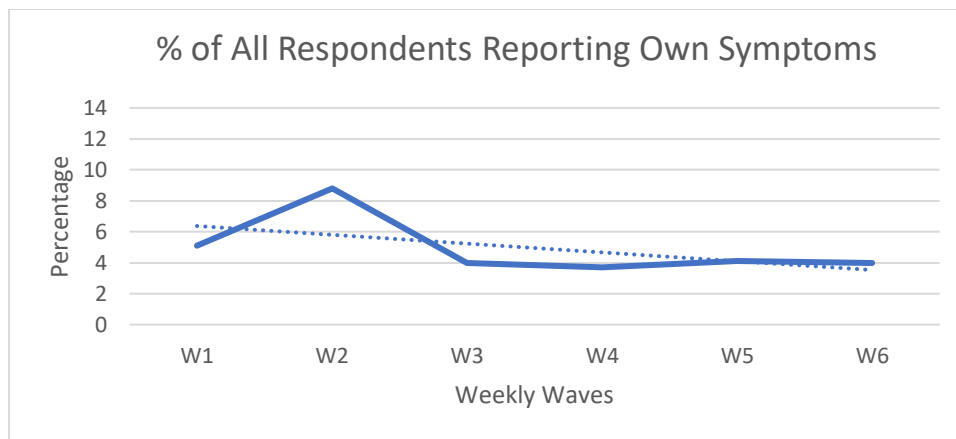
Crosstab

% within Northeast

		Northeast		Total
		.00 NO	1.00 YES	
QSYMPTOMS Are you, or someone else in your household, experiencing any health symptoms that may be related to the coronavirus?	1 YES	6.2%	13.2%	7.5%
	2 NO	93.8%	86.8%	92.5%
Total		100.0%	100.0%	100.0%

	Are you, yourself, experiencing any of those symptoms? (Asked only of those answering "Yes" in the previous question.)					
	Wave 1	Wave 2	Wave 3	Wave 4	Wave 5	Wave 6
% YES	58.4	67.8	59.4	58.9	56.2	57.2
% YES, OF ALL INTERVIEWED	5.1	8.8	4.0	3.7	4.1	4.0

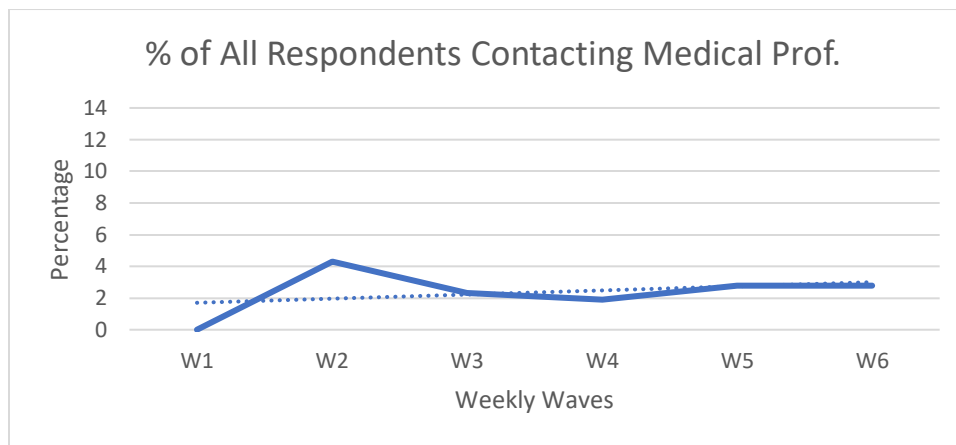
There essentially was no change reported in Waves 5 and 6 compared to what was reported in Wave 4.



In Wave 5 and 6, there were no significant correlated ($p < .001$) of this question.

	Have you seen or talked to a doctor or nurse about these symptoms? (Asked only of those answering “Yes” in the previous question.)					
	Wave 1	Wave 2	Wave 3	Wave 4	Wave 5	Wave 6
% YES	41.0	33.0	36.7	31.5	39.0	43.5
% YES, OF ALL INTERVIEWED	3.7	4.3	2.3	1.9	2.8	2.8

Compared to Wave 4, those in Wave 5 and 6, among those reporting possible virus-related symptoms, were reportedly more likely to have had contact with a medical professional about their own symptoms.



In Waves 5 and 6, those with symptoms who were most likely ($p < .001$) to report having contact with a medical professional had at least attained a Bachelor degree.

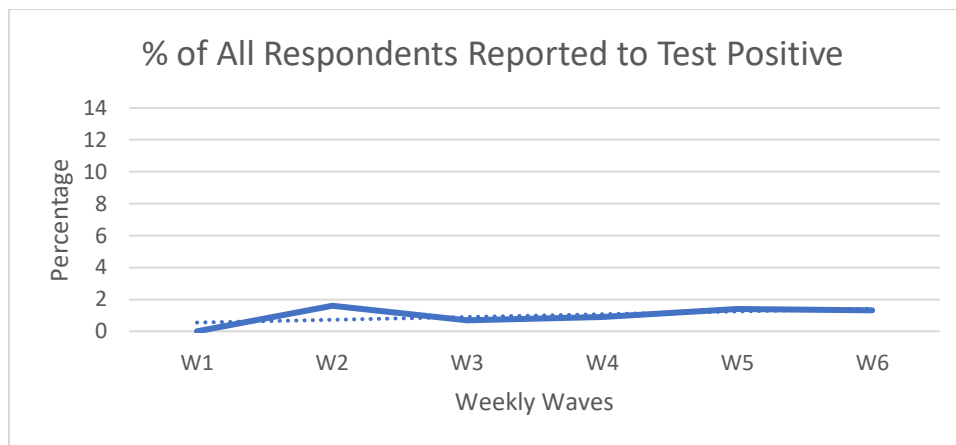
**QDOCTOR Have you, seen or talked to a doctor or nurse about these symptoms? * educ4
4-level Educational attainment Crosstabulation**

