Long Social Distancing

Jose Maria Barrero (ITAM Business)

Nicholas Bloom (Stanford University)

Steven J. Davis (University of Chicago & Hoover Institution)

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Research Questions

- **What are the long-term consequences of the COVID-19 pandemic on US labor markets?**

- **<u>Today</u>: How are *<u>fears</u>* of COVID (and other infectious disease) impacting people's decision to seek work or not?**

Motivation:
Many anecdotal reports of persistent effects of COVID on the labor market

ECONOMY

Covid's Drag on the Workforce Proves Persistent. 'It Sets Us Back.'

Virus still keeping millions out of work while reducing productivity and hours of millions more, disrupting business operations and raising costs

By Gwynn Guilford Follow *and Lauren Weber* Follow

Nov. 7, 2022 9:39 am ET

This Paper

1. **Use our monthly *Survey of Working Arrangements and Attitudes* to uncover a *Long Social Distancing* phenomenon:**
   - **10%** of US residents plan **no return** to pre-COVID activities
   - **45%** plan a **limited return**
   - **20%** of those out of the labor force cite **infection fears**

2. **Quantify implied drag of Long Social Distancing on *labor force participation*, using:**
   - Survey-based self-assessments
   - Regression models

3. **Consider broader implications for potential output, college wage premium**

Survey Methodology

Long Social Distancing

Labor Force Participation

Effect on Potential Output

College Wage Premium

Survey of Working Arrangements and Attitudes

- Monthly online survey since May 2020, >100,000 observations
- **Core sample for this paper: February to July 2022 waves**
- **Target population:** U.S. residents, 20-64, who earned ≥ $10K in 2019. From January to March 2022, we transitioned to earned ≥ $10K in prior year.
- Fielded by market research firms (e.g., IncQuery) that rely on wholesale aggregators (e.g., Lucid) for lists of potential survey participants.
- After dropping "speeders" (~16% of sample), we re-weight to match 2010-2019 CPS worker shares in age-sex-education-earnings cells. Dropping those who fail attention checks (roughly another 12%) sharpens some results.
- Median response time: 7 to 12 minutes, after dropping speeders
- Results, micro data, survey instruments, and more at www.WFHresearch.com.

Representativeness

- We focus on persons who exhibit some attachment to the workforce, as evidenced by prior earnings.
- **No respondents are recruited based on an interest in our topics.**
- Respondents take the survey using a computer, smartphone, iPad or like device ⇒ **we miss people who never use such devices.**
- Before re-weighting, the SWAA under samples the less educated, particularly those who did not finish high school.
- Even after re-weighting, we may over sample those who are more tech and internet savvy, especially among the least educated.

See “Why Working from Home Will Stick,” by Barrero, Bloom and Davis (2021) for more information about the SWAA.

The key survey question (Jun ‘22 and later version)

As the COVID-19 pandemic ends, which of the following would best fit your views on social distancing?

- ○ Complete return to pre-COVID activities
- ○ Substantial return to pre-COVID activities, but I would still be wary of things like riding the subway or getting into a crowded elevator
- ○ Partial return to pre-COVID activities, but I would be wary of many activities like eating out or using Uber, Lyft or other ride-hailing services
- ○ No return to pre-COVID activities, as I will continue to social distance

Continue

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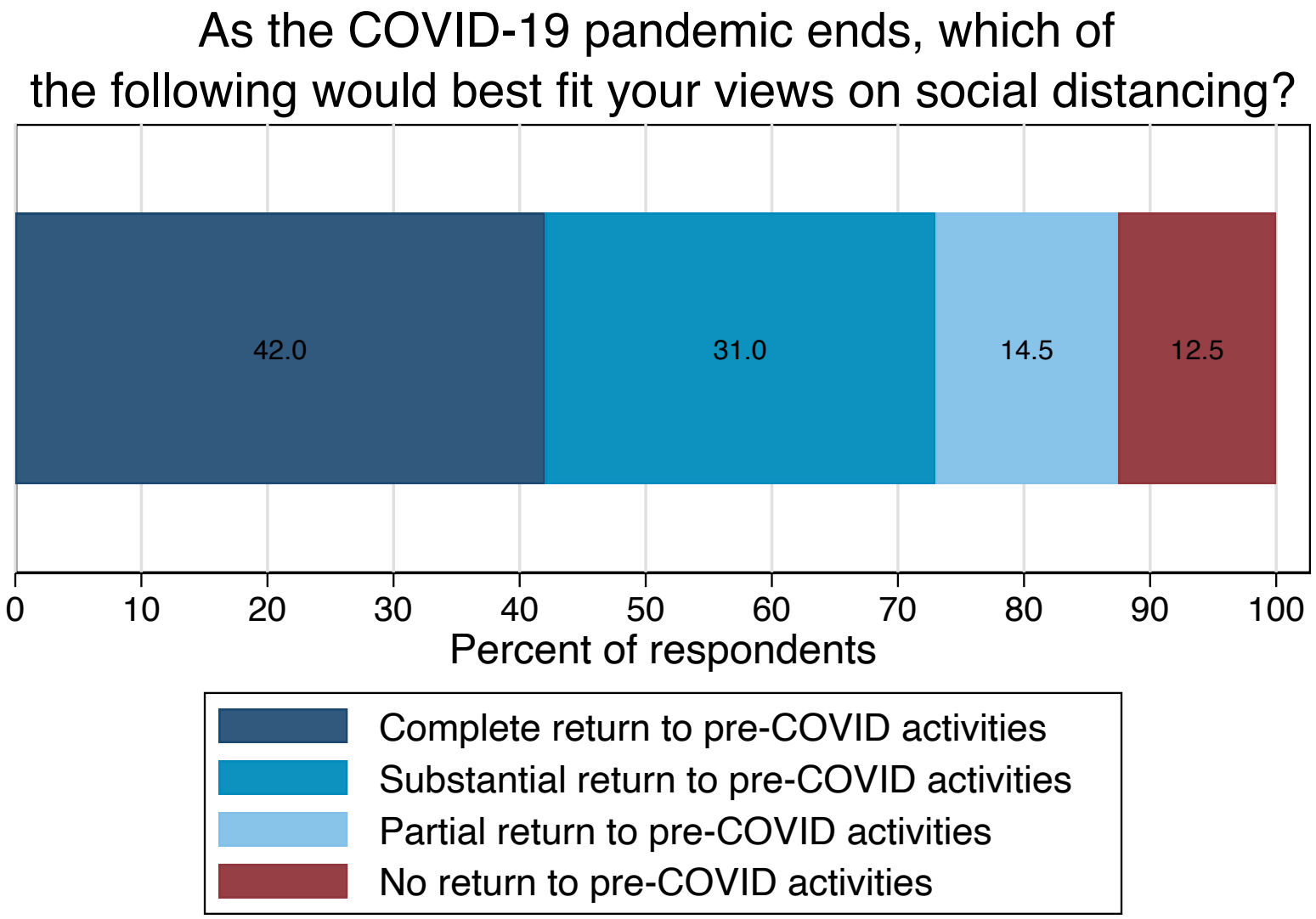
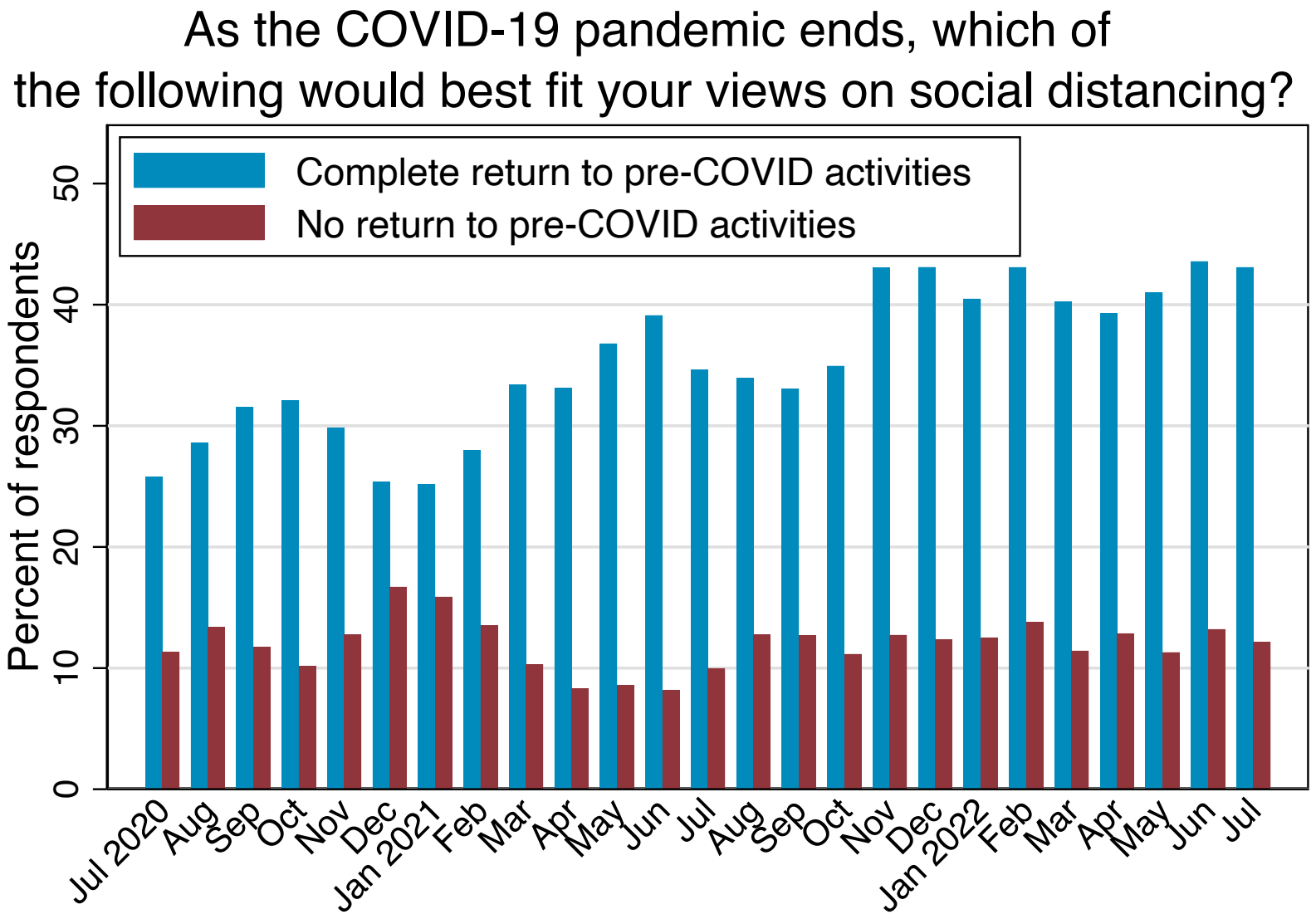
Long Social Distancing:
58% plan *incomplete return* to pre-COVID activities.



Notes: The title of the chart shows the latest version of the survey question underlying the data. The sample includes respondents from the February 2022 to July 2022 SWAA waves. The SWAA samples US residents aged 20 to 64 who earned $10,000 or more in 2019 or 2021. (In February we randomized across the two years and asked about 2021 starting with the March survey.)

N = 27,632.

Strong-form Long Social Distancing has remained above 10% since July 2021



Notes: The title of the chart shows the latest version of the survey question underlying the data. In 2020 we initally asked respondents about the possibilities of vaccine discovery, then vaccine approval and wide availability, and then in 2021 to a scenario when most of the population would be vaccinated. The sample includes respondents from the July 2020 to July 2022 waves of the SWAA. The SWAA samples US residents aged 20 to 64 who earned $10,000 or more in 2019 or 2021. (Starting in January 2022, we transitioned to a prior-year earnings requirement).

