

RESEARCH THAT MATTERS

WELL-BEING AMONG TRANSGENDER PEOPLE

During the COVID-19
Pandemic

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EXECUTIVE SUMMARY

The U.S. Census Bureau's Household Pulse Survey provides an opportunity to compare the experiences of transgender and cisgender people in the U.S. during the COVID-19 pandemic. In this report, we compare transgender and cisgender people in the U.S. on measures of demographics, economic well-being, employment experiences, health and health care access, COVID-19 illness, and vaccine uptake. Additionally, we seek to understand if transgender people's experiences during the COVID-19 pandemic differ from cisgender people's experiences over time. For instance, we assess whether the percentage of those in poverty has changed over time for transgender people in the same way it has changed over time for cisgender people.

KEY FINDINGS

- **Demographics**
 - Transgender people are younger than cisgender people. Over 80% of transgender people in the Household Pulse Survey were under the age of 40, compared to just over a third of cisgender people.
 - Transgender and cisgender people were similar in proportions reporting their race as White (63.7% vs. 62.6%). However, a higher percentage of transgender people were Latinx or Hispanic (21.8% vs. 17.0%) and multiracial (6.6% vs. 3.7%). A higher percentage of cisgender people than transgender people were Black (11.3% vs. 5.6%) and Asian (5.5% vs. 2.3%).
- **Economic well-being**
 - Transgender people were living in poverty more so than cisgender people (30.6% vs. 17.7%).
 - Transgender people were more likely than cisgender people to be unable to pay their energy bills in full each month (7.4% vs. 4.7%) and had more difficulty with household expenses (50.0% vs. 31.7%).
- **Employment experiences**
 - Among those in the workforce, a higher percentage of transgender people had not worked in the seven days prior to the survey compared to cisgender people (8.1% vs. 5.4%).
 - Among those in the workforce, transgender people teleworked or worked from home in the past seven days more so than cisgender people (41.8% vs. 31.6%).
- **Health and health care access**
 - A higher percentage of transgender people were not covered by insurance, with 12.9% reporting no health insurance compared to 7.5% of cisgender people.
 - Three times as many transgender respondents had symptoms of severe psychological distress in the past two weeks compared to cisgender respondents (41.2% vs. 11.9%), and more than double the prevalence of anxiety (65.2% vs. 26.9%) and depression (57.6% vs. 21.5%).

- **COVID illness and vaccine uptake**

- Transgender people were more often unsure if they ever had COVID (4.7% vs. 0.8%).
- Transgender people were more likely than cisgender people to have had one or more doses of a COVID vaccine (88.2% vs. 83.9%).
- Transgender people were less concerned about vaccine side effects (40.9% vs. 54.8%) and more concerned about the cost of the vaccine (8.3% vs. 2.3%) compared to cisgender people.
- Transgender people more often stated that it was hard for them to get the vaccine compared to cisgender people (11.7% vs. 2.0%).

- **Change in economic status and health over time**

- We considered five different indicators of economic well-being and health (not working in the past week, poverty, severe psychological distress, anxiety, and depression) over five time periods covered in the Household Pulse Survey to assess whether significant differences between transgender and cisgender people persist over time and to consider if there are significant differences in how transgender and cisgender people trend over time on these indicators. For instance, did poverty improve for cisgender people but not for transgender people?
- We found that significant differences between transgender and cisgender people persist over time across these measures. Cisgender and transgender people did not experience different trends over time on these five measures.

Consistent with prior research, we found disparities for transgender people compared to cisgender people in nearly all areas under study. We found that these disparities have persisted during the pandemic and have not shown signs of improvement over time. We found that cisgender and transgender people do not have significantly different trends over time on key measures of health and economic well-being. Additional research is needed to bring to light the impact of the COVID-19 pandemic on transgender people in all areas of life. In addition to studies that are tailored to understanding transgender people's unique experiences during the pandemic, their needs, and how these needs can be met, we must also add questions to identify transgender individuals to all ongoing, large, population-based surveys that monitor the health and economic well-being of the U.S. population.

INTRODUCTION

Disparities in health and economic well-being have been documented among transgender people as compared to cisgender people in the United States. Population-based surveys at both the state and national levels have found that transgender people are more likely than cisgender people to have poorer health, experience barriers to accessing health care, have higher unemployment, and live below or near the poverty line.¹ Disadvantaged socioeconomic status and poorer health created heightened vulnerabilities among transgender people to the health and economic effects of the COVID-19 pandemic.²

To assess the impact of the COVID-19 pandemic on the US population, the U.S. Census Bureau, in partnership with over a dozen federal agencies, designed the Household Pulse Survey.³ The goal of the survey was to collect a series of snapshots of the U.S. population on key indicators in a way that could rapidly produce information for policymakers to inform decision-making. Data collection for the Household Pulse Survey began in April 2020.⁴ In July 2021, the survey began asking respondents questions to identify transgender respondents. The survey adopted the two-step approach for gender identity measurement, first asking respondents about their sex assigned at birth and then asking about their current gender identity.⁵ Data from these two questions are then compared to categorize as transgender those whose gender identity differs from their sex assigned at birth.⁶ Therefore, the

¹ Meyer I.H., Brown T.N.T., Herman J.L., Reisner S.L., & Bockting W.O. (2017). Demographic Characteristics and Health Status of Transgender Adults in Select US Regions: Behavioral Risk Factor Surveillance System, 2014. *American Journal of Public Health*, 107(4), 582-589. <https://doi.org/10.2105/AJPH.2016.303648>; Downing, J. M., & Przedworski, J. M. (2018). Health of transgender adults in the U.S., 2014–2016. *American Journal of Preventive Medicine*, 55(3), 336–344. <https://doi.org/10.1016/j.amepre.2018.04.045>; Meyer, I.H., Wilson, B.D.M., & O'Neill, K. (2021). *LGBTQ People in the US: Select Findings from the Generations and TransPop Studies*. The Williams Institute, UCLA. <https://williamsinstitute.law.ucla.edu/wp-content/uploads/Generations-TransPop-Toplines-Jun-2021.pdf>; Babey S.H., Wolstein J., Herman J.L., Wilson B.D.M. (2022). *Gaps in Health Care Access and Health Insurance Among LGBT Populations in California*. UCLA Center for Health Policy Research and The Williams Institute, UCLA. <https://williamsinstitute.law.ucla.edu/wp-content/uploads/CA-Health-Care-Gaps-Feb-2022.pdf>; Herman J.L., Wilson B.D.M., Becker T. (2017). *Demographic and Health Characteristics of Transgender Adults in California: Findings from the 2015-2016 California Health Interview Survey*. The Williams Institute and UCLA Center for Health Policy Research, UCLA. <https://williamsinstitute.law.ucla.edu/wp-content/uploads/CHIS-Transgender-Adults-Oct-2017.pdf>

² Herman, J.L. & O'Neill, K. (2020). *Vulnerabilities to COVID-19 Among Transgender Adults in the US*. The Williams Institute, UCLA. <https://williamsinstitute.law.ucla.edu/wp-content/uploads/Trans-COVID19-Apr-2020.pdf>

³ United States Census Bureau. (2021). *Household Pulse Survey: Measuring Social and Economic Impacts during the Coronavirus Pandemic*. <https://www.census.gov/programs-surveys/household-pulse-survey.html>

⁴ United States Census Bureau. (2021). *Household Pulse Survey: Measuring Social and Economic Impacts during the Coronavirus Pandemic*. <https://www.census.gov/programs-surveys/household-pulse-survey.html>

⁵ United States Census Bureau. (2021). *Sexual Orientation and Gender Identity in the Household Pulse Survey*. <https://www.census.gov/library/visualizations/interactive/sexual-orientation-and-gender-identity.html>

⁶ Respondents who selected transgender as their gender identity were classified as transgender. Those who selected a gender identity (male or female) that differed from their sex assigned at birth (male or female) were classified as transgender. Respondents who selected gender identity options (male or female) that were the same as their sex assigned at birth (male or female) were classified as cisgender. Those who selected “none of these” as their response to the gender identity question were excluded from classification. Imputed sex at birth was not used to classify respondents’ transgender status.

Household Pulse Survey provides an opportunity to compare the experiences of transgender and cisgender people in the U.S. during the COVID-19 pandemic, starting in July 2021.

The U.S. Census Bureau is fielding the Household Pulse Survey as a part of their Experimental Data Series.⁷ We continue to learn about the Household Pulse Survey methods and their promise and limitations in studying the characteristics and experiences of transgender people in the U.S., as described in the Methods section below.⁸ For instance, data from the Household Pulse Survey allowed Williams Institute scholars to assess food insecurity disparities among transgender people as compared to cisgender people during the COVID-19 pandemic.⁹ In this report, we extend similar methods to compare transgender and cisgender people in the U.S. on measures of demographics, economic well-being, employment experiences, health and health care access, and COVID-19 illness and vaccine uptake. Additionally, we seek to understand if transgender people's experiences during the COVID-19 pandemic differ from cisgender people's experiences over time. For instance, we assess whether the percentage of those in poverty has changed over time for transgender people in the same way it has changed over time for cisgender people.

⁷ United States Census Bureau. (2021). *Measuring Household Experiences during the Coronavirus Pandemic*. <https://www.census.gov/data/experimental-data-products/household-pulse-survey.html>.