% within educ4 4-level Educational attainment

		educ4 4-level Educational attainment				Total
		1.00 Not HS Grad	2.00 HS Grad, No College	3.00 Some College	4.00 Bachelor degree	
QDOCTOR Have you, seen or talked to a doctor or nurse about these symptoms?	1 YES	37.5%	28.5%	38.9%	53.2%	42.2%
	2 NO	62.5%	71.5%	61.1%	46.8%	57.8%
Total		100.0%	100.0%	100.0%	100.0%	100.0%

	Did the doctor or nurse say that you have the Coronavirus? (Asked only of those answering “Yes” in the previous question.)					
	Wave 1	Wave 2	Wave 3	Wave 4	Wave 5	Wave 6
% YES	43.9	37.4	34.2	52.6	55.2	46.3
% YES, OF ALL INTERVIEWED	1.6	1.6	0.7	0.9	1.4	1.3

After Wave 3, persons who reportedly had contact with a medical professional were more likely to reportedly have been told that they had the virus, although this trend dropped off somewhat in Wave 6.



In Waves 5 and 6, those living in the West, who had contacted a medical professional, were least likely to report that they had tested positively ($p < .001$).

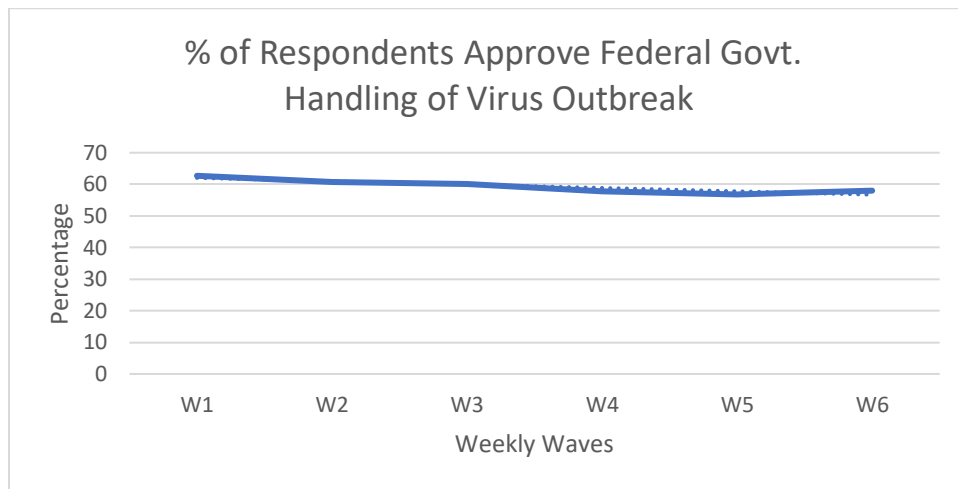
QHAVEVIRUS Did the doctor or nurse say that you have the Coronavirus? * West Crosstabulation

% within West

		West		Total
		.00 No	1.00 Yes	
QHAVEVIRUS Did the doctor or nurse say that you have the Coronavirus?	1 YES	54.9%	26.7%	49.3%
	2 NO	45.1%	73.3%	50.7%
Total		100.0%	100.0%	100.0%

	Do you approve or disapprove of how the federal government is handling the virus outbreak?					
	Wave 1	Wave 2³	Wave 3	Wave 4	Wave 5	Wave 6
% APPROVE	62.7	60.7	60.2	57.8	56.8	58.1
% DISAPPROVE	37.3	39.3	39.8	42.2	43.2	41.9

In Waves 5 and 6, there was essentially no change in the proportion of the public reporting approval of how the federal government is handling the virus outbreak compared to Wave 4.



In Waves 5 and 6, those most likely to “approve” were Republicans who had not attained a Bachelor degree.

QGOV Do you approve or disapprove of how the government is handling the virus outbreak? * DPARTY Party Affiliation Crosstabulation

% within DPARTY Party Affiliation

		DPARTY Party Affiliation			
		1 REPUBLICAN	2 DEMOCRAT	3 INDEPENDENT	Total
QGOV Do you approve or disapprove of how the government is handling the virus outbreak?	1 APPROVE	74.6%	44.1%	55.5%	57.5%
	2 DISAPPROVE	25.4%	55.9%	44.5%	42.5%
Total		100.0%	100.0%	100.0%	100.0%

³ In Wave 2, the word “federal” was added to the question wording. As noted in the appendix, adding this word had no reliable effect ($p > .4$) on the distribution of answers.

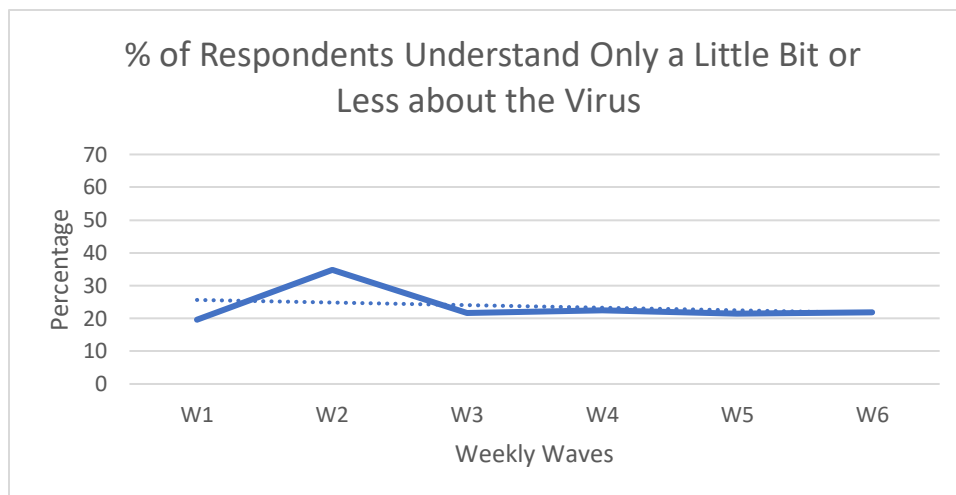
Crosstab

% within educ4 4-level Educational attainment

		educ4 4-level Educational attainment				Total
		1.00 Not HS Grad	2.00 HS Grad, No College	3.00 Some College	4.00 Bachelor degree	
QGOV Do you approve or disapprove of how the government is handling the virus outbreak?	1 APPROVE	60.8%	62.0%	59.5%	51.0%	57.5%
	2 DISAPPROVE	39.2%	38.0%	40.5%	49.0%	42.5%
Total		100.0%	100.0%	100.0%	100.0%	100.0%