N = 94,355.

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SWAA Question about How Infection Concerns Affect Labor Force Status

Are worries about catching COVID or other infectious diseases a factor in your decision not to seek work at this time?

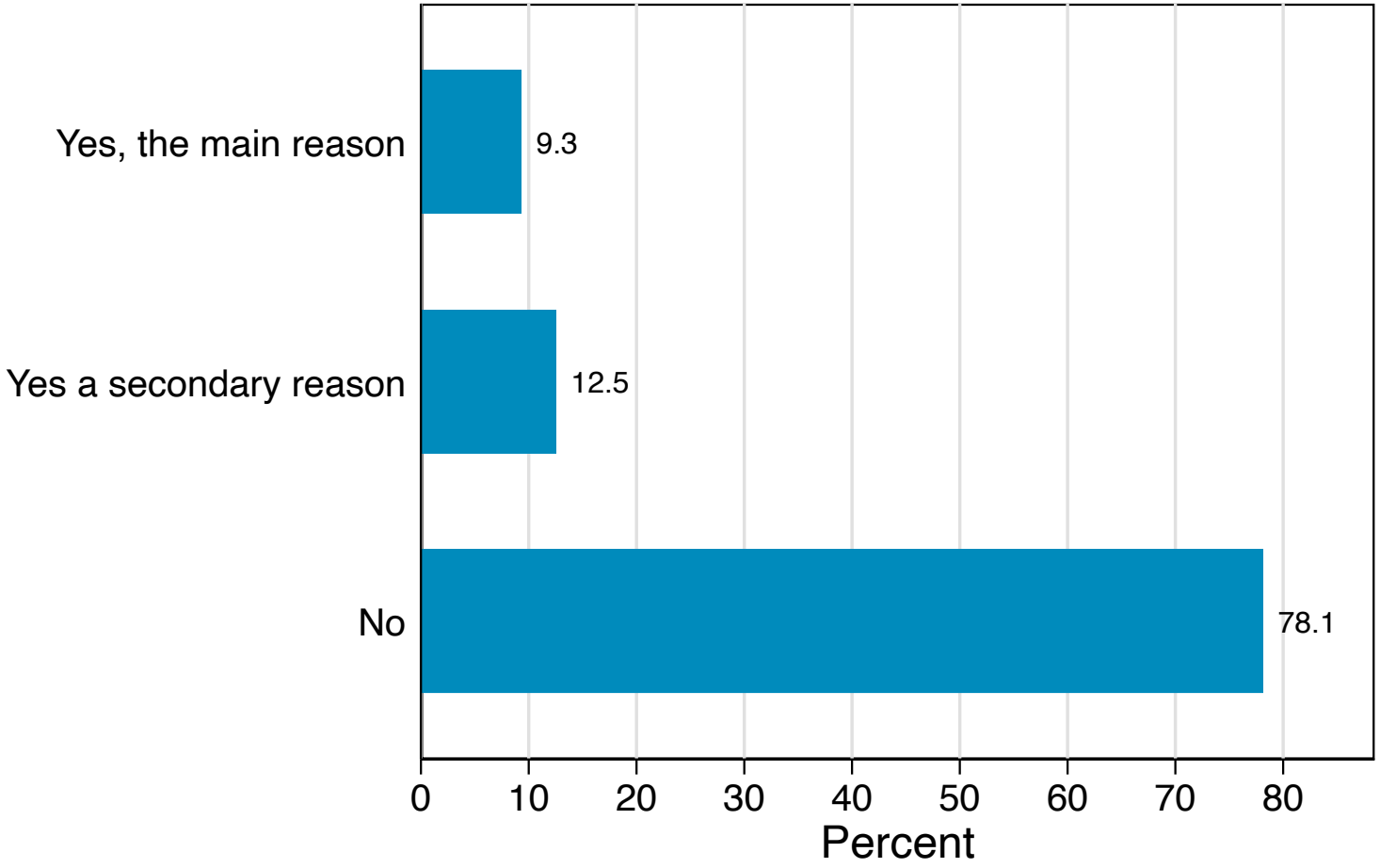
- ○ Yes, a **secondary** reason
- ○ Yes, the **main** reason
- ○ No

Continue

We put this question to persons who are **"Not working, and not looking for work"** in the week prior to the survey week.

22% of Sampled Persons Who are Neither Working Nor Seeking Work Cite Infection Concerns as a Reason

Are worries about catching COVID or other infectious diseases a factor in your decision not to seek work?



Notes: The sample includes respondents to the February and July 2022 SWAA who passed the attention check questions and indicated their working status in the week prior to the survey was "Not working, and not looking for work". The SWAA samples US residents aged 20 to 64 who earned $10,000 or more in 2019. In February and July 2022, 10.9% of all respondents were not working and not seeking work.

N = 3,081.

Quantifying the Effect of Long Social Distancing on LF Status

The previous two charts suggest that Long Social Distancing **lowers labor force participation.**

We use our survey data – and **two distinct empirical methods** – to quantify the effects of Long Social Distancing on labor force participation:

1. **Accounting exercises** that rely on *self-assessed reasons* for not participating in the labor force.
2. **Regression models** that relate labor force status to individual-level social distancing intentions.

Concerns About Infection Risk Cut LF participation by 2.0 p.p. in Feb.-July 2022

Question: Are worries about catching COVID or other infectious diseases a factor in your decision not to seek work at this time?	(1) Percent of Those Currently Out of the Labor Force	(2) Percent of full sample	(3) Percent of non-participation attributed to infection worries	(4) Implied Drag on LF Participation Rate (ppts)
Yes, the main reason	9.3	1.2	100	1.2 (0.07)
Yes, a secondary reason	12.5	1.6	50	0.8 (0.04)
No	78.1	10.2	0	0.0
Does not apply: currently working or unemployed	-	86.9	-	-
			Total drag =	**2.0** **(0.08)**
Observations	**2,739**	**27,632**		

Notes: Column 1 assigns numerical values representing how much of a respondent's decision not to participate in the labor force comes from worries about catching COVID or other infectious diseases, as a function of their response to the survey question transcribed at the top left of the table. Column 2 shows the percent of the sample choosing each response or the percent who didn't see the question because it does not apply to them. Column 3 computes the implied drag of infection fears on labor force -participation by multiplying the coefficient from the first column with the percent/100 from the second column. Data are from the February to July 2022 SWAA waves.

Long Social Distancing Depresses labor force participation by ~2.6 p.p. from Feb-July 2022

Question: *As the COVID-19 pandemic ends, which of the following would best fit your views on social distancing?*

Dependent variable: 100 x 1(Not working and not looking for work)	**Coefficient (St. Error)**	**Percent of sample**	**Implied Drag on LF Participation Rate (ppts)**
Complete return to pre-COVID activities (baseline)	-	42.0	-
Substantial return to pre-COVID activities (avoid subway, crowded elevators)	0.4	31.0	0.1
	(0.6)		(0.2)
Partial return to pre-COVID activities (e.g. avoid eating out, taxi/ride-share)	4.1***	14.5	0.6
	(0.9)		(0.1)
No return to pre-COVID activities	15.3***	12.5	1.9
	(1.1)		(0.1)
		Total drag =	**2.6**
			(0.3)
Observations (R-squared)	27,632	(0.02)	

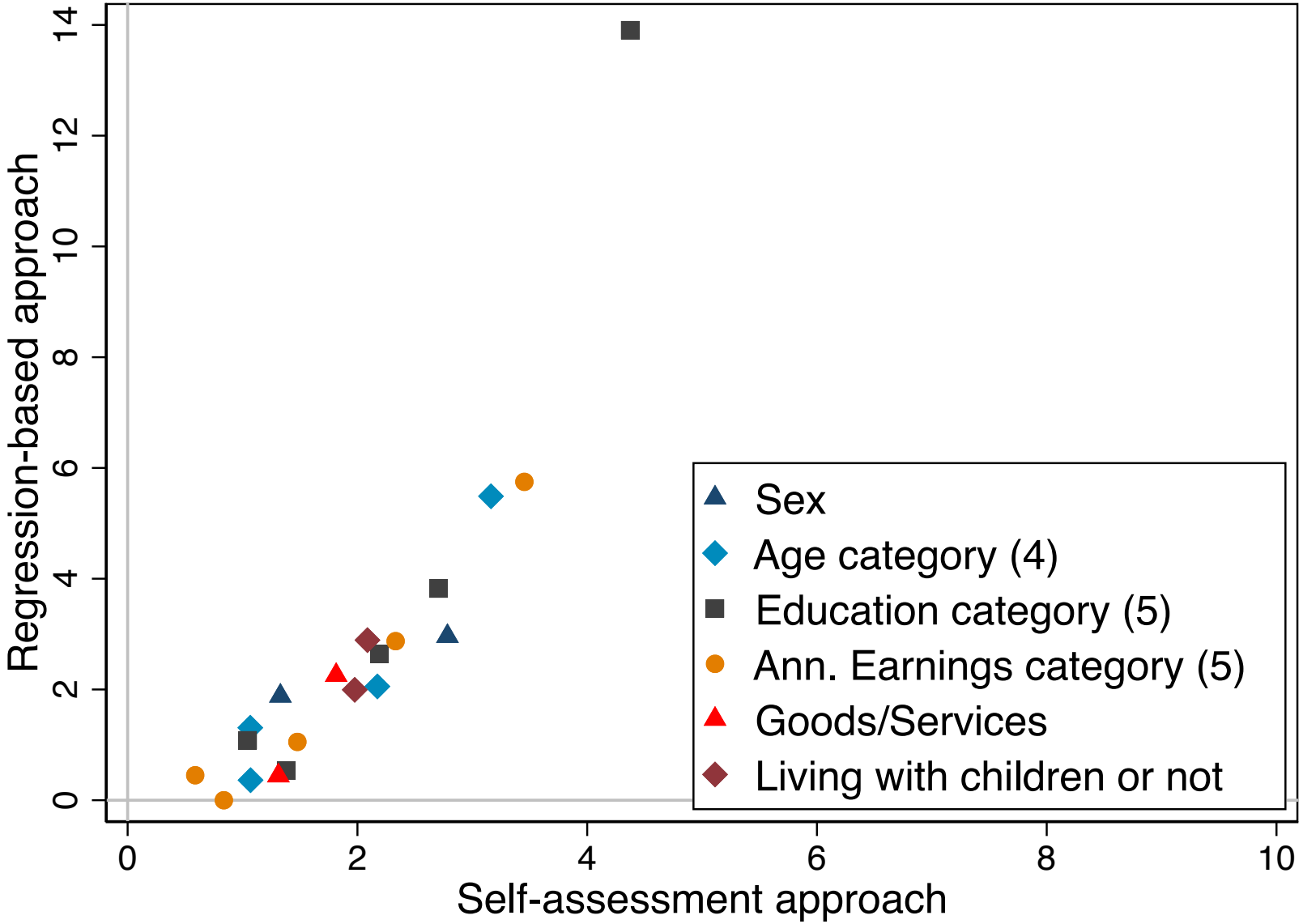
Notes: We report robust standard errors in parentheses with *** p<0.01, ** p<0.05, * p<0.1. The final column computes the implied drag of continued social distancing on labor force -participation by multiplying the coefficient from the first column with the percent/100 from the second column. We compute standard errors using the joint variance-covariance matrix of regression coefficients and sample shares via the Delta method. Data are from the February to July 2022 SWAA waves.

Long Social Distancing Depresses LF Participation by 2.4 to 2.6 p.p.