⁸ United States Census Bureau. (2021). *Source of the Data and Accuracy of the Estimates for the Household Pulse Survey – Phase 3.2*. https://www2.census.gov/programs-surveys/demo/technical-documentation/hhp/Phase3-2_Source_and_Accuracy_Week39.pdf; Jesdale, B.M. (2021). *Counting Gender Minority Populations in the Household Pulse Survey (The AGENID=2 Memo)*. National LGBT Cancer Network. <https://cancer-network.org/wp-content/uploads/2021/10/Counting-GM-People-in-Pulse-Data.pdf>

⁹ Conron, K.J. & O'Neill, K. (2022). *Food Insufficiency Among Transgender Adults During the COVID-19 Pandemic*. The Williams Institute, UCLA. <https://williamsinstitute.law.ucla.edu/wp-content/uploads/Trans-Food-Insufficiency-Update-Apr-2022.pdf>

RESULTS

DEMOGRAPHICS

Of Household Pulse Survey respondents included in this study, 0.7% were transgender and 99.3% were cisgender (n=944,883). Transgender and cisgender people differed on a number of demographic variables. A higher percentage of transgender people were Latinx, Hispanic, or multiracial; fewer lived in households with children; a higher percentage have never married, and fewer selected “straight” as their sexual orientation compared to cisgender people. A higher percentage of transgender people reported having associate degrees or some college as their education level (38.0% vs. 30.4%), but a lower percentage had a bachelor’s degree or more (22.2% vs. 31.2%). Transgender people were much younger than cisgender people, with 38.7% aged 18 to 24 and 43.1% aged 25 to 39, compared to 7.8% and 26.9% of cisgender people, respectively. Over 80% of transgender people were under the age of 40 compared to just over a third of cisgender people.¹⁰

Table 1. Demographic characteristics of transgender and cisgender respondents to the Household Pulse Survey, July 21, 2021 to August 8, 2022, N=944,883

	TRANSGENDER n=3,926	CISGENDER n=940,957
	%	%
Gender identity*		
Male	11.7	48.5
Female	12.8	51.5
Transgender	75.5	0.0
Sex assigned at birth		
Male	46.7	48.5
Female	53.3	51.5
Sexual orientation*		
Gay or lesbian	20.8	3.0
Straight	7.2	89.7
Bisexual	36.5	4.2
Something else	28.4	1.4
I don't know	7.1	1.8
Age*		
18-24	38.7	7.8
25-39	43.1	26.9
40-54	11.1	25.9
55-64	3.2	17.4
65+	3.8	22.0

¹⁰ Some population-based studies have also found that transgender people are younger than cisgender people. See, for instance, Downing, J. M., & Przedworski, J. M. (2018). Health of transgender adults in the U.S., 2014–2016. *American Journal of Preventive Medicine*, 55(3), 336–344. <https://doi.org/10.1016/j.amepre.2018.04.045>. Other population-based studies have found no difference in age. See, for instance, Meyer, I.H., Wilson, B.D.M., & O’Neill, K. (2021). *LGBTQ People in the US: Select Findings from the Generations and TransPop Studies*. The Williams Institute, UCLA. <https://williamsinstitute.law.ucla.edu/wp-content/uploads/Generations-TransPop-Toplines-Jun-2021.pdf>.

	TRANSGENDER n=3,926	CISGENDER n=940,957
	%	%
Race/ethnicity*		
White	63.7	62.6
Black	5.6	11.3
Asian	2.3	5.5
Not listed or multiracial	6.6	3.7
Latinx/Hispanic	21.8	17.0
Education*		
High school or less	39.9	38.4
Associates or some college	38.0	30.4
Bachelors or more	22.1	31.2
Region*		
Northeast	15.2	17.2
South	36.6	38.4
Midwest	21.1	20.6
West	27.2	23.8
Any people under 18 years old in household*		
No kids	74.9	61.8
Kids in household	25.1	38.2
Marital status*		
Married	18.0	55.6
Widowed	2.2	4.4
Divorced or separated	10.1	14.0
Never married	69.7	25.9

*Statistically significant relationship between demographic variable and transgender/cisgender status at the $p < .05$ level. Columns are weighted percentages. Ns vary per demographic variable. See Appendix Table A2 for ns, confidence intervals for each cell, and p-values.

ECONOMIC WELL-BEING

Transgender respondents to the Household Pulse Survey fared worse on several economic indicators than cisgender respondents. Transgender people were more often living in poverty than cisgender people (30.6% vs. 17.7%). Transgender people were more often renters, and fewer owned a home free and clear or with a mortgage. Though transgender and cisgender people were similar in being caught up on rent or mortgage payments (89.1% vs 89.8%), fewer transgender people paid energy bills in full each month (7.4% vs. 4.7%) and had more difficulty with household expenses (50.0% vs. 31.7%).

Table 2. Economic wellbeing of transgender and cisgender respondents to the Household Pulse Survey, July 21, 2021 to August 8, 2022, N=926,547

	TRANSGENDER n=3,854	CISGENDER n=922,693
	%	%
Household poverty*		
Not in Poverty	69.4	82.3
In Poverty	30.6	17.7
Income-to-poverty ratio*		
<100%	30.6	17.7
100-199%	17.6	15.5
200-299%	18.8	15.8
300%+	33.0	51.1
Housing*		
Owned free & clear	12.9	25.5
Owned with mortgage or loan	30.9	44.8
Rented	50.2	28.1
Occupied without payment of rent	6.0	1.6
Housing payments (Among those who rent or pay a mortgage)		
Behind on rent or mortgage	10.9	10.1
Caught up on rent or mortgage	89.1	89.8
Unable to pay full energy bill in past 12 months*		
Almost every month	7.4	4.7
Some months	10.4	8.5
1 or 2 months	11.6	7.1
Never	70.7	79.6
Difficulty with household expenses past 7 days*		
Not at all or a little difficult	50.0	68.3
Very or somewhat difficult	50.0	31.7
Household employment income loss past 4 weeks*		
Yes	22.1	15.2
No	77.9	84.8

*Statistically significant relationship between economic indicator variable and transgender/cisgender status at the $p < .05$ level. Columns are weighted percentages. Ns vary per economic indicator variable. See Appendix Table A3 for ns, confidence intervals for each cell, and p-values.

EMPLOYMENT EXPERIENCES

Among those in the workforce, a higher percentage of transgender people had not worked in the seven days prior to the survey compared to cisgender people (8.1% vs. 5.4%). Transgender people teleworked or worked from home in the past seven days more so than cisgender people (48.5% vs. 42.5%). There were no significant differences between transgender and cisgender people in whether they worked onsite at a workplace in the past seven days.

Table 3. Employment experiences of transgender and cisgender respondents to the Census Household Pulse Survey, July 21, 2021 to August 8, 2022, among those in the workforce, N=566,054

	TRANSGENDER n=2,684	CISGENDER n=563,370
	%	%
Any work in the past 7 days*		
Yes, worked in past 7 days	91.9	94.6
No, no work in past 7 days	8.1	5.4
Worked onsite at a workplace past 7 days†		
Yes	78.9	77.2
No	21.1	22.8
Teleworked or worked from home past 7 days*		
Yes	48.5	42.5
No	51.5	57.5
Employment sector		
<i>Among those in workforce working in past 7 days</i>		
Government	10.1	13.9
Private company	66.4	61.7
Non-profit	9.5	9.6
Self-employed	11.4	12.1
Family business	2.7	2.6

*Statistically significant relationship between employment experience variable and transgender/cisgender status at the $p < .05$ level. Columns are weighted percentages. Ns vary per employment experience variable. See Appendix Table A3 for ns, confidence intervals for each cell, and p-values.

†This variable only included in Census Household Pulse surveys through May 2022 (Week 45).

HEALTH AND HEALTH CARE ACCESS

Transgender people had health care barriers and health disparities compared to cisgender people in the Household Pulse Survey. A higher percentage of transgender people were not covered by insurance, with 12.9% reporting no health insurance compared to 7.5% of cisgender people. Transgender people had a health care appointment by phone or video in the past four weeks more so than cisgender people (34.3% vs. 20.7%). The most notable findings of disparities for transgender people are in the health indicators for psychological distress, anxiety, and depression. Based on the 4-item Patient Health Questionnaire (PHQ4), three times as many transgender respondents had symptoms of severe psychological distress in the past two weeks compared to cisgender respondents (41.2% vs. 11.9%), and more than double the prevalence of anxiety (65.2% vs. 26.9%) and depression (57.6% vs. 21.5%).

Table 4. Health and health care access of transgender and cisgender respondents to the Household Pulse Survey, July 21, 2021 to August 8, 2022 (Weeks 34-48), N=839,567

	TRANSGENDER n=3,4780	CISGENDER n=836,087
	%	%
Health insurance*		
No health insurance	12.9	7.5
Private health insurance	55.5	53.2
Public health insurance	20.1	18.6
Both public and private insurance	10.0	19.8
Other health insurance	1.5	0.9
Health care appointment by phone or video past 4 weeks*		
Yes	34.3	20.7
No	65.7	79.3
Psychological distress in the past 2 weeks (PHQ4)*		
Normal	15.3	51.8
Mild	24.8	25.0
Moderate	18.7	11.2
Severe	41.2	11.9
Possible anxiety (PHQ4)*		
No	34.8	73.1
Yes	65.2	26.9
Possible depression (PHQ4)*		
No	42.4	78.5
Yes	57.6	21.5

*Statistically significant relationship between health variable and transgender/cisgender status at the $p < .05$ level. Columns are weighted percentages. Ns vary per health variable. See Appendix Table A3 for ns, confidence intervals for each cell, and p-values.

†This variable only included in Census Household Pulse surveys through May 2022 (Week 45).