	<i>How much do you understand about the virus?</i>					
	<i>Wave 1</i>	<i>Wave 2</i>	<i>Wave 3</i>	<i>Wave 4</i>	<i>Wave 5</i>	<i>Wave 6</i>
% BASICALLY, NOTHING AT ALL	7.4	13.9	9.3	9.1	8.9	9.1
% ONLY A LITTLE BIT	17.2	20.9	12.4	13.3	12.6	12.8
% A FAIR AMOUNT	40.3	32.0	35.8	36.7	35.1	36.2
% A GREAT DEAL	35.2	33.2	42.5	40.9	43.4	41.9

Reported levels of understanding about the virus were essentially unchanged in Waves 5 and 6 compared to Wave 4.



In Waves 5 and 6, those most likely to say “only a little bit” or less, were those who had not graduated from high school.

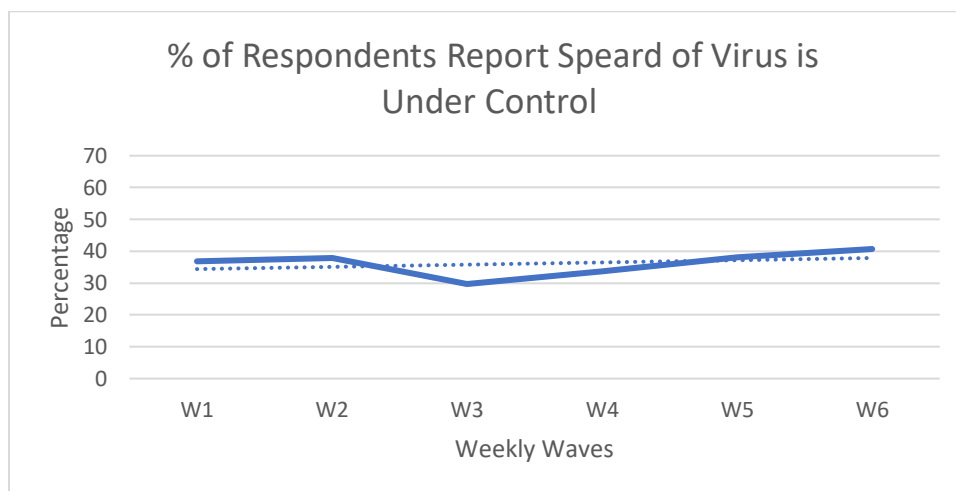
Crosstab

% within educ4 4-level Educational attainment

		educ4 4-level Educational attainment				Total
		1.00 Not HS Grad	2.00 HS Grad, No College	3.00 Some College	4.00 Bachelor degree	
QUNDERSTAND How much do you understand about the virus?	1 Basically nothing at all	15.6%	10.3%	6.3%	5.5%	8.1%
	2 Only a little bit	20.0%	14.9%	12.5%	8.1%	12.4%
	3 A fair amount	31.6%	40.0%	37.7%	33.1%	36.2%
	4 A great deal	32.8%	34.7%	43.5%	53.3%	43.3%
Total		100.0%	100.0%	100.0%	100.0%	100.0%

<i>Do you think the spread of the virus is under control in the United States or is not under control?</i>						
	<i>Wave 1</i>	<i>Wave 2</i>	<i>Wave 3</i>	<i>Wave 4</i>	<i>Wave 5</i>	<i>Wave 6</i>
% UNDER CONTROL	36.8	37.8	29.7	33.7	38.1	40.7
% NOT UNDER CONTROL	63.2	62.2	70.3	66.3	61.9	59.3

Although only one-third of the public in Wave 4 reported that they believed the spread of the virus was “under control,” a noticeably larger proportion (about two-fifths), albeit not a majority, reported those sentiments in Waves 5 and 6.



In Wave 4, those most likely to say “under control” were younger males who are Republicans.

Crosstab

% within DAGE Age group

		DAGE Age group					Total
		1 18-24 years	2 25-34 years	3 35-49 years	4 50-64 years	5 65 years or older	
QCONTROL Do you think the spread of the virus is under control in the United States or is not under control?	1 Under control	47.4%	41.6%	41.9%	35.3%	35.8%	39.5%
	2 Not under control	52.6%	58.4%	58.1%	64.7%	64.2%	60.5%
Total		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Crosstab

% within DGENDER Gender

		DGENDER Gender		Total
		1 Male	2 Female	
QCONTROL Do you think the spread of the virus is under control in the United States or is not under control?	1 Under control	43.9%	35.5%	39.6%
	2 Not under control	56.1%	64.5%	60.4%
Total		100.0%	100.0%	100.0%