	(1)	(2)	(3)	(4)	(5)
	100 x 1(Not working and not looking for work)				
Complete return to pre-COVID activities (baseline)	-	-	-	-	-
Substantial return to pre-COVID activities (e.g. avoid subway, crowded elevators)	0.4	0.3	1.2**	0.9	1.5***
	(0.6)	(0.6)	(0.6)	(0.6)	(0.6)
Partial return to pre-COVID activities (e.g. avoid eating out, taxi/ride-share)	4.1***	3.8***	4.4***	3.8***	3.7***
	(0.9)	(0.9)	(0.8)	(0.8)	(0.8)
No return to pre-COVID activities	15.3***	15.3***	13.6***	13.0***	11.7***
	(1.1)	(1.1)	(1.1)	(1.1)	(1.0)
FE for:					
Survey wave		Y	Y	Y	Y
Age category (e.g. 20 to 29, 30 to 39, …)			Y	Y	Y
Sex				Y	Y
Educational attainment					Y
Effect of incomplete return on non-participation	**2.6**	**2.6**	**2.7**	**2.4**	**2.5**
	(0.3)	**(0.3)**	**(0.3)**	**(0.3)**	**(0.3)**
Observations	27,632	27,632	27,632	27,632	27,632
R-squared	0.02	0.03	0.10	0.10	0.12

Notes: Columns 1 to 6 run regressions with 100 x (Not working and not looking for work) as the dependent variable against responses to the question "Once the COVID-19 pandemic has ended, which of the following would best fit your views on social distancing?" and various fixed effects. We report robust standard errors in parentheses in columns 1 to 7 with *** p<0.01, ** p<0.05, * p<0.1. The row for "Effect of incomplete return on non participation" reports the dot product of the vector of coefficients for social distancing and the vector with the share of respondents corresponding to each coefficient. We compute standard errors using the joint variance-covariance matrix of regression coefficients and sample shares via the Delta method. Data are from the February to July 2022 SWAA waves.

Similar LF Drag Effects at the Group Level Across the Two Methods



Note: We fit a separate regression with 100 x **1**(Not working and not seeking work) as the dependent variable and indicators for the type of return to pre-COVID activities for each demographic group (no additional controls) to obtain the values on the vertical scale. We obtain a much weaker cross-group correlation when we restrict the slope coefficients on LSD plans to be the same for all groups. The data strongly favor the more flexible specification.

Recap: Evidence on the Long Social Distancing Drag on Labor Force Participation

Regression approach: Data from February-July 2022 on social distancing intentions

- **2.5 percentage points** (equal-weighted)
- **1.5 percentage points** (earnings-weighted)

Self-assessment approach: Data from February-July 2022 on the reason for non-participation

- **2.0 percentage points** (equal-weighted)
- **1.4 percentage points** (earnings-weighted)

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Long Social Distancing Effect on Potential Output

- Aggregate output: $Y = AK^{1/3}L^{2/3}$

- Efficiency-units formulation of the aggregate labor input L:

$$L = \int w_i l_i \, dF(i) \text{ where } l_i = \mathbf{1}(\text{Person } i \text{ is in the labor force})$$

  - Accounts for variation in hours worked per employed person.
  - Implicitly, assumes workers are paid their marginal value products, at least on average.

- $$\text{Potential Output Impact } (\%) = 100\left(\frac{2}{3}\right)\ln(1 - \text{Labor Force Drag})$$
$$= 100\left(\frac{2}{3}\right)\ln(1 - .014) = \mathbf{-0.94}\%$$

- Implies an annual GDP loss of about $250B at current prices.

Persistent effects of Long Social Distancing?

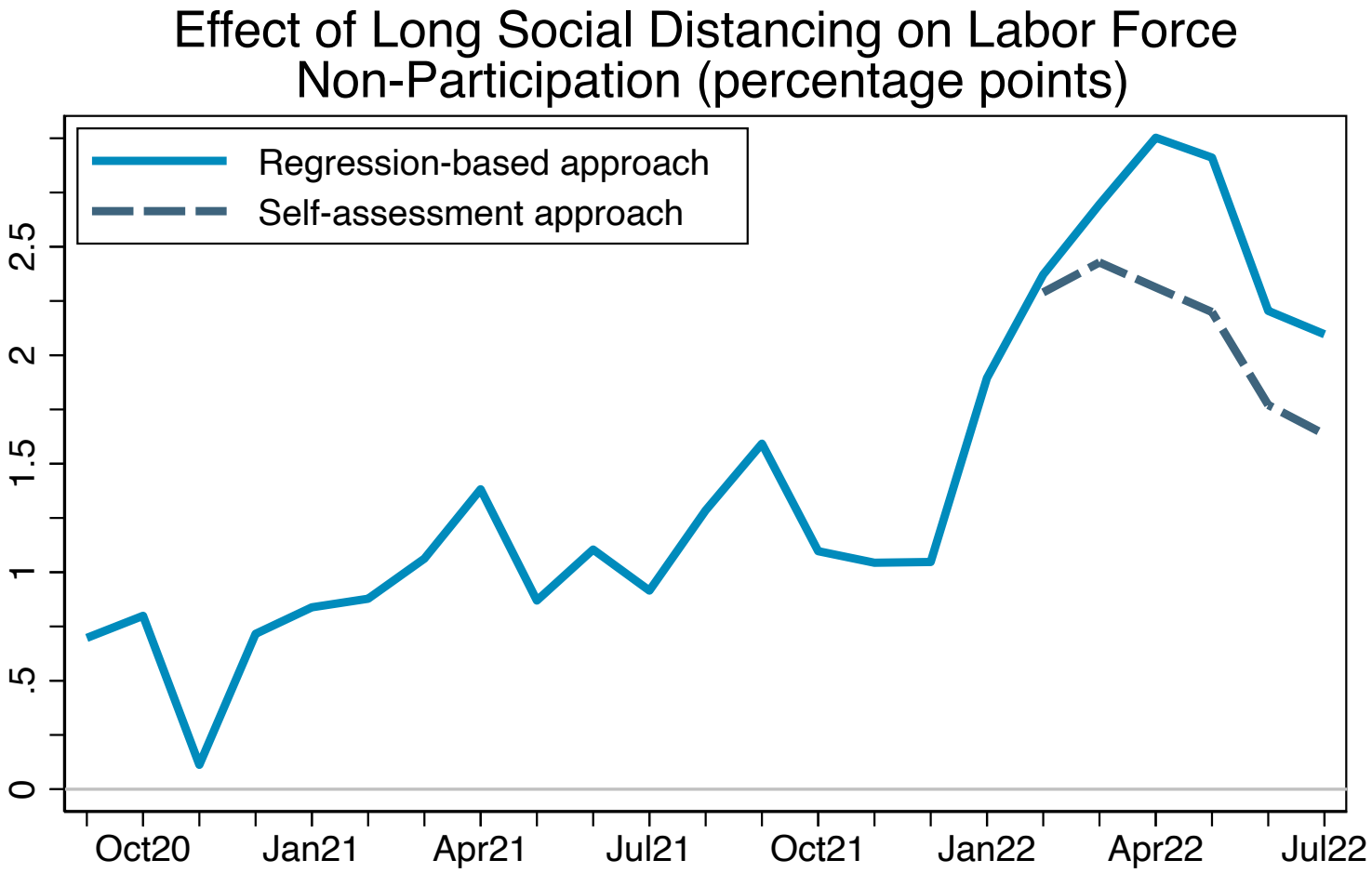
The level effect of Long Social Distancing on aggregate output will diminish if, and as:

(a) desires for Long Social Distancing dissipate, and

(b) people find ways to accommodate their desires for social distancing, e.g., via remote work.

Evidence below suggests that (a) will take a long time to play out.

Long Social Distancing Drag on Labor Force Participation Trends Up Since 2020



Note: For the regression-based approach, each monthly estimate is based on the 3 most recent months of data to that point.

Notes: In month *t* we pool data for *t-2* to *t* and regress an indicator for whether a respondent is out of the labor force (not working and not looking for work) on their responses to the question *"After the COVID-19 pandemic has ended, which of the following would best fit your views on social distancing?"* with *"Full return to pre-COVID activities"* as the baseline level, and controls for survey wave, education and age categories, industry of the current (most recent) job and occupation. We multiply the coefficients for each type of (incomplete) return to pre-COVID activities by the corresponding share of respondents and add the results to obtain the total effect of social distancing on labor force non-participation. Data are from the July 2020 to March 2022 waves of the SWAA.

N = 94,355 (regression-based approach).
N = 27,632 (self-assessment approach)

Survey Methodology

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Labor Demand Model

- $Y = A\left(aL_{HS}^{\frac{\sigma-1}{\sigma}} + bL_{C}^{\frac{\sigma-1}{\sigma}}\right)^{\frac{\sigma}{\sigma-1}}$ where HS and C index high-school (only) and college workers (i.e. those with at least some college).

- There is a competitive equilibrium in the labor market.

- Shifts in the **college wage premium** follow from shifts in the **relative supply** of HS and C workers:

$$\Delta \ln\left(\frac{w^C}{w^{HS}}\right) = -\left(\frac{1}{\sigma}\right)\Delta \ln\left(\frac{L^C}{L^{HS}}\right)$$

Quantifying the Effect on Relative Wages

- Long Social Distancing reduced LF participation of the HS group 4.8 p.p.
- LF drag effect for "some college," "4-year college" & "graduate degree" is 1.4 percentage points.
- Katz and Murphy (1992) point to $\sigma = 1.41$. Other studies use 1.5.
- Then:

$$-\left(\frac{1}{1.41}\right)\Delta \ln\left(\frac{1-.014}{1-0.048}\right) = -\left(\frac{1}{1.41}\right)(0.035) = -0.025.$$

- The self-assessment approach implies a smaller effect of -0.009.
- If σ is half as big (because few opportunities to substitute in the short run during COVID) the effects are twice as large

Conclusion

- **<u>Long Social Distancing:</u>**
  - **>10%** of SWAA respondents plan “no return to pre-COVID activities”
  - **~45%** plan less than complete return
  - Strong-form more prevalent among those with **less education, lower earnings, women, and non-employed**

- **Long Social Distancing and Infection Fears Imply a Drag on Labor Force Participation of:**
  - **<u>Regression approach</u>: 2.5 p.p** (equal-weighted) **1.5 p.p (**earnings-weighted)
  - **<u>Accounting approach</u>: 2.0 p.p.** (equal-weighted) **1.4 p.p.** (earnings-weighted)

- **A Drag on Potential Output of ~1%, Likely To Persist**

References

Allcott, Hunt, Levi Boxell, Jacob Conway, Matthew Gentzkow, Michael Thaler, and David Yang, 2020. "Polarization and public health: Partisan differences in social distancing during the coronavirus pandemic," *Journal of Public Economics,* 191 (November), 104254.

Barrero, Jose Maria, Nicholas Bloom, and Steven J. Davis, 2021. "Why working from home will stick," NBER Working Paper 28731.