COVID ILLNESS AND VACCINE UPTAKE

A slightly lower percentage of transgender people than cisgender people reported having ever had a doctor or health care provider tell them they had COVID. However, transgender people were more often unsure if they had COVID (4.7% vs. 0.8%). Transgender people were more likely than cisgender people to have had one or more doses of a COVID vaccine (88.2% vs. 83.9%). Transgender and cisgender people who were not vaccinated responded similarly when asked whether they'd get the vaccine if available to them. However, transgender people more often reported that they would probably get the vaccine (16.2% vs. 8.9%). When asked reasons why respondents may not get the COVID vaccine, transgender and cisgender people had similar reasons for their hesitation, such as

they don't believe they need it or are taking a "wait and see" approach to assess vaccine safety.¹¹ Transgender people were less concerned about side effects (40.9% vs. 54.8%) and more concerned about the cost of the vaccine (8.3% vs. 2.3%) compared to cisgender people. Transgender people more often stated that it was hard for them to get the vaccine (11.7% vs. 2.0%).

Table 5. COVID illness and vaccine uptake among transgender and cisgender respondents to the Household Pulse Survey, July 21, 2021 to August 8, 2022 (Weeks 34-38), N=940,752

	TRANSGENDER n=3,906	CISGENDER n=936,846
	%	%
Doctor/health care provider told you had COVID*†		
Yes	18.1	21.4
No	77.2	77.8
Not sure	4.7	0.8
Received a COVID-19 vaccine (1 or more doses)*		
Yes	88.2	83.9
No	11.8	16.1
Once a vaccine to prevent COVID-19 is available to you, would you...*† (Among those who had not received a vaccine)		
Definitely will get vaccine	11.5	6.7
Probably get vaccine	16.2	8.9
Unsure about getting a vaccine	10.4	17.4
Probably NOT get a vaccine	13.0	19.0
Definitely NOT get a vaccine	49.0	48.0
Reasons for reluctance about receiving the vaccine or all doses of it† Check all that apply (Among those who have not gotten a vaccine and did not respond that they would 'definitely' get one once available.)		
I am concerned about possible side effects of a COVID-19 vaccine*	40.9	54.8
I don't know if a COVID-19 vaccine will protect me	31.7	24.9
I don't believe I need a COVID-19 vaccine	34.5	31.8
My doctor has not recommended it	11.7	9.0
I plan to wait and see if it is safe and may get it later	28.3	31.5
I am concerned about the cost of a COVID-19 vaccine*	8.3	2.3

¹¹ This question was asked of those who had not received one or more doses of the vaccine and also stated they would probably get the vaccine, were unsure if they would get it, or probably or definitely would not get it. Those who had received one or more doses of the vaccine and those who had not received it but said they would definitely get it are not asked why they may not get the vaccine.

	TRANSGENDER n=3,906	CISGENDER n=936,846
	%	%
Reasons for reluctance about receiving the vaccine or all doses of it†		
Check all that apply (Among those who have not gotten a vaccine and did not respond that they would 'definitely' get one once available.)		
I don't trust COVID-19 vaccines	35.4	44.4
I don't trust the government	46.6	36.6
I don't think COVID-19 is that big of a threat	23.3	22.2
It's hard for me to get a COVID-19 vaccine*	11.7	2.0
Other reason	20.7	21.8

*Statistically significant relationship between COVID variable and transgender/cisgender status at the $p < .05$ level.

Columns are weighted percentages. Ns vary per COVID variable. See Appendix Table A3 for ns, confidence intervals for each cell, and p-values.

†This variable only included in Census Household Pulse surveys through May 2022 (Week 45).

IMPACT OF AGE ON COMPARISONS BETWEEN TRANSGENDER AND CISGENDER ADULTS

A notable demographic difference between transgender and cisgender people in the Household Pulse Survey is age, with transgender people being significantly younger than cisgender people. To assess whether observed differences and similarities between transgender and cisgender people on indicators of economic well-being or health were due to differences in the age composition of each group, we conducted weighted logistic regressions for several indicators, controlling for age. The indicators we examined included having not worked in the past seven days, household poverty, no college degree, no high school degree, severe psychological distress, anxiety, and depression. All the observed differences between transgender and cisgender people remain significant when controlling for age. Therefore, age differences between transgender and cisgender respondents to the Household Pulse Survey do not explain the differences between the two groups on these indicators. Detailed results can be found in Appendix Table A7.

CHANGE ECONOMIC STATUS AND HEALTH FOR TRANSGENDER AND CISGENDER PEOPLE OVER TIME

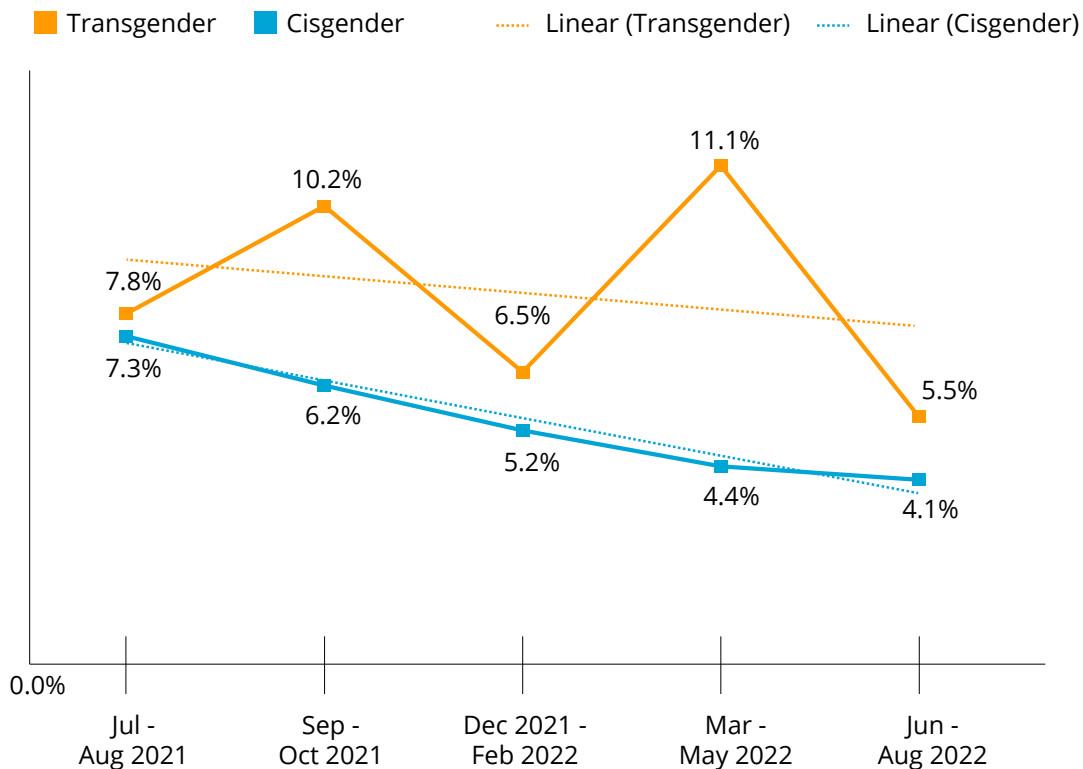
To better understand transgender people's experiences during the COVID-19 pandemic compared to cisgender people, we considered how these groups experience changes over time. Over the course of a year, it is possible that health and employment indicators may change, but do those changes occur in the same way for transgender and cisgender people? For instance, did poverty significantly improve for cisgender people over time, but not for transgender people? We considered five different indicators of economic well-being and health: not working in the past week, poverty, severe psychological distress, anxiety, and depression. We considered these five indicators over five time periods: July to August 2021, September to October 2021, December 2021 to February 2022, March to May 2022, and June to August 2022. We assessed whether significant differences between

transgender and cisgender people persist over time. We also utilized weighted logistic regressions with an interaction term for time period and gender, controlling for age, to consider if there were significant differences in how transgender and cisgender people trend over time on these indicators. See Appendix Table A8 for detailed results.

Not working in the past week

Across all time periods, a higher percentage of transgender people in the workforce were not working in the past seven days compared to cisgender people (8.1% vs. 5.4%). To look at the trends for transgender and cisgender people over time, Figure 1 shows the percentage of transgender and cisgender people in the workforce who were not working in the past week for each of the five time periods. The differences between transgender and cisgender people are only significant in the second and fourth time periods. While the percentages in each time period appear to fluctuate over time for transgender people, this reflects a lack of precision in the estimates. Cisgender people appear to have a slow and steady drop over time in the percentage of people not working in the past week. In fact, in all but the last time period, cisgender people have a significantly lower percentage of people in the workforce not working in the past week in each time period compared to the prior time period. Nevertheless, comparing the trendlines for these two groups, we find that the trends over time are not statistically significantly different between transgender and cisgender people. In other words, cisgender and transgender people did not experience changes over time in this employment measure in ways that were significantly different from each other.