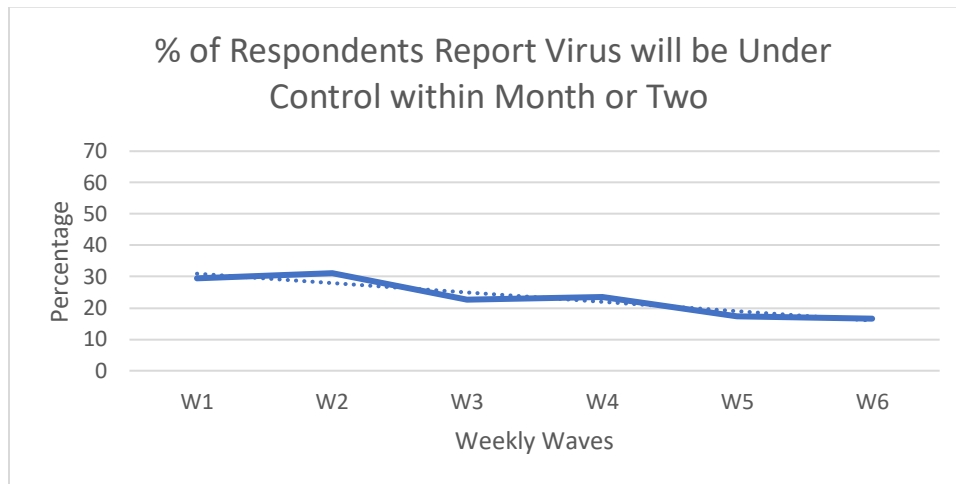
Crosstab

% within DPARTY Party Affiliation

		DPARTY Party Affiliation			Total
		1 REPUBLICAN	2 DEMOCRAT	3 INDEPENDENT	
QCONTROL Do you think the spread of the virus is under control in the United States or is not under control?	1 Under control	54.4%	26.6%	38.8%	39.4%
	2 Not under control	45.6%	73.4%	61.2%	60.6%
Total		100.0%	100.0%	100.0%	100.0%

	<i>How soon do you think it will be before the spread of the virus is under control?</i>					
	<i>Wave 1</i>	<i>Wave 2</i>	<i>Wave 3</i>	<i>Wave 4</i>	<i>Wave 5</i>	<i>Wave 6</i>
% WITHIN NEXT MONTH OR TWO	29.5	31.1	22.6	23.6	17.4	16.6
% WITHIN SIX MONTHS	47.2	47.1	45.7	40.0	41.0	37.1
% WITHIN A YEAR	16.6	13.8	19.5	21.6	24.8	26.3
% LONGER THAN A YEAR	6.7	8.0	12.1	14.8	16.8	20.0

Among those who did not believe the spread of the virus is under control, there was a smaller proportion in Waves 5 and 6 who reported that they thought it would only take a “month or two” longer before the spread of the virus was under control, compared to Wave 4. And, as noted in the following graph, this small downward trend has been consistent throughout the six weeks of asking this question.



In Wave 4, those most likely to report that that thought the spread of the virus would be under control “within the next month or two” were most likely to be younger White Republicans.

Crosstab

% within DAGE Age group

		DAGE Age group					Total
		1 18-24 years	2 25-34 years	3 35-49 years	4 50-64 years	5 65 years or older	
QSPREAD How soon do you think it will be before the spread of the virus is under control?	1 Within next month or two	29.6%	15.6%	17.6%	14.3%	15.2%	17.0%
	2 Within six months	35.7%	39.8%	41.3%	39.0%	39.8%	39.6%
	3 Within a year	14.7%	25.4%	23.9%	27.4%	29.7%	25.5%
	4 Longer than a year	20.0%	19.2%	17.2%	19.3%	15.2%	17.8%
Total		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Crosstab

% within White

		White		Total
		.00 No	1.00 Yes	
QSPREAD How soon do you think it will be before the spread of the virus is under control?	1 Within next month or two	15.1%	18.3%	17.0%
	2 Within six months	36.7%	41.0%	39.3%
	3 Within a year	25.9%	25.2%	25.5%
	4 Longer than a year	22.4%	15.5%	18.2%
Total		100.0%	100.0%	100.0%

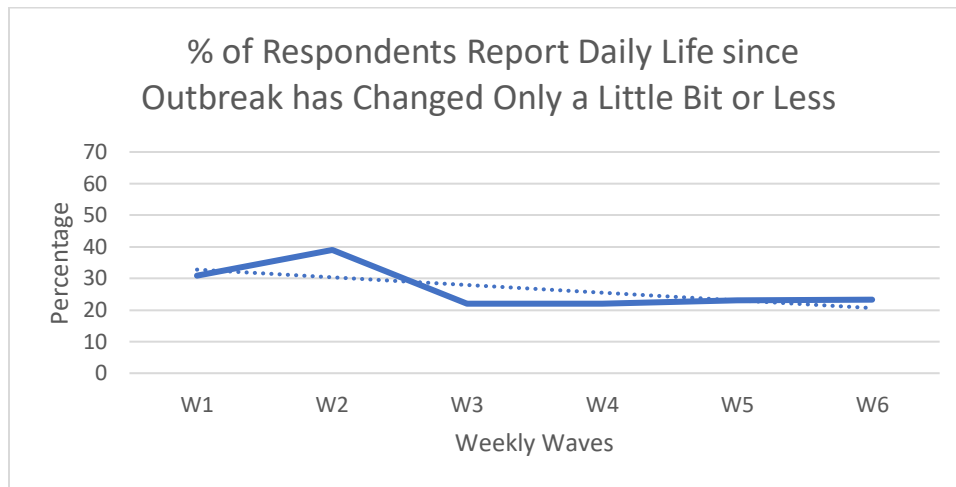
Crosstab

% within DPARTY Party Affiliation

		DPARTY Party Affiliation			Total
		1 REPUBLICAN	2 DEMOCRAT	3 INDEPENDENT	
QSPREAD How soon do you think it will be before the spread of the virus is under control?	1 Within next month or two	24.7%	12.6%	17.4%	17.1%
	2 Within six months	40.2%	41.0%	38.3%	39.8%
	3 Within a year	20.9%	28.7%	24.6%	25.4%
	4 Longer than a year	14.2%	17.7%	19.7%	17.7%
Total		100.0%	100.0%	100.0%	100.0%

	<i>Since the outbreak of the virus, how much, if at all, has your daily life changed?</i>					
	<i>Wave 1</i>	<i>Wave 2</i>	<i>Wave 3</i>	<i>Wave 4</i>	<i>Wave 5</i>	<i>Wave 6</i>
% BASICALLY NOT AT ALL	12.3	20.2	8.8	8.4	8.3	8.8
% ONLY A LITTLE BIT	18.5	18.8	13.2	13.6	14.8	14.5
% A FAIR AMOUNT	31.4	26.1	31.0	29.8	28.6	29.9
% A GREAT DEAL	37.8	35.0	47.0	48.2	48.3	46.7

Reported levels of how one’s daily life has changed since the outbreak of the virus were essentially unchanged between Waves 5 and 6 and Wave 4.