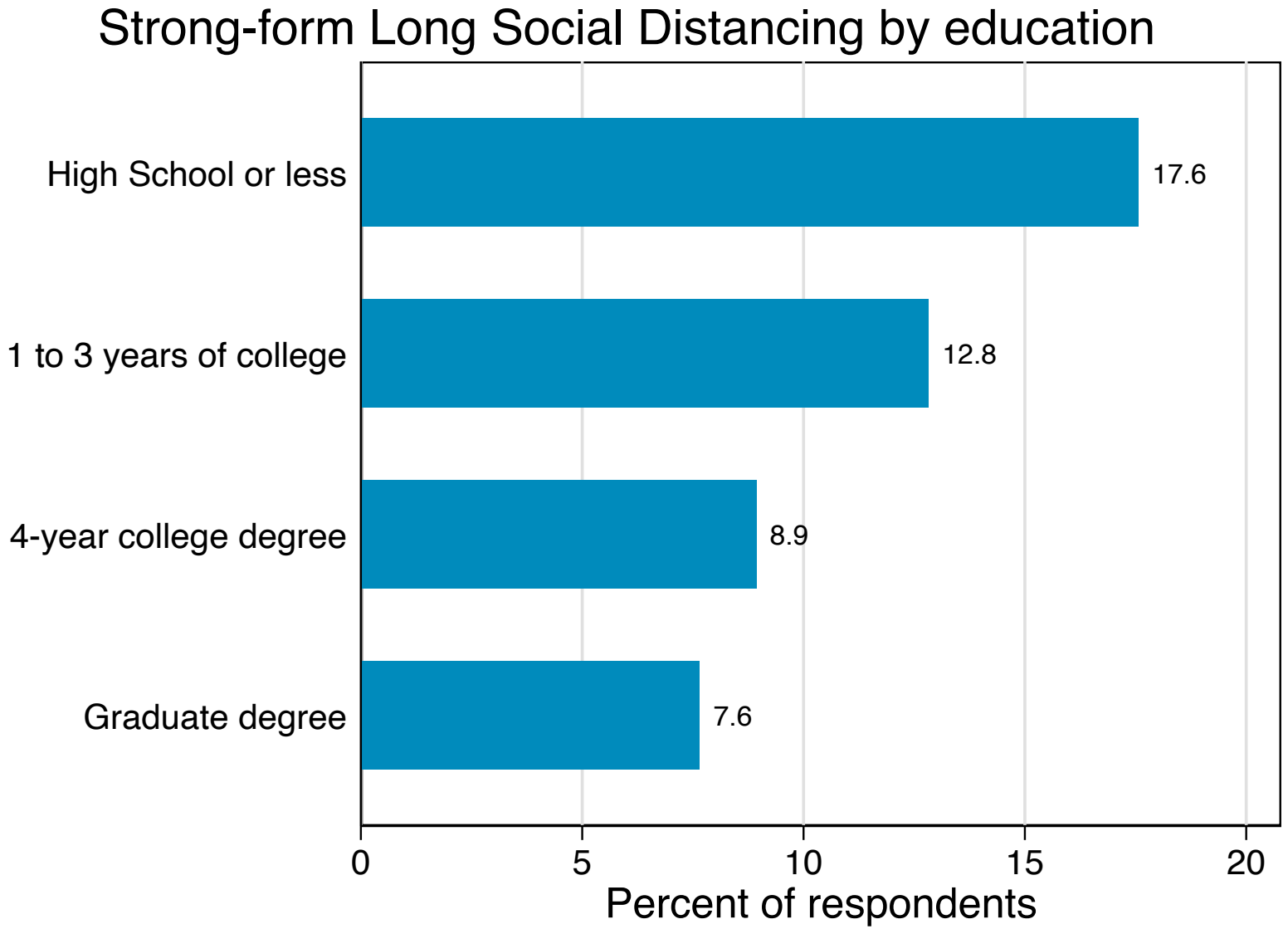
Katz, Lawrence H. and Kevin M. Murphy, 1992. "Changes in Relative Wages, 1963-1987: Supply and Demand Factors," Quarterly Journal of Economics, 107, no. 1, 35-78.

Pennycook, Gordon, Jonathon McPhetres, Bago Bence, and David G. Rand, 2021. "Beliefs about COVID-19 in Canada, the United Kingdom, and the United States: A Novel Test of Political Polarization and Motivated Reasoning," *Personality and Social Psychology,* https://doi.org/10.1177/01461672211023652.

U.S. Congressional Budget Office, 2019. "An Update to the Budget and Economic Outlook: 2019 to 2029," August. https://www.cbo.gov/system/files/2019-08/55551-CBO-outlook-update_0.pdf.

Appendix Slides

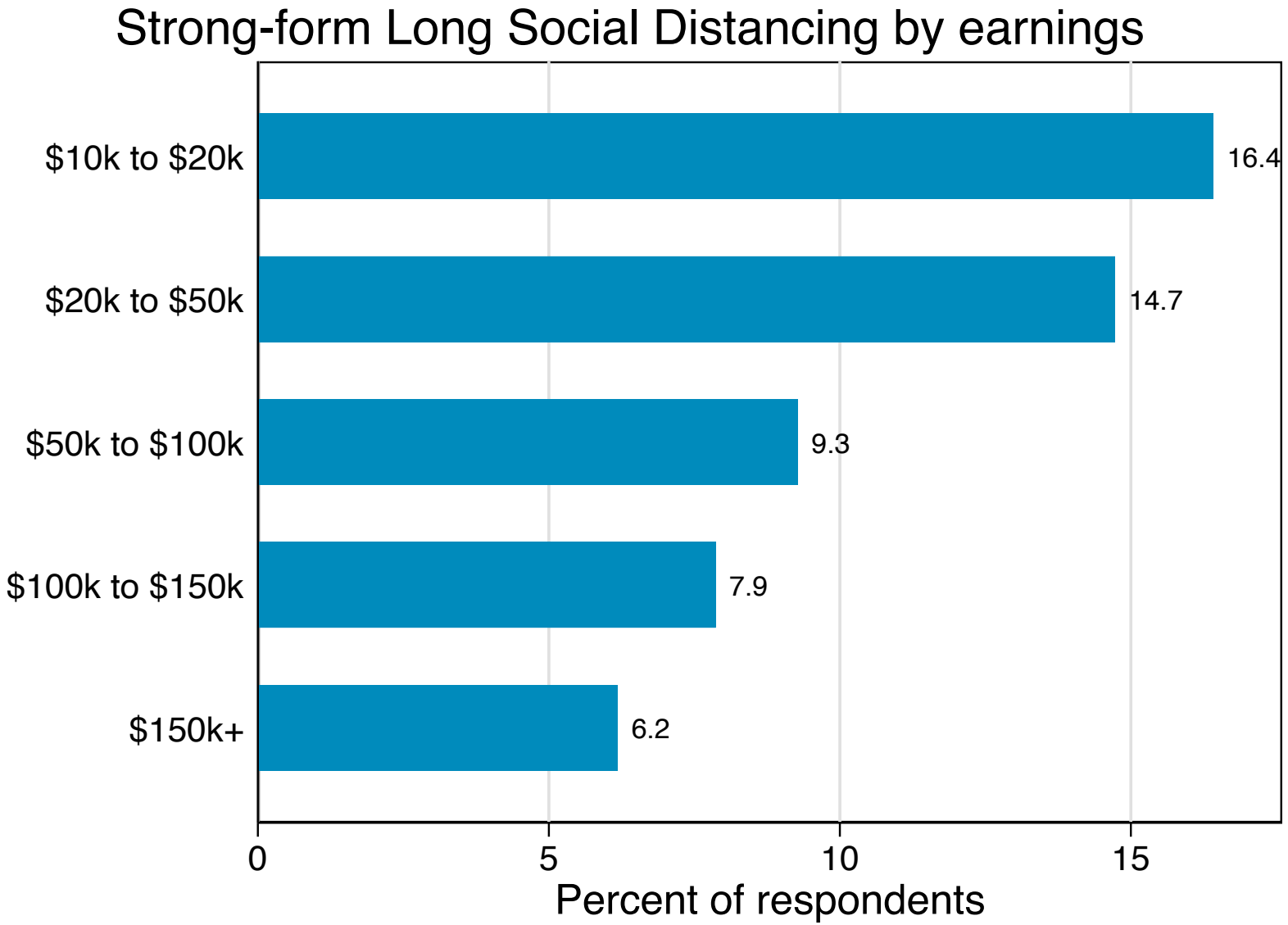
Strong-form Long Social Distancing Falls with Education



Notes: The sample includes respondents from the February to July 2022 survey waves. The SWAA samples US residents aged 20 to 64 who earned $10,000 or more.

N = 27,632.

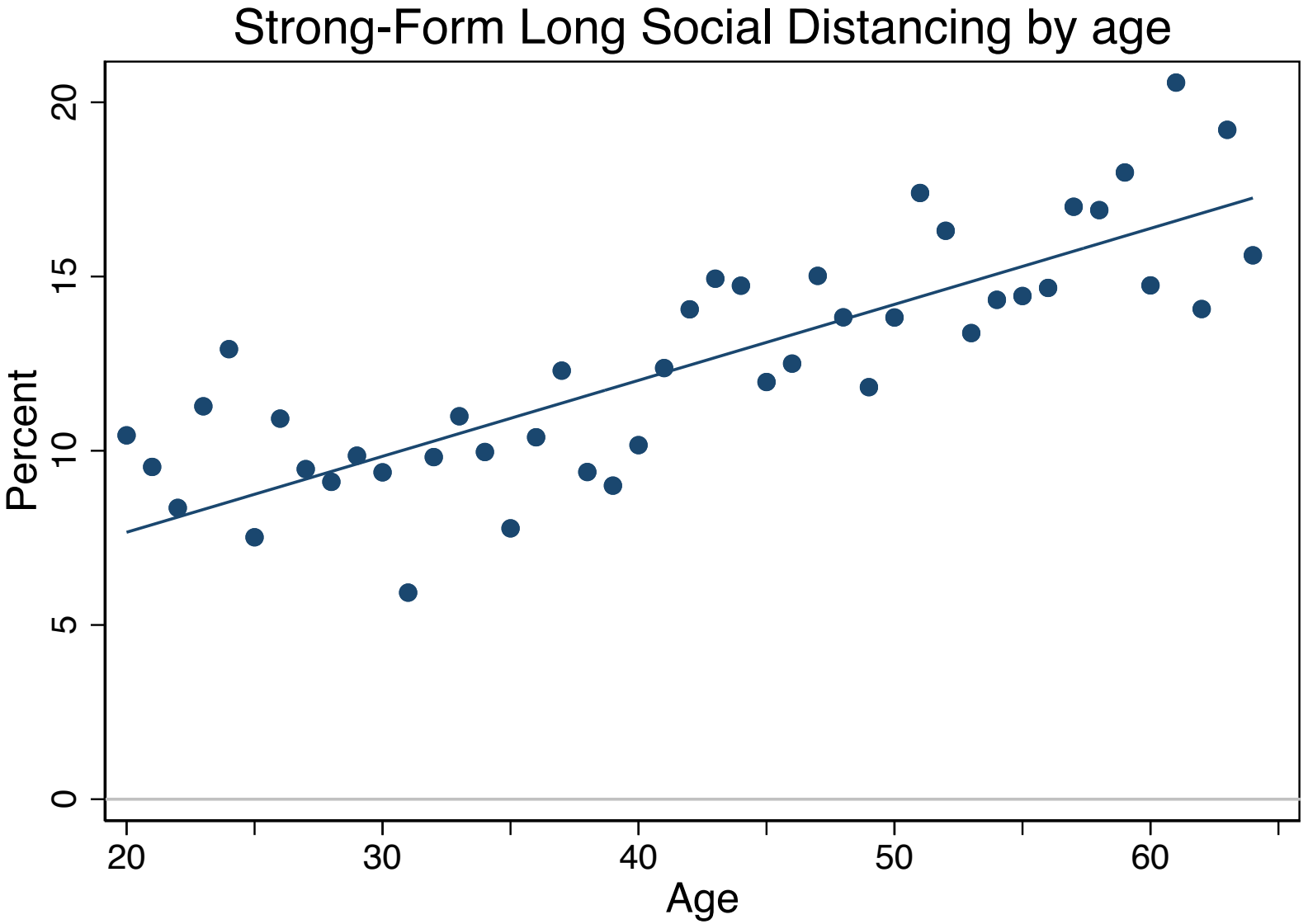
Strong-form Long Social Distancing Falls with Earnings



Notes: The sample includes respondents from the February to July 2022 survey waves. The SWAA samples US residents aged 20 to 64 who earned $10,000 or more using 2019 or 2021 earnings.

N = 27,632.