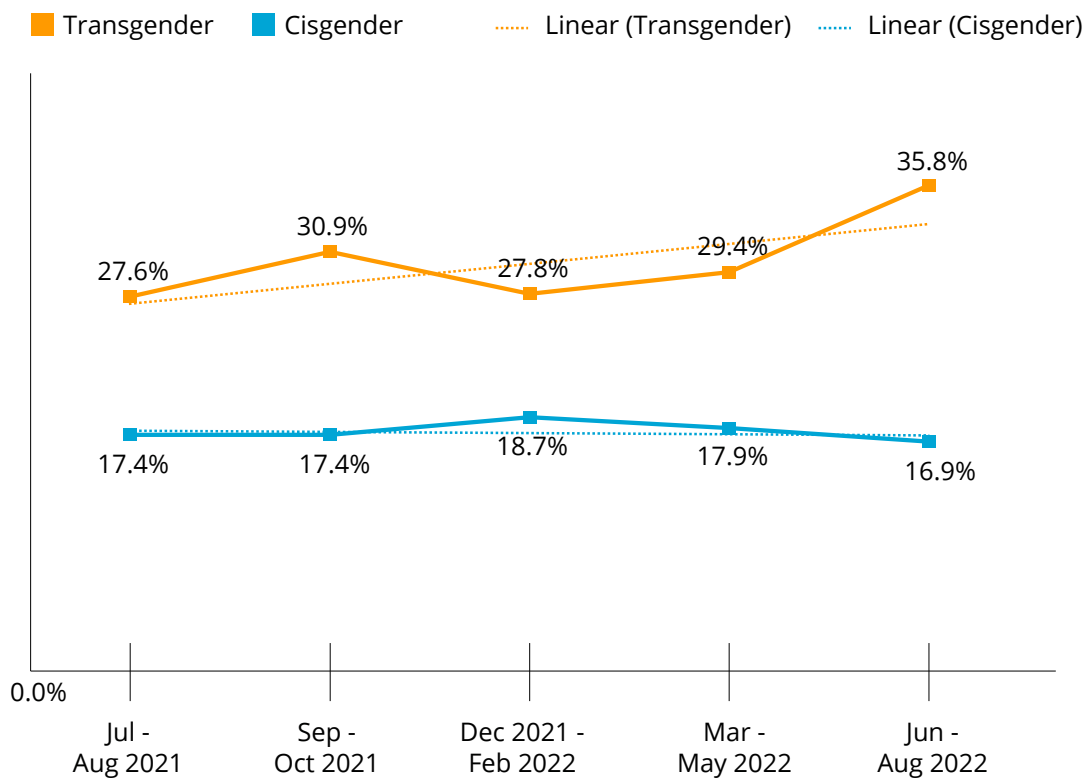
Figure 1. Not working in the past week over time among transgender and cisgender respondents to the Household Pulse Survey, among those in the work force, July 21, 2021 to August 8, 2022



Poverty

Upon first glance at Figure 2, the percentage of transgender people living in poverty seems to increase over time while the percentage of cisgender people seems to remain steady. In each time period, poverty for transgender people is significantly higher than poverty for cisgender people. Over time, poverty levels for cisgender and transgender people do not trend in significantly different directions. In other words, cisgender and transgender people did not change in a different way over time in regard to poverty.

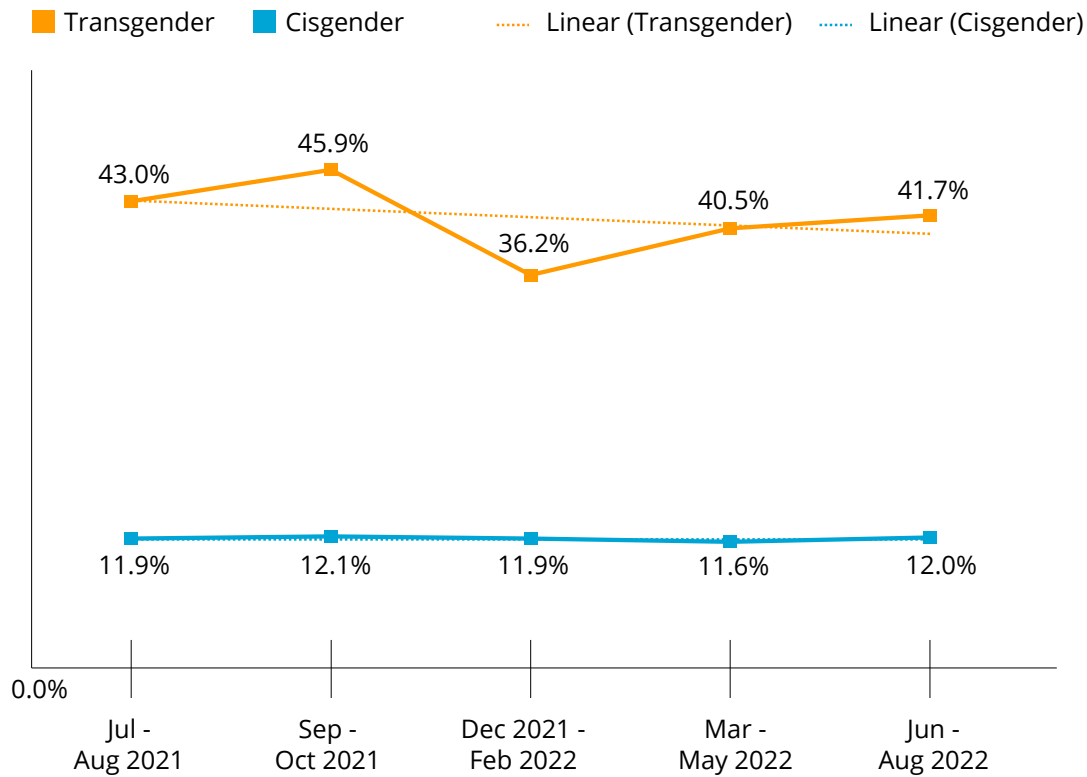
Figure 2. Household poverty over time among transgender and cisgender respondents to the Household Pulse Survey, July 21, 2021 to August 8, 2022



Severe Psychological Distress

Figure 3 shows the percentage of transgender and cisgender people experiencing serious psychological distress in the past two weeks, as measured in the PHQ4. At each time interval, the difference between transgender and cisgender people is significant, with transgender people having a significantly higher prevalence of severe psychological distress. Over time, the trendlines for the two groups remain fairly steady, and we found no significant differences in how transgender and cisgender people trend over time in regard to severe psychological distress.

Figure 3. Severe psychological distress over time among transgender and cisgender respondents to the Household Pulse Survey, July 21, 2021 to August 8, 2022Anxiety and Depression



Anxiety and Depression

Figures 4 and 5 show a similar persistence in the trendlines for anxiety and depression, as measured in the PHQ4. In both cases, the differences between transgender and cisgender people are significant at each time period, with transgender people having a significantly higher prevalence of anxiety and depression compared to cisgender people. Over time, the trendlines are remarkably steady for both groups. We find no significant differences in how transgender and cisgender people trend over time in regard to anxiety and depression.

Figure 4. Anxiety over time among transgender and cisgender respondents to the Household Pulse Survey, July 21, 2021 to August 8, 2022

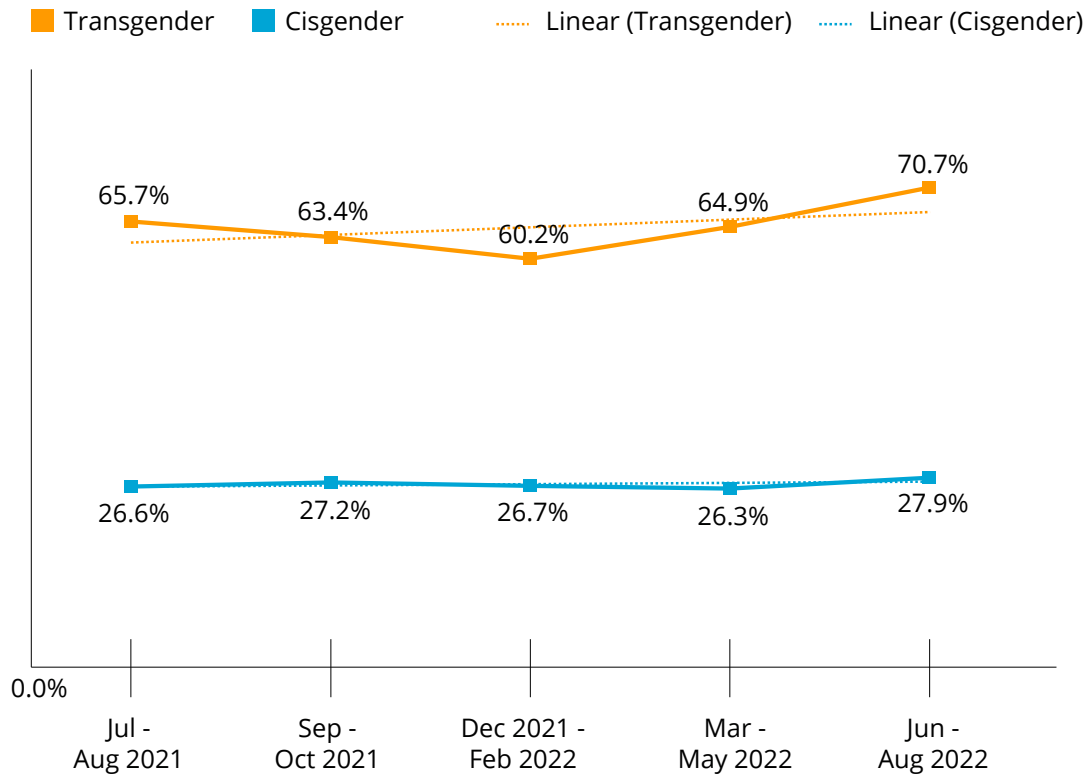
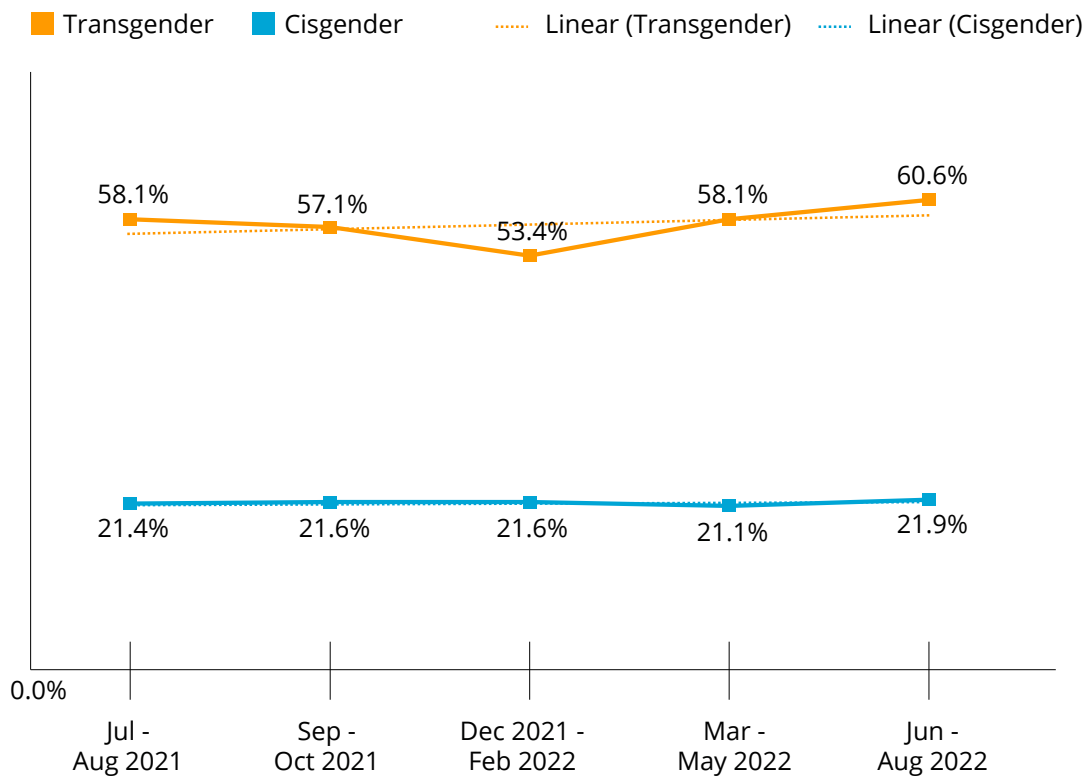