In Waves 5 and 6, those most likely to report “only a little bit” or less were male Republicans who had not pursued their education beyond high school.

Crosstab

% within DGENDER Gender

		DGENDER Gender		Total
		1 Male	2 Female	
QCHANGEDLIFE Since the outbreak of the virus, how much, if at all, has your daily life changed?	1 Basically not at all	9.9%	6.8%	8.3%
	2 Only a little bit	15.8%	13.7%	14.7%
	3 A fair amount	29.6%	29.1%	29.4%
	4 A great deal	44.7%	50.4%	47.7%
Total		100.0%	100.0%	100.0%

Crosstab

% within DPARTY Party Affiliation

		DPARTY Party Affiliation			Total
		1 REPUBLICAN	2 DEMOCRAT	3 INDEPENDENT	
QCHANGEDLIFE Since the outbreak of the virus, how much, if at all, has your daily life changed?	1 Basicly not at all	9.7%	6.1%	7.5%	7.7%
	2 Only a little bit	16.7%	13.2%	14.7%	14.8%
	3 A fair amount	29.9%	29.3%	29.2%	29.4%
	4 A great deal	43.7%	51.4%	48.5%	48.0%
Total		100.0%	100.0%	100.0%	100.0%

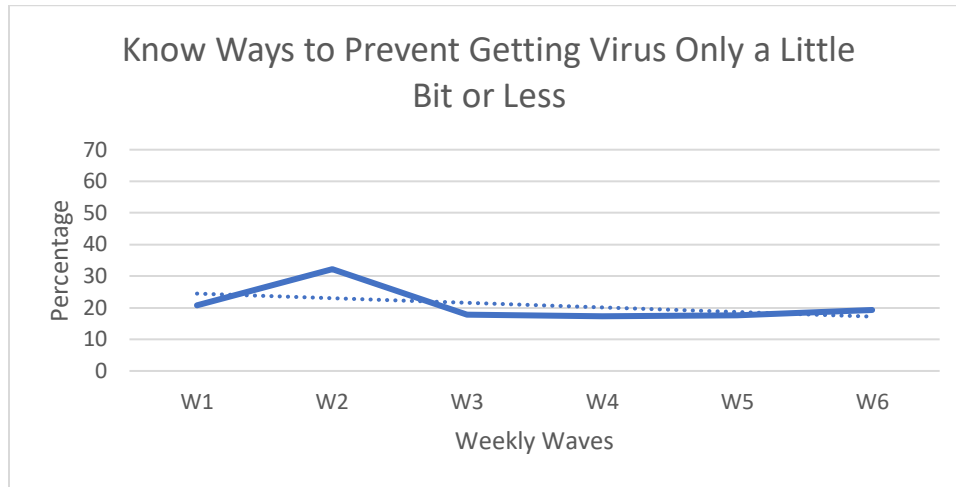
Crosstab

% within educ4 4-level Educational attainment

		educ4 4-level Educational attainment				Total
		1.00 Not HS Grad	2.00 HS Grad, No College	3.00 Some College	4.00 Bachelor degree	
QCHANGEDLIFE Since the outbreak of the virus, how much, if at all, has your daily life changed?	1 Basicly not at all	12.3%	10.5%	6.7%	6.2%	8.1%
	2 Only a little bit	18.7%	17.4%	13.5%	12.2%	14.7%
	3 A fair amount	25.0%	27.1%	30.4%	31.8%	29.4%
	4 A great deal	44.0%	45.0%	49.4%	49.8%	47.8%
Total		100.0%	100.0%	100.0%	100.0%	100.0%

	<i>How informed are you about ways to prevent getting the virus?</i>					
	<i>Wave 1</i>	<i>Wave 2</i>	<i>Wave 3</i>	<i>Wave 4</i>	<i>Wave 5</i>	<i>Wave 6</i>
% BASCALLY NOT AT ALL	9.3	18.1	7.7	7.5	8.1	7.8
% ONLY A LITTLE BIT	11.4	14.1	10.1	9.8	9.6	11.5
% A FAIR AMOUNT	31.4	25.0	30.9	31.4	30.9	32.4
% A GREAT DEAL	47.9	42.8	51.3	51.3	51.5	48.3

Reported levels of how informed one is about ways to prevent getting the virus were essentially unchanged between Wave 4 and Waves 5 and 6.



In Waves 5 and 6, those most likely to report “only a little bit” or less were younger non-White males who had not graduated from high school.

Crosstab

% within DGENDER Gender

		DGENDER Gender		
		1 Male	2 Female	Total
QPREVENT How informed are you about ways to prevent getting the virus?	1 Basicly not at all	9.2%	6.8%	7.9%
	2 Only a little bit	10.4%	10.5%	10.5%
	3 A fair amount	33.8%	29.4%	31.5%
	4 A great deal	46.5%	53.3%	50.1%
Total		100.0%	100.0%	100.0%

Crosstab

% within educ4 4-level Educational attainment

		educ4 4-level Educational attainment				Total
		1.00 Not HS Grad	2.00 HS Grad, No College	3.00 Some College	4.00 Bachelor degree	
QPREVENT How informed are you about ways to prevent getting the virus?	1 Basicly not at all	16.6%	8.7%	5.5%	6.6%	7.8%
	2 Only a little bit	14.3%	14.1%	9.7%	6.9%	10.5%
	3 A fair amount	30.1%	33.6%	31.9%	30.1%	31.6%
	4 A great deal	38.9%	43.6%	53.0%	56.4%	50.2%
Total		100.0%	100.0%	100.0%	100.0%	100.0%

Crosstab

% within DAGE Age group

		DAGE Age group					Total
		1 18-24 years	2 25-34 years	3 35-49 years	4 50-64 years	5 65 years or older	
QPREVENT How informed are you about ways to prevent getting the virus?	1 Basicly not at all	15.1%	11.2%	6.2%	5.1%	5.9%	7.8%
	2 Only a little bit	14.9%	10.5%	10.1%	9.4%	9.7%	10.5%
	3 A fair amount	25.5%	26.5%	33.0%	32.4%	36.1%	31.6%
	4 A great deal	44.6%	51.8%	50.7%	53.0%	48.2%	50.1%
Total		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Crosstab

% within White

		White		Total
		.00 No	1.00 Yes	
QPREVENT How informed are you about ways to prevent getting the virus?	1 Basicly not at all	10.9%	6.4%	7.9%
	2 Only a little bit	12.4%	9.4%	10.5%
	3 A fair amount	30.6%	32.1%	31.6%
	4 A great deal	46.1%	52.1%	50.0%
Total		100.0%	100.0%	100.0%

**APPENDIX A
METHODOLOGICAL DETAILS**

Sponsor and Data Collection Organization: The sponsor for the survey was Reconnect Research (of Los Angeles, CA). Survox, an Enghouse Interactive Company (of Phoenix, AZ), conducted the IVR data collection using sample provided by Reconnect Research.