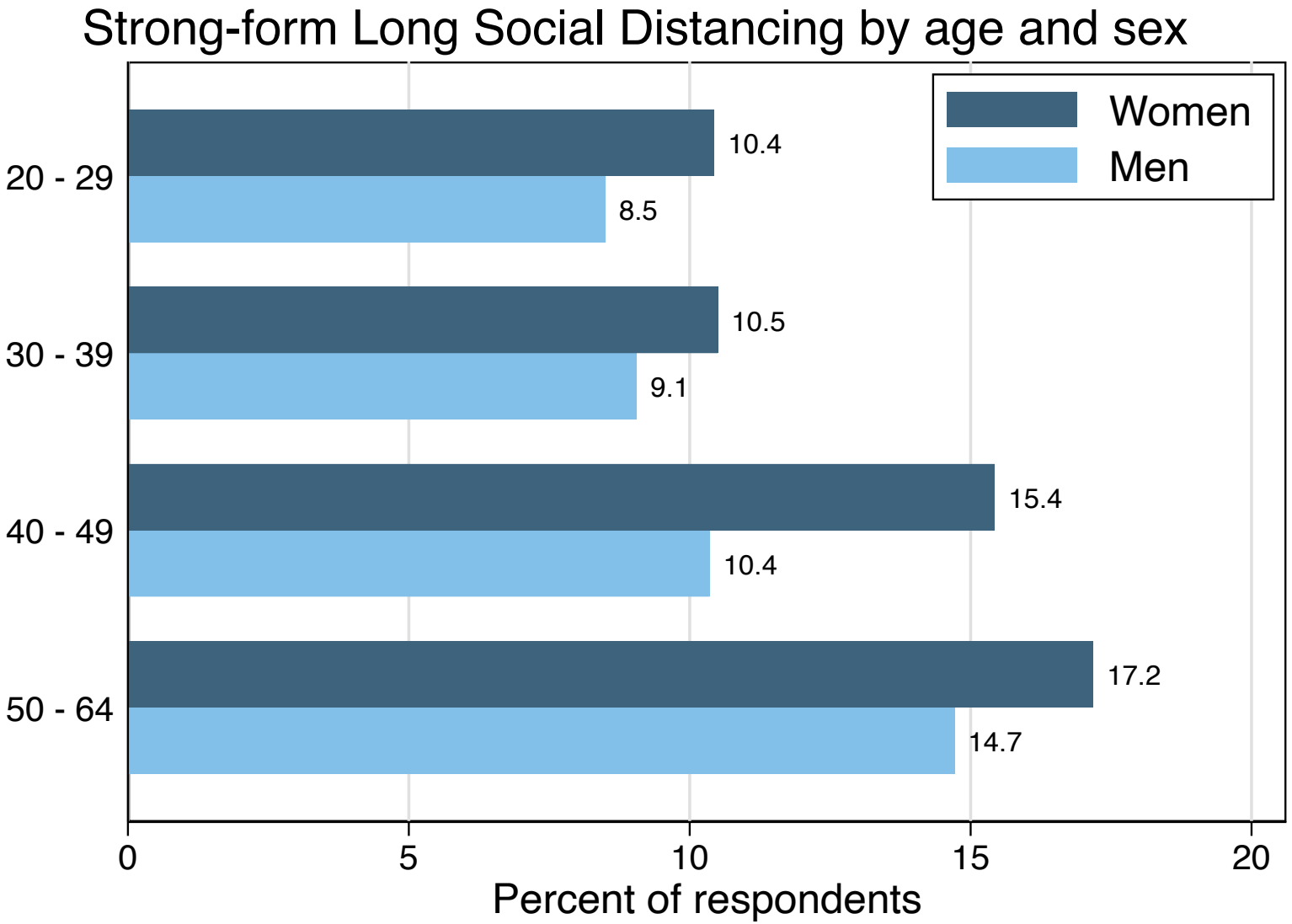
Strong-Form Long Social Distancing Rises with Age



Notes: The figure pluts the percent of respondents with a given age (e.g., 25 or 49) that report strong-form long social distancing and the line of best fit through the data. The sample includes respondents from the February to July 2022 survey waves. The SWAA samples US residents aged 20 to 64 who earned $10,000 or more using 2019 or 2021 earnings.

N = 27,632.

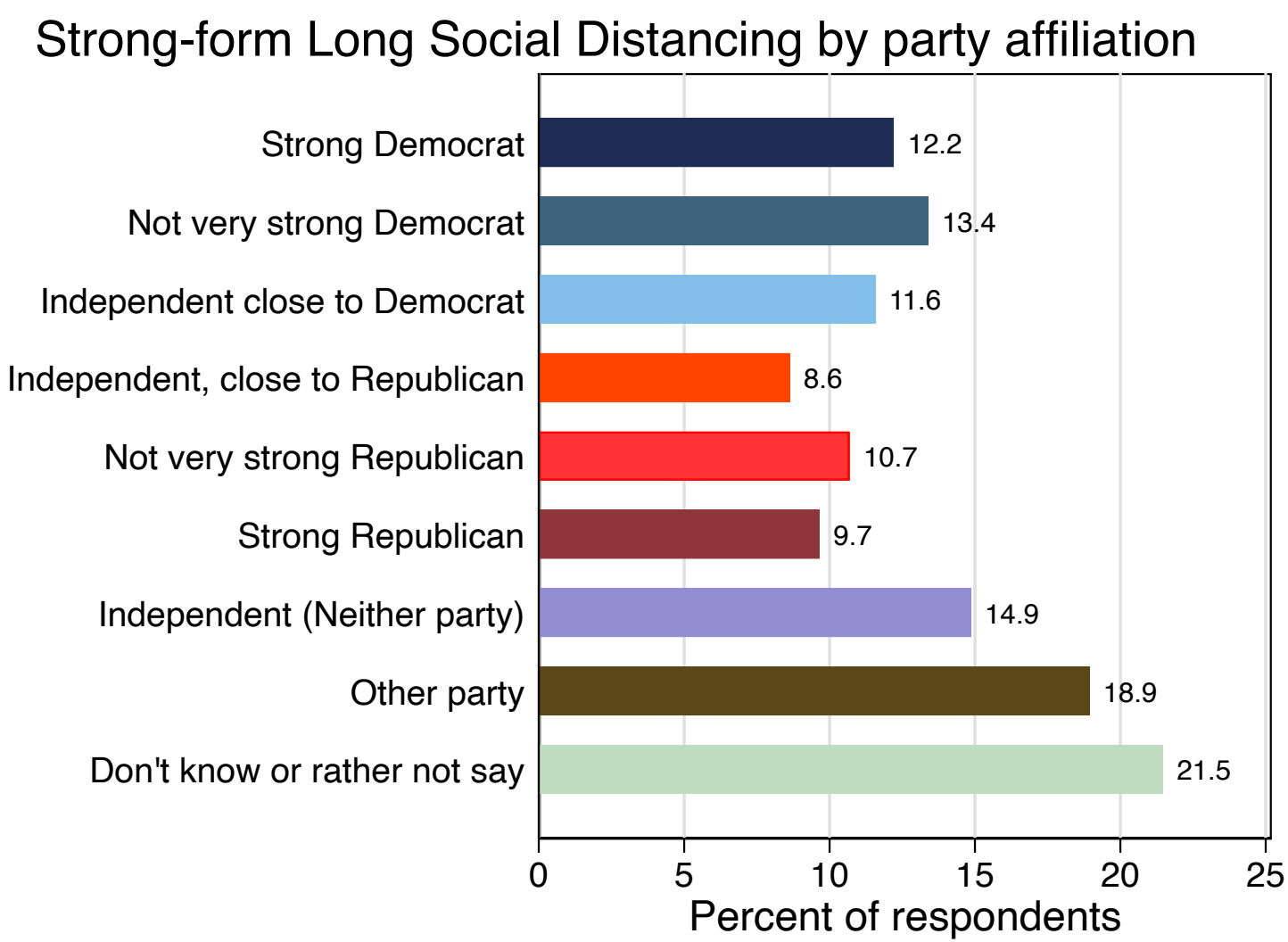
Strong-Form Long Social Distancing Is More Prevalent Among Women



Notes: The sample includes respondents from the February to July 2022 waves of the SWAA. The SWAA samples US residents aged 20 to 64 who earned $10,000 or more.

N = 27,632.

Strong-form Long Social Distancing is Less Common Among Republicans



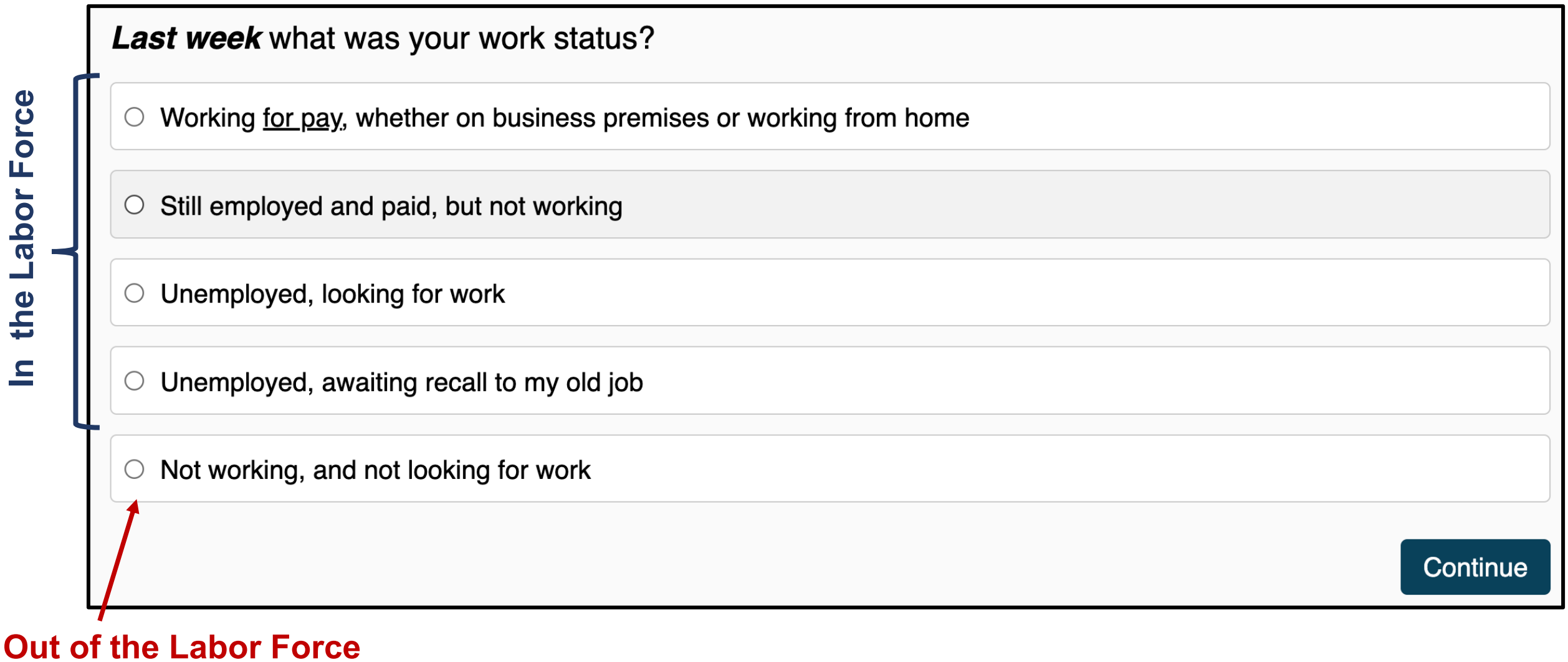
% of sample
23.2%
9.3%
8.2%
8.4%
8.5%
18.2%
15.8%
1.5%
6.9%

Notes: The sample includes respondents from the February to July 2022 survey waves. The SWAA samples US residents aged 20 to 64 who earned $10,000 or more.