Figure 5. Depression over time among transgender and cisgender respondents to the Household Pulse Survey, July 21, 2021 to August 8, 2022



DISCUSSION

During the COVID-19 pandemic, we have witnessed the physical impacts of illness related to the coronavirus, as well as the economic and mental health impacts of the pandemic on the general population, as well as among LGBT people.¹² Anxiety and depressive disorders increased during the pandemic, in general, and indicators of economic well-being have demonstrated negative impacts, such as an increase in food insufficiency in the U.S. population.¹³ For the transgender population, significant disparities in measures of economic well-being and health predate the pandemic, putting transgender people in a particularly vulnerable position to face the health and economic impacts of the pandemic.¹⁴

This report provides findings from the Household Pulse Survey to investigate health and economic well-being disparities for transgender people during the pandemic. Consistent with prior research, we found disparities for transgender people compared to cisgender people in nearly all areas under study. We found that these disparities have persisted during the pandemic and have shown no signs of improvement over time. We found that cisgender and transgender people do not have significantly different trends over time on key measures of health and economic well-being. This study does have limitations that may have impacted our ability to detect differences in how transgender and cisgender people have fared during the pandemic. The Household Pulse Survey only began asking questions to identify respondents as transgender or cisgender in July 2021. Therefore, we are without data from the first year of the pandemic, a time when the health and economic impacts of the pandemic were first felt by the U.S. population. In the one area where we found significant improvement over time for cisgender people, having worked in the week prior to the survey, we were unable to detect any worsening or improvement for transgender people. Since this measure of employment was limited to those in the workforce, a smaller sample size for the transgender sample led to less precision in our estimates, affecting our ability to detect differences over time.

Additional research is needed to bring to light the impact of the COVID-19 pandemic on transgender people in all areas of life. In addition to studies tailored to understanding transgender people's unique experiences during the pandemic, their needs, and how these needs can be met, we must also add questions to identify transgender individuals to all ongoing, large, population-based surveys that monitor the health and economic well-being of the U.S. population. These two areas of research can provide an understanding of how to address the unique needs of this population paired with ongoing monitoring of key measures to identify any changes in disparities over time and to point to areas still in need of intervention.

¹² Sears, B. Conron, K.J., & Flores, A.J. (2021). *The Impact of the Fall 2020 Surge of the COVID-19 Pandemic on LGBT Adults in the US*. The Williams Institute, UCLA. <https://williamsinstitute.law.ucla.edu/wp-content/uploads/COVID-LGBT-Fall-Surge-Feb-2021.pdf>

¹³ Vahratian A., Blumberg S.J., Terlizzi E.P., Schiller J.S. (2021). Symptoms of Anxiety or Depressive Disorder and Use of Mental Health Care Among Adults During the COVID-19 Pandemic - United States, August 2020-February 2021. *Morbidity and Mortal Weekly Report*, 70(13), 490-494. <http://dx.doi.org/10.15585/mmwr.mm7013e2>; Kim, C.E. & Kim, H. (2022). Economic precarity and mental health during the COVID-19 pandemic: findings from the Census Household Pulse Survey (2020–2021), *Sociological Spectrum*, 42(3), 195-216. <https://doi.org/10.1080/02732173.2022.2081891>; Conron, K.J. & O'Neill, K. (2022). *Food Insufficiency Among Transgender Adults During the COVID-19 Pandemic*. The Williams Institute, UCLA. <https://williamsinstitute.law.ucla.edu/wp-content/uploads/Trans-Food-Insufficiency-Update-Apr-2022.pdf>

¹⁴ See notes 1 and 2.

METHODS

This study analyzed repeated cross-sectional data collected between July 21, 2021, and August 8, 2022, by the U.S. Census Bureau on the Household Pulse Survey.^{15,16} The Household Pulse Survey was developed to assess the impact of COVID-19 on employment, food and housing security, and the physical and mental well-being of the U.S. population. Households were enumerated via the Census Bureau's Master Address File (MAF); email addresses and cell phone numbers were appended to create a contact sampling frame for the survey which represented 81% of households in the MAF.¹⁷ Group quarters such as homeless shelters, nursing homes, and college dormitories were not sampled. Online surveys were conducted in English and Spanish with 971,836 U.S. adults ages 18 and up. The response rate for the weeks of data that we analyzed ranged from 4.4% to 7.9%.¹⁸

The time period that we analyzed (July 21, 2021, through August 8, 2022) represents phases 3.2 – 3.5 of this survey, or weeks 34 through 48 of data. While data releases are referred to as 'weeks', each 'week' of data reflects at least two weeks of real-time data collection. Data was not collected continuously between July 2021 and August 2022—please see Census documentation for more detailed information about the time periods during which data was collected.¹⁹ Each phase of this survey had slight variations in the questionnaire. Analyses included here were based upon survey items that were included in all surveys used during weeks 34 through 48, unless indicated otherwise. For analyses that examined outcomes over time, weeks of data from the Census were grouped together in sets of three to increase the sample size at each time point.

Questions about sex assigned at birth (What sex were you assigned at birth, on your original birth certificate?) and current gender identity (Do you currently describe yourself as male, female or transgender?) were added to the Household Pulse Survey starting in phase 3.2 (July 2021; Week 34) and were used to classify respondents as transgender and cisgender. Respondents who selected transgender as their gender identity were classified as transgender. In the remaining sample that selected male or female gender identity responses and whose sex was not imputed by the Census Bureau (e.g., AGENID_BIRTH=2), those who selected a gender identity (male or female) that differed from their sex assigned at birth (male or female) were classified as transgender. Respondents who selected gender identity options (male or female) that were the same as their sex assigned at birth (male or female) were classified as cisgender. Those who selected "none of these" as their response to the gender identity question were excluded from classification.

¹⁵ United States Census Bureau. (2021). *Household Pulse Survey Public Use File (PUF)*. <https://www.census.gov/programs-surveys/household-pulse-survey/datasets.html>

¹⁶ United States Census Bureau. (2021). *Household Pulse Survey Technical Documentation*. <https://www.census.gov/programs-surveys/household-pulse-survey/technical-documentation.html>

¹⁷ United States Census Bureau. (2021). *Source of the Data and Accuracy of the Estimates for the Household Pulse Survey – Phase 3.2*. https://www2.census.gov/programs-surveys/demo/technical-documentation/hhp/Phase3-2_Source_and_Accuracy_Week39.pdf

¹⁸ United States Census Bureau. (2022). *Household Pulse Survey Technical Documentation*. <https://www.census.gov/programs-surveys/household-pulse-survey/technical-documentation.html>

¹⁹ United States Census Bureau. (2022). *Household Pulse Survey Technical Documentation*. <https://www.census.gov/programs-surveys/household-pulse-survey/technical-documentation.html>

The analytic sample was limited to 944,883 survey respondents who answered the questions about sex and birth and gender identity such that they could be classified as transgender or cisgender based on the criteria described above. Imputed sex was not used to classify transgender and cisgender respondents given concerns about the validity of the imputed sex data and in accordance with a Household Pulse Survey User Note from February 2022.²⁰ Descriptive analyses conducted by Dr. Bill Jesdale indicate that the demographic characteristics of those classified as transgender based on imputed sex look more similar to those of cisgender respondents than to those of transgender respondents who answered the sex assigned at birth question.²¹ In addition, 380 transgender respondents who reported living in households of 10+ members were excluded from the analytic sample for this study based on descriptive analyses conducted by the Williams Institute. Our analyses, based upon weeks 34-39 of Census Pulse data suggest that these 10+ transgender households are grossly overrepresented in the sample (8.8% unweighted, 18.7% weighted) relative to cisgender households, both among cisgender LGB (% weighted) and in the larger analytic sample (1.1% weighted), and in the US population as a whole (1.2% live in households of 7 or more.)²² These respondents, identified as both transgender and living in households of 10 or more people, were also disproportionately older (54.5% 65+ weighted), living in households with 200K+ household income (33.6% weighted), and Latino/a (62.6%) as compared to cisgender respondents living in 10+ households in Pulse (30.0%, 7.3%, and 26.8%, respectively, weighted) and transgender respondents in other population-based datasets (e.g., BRFSS and TransPop).²³ Such patterns suggest the possibility that mischievous or inattentive responders or clerical errors impacted these findings.^{24,25} Further methodological investigation is needed to better understand Pulse response patterns – particularly as they relate to respondents classified as transgender.