Questionnaire Wording: The IVR questions and response options and the order of the questions are shown below. Of note, the question that asked respondents whether they approved or disapproved of the government’s handling of the virus outbreak had the word “federal” (as in “federal government”) added to it as of March 24. Adding that word to the question had no statistically significant effect ($p = .42$) on the distribution of answers to the question compared to the cases that did not hear this word.

The introductory IVR script is shown here:

Please answer our urgent Coronavirus survey, conducted by Reconnect Research. Your call could not be completed and was sent to this survey.
Our findings will be provided to organizations that help people who are being affected by the virus.
If you are in a risky or life-threatening situation press 9, otherwise don’t miss this opportunity to have your voice heard! Let's begin!
If you are 18 or older, press 1. If 17 or younger, press 5. To learn more, press any other key.
Thank you. This four-minute survey is voluntary, and your answers are confidential. Please listen to the entire question and answers before responding. For any question, if you would prefer not to answer, press 9.
Reconnect Research, a respected survey research organization, is conducting an important national Coronavirus survey and we would greatly appreciate your feedback.
Reconnect Research relies on good people like you to participate in this urgent confidential Coronavirus survey.

The wording of the Coronavirus questions was as follows and this is the order in which the questions were asked. Some questions, as noted below, had the order of the response options reversed, so that each order was randomly assigned to any given respondent.

Are you, or someone else in your household, experiencing any health symptoms that may be related to the coronavirus? If Yes press 5. If No press 6
Are you, yourself, experiencing any of those symptoms? If Yes press 5. If No press 6
Have you, seen or talked to a doctor or nurse about these symptoms? If Yes press 5. If No press 6
Did the doctor or nurse say that you have the Coronavirus? If Yes press 5. If No press 6
Do you approve or disapprove of how the Federal government is handling the virus outbreak? If approve press 1, If disapprove press 2. (Also asked with response options reversed)
How much do you understand about the virus? Please listen carefully to ALL answers before making your selection. If Basically nothing at all, Press 1. If only a little bit, Press 2. If a fair amount, Press 3. If a great deal, press 4. (Also asked with response options reversed)
Do you think the spread of the virus is under control in the United States or is not under control? Please listen carefully to ALL answers before making your selection. If under control press 1, if not under control Press 2. (Also asked with response options reversed)

How soon do you think it will be before the spread of the virus is under control? Please listen carefully to ALL answers before making your selection. If within the next month or two; Press 1. If within six months; Press 2. If within a year; Press 3. If Longer than a year press 4.
Since the outbreak of the virus, how much, if at all, has your daily life changed? Please listen carefully to ALL answers before making your selection. If basically not at all, Press 1. If Only a little bit, Press 2. If a fair amount, Press 3. If a great deal Press 4. (Also asked with response options reversed)
How informed are you about ways to prevent getting the virus? Please listen carefully to ALL answers before making your selection. If basically not at all, Press 1. If only a little bit, Press 2. If a fair amount, Press 3. If a great deal Press 4. (Also asked with response options reversed)

The wording of Demographic/Background questions was as follows, and this is the order in which these questions appeared:

Thanks. For statistical purposes only. If you are Male, press 1. if Female press 2.
Did you go to college, tech school or vocational school? For Yes press 1. For No press 2.
Did you graduate from high school? For Yes press 1. For No press 2.
Did you receive a bachelor’s degree or higher? Prompt: For Yes press 1. For No press 2.
Please select from one of the following age groups. If you are, 18 to 24 Press 1. 25 to 34 press 2. 35 to 49 press 3. 50 to 64 press 4. 65 or older press 5.
Are you of Hispanic, Latino or Spanish origin? For Yes press 1. For No press 2.
Which of the following best represents your race? For White press 1. Black press 2. Asian press 3. Another race or more than one race press 4.
In politics today, do you consider yourself a Republican, Democrat, or Independent? If Republican, press 1. If Democrat, press 2. If Independent, press 3. (Also asked with Democrat and Republican reversed)

To reduce the likelihood of nonignorable primacy effects in the final data, and as noted above, some questions had their response options spoken in a reverse order a random half of the time. Those question were about (1) government approval/disapproval, (2) understanding about the virus, (3) spread of the virus, (4) timing of control of the virus, (5) daily life changes, (6) being informed about the virus, and (7) political party affiliation.

Also, an unfolding approach to measuring educational attainment was used, because past R&D that has been conducted at Reconnect Research has shown that this unfolding approach gathers much more accurate data than using a single educational attainment question.

Target Population: National sample of the U.S., including Alaska and Hawaii. English-speaking adults aged 18 years or older, who are using the telephone to place a call (see Levine et al., 2019, in Footnote 1, for more about how Redirected Inbound Call Sampling – aka RICS -- works). Data were gathered throughout the 24-hour day, thus during all daytime and nighttime hours.

Field Period Dates for Waves 5 and 6: April 12, 2020 (from late afternoon onward) to April 24, 2020 (up until mid-evening).

Sampling Frame: The sampling frame for the four waves of data collection is a set of phone calls (and the phone numbers from which the calls were placed and the persons who made them) in the U.S., including Alaska and Hawaii, that were placed during the days and nights of the field period, in which the call did not reach its intended party and was by happenstance redirected by the telephone service company handling the call to Redirect Research.