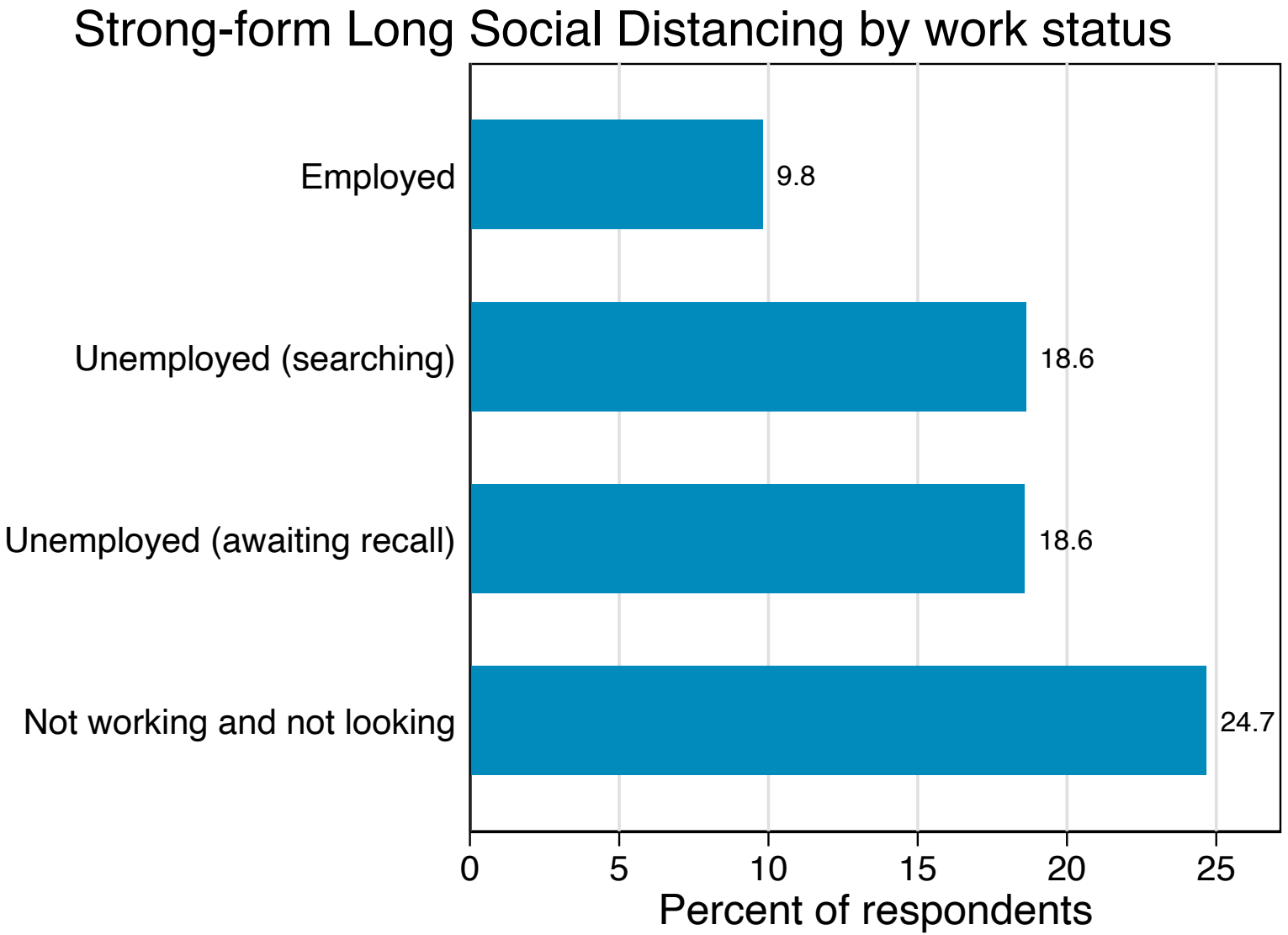
N = 27,632.

See Allcott et al. (2020) and Pennycook et al. (2021) for other evidence that COVID-related risk perceptions and *current* risk-avoidance behaviors vary by partisan leanings.

Labor Force Participation Question (current version – since Nov. 2020)



Strong-form Long Social Distancing Is More Common Among the Non-Employed



Notes: The sample includes respondents from the February to July 2022 survey waves. The SWAA samples US residents aged 20 to 64 who earned $10,000 or more in 2019.

N = 27,632.

Infection Fears Depress LF Participation by 1.3 to 2.3 p.p, Depending on How We Treat Self Assessments

Question: Are worries about catching COVID or other infectious diseases a factor in your decision not to seek work at this time?

	(1)	(2)	(3)	(4)	(5)	(6)
	Percent of labor force non-participation determined by fear of infection (alternative assignment values)					**Percent of full sample**
Yes, the main reason	100	100	100	100	90	1.2
Yes, a secondary reason	50	67	33	25	10	1.6
No	0	0	0	0	0	10.2
Does not apply: currently working or unemployed (furloughed or seeking work)	-	-	-	-	-	86.9
Effect of infection fears on non-participation	**2.0 (0.1)**	**2.3 (0.1)**	**1.8 (0.1)**	**1.6 (0.1)**	**1.3 (0.1)**	
Observations			**27,632**			

Notes: Columns 1 to 5 assign numerical values representing how much of a respondent's decision not to participate in the labor force comes from worries about catching COVID or other infectious diseases, as a function of their response to the survey question transcribed at the top left of the table. Column 6 shows the percent of the sample choosing each response or the percent who didn't see the question because it does not apply to them. The row computes the effect of infection fears on labor force non-participation as the "dot product" of the vector of values in each column with the vector containing the percent/100 in each category shown in column 6. Data are from the Feburary to July 2022 SWAA waves.

Labor Force Participation: It's Not Just about COVID-Related Concerns

Source of data: Survey of Working Arrangement and Attitudes, Wave Fielded from August 11-19

What is your main reason for not working for pay or profit?	Percent of respondents	Are worries about catching COVID or other infectious diseases a factor in your decision not to seek work at this time?	Percent of respondents
I was concerned about getting or spreading the coronavirus	2.3	Yes, the main reason	8.3
	(0.8)		(1.4)
Other responses	97.7	Other responses indicating not the main reason	91.7
	(0.8)		(1.4)
Observations	**391**		**391**

Notes: This table compares responses to the two questions shown at the top in the August 2022 wave of the Survey of Working Arrangements and Attitudes (SWAA).

Regression Results on the Full Sample Covering July 2020 to July 2021

	(1)	(2)	(3)	(4)	(5)
	100 x 1(Not working and not looking for work)				
Complete return to pre-COVID activities (baseline)	-	-	-	-	-
Substantial return to pre-COVID activities (e.g. avoid subway, crowded elevators)	-0.5*	-0.1	0.4	0.1	0.6**
	(0.3)	(0.3)	(0.3)	(0.3)	(0.3)
Partial return to pre-COVID activities (e.g. avoid eating out, taxi/ride-share)	2.2***	2.9***	2.8***	2.3***	2.4***
	(0.4)	(0.4)	(0.4)	(0.4)	(0.4)
No return to pre-COVID activities	10.4***	10.7***	9.4***	8.8***	7.9***
	(0.6)	(0.6)	(0.5)	(0.5)	(0.5)
FE for:					
Survey wave		Y	Y	Y	Y
Age category (e.g. 20 to 29, 30 to 39, …)			Y	Y	Y
Sex				Y	Y
Educational attainment					Y
Effect of incomplete return on non-participation	1.5	1.8	1.8	1.5	1.6
Observations	94,355	94,355	94,355	94,355	94,355
R-squared	0.01	0.02	0.07	0.08	0.09

Notes: Columns 1 to 6 run regressions with 100 x (Not working and not looking for work) as the dependent variable against responses to the question "Once the COVID-19 pandemic has ended, which of the following would best fit your views on social distancing?" and various fixed effects. We report robust standard errors in parentheses in columns 1 to 7 with *** p<0.01, ** p<0.05, * p<0.1. The row for "Effect of incomplete return on non participation" reports the "dot product" of the vector of coefficients for social distancing and the vector with the share of respondents corresponding to each coefficient. Data are from the July 2020 to July 2022 SWAA waves.

The Link Between Labor Force Non-Participation and Long Social Distancing is Strongest for Workers with No College

Dependent Variable	(1)	(2)	(3)	(4)	(5)
	100 x 1(Not working and not looking for work)				
Sample	**All respondents**	**No college**	**1 to 3 years of college**	**4-year college degree**	**Graduate degree**
Complete return to pre-COVID activities (baseline)	-	-	-	-	-
Substantial return to pre-COVID activities (e.g. avoid subway, crowded elevators)	1.5***	3.4**	2.0*	-0.6	0.4
	(0.6)	(1.4)	(1.1)	(0.9)	(1.2)
Partial return to pre-COVID activities (e.g. avoid eating out, taxi/ride-share)	3.7***	7.7***	2.3*	0.9	3.7*
	(0.8)	(1.8)	(1.3)	(1.3)	(1.9)
No return to pre-COVID activities	11.7***	16.5***	11.1***	7.2***	3.7
	(1.0)	(1.9)	(1.7)	(1.9)	(2.7)
FE for: survey wave, age category (e.g. 20 to 29), sex, and education categories	Y	Y	Y	Y	Y
Effect of incomplete return on non-participation	2.5	4.8	2.4	0.6	0.9
Observations	27,632	6,655	6,921	7,452	6,604
R-squared	0.12	0.14	0.09	0.10	0.08

Notes: We regress 100 x 1(Not working and not looking for work) as the dependent variable against responses to the question "Once the COVID-19 pandemic has ended, which of the following would best fit your views on social distancing?" and various fixed effects. Columns 2 to 5 split the sample by education groups. We report robust standard errors in parentheses with *** p<0.01, ** p<0.05, * p<0.1. The row for "Effect of incomplete return on non participation" reports the "dot product" of the vector of coefficients for social distancing and the vector with the share of respondents corresponding to each coefficient. Data are from the February to July 2022 SWAA waves.

Comparing the self-assessment and regression approaches by group – fixing a Feb. to July 2022 sample

Drag on Labor Force Participation Rate	Self-assessment		Regression (no controls)		Single Regression (with controls)	
	Estimate	(SE)	Group-level regressions	Single regression	Uniform coefficients	Age-category--specific coefficients
Overall	2.0	(0.1)	2.6	2.6	2.5	2.4
Women	2.8	(0.1)	3.0	2.9	2.7	2.7
Men	1.3	(0.1)	1.9	2.4	2.2	2.2
Age 20 to 29	1.1	(0.1)	0.4	2.2	2.3	0.3
Age 30 to 39	1.1	(0.1)	1.3	2.2	2.2	1.0
Age 40 to 49	2.2	(0.2)	2.1	2.7	2.5	1.8
Age 50 to 64	3.2	(0.2)	5.5	3.1	2.8	5.1
Less than high school	4.4	(0.8)	13.9	4.5	3.8	3.5
High school	2.7	(0.2)	3.8	3.2	2.8	2.9
1 to 3 years of college	2.2	(0.2)	2.6	2.7	2.5	2.5
4-year college degree	1.4	(0.1)	0.5	2.1	2.1	1.9
Graduate degree	1.0	(0.1)	1.1	1.9	2.0	2.1

Drag on Labor Force Participation Rate	Self-assessment		Regression (no controls)		Single Regression (with controls)	
	Estimate	(SE)	Group-level regressions	Single regression	Uniform coefficients	Age-category--specific coefficients
Ann. Earnings of $10 to $20K	3.5	(0.5)	5.7	3.4	3.1	2.8
Ann. Earnings of $20 to $50K	2.3	(0.1)	2.9	3.0	2.7	2.6
Ann. Earnings of $50 to $100K	1.5	(0.1)	1.1	2.1	2.1	2.2
Ann. Earnings of $100 to $150K	0.6	(0.1)	0.5	1.8	1.8	2.2
Ann. Earnings over $150K	0.8	(0.1)	0.0	1.5	1.6	2.0
Goods-producing sectors	1.3	(0.2)	0.4	2.0	2.0	1.8
Service sectors	1.8	(0.1)	2.3	2.6	2.5	2.4
No children	2.1	(0.1)	2.9	2.9	2.7	3.0
Living with children under 18	2.0	(0.1)	2.0	2.2	2.2	1.5
Red (Republican-leaning) state	2.2	(0.1)	2.8	2.8	2.6	2.5
Blue (Democratic-leaning) state	1.9	(0.1)	2.4	2.4	2.3	2.3

Notes: We compute the (equal-weighted) drag implied by Long Social Distancing on labor force participation rates for each group defined in the table and a series of methodological variations. The "Self-assessment" estimates use responses to the question *"Are worries about catching COVID or other infectious diseases a factor in your decision not to seek work at this time?"* and assigns values to the responses as on slide 24. The other columns use regressions with 100 x **1**(Not working and not seeking work) as the dependent variable and preferences for Long Social Distancing as explanatory variables, computing counterfactuals using the method on slide 20. However, the second column estimates a separate regression for each group, with no demographic controls; the third column estimates a single regression with no controls; the fourth estimates a single regression with fixed effects for survey wave, age category, sex, and education; the final column uses a single regression with age-category specific coefficients and the same set of controls.