Participant-reported annual household income range and size were used to create an ordinal measure of percentage of poverty. Annual household income was re-coded to the midpoint for each income range or to the lower limit of the highest income category (\$200,000 or more). Re-coded income was divided by household size-specific poverty thresholds to obtain percentage poverty (i.e., the “ratio of income to poverty” according to U.S. Census criteria).^{26,27}

²⁰ United States Census Bureau. (2022). *Household Pulse Survey User Notes: Phase 3.3*. https://www2.census.gov/programs-surveys/demo/technical-documentation/hhp/Phase3-3_2022_Household_Pulse_Survey_User_Notes_03022022.pdf

²¹ Jesdale, B.M. (2021). *Counting Gender Minority Populations in the Household Pulse Survey (The AGENID=2 Memo)*. National LGBT Cancer Network. <https://cancer-network.org/wp-content/uploads/2021/10/Counting-GM-People-in-Pulse-Data.pdf>

²² U.S. Census Bureau. (2021, November). *Historical Households Tables; Table HH-4. Households by size: 1960 to Present*. <https://www.census.gov/data/tables/time-series/demo/families/households.html>

²³ Meyer, I.H., Wilson, B.D.M., & O'Neill, K. (2021). *LGBTQ People in the US: Select Findings from the Generations and TransPop Studies*. The Williams Institute, UCLA. <https://williamsinstitute.law.ucla.edu/wp-content/uploads/Generations-TransPop-Toplines-Jun-2021.pdf>

²⁴ Cimpian, J. R. & Timmer, J. D. (2019). Large-scale estimates of LGBQ-heterosexual disparities in the presence of potentially mischievous responders: A preregistered replication and comparison of methods. *AERA Open*, 5(4), 1-35. <https://doi.org/10.1177/2332858419888892>

²⁵ Alvarez, R., Atkeson, L., Levin, I., & Li, Y. (2019). Paying attention to inattentive survey respondents. *Political Analysis*, 27(2), 145-162. <https://doi.org/10.1017/pan.2018.57>

²⁶ U S Census Bureau. *Poverty Thresholds by Size of Family and Number of Related Children Under 18 Years*. <https://www.census.gov/data/tables/time-series/demo/income-poverty/historical-poverty-thresholds.html>

²⁷ U.S. Census Bureau. *How the Census Bureau Measures Poverty*. <https://www.census.gov/topics/income-poverty/>

Descriptive analyses were conducted using Stata v15.1 statistical software. Analyses included design-based F-tests (Rao-Scott chi-square tests) of differences in proportions to assess whether outcomes varied across groups at an alpha of 0.05.²⁸ Confidence intervals (95% CI) were included to communicate the degree of uncertainty around an estimate due to sampling error. Weighted logistic regression was also used to examine whether differences remain significant after controlling for age and if trends over time varied for different groups, controlling for age. The latter models included an interaction term for time period and transgender status. The presence of a statistically significant interaction term in a model that included the main effects of time and transgender status at a p-value<0.05 was used to determine if trendlines for cisgender and transgender individuals differed over time. All analyses were weighted to represent adults ages 18 and up living in U.S. households using person-level weights provided by the Census Bureau. All sample sizes (n) are unweighted.

[poverty/guidance/poverty-measures.html](https://www.pewresearch.org/poverty/guidance/poverty-measures.html).

²⁸ Rao, J.N.K & Scott, A.J. (1984). On chi-squared tests for multiway contingency tables with cell proportions estimated from survey data. *Ann. Stat.* 12, 46–60. <https://doi.org/10.1214/aos/1176346391>

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APPENDIX

TABLES

Table A1. Transgender and cisgender status of respondents to the Household Pulse Survey, July 21, 2021 to August 8, 2022 (Weeks 34-48), N=944,883

	%	95% CI
Transgender or cisgender status	n=944,883	
Cisgender	99.3	99.3, 99.4
Transgender	0.7	0.6, 0.7

Note: Weighted column percentages. CI: Confidence Interval.

Table A2. Demographic characteristics of transgender and cisgender respondents to the Household Pulse Survey, July 21, 2021 to August 8, 2022 (Weeks 34-48), N=944,883

	CISGENDER n=940,957		TRANSGENDER n=3,926		TOTAL N=944,883		F
	%	95% CI	%	95% CI	%	95% CI	P-VALUE
Gender identity <i>Do you currently describe yourself as male, female or transgender?</i>	n=940,957		n=3,926		N=944,883		
Male	48.5	48.3,48.7	11.7	9.8,14.0	48.2	48.0,48.5	<0.01
Female	51.5	51.3,51.7	12.8	10.8,15.1	51.2	51.0,51.5	
Transgender	0.0		75.5	72.6,78.2	0.5	0.5,0.6	
Sex assigned at birth <i>What sex were you assigned at birth, on your original birth certificate?</i>	n=940,957		n=3,926		N=944,883		
Male	48.5	48.3, 48.7	46.7	43.5, 49.9	48.5	48.3, 48.7	0.27
Female	51.5	51.3, 51.7	53.3	50.1, 56.5	51.5	51.3, 51.7	
Sexual orientation	n=930,602		n=3,916		n=934,518		
Gay or lesbian	3.0	2.9,3.1	20.8	18.4,23.3	3.1	3.0,3.2	<0.01
Straight	89.7	89.5,89.8	7.2	5.9,8.7	89.1	89.0,89.2	
Bisexual	4.2	4.1,4.3	36.5	33.5,39.6	4.4	4.3,4.5	
Something else	1.4	1.3,1.4	28.4	25.7,31.3	1.6	1.5,1.6	
I don't know	1.8	1.7,1.8	7.1	5.1,9.8	1.8	1.7,1.9	

	CISGENDER n=940,957		TRANSGENDER n=3,926		TOTAL N=944,883		F
	%	95% CI	%	95% CI	%	95% CI	P-VALUE
Age	n=940,957		n=3,926		N=944,883		
18-24	7.8	7.6,7.9	38.7	35.6,42.0	8.0	7.8,8.1	<0.01
25-39	26.9	26.7,27.1	43.1	40.1,46.2	27.1	26.9,27.3	
40-54	25.9	25.7,26.0	11.1	9.2,13.4	25.8	25.6,25.9	
55-64	17.4	17.3,17.6	3.2	2.6,3.9	17.3	17.2,17.5	
65+	22.0	21.8,22.2	3.8	3.0,4.8	21.9	21.7,22.0	
Race	n=940,957		n=3,926		N=944,883		
White	62.6	62.4,62.9	63.7	60.4,66.9	62.6	62.4,62.9	<0.01
Black	11.3	11.1,11.4	5.6	4.5,7.1	11.2	11.1,11.4	
Asian	5.5	5.4,5.6	2.3	1.7,3.0	5.4	5.3,5.5	
Other or multiple	3.7	3.6,3.7	6.6	5.4,7.9	3.7	3.6,3.8	
Hispanic	17.0	16.8,17.2	21.8	18.8,25.2	17.0	16.8,17.2	
Education	n=940,957		n=3,926		N=944,883		
HS or less	38.4	38.1,38.6	39.9	36.6,43.3	38.4	38.2,38.6	<0.01
Associates or some college	30.4	30.2,30.6	38.0	35.1,41.1	30.5	30.3,30.6	
Bachelors or more	31.2	31.1,31.4	22.1	20.2,24.0	31.1	31.0,31.3	
Region	n=940,957		n=3,926		N=944,883		
Northeast	17.2	17.0,17.4	15.2	13.2,17.4	17.2	17.0,17.3	0.04
South	38.4	38.2,38.6	36.6	33.4,39.8	38.4	38.2,38.6	
Midwest	20.6	20.4,20.7	21.1	18.9,23.4	20.6	20.4,20.7	
West	23.8	23.6,24.0	27.2	24.4,30.1	23.9	23.7,24.0	
Any people under 18 years old in household	n=940,957		n=3,926		N=944,883		
No kids	61.8	61.5,62.0	74.9	71.9,77.7	61.9	61.6,62.1	<0.01
Kids in household	38.2	38.0,38.5	25.1	22.3,28.1	38.1	37.9,38.4	
Marital status	n=937,001		n=3,912		n=940,913		
Married	55.6	55.4,55.9	18.0	15.9,20.3	55.4	55.2,55.6	<0.01
Widowed	4.4	4.4,4.5	2.2	1.5,3.2	4.4	4.3,4.5	
Divorced or separated	14.0	13.9,14.2	10.1	8.3,12.3	14.0	13.8,14.1	
Never married	25.9	25.7,26.1	69.7	66.8,72.5	26.2	26.0,26.4	

Note: Weighted column percentages. CI: Confidence Interval. Ns vary due to missingness unless otherwise noted.