This generates a nonprobability sample of the U.S. (see Levine et al., 2019). People not covered by this frame are those who did not place a call during the field period and those who placed a call, but their call reached the party they intended. People in the U.S. who placed a call during this time period that was handled by a telecom company other than the telecom company vendors contracted by Reconnect Research also are not covered by this frame. Thus, the vast majority of calls placed in the U.S. during the field period were not covered by this frame.

Sample Supplier: As described in Levine et al. (2019), when someone dials a nonworking number, rather than playing an “error” message and ending the call, the caller in RICS is redirected by the telecom company that is handling the call to a survey recruitment and data collection system. (Reconnect Research contracts with various telecom companies for any given survey that it conducts to get its sampled calls.) There are two types of phone numbers that come to Reconnect Research: direct inward dialing (DID), also known as toll calls, and toll-free (TFN) calls. The method for Reconnect Research to obtain calls to redirect is different for each type of telephone number. Redirecting DID calls requires forming partnerships with local telephone companies. In contrast, calls to nonworking TFNs are provided by telecommunication companies that are the customer of record for large banks of toll-free numbers. Redirecting TFN calls to nonworking numbers to a data collection system requires access to calls from large banks of nonworking TFNs.

Recruitment of Respondents: The introductory IVR script that was used to screen, and then recruit eligible respondents, is shown earlier in this appendix under the Questionnaire Wording section.

The information in this report about Wave 1, differs somewhat from what we presented in the report dated March 24 about Wave 1 findings. The differences are due to the fact that the Wave 1 comparisons that are reported in this document are limited to calls that were assigned to a human-voice IVR script. In the previous report, data included calls that were assigned to a human-voice IVR script and calls assigned to a synthesized voice IVR script. RR made the decision to stop using the synthesized voice IVR script primarily because the human-voice IVR script was found to gain a higher rate of completed interviews than the synthesized voice IVR script.

Wave 1. 15,262 redirected calls were used for Wave 1. Of these, 3,350 completed the age-screening question or 21.9%. 266 callers indicated that they were not at least 18 years of age and contact with them was terminated. Of the 15,262 calls, 1,876 started the questionnaire or 12.3%. Of the 15,262 calls, 1,463 answered the final question of the survey or 9.6% (which is the very conservative AAPOR RR1 response rate for this survey wave).

Wave 2. 26,870 redirected calls were used for Wave 2. Of these, 6,370 completed the age-screening question or 23.7%. 450 callers indicated that they were not at least 18 years of age and contact with them was terminated. Of the 26,870 calls, 3,680 started the questionnaire or 13.7%. Of the 26,870 calls, 2,882 answered the final question of the survey or 10.7% (which is the very conservative AAPOR RR1 response rate for this survey wave).

Wave 3. 36,399 redirected calls were used for Wave 3. Of these, 8,201 completed the age-screening question or 22.6%. 565 callers indicated that they were not at least 18 years of age and contact with them was terminated. Of the 36,399 calls, 5,198 started the questionnaire or 14.3%. Of the 36,399 calls, 3,749 answered the final question of the survey or 10.3% (which is the very conservative AAPOR RR1 response rate for this survey wave).

Wave 4. 28,111 redirected calls were used for Wave 4. Of these, 6,297 completed the age-screening question or 22.4%. 395 callers indicated that they were not at least 18 years of age and contact with them was terminated. Of the 28,111 calls, 3,881 started the questionnaire or 13.8%. Of the 28,111 calls, 2,826 answered the final question of the survey or 10.1% (which is the very conservative AAPOR RR1 response rate for this survey wave).

Waves 5 and 6. 31,706 redirected calls were used for Wave 5. 34,835 redirected calls were used for Wave 6. This is a total of 66,541 total redirected calls. Of these, 14,238 completed the age-screening questions or 21.4%. 993 callers indicated that they were not at least 18 years of age and contact with them was terminated. Of the 66,541 calls, 8,514 started the questionnaire or 12.8%. Of the 66,541 calls, 5,657 answered the final question of the survey or 8.50% (which is the very conservative AAPOR RR1 response rate for this survey wave).

Sampling Design: As described under the Sample Supplier section above, calls that could not reach the party the caller intended are sent throughout the day and night to Reconnect Research by its telecom company vendors. For the current surveying, Reconnect Research connected these redirected calls to Survox's IVR system to start the recruitment and data collection stages. There was no other formal sampling design other than whatever numbers came into Reconnect Research by chance from its telecom vendors.

RICS produces a nonprobability sample, which is remarkably heterogenous in how well it represents the U.S. national population. As Levine et al. (2019) note, RICS unweighted final samples often have a considerably larger portion of low-educational attainment and minority respondents than DFRDD in the unweighted final samples. On other demographic characteristics, RICS unweighted final samples match population parameters, including geographic location, fairly well.

Data Collection Mode: Data were gathered via a self-administered Interactive Voice Response (IVR) methodology in English. A human male recorded the scripts used for the survey waves reported here.

Sample sizes. A total of 1,876 Wave 1 respondents started the questionnaire. As the questionnaire proceeded, there were breakoffs who did not complete the questionnaire. There was a total of 1,531 completed Wave 1 questionnaires through the final substantive question about the coronavirus.

A total of 3,680 Wave 2 respondents started the questionnaire. As the questionnaire proceeded, there were breakoffs who did not complete the questionnaire. A total of 2,864 completed the Wave 2 questionnaire through the final substantive question about the coronavirus.

A total of 5,198 Wave 3 respondents started the questionnaire. As the questionnaire proceeded, there were breakoffs who did not complete the questionnaire. A total of 4,037 completed the Wave 3 questionnaire through the final substantive question about the coronavirus.

A total of 3,881 Wave 4 respondents started the questionnaire. As the questionnaire proceeded, there were breakoffs who did not complete the questionnaire. A total of 3,062 completed the Wave 4 questionnaire through the final substantive question about the coronavirus.