Long Social Distancing Exerts a Much Larger Drag on the Labor Force Participation of Those with Less Education

	(1)	(2)	(3)	(4)
Dependent Variable →	**100 x 1(Not working and not looking for work)**			
Sample →	**Did Not Attend College**	**1 to 3 years of college**	**4-year college degree**	**Graduate degree**
Complete return to pre-COVID activities (baseline)	-	-	-	-
Substantial return to pre-COVID activities (e.g., avoid subway, elevators)	3.4**	2.0*	-0.6	0.4.
	(1.4)	(1.1)	(0.9)	(1.2)
Partial return to pre-COVID activities (e.g., avoid eating out, taxi/ride-share)	7.7***	2.3*	0.9	3.7*
	(1.8)	(1.3)	(1.3)	(1.9)
No return to pre-COVID activities	16.5***	11.1***	7.2***	3.7
	(1.9)	(1.7)	(1.9)	(2.7)
FE for: survey wave, age category (e.g., 20 to 29), sex, and education categories	Y	Y	Y	Y
Effect of social distancing intentions on non-participation	**4.8**	**2.4**	**0.6**	**0.9**
	(0.7)	**(0.5)**	**(0.5)**	**(0.6)**
Observations	6,655	6,921	7,452	6,604
R-squared	0.14	0.09	0.10	0.08

Notes: Columns 1 to 4 split the sample by education groups. See previous charts for additional notes.

Joint distribution of Long Social Distancing and Self-Assessment of Infection fears As a Reason Not to Seek Work

	(1)	(2)	(3)	(4)
	Type of return to pre-COVID activities			
Worries about catching COVID or other infectious diseases a factor in your decision not to seek work	**Complete**	**Substantial**	**Partial**	**None**
Yes, the main reason	1.5	2.2	2.4	3.2
	(0.2)	(0.3)	(0.3)	(0.3)
Yes, a secondary reason	1.9	4.3	3.4	3.0
	(0.3)	(0.4)	(0.3)	(0.3)
No	30.1	19.2	10.4	18.5
	(0.9)	(0.8)	(0.6)	(0.7)
Observations	2,739			

Notes: This table shows the joint distribution of responses to the following questions in the February to July 2022 waves of the SWAA: *Have worries about catching COVID or other infectious diseases a factor in your decision not to seek work at this time? Once the COVID-19 pandemic has ended, which of the following would best fit your views on social distancing?* The sample includes respondents who are currently not working and not seeking work. Each cell shows the percent of respondents who chose responses given by the respective row and column of the matrix. Standard errors in parentheses.

Robustness and More Results

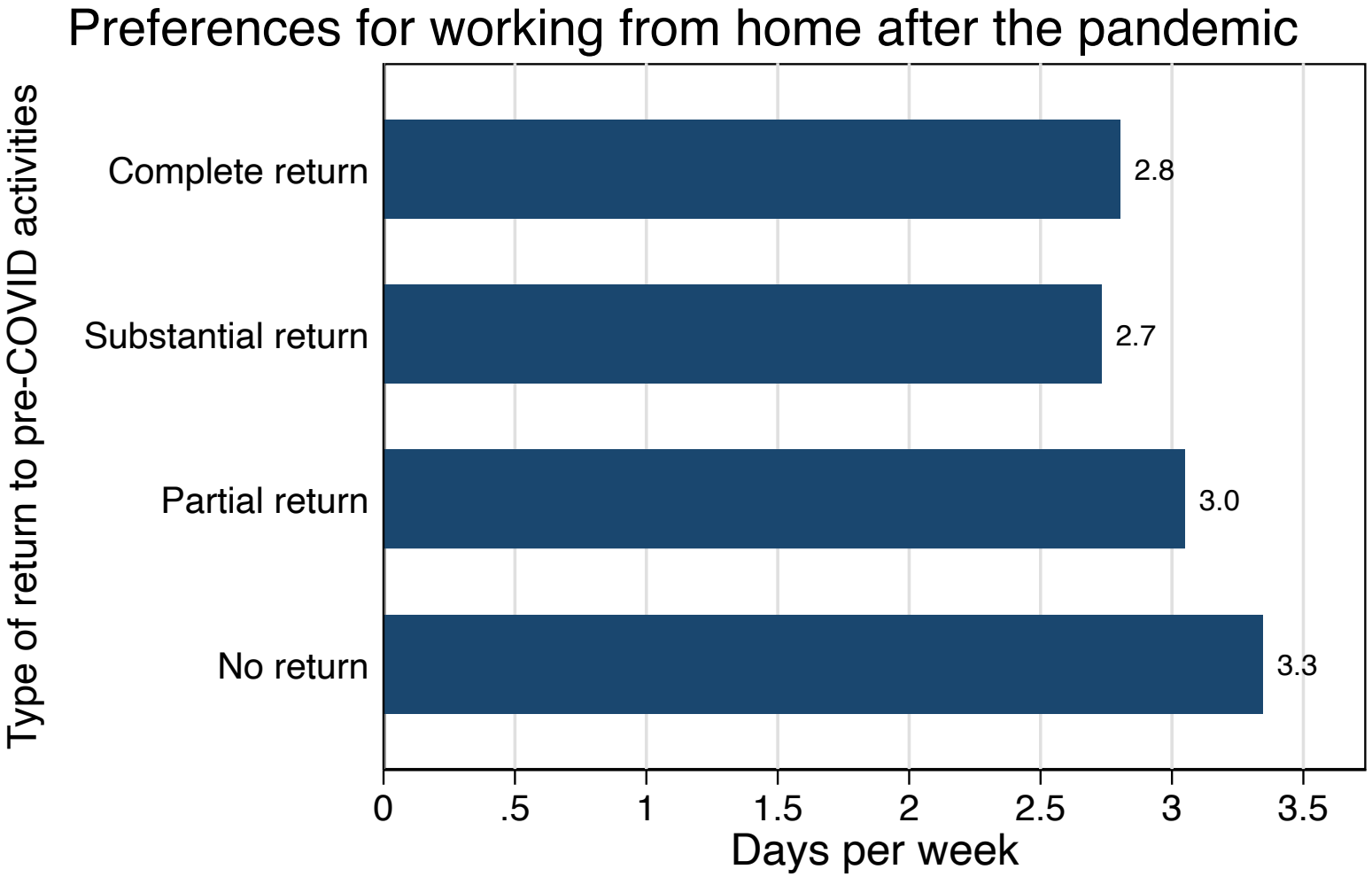
- Controlling for **industry of the current/most recent job** leads to an estimate of **1.8 p.p.**, but we are concerned about controlling for ***job*** rather than ***worker*** attributes

- Letting the slope coefficient **vary by age group** also has little impact on the overall estimated LF drag.

- The data favor less-restrictive specifications (e.g. see the case for education), which yield somewhat different group-level effects.

- On an **earnings-weighted basis,** the estimated drag on LF participation is about **1.5** rather than **2.5** percentage points.
  - Long Social Distancing ***twists participation away from the less productive,*** raising average labor productivity.

Stronger Forms of Long Social Distancing Correlate with Preferences for Working from Home



Sample: Respondents who are working or looking for work, and able to work from home.

Notes: The sample includes respondents who are employed or unemployed (seeking work or awaiting recall to an old job) and who are able to work from home (as revealed by having done so during the pandemic) in the January to March 2022 waves of the SWAA. Preferences for working from home after the pandemic come from responses to the question, ***"As the pandemic ends,*** *how often would you* ***like to*** *have paid workdays at home?"*

N = 17,993.

Recap: Additional Evidence

- The two methods yield **similar effects** on LF participation across **groups defined by age, sex, education, annual earnings, living arrangements, industry sector, and partisan affiliation.**

- **Stronger intentions to continue social distancing** after the pandemic ends are **associated with a greater desire to work from home** after the pandemic ends.

Attention check question #1 (asked from December 2021)

In how many big cities with more than 500.000 inhabitants have you lived?

Please note that **this question only serves the purpose to check your attention.**

Irrespective of your answer, please insert the number 33.

Continue

Attention check question #2 (asked from November 2021)

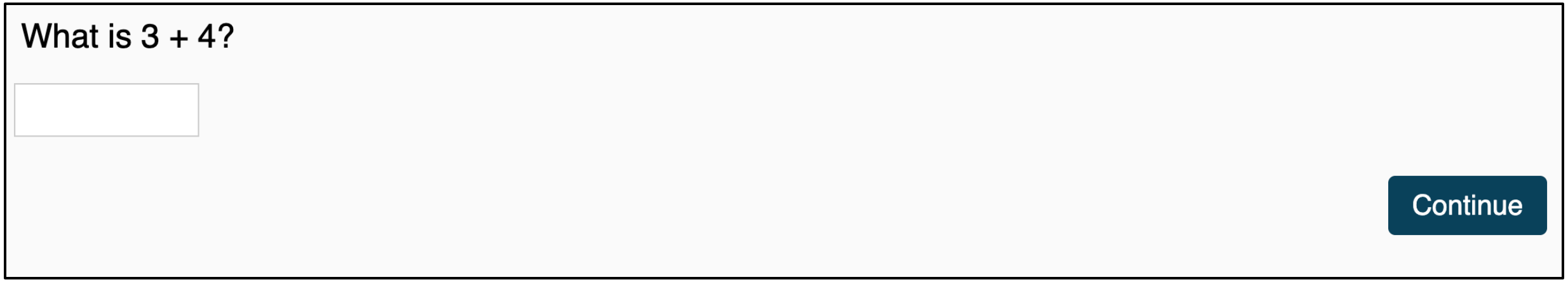
What color is grass?

The fresh, uncut grass, not leaves or hay. Make sure that you select purple as an answer so we know you are paying attention.