Table A3. Economic wellbeing indicators for transgender and cisgender respondents to the Household Pulse Survey, July 21, 2021 to August 8, 2022 (Weeks 34-48), N=926,547

	CISGENDER n=922,693		TRANSGENDER n=3,854		TOTAL N=926,547		F
	%	95% CI	%	95% CI	%	95% CI	P-VALUE
Household poverty	n=758,770		n=3,217		n=761,987		
Not in poverty	82.3	82.1,82.6	69.4	66.0%,72.6%	82.3%	82.0%,82.5%	<0.01
In poverty	17.7	17.4,17.9	30.6	27.4%,34.0%	17.7%	17.5%,18.0%	
Income-to-poverty ratio	n=758,770		n=3,217		n=761,987		
<100%	17.7	17.4,17.9	30.6	27.4%,34.0%	17.7%	17.5%,18.0%	<0.01
100-199%	15.5	15.3,15.7	17.6	14.9%,20.7%	15.5%	15.3%,15.7%	
200-299%	15.8	15.6,16.0	18.8	16.1%,21.7%	15.8%	15.6%,16.0%	
300%+	51.1	50.8,51.3	33.0	30.0%,36.2%	50.9%	50.7%,51.2%	
Housing	n=800,068		n=3,353		n=803,421		
Owned free & clear	25.5	25.3, 25.7	12.9	10.9, 15.4	25.4	25.2, 25.6	<0.01
Owned with mortgage or loan	44.8	44.6, 45.1	30.9	27.9, 34.1	44.7	44.5, 45.0	
Rented	28.1	27.9, 28.4	50.2	46.8, 53.6	28.3	28.1, 28.5	
Occupied without payment of rent	1.6	1.5, 1.6	6.0	4.1, 8.6	1.6	1.5, 1.7	
Housing payments (Among those who rent or pay a mortgage)	n=559,172		n=2,831		n=562,003		
Behind on rent or mortgage	10.1	9.9, 10.3	10.9	8.5, 13.8	10.1	9.9, 10.3	0.54
Caught up on rent or mortgage	89.8	89.7, 90.1	89.1	86.2, 91.5	89.9	89.7, 90.1	
Unable to pay full energy bill in past 12 months	n=791,775		n=3,297		n=795,072		
Almost every month	4.7	4.6, 4.9	7.4	5.4, 10.0	4.8	4.6, 4.9	<0.01
Some months	8.5	8.3, 8.6	10.4	8.5, 12.6	8.5	8.3, 8.6	
1 or 2 months	7.1	7.0, 7.3	11.6	9.5, 14.0	7.2	7.0, 7.3	
Never	79.6	79.4, 79.8	70.7	67.3, 73.8	79.6	79.4, 79.8	
Difficulty with household expenses past 7 days	n=880,250		n= 3,672		n=883,922		
Not at all or a little difficult	68.3	68.1, 68.5	50.0	46.7, 53.3	68.2	68.0, 68.4	<0.01
Very or somewhat difficult	31.7	31.5,31.9	50.0	46.7, 53.3	31.8	31.6, 32.0	

	CISGENDER n=922,693		TRANSGENDER n=3,854		TOTAL N=926,547		F
	%	95% CI	%	95% CI	%	95% CI	P-VALUE
Household employment income loss past 4 weeks	n=922,693		n=3,854		N=926,547		
Yes	15.2	15.1, 15.4	22.1	19.6, 24.9	15.3	15.1, 15.5	<0.01
No	84.8	84.6, 84.9	77.9	75.1, 80.4	84.7	84.5, 84.9	

Note: Weighted column percentages. CI: Confidence Interval. N's vary due to missingness unless otherwise noted.

Table A4. Employment experiences of transgender and cisgender respondents to the Household Pulse Survey, July 21, 2021 to August 8, 2022 (Weeks 34-48), among those in the workforce, N=566,054

	CISGENDER n=563,370		TRANSGENDER n=2,684		TOTAL N=566,054		F
	%	95% CI	%	95% CI	%	95% CI	P-VALUE
Any work in the past 7 days (Among those in the workforce)	n=563,370		n=2,684		N=566,054		
Yes, worked in past 7 days	94.6	94.4, 94.7	91.9	89.3, 93.9	94.5	94.4, 94.7	<0.01
No, no work in past 7 days	5.4	5.3, 5.6	8.1	6.1, 10.7	5.5	5.3, 5.6	
Worked onsite at a workplace past 7 days† (Among those in the workforce)	n=444,963		n=2,018		n=446,981		
Yes	77.2	77.0, 77.5	78.9	75.5, 82.0	77.3	77.0, 77.5	0.33
No	22.8	22.5, 23.0	21.1	18.0, 24.5	22.7	22.5, 23.0	
Teleworked or worked from home past 7 days (Among those in the workforce)	n=435,972		n=2,007		n=437,979		
Yes	42.5	42.2, 42.8	48.5	44.1, 52.9	42.5	42.2, 42.8	<0.01
No	57.5	57.2, 57.8	51.5	47.1, 55.9	57.5	57.2, 57.8	
Employment sector (Among those in workforce who were working in past 7 days)	n=534,247		n=2501		n=536,748		
Government	13.9	13.8, 14.1	10.1	7.8, 13.0	13.9	13.7, 14.1	0.06
Private company	61.7	61.4, 61.9	66.4	62.6, 70.0	61.7	61.4, 62.0	
Non-profit	9.6	9.5, 9.8	9.5	7.6, 11.7	9.6	9.5, 9.8	
Self-employed	12.1	12.0, 12.3	11.4	9.1, 14.0	12.1	11.9, 12.3	
Family business	2.6	2.5, 2.7	2.7	1.6, 4.5	2.6	2.5, 2.7	

Note: Weighted column percentages. CI: Confidence Interval. N's vary due to missingness unless otherwise noted.

†This variable only included in Census Household Pulse surveys through May 2022 (Week 45).

Table A5. Health and health care access of transgender and cisgender respondents to the Household Pulse Survey, July 21, 2021 to August 8, 2022 (Weeks 34-48), N=839,567

	CISGENDER n=836,087		TRANSGENDER n=3,480		TOTAL N=839,567		F
	%	95% CI	%	95% CI	%	95% CI	P-VALUE
Health Insurance	n=822,823		n=3,427		n=826,250		
No health insurance	7.5	7.4, 7.7	12.9	10.6, 15.5	7.6	7.4, 7.7	<0.01
Private health insurance	53.2	53.0, 53.5	55.5	52.0, 59.0	53.3	53.0, 53.5	
Public health insurance	18.6	18.4, 18.7	20.1	17.3, 23.2	18.6	18.4, 18.8	
Both public and private insurance	19.8	19.6, 20.0	10.0	8.2, 12.2	19.7	19.6, 19.9	
Other health insurance	0.9	0.8, 0.9	1.5	0.7, 3.4	0.9	0.8, 0.9	
Had in-person medical or dental appointments past 7 days†	n=707,126		n=2,863		n=709,989		
Yes	53.8	53.5, 54.0	44.7	40.9, 48.4	53.7	53.5, 54.0	<0.01
No	46.2	46.0, 46.5	55.3	51.6, 59.1	46.3	46.0, 46.5	
Health care appointment by phone or video past 4 weeks	n=820,571		n=3,419		n=823,990		
Yes	20.7	20.5, 20.9	34.3	31.2, 37.5	20.8	20.6, 21.0	<0.01
No	79.3	79.1, 79.5	65.7	62.5, 68.8	79.2	79.0, 79.4	
Psychological Distress in the past 2 weeks (PHQ4)	n=833,688		n=3,468		n=837,156		
Normal	51.8	51.6, 52.1	15.3	13.1, 17.8	51.6	51.4, 51.8	<0.01
Mild	25.0	24.8, 25.2	24.8	21.9, 27.8	25.0	24.8, 25.2	
Moderate	11.2	11.1, 11.4	18.7	16.5, 21.2	11.3	11.1, 11.4	
Severe	11.9	11.7, 12.1	41.2	37.8, 44.7	12.1	11.9, 12.3	
Possible Anxiety (PHQ4)	n=836,087		n=3,480		N=839,567		
Normal	73.1	72.9, 73.3	34.8	31.7, 38.0	72.8	72.6, 73.0	<0.01
Suggests anxiety	26.9	26.7, 27.1	65.2	62.0, 68.3	27.2	27.0, 27.4	
Possible Depression (PHQ4)	n=835,450		n=3,473		n=838,923		
Normal	78.5	78.3, 78.7	42.4	39.2, 45.8	78.2	78.0, 78.4	<0.01
Suggests depression	21.5	21.3, 21.7	57.6	54.2, 60.8	21.8	21.6, 22.0	

Note: Weighted column percentages. CI: Confidence Interval. N's vary due to missingness unless otherwise noted.

†This variable only included in Census Household Pulse surveys through May 2022 (Week 45).