A total of 4,693 Wave 5 respondents started the questionnaire. As the questionnaire proceeded, there were breakoffs who did not complete the questionnaire. A total of 3,404 completed the Wave 5 questionnaire through the final substantive question about the coronavirus.

A total of 3,935 Wave 6 respondents started the questionnaire. As the questionnaire proceeded, there were breakoffs who did not complete the questionnaire. A total of 2,894 completed the Wave 6 questionnaire through the final substantive question about the coronavirus.

Given that these are nonprobability samples, margins of sampling error are not reported.

Weighting. For each wave, separately, weighting was carried out by using the demographic/background variables that were gathered in the questionnaire and comparing them to their population parameters for adults in the U.S. It also used a geographic area indicator associated with the caller's phone number. With one exception, the source of the population parameters used in this weighting was the American Community Survey carried out by the U.S. Bureau of the Census. The variables that were used in weighting were geographic location, gender, education, age, race, Hispanicity, and political party affiliation. Party affiliation was used because it was reasoned that some of the questions may well be correlated with political attitudes and that this nonprobability sample would benefit from such a weighting correction. The population parameter for party affiliation was based on a combination of national surveys estimates of this parameter, in which the Gallup political party affiliation tracking question (<https://news.gallup.com/poll/15370/party-affiliation.aspx>) and the Pew political party affiliation tracking question (<https://www.pewresearch.org/wp-content/uploads/2020/03/conflicts-topline.pdf>) figured prominently. An iterative process was used to bring the distribution of the variables used in weighting, separately for each wave of data, within ± 3 pp of their population parameters.

For Wave 1, the design effect (*deff*) associated with the weighting was 1.69.

For Wave 2, the design effect (*deff*) associated with the weighting was 1.40.

For Wave 3, the design effect (*deff*) associated with the weighting was 1.38.

For Wave 4, the design effect (*deff*) associated with the weighting was 1.56.

For the combined Waves 5 and 6 sample, the design effect (*deff*) associated with the weighting was 1.55.

Analyses. The percentages in the frequency tables and crosstabs are from weighted analyses.

A Total Survey Error Perspective on the Findings

All surveys suffer from error (be that bias and/or variance). Whether that error is ignorable or nonignorable is subject to differing opinion among the consumers of a given survey. Each survey wave that is reported here likely has coverage error, nonresponse error, measurement error associated with the questionnaire, and measurement error associated with respondents. Each survey wave also has sampling error, as all sample surveys do.

Coverage Error. It is possible that the callers who were sampled for these waves were somewhat more likely to be people who (a) had greater exposure to the coronavirus and (b) were experiencing symptoms that were related to why they were placing the calls that led them to being sampled. If these possibilities are true, then the findings related directly to exposure to the virus would be somewhat of an over-estimate of the underlying constructs they intended to measure.

Unit Nonresponse Error. Those sampled callers who were more likely to be exposed to the virus and/or more concerned about the virus may have been more likely to decide to start and to complete the questionnaire in each wave. If this is true, then the findings related directly to exposure to and/or concern about the virus would be somewhat over-estimating the underlying constructs they intended to measure.

Respondent-related Measurement Error. Respondents who provide data via IVR are known on occasion to exhibit primacy effects, whereby they are more likely to choose answers which they hear at the start of a list of response options than those answers they hear at the end of the list. That is why questions that had more than two response options in our survey were asked in one of two random orders. Analyses show that there were significant primacy effects for most of these questions. Thus, the value of administering the order of response options in both ways (forward and reverse) and then reporting data that include both sets of response orders. Whether this approach completely eliminated the primacy effects is unknown, but it is very likely that it raised the accuracy level of these data appreciably compared to if the two orders were not used.

Furthermore, as the questionnaire progressed, there was an increased proportion of item-nonresponse. No imputation was used to replace these missing data. Thus, if there was differential item-nonresponse, whereby certain types of people were more likely to break-off than others, then that could affect the external validity (i.e., generalizability and representativeness) of the data that were produced later in the questionnaire by those who did not break-off. Of note, an investigation into this phenomenon indicated that those most likely to breakoff had earlier not reported any exposure in their family to the virus.

Questionnaire-related Measurement Error. In Wave 1, the question that asked about approval or disapproval of the government’s handling of the virus outbreak yielded data that are unclear as to “which” government the respondent was answering about. In Waves 2 and 3, this question had the word “federal” added.

Regarding Wave 1, we surmise that many, if not most respondents, were thinking about the federal government because of the strong correlation shown on Page 4 between the answer to this question and political party affiliation. The federal government is now headed by a Republican administration. State and local governments are headed by both Republicans and Democrats, and many local governments are nonpartisan. Were a large portion of the respondents thinking about their local or state government, the correlation observed in our data for Wave 1’s government approval/disapproval question with political party affiliation would not likely exist. Nevertheless, we recognize that the wording of this question in Wave 1 was ambiguous, and thus we added the word “federal” to the question as of March 24, 2020. As shown on Page 3, there was hardly any difference in the distribution of answers for this question (comparing Wave 1 with Waves 2 and 3) once the word “federal” was added compared to when the word “federal” did not appear in the question wording.

Sampling Error. Nonprobability samples do not allow one to use the traditional means of calculating sampling error that is afforded when one has a probability sample. Nevertheless, experience shows that many consumers of survey reports apply their own “sampling error” in their mind to thinking about any sample, as though it were a probability sample. In the case of these survey waves, the size of such a mental “estimate” of sampling error would be approximately ± 2.3 pp for Wave 1, ± 1.6 pp for Wave 2, ± 1.4 pp for Wave 3, ± 1.6 pp for Wave 4, and ± 1.1 . Furthermore, the reader is reminded that the statistical tests that were done in the crosstabs and regression analyses assume that probability samples were used to gather the data if the findings are to be generalized to a larger population of interest.

TSE Summary Perspective. Taking into account the arguably likely nature of coverage error, nonresponse error, and respondent-related measurement error in these survey waves, it seems more likely that the survey waves somewhat *over-represent* the behaviors and attitudes of those exposed to, or concerned about, the virus than they under-represent them.