Table A6. COVID illness and vaccine uptake among transgender and cisgender respondents to the Household Pulse Survey, July 21, 2021 to August 8, 2022 (Weeks 34-48), N=940,752

	CISGENDER n=936,846		TRANSGENDER n=3,906		TOTAL N=940,752		F
	%	95% CI	%	95% CI	%	95% CI	P-VALUE
Doctor/health care provider told you had COVID†	n=768,062		n=3,066		n=771,128		
Yes	21.4	21.2, 21.6	18.1	15.5, 21.1	21.4	21.2, 21.6	<0.01
No	77.8	77.6, 78.0	77.2	73.7, 80.4	77.8	77.6, 78.0	
Not sure	0.8	0.7, 0.8	4.7	2.8, 7.8	0.8	0.8, 0.9	
Received a COVID-19 vaccine (1 or more doses)	n=936,846		n=3,906		N=940,752		
Yes	83.9	83.7, 84.1	88.2	85.7, 90.3	83.9	83.7, 84.1	<0.01
No	16.1	15.9, 16.3	11.8	9.7, 14.3	16.1	15.9, 16.3	
Once a vaccine to prevent COVID-19 is available to you, would you...† (Among those who had not received a vaccine)	n=83,628		n=290		n=83,918		
Definitely will get vaccine	6.7	6.3, 7.1	11.5	6.7, 18.9	6.7	6.3, 7.1	0.02
Probably get vaccine	8.9	8.5, 9.3	16.2	9.4, 26.4	8.9	8.5, 9.3	
Unsure about getting a vaccine	17.4	16.9, 17.9	10.4	5.2, 19.7	17.4	16.8, 17.9	
Probably NOT get a vaccine	19.0	18.5, 19.6	13.0	7.7, 21.2	19.0	18.5, 19.5	
Definitely NOT get a vaccine	48.0	47.3, 48.7	49.0	37.4, 60.6	48.0	47.4, 48.7	
Reasons for reluctance about receiving the vaccine or all doses of it. † Check all that apply (Among those who have not gotten a vaccine and who did not respond that they would 'definitely' get one once available.)	n=78,775		n=266		n=79,041		
I am concerned about possible side effects of a COVID-19 vaccine	54.8	54.1, 55.5	40.9	29.6, 53.2	54.7	54.0, 55.4	0.03
I don't know if a COVID-19 vaccine will protect me	24.9	24.3, 25.6	31.7	19.7, 46.7	25.0	24.4, 25.6	0.31
I don't believe I need a COVID-19 vaccine	31.8	31.1, 32.4	34.5	24.1, 46.7	31.8	31.1, 32.5	0.63
My doctor has not recommended it	9.0	8.6, 9.4	11.7	5.7, 22.5	9.0	8.6, 9.4	0.46
I plan to wait and see if it is safe and may get it later	31.5	30.8, 32.1	28.3	18.4, 40.7	31.4	30.8, 32.1	0.59
I am concerned about the cost of a COVID-19 vaccine	2.3	2.1, 2.5	8.3	3.7, 17.5	2.3	2.1, 2.6	<0.01

	CISGENDER n=936,846		TRANSGENDER n=3,906		TOTAL N=940,752		F
	%	95% CI	%	95% CI	%	95% CI	P-VALUE
Reasons for reluctance about receiving the vaccine or all doses of it. † Check all that apply (<i>Among those who have not gotten a vaccine and who did not respond that they would 'definitely' get one once available.</i>)	n=78,775		n=266		n=79,041		
I don't trust COVID-19 vaccines	44.4	43.7, 45.1	35.4	25.1, 47.2	44.4	43.7, 45.1	0.13
I don't trust the government	36.6	36.0, 37.3	46.6	34.4, 59.2	36.7	36.0, 37.4	0.11
I don't think COVID-19 is that big of a threat	22.2	21.7, 22.8	23.3	15.3, 33.8	22.2	21.7, 22.8	0.83
It's hard for me to get a COVID-19 vaccine	2.0	1.8, 2.2	11.7	6.1, 21.2	2.0	1.8, 2.3	<0.01
Other reason	21.8	21.2, 22.3	20.7	13.2, 31.0	21.8	21.2, 22.3	0.82

Note: Weighted column percentages. CI: Confidence Interval. N's vary due to missingness unless otherwise noted.

†This variable only included in Census Household Pulse surveys through May 2022 (Week 45).

Table A7. Age-adjusted odds ratios for transgender people compared to cisgender people

	OR	95%CI	P-VALUE
No work in the past 7 days (<i>Among respondents in the workforce</i>) n=566,241			
Transgender	2.22	1.60, 3.07	<0.01
Age	1.00	1.00, 1.00	0.37
Household poverty n=762,158			
Transgender	2.03	1.73, 2.37	<0.01
Age	0.99	0.99, 0.99	<0.01
No college degree vs. all other educational attainment n=945,263			
Transgender	1.60	1.43, 1.78	<0.01
Age	1.00	1.0, 1.0	0.51
No high school degree vs. all other educational attainment n=945,263			
Transgender	3.55	2.90, 4.35	<0.01
Age	1.00	1.00, 1.00	0.06

	OR	95%CI	P-VALUE
Severe psychological distress n=837,389			
Transgender	3.77	3.26, 4.37	<0.01
Age	0.97	0.97, 0.97	<0.01
Anxiety n=839,800			
Transgender	3.64	3.15, 4.21	<0.01
Age	0.97	0.97, 0.97	<0.01
Depression n=839,157			
Transgender	3.87	3.35, 4.46	<0.01
Age	0.97	0.97, 0.97	<0.01

Note: Weighted logistic regression. OR: Odds Ratio. SE: Standard Error. CI: Confidence Interval. Age measured in years (continuous variable). Reference group is cisgender.

Table A8. Select economic and health indicators of transgender and cisgender respondents to the Household Pulse Survey by time period July 21, 2021 to August 8, 2022 (Weeks 34-48)

	CISGENDER		TRANSGENDER		TOTAL		F
	%	95% CI	%	95% CI	%	95% CI	P-VALUE
Not working in the past week (Among those in the workforce)							
July - August 2021 n=118,155	7.3	6.9, 7.7	7.8	4.8, 12.5	7.3	6.9, 7.7	0.80
Sept - Oct 2021 n=104,894	6.2	5.9, 6.6	10.2	6.3, 16.2	6.2	5.9, 6.6	0.04
Dec 2021 - Feb 2022 n=124,652	5.2	4.9, 5.5	6.5	3.7, 11.2	5.2	4.9, 5.5	0.43
March - May 2022 n=121,493	4.4	4.1, 4.7	11.1	5.6, 20.6	4.5	4.2, 4.8	0.01
June - August 2022 n=96,860	4.1	3.8, 4.4	5.5	2.8, 10.5	4.1	3.8, 4.5	0.39
Poverty							
July - August 2021 n=103,252	16.5	15.9, 17.1	27.6	20.2, 36.6	16.5	16.0, 17.1	<0.01
Sept - Oct 2021 n=102,881	16.1	15.5, 16.7	28.5	21.2, 37.2	16.1	15.6, 16.7	<0.01
Dec 2021 - Feb 2022 n=90,476	16.2	15.6, 16.8	31.0	22.9, 40.3	16.3	15.7, 16.9	<0.01
March - May 2022 n=110,658	17.3	16.7, 17.8	25.0	18.6, 32.8	17.3	16.8, 17.9	0.02
June - August 2022 n=126,155	17.1	16.5, 17.6	32.0	23.9, 41.2	17.2	16.6, 17.8	<0.01

	CISGENDER		TRANSGENDER		TOTAL		F
	%	95% CI	%	95% CI	%	95% CI	P-VALUE
Severe psychological distress							
July - August 2021 n=114,941	11.6	11.2, 12.0	47.7	37.5, 58.1	11.8	11.4, 12.2	<0.01
Sept - Oct 2021 n=114,593	12.6	12.1, 13.0	37.7	30.2, 45.9	12.7	12.2, 13.2	<0.01
Dec 2021 - Feb 2022 n=100,696	11.8	11.4, 12.3	47.7	37.0, 58.6	12.1	11.6, 12.5	<0.01
March - May 2022 n=119,795	12.0	11.6, 12.4	38.4	30.0, 47.6	12.2	11.8, 12.6	<0.01
June - August 2022 n=137,917	11.7	11.3, 12.0	36.2	28.7, 44.4	11.8	11.5, 12.2	<0.01
Possible anxiety							
July - August 2021 n=115,257	26.2	25.7, 26.8	71.1	63.1, 78.0	26.5	25.9, 27.1	<0.01
Sept - Oct 2021 n=114,902	27.4	26.9, 28.0	59.1	50.7, 67.0	27.6	27.0, 28.2	<0.01
Dec 2021 - Feb 2022 n=101,002	27.0	26.4, 27.6	63.4	52.9, 72.8	27.2	26.6, 27.8	<0.01
March - May 2022 n=120,124	26.7	26.2, 27.3	58.7	48.7, 68.0	26.9	26.4, 27.5	<0.01
June - August 2022 n=138,334	26.6	26.1, 27.1	65.9	58.5, 72.5	26.9	26.4, 27.4	<0.01
Possible depression							
July - August 2021 n=115,171	21.2	20.7, 21.7	62.6	53.6, 70.9	21.4	20.9, 22.0	<0.01
Sept - Oct 2021 n=114,809	21.9	21.3, 22.4	54.7	46.5, 62.7	22.0	21.5, 22.6	<0.01
Dec 2021 - Feb 2022 n=100,917	21.5	21.0, 22.1	55.4	44.7, 65.6	21.7	21.2, 22.3	<0.01
March - May 2022 n=120,015	21.6	21.1, 22.1	53.8	44.3, 63.1	21.9	21.3, 22.4	<0.01
June - August 2022 n=138,207	21.3	20.9, 21.8	56.2	48.2, 63.9	21.6	21.1, 22.1	<0.01

Note: Bold p-values are statistically significant. Ns vary due to different sample sizes reached in different time periods, as well as missingness, and subgroups where noted. CI: Confidence interval.