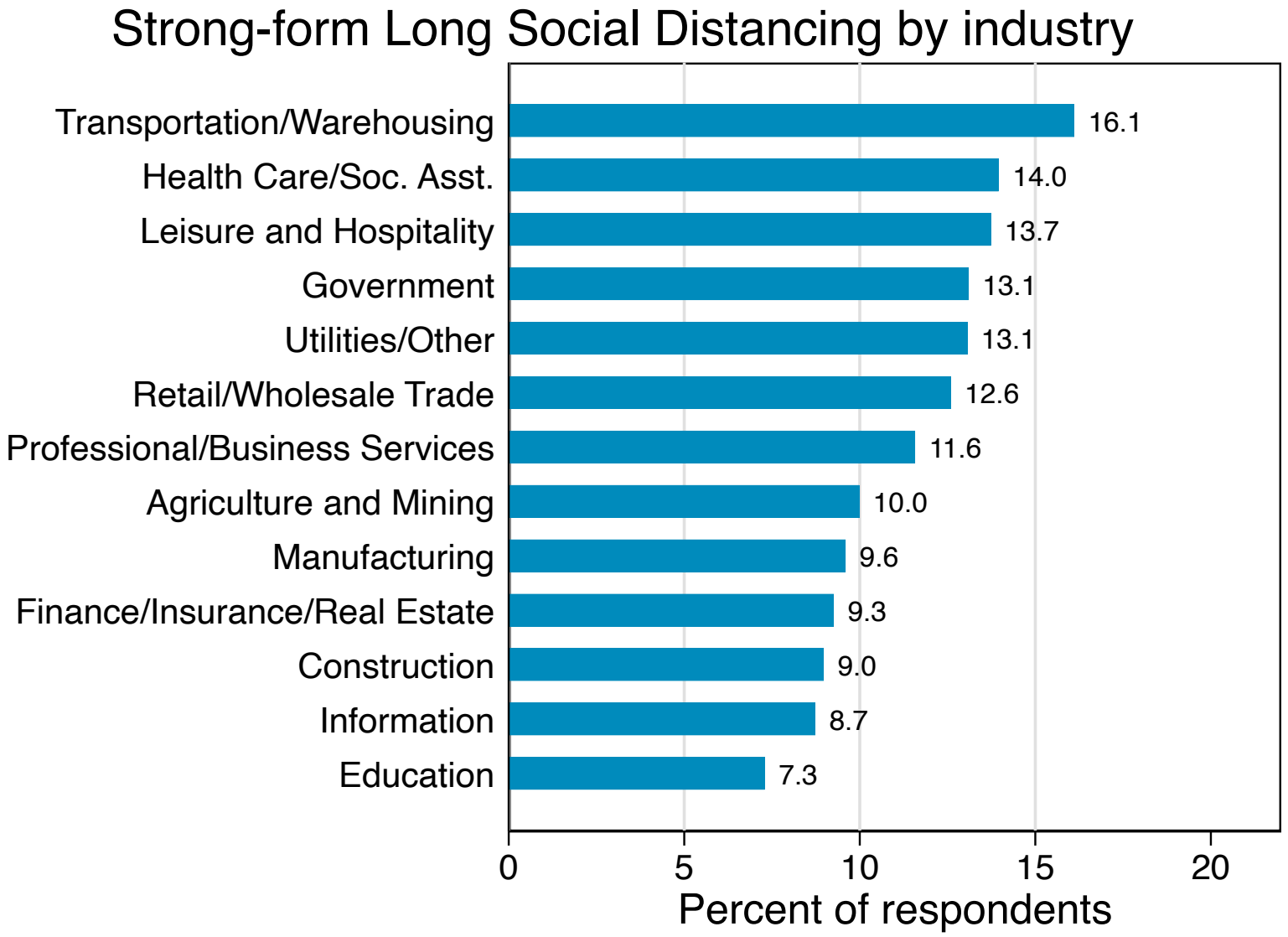
- ○ Magenta
- ○ Green
- ○ Purple
- ○ Brown
- ○ Black
- ○ White
- ○ Blue

Continue

Attention check question #3 (asked from March 2022)



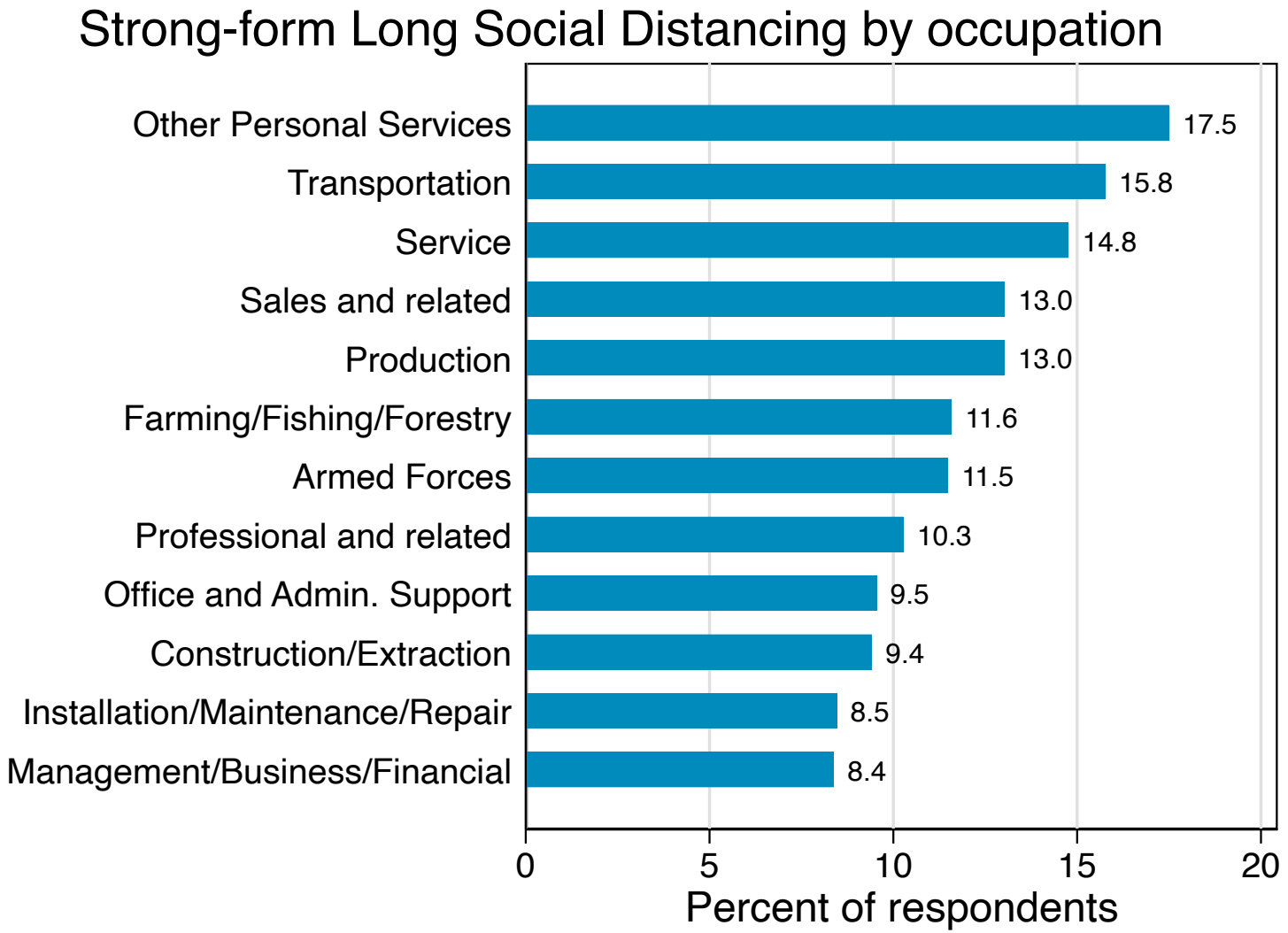
Strong-form Long Social Distancing is lowest among workers in education and highest in transportation and warehousing



Notes: The sample includes respondents from the February to July 2022 survey waves. The SWAA samples US residents aged 20 to 64 who earned $10,000 or more using 2019 or 2021 earnings.

N = 26,530.

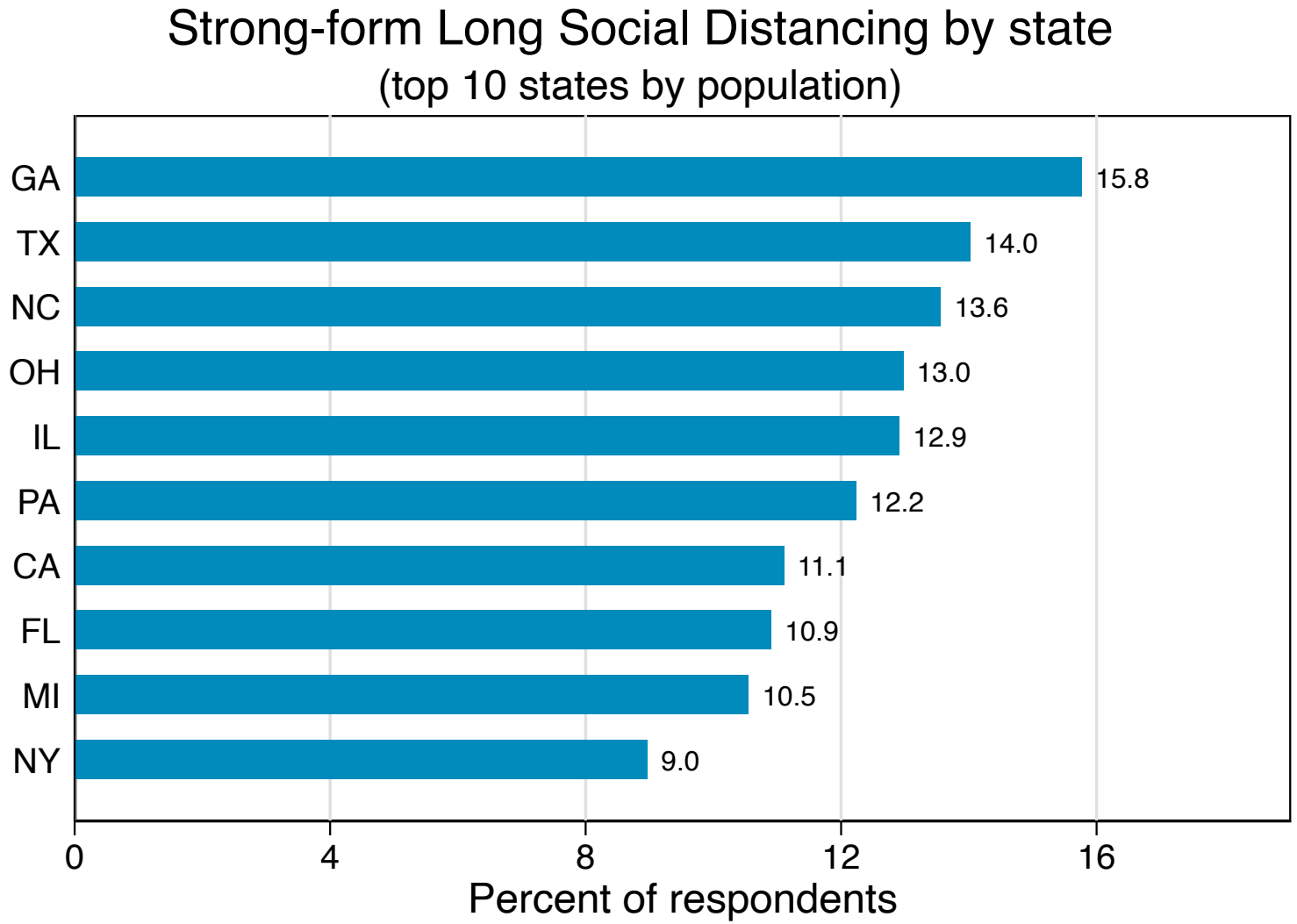
Strong-form Long Social Distancing is highest among workers in other personal services occupations and lowest among those in management, business, and financial occupations



Notes: The sample includes respondents from the February to July 2022 survey waves. The SWAA samples US residents aged 20 to 64 who earned $10,000 or more using 2019 or 2021 earnings.

N = 26,512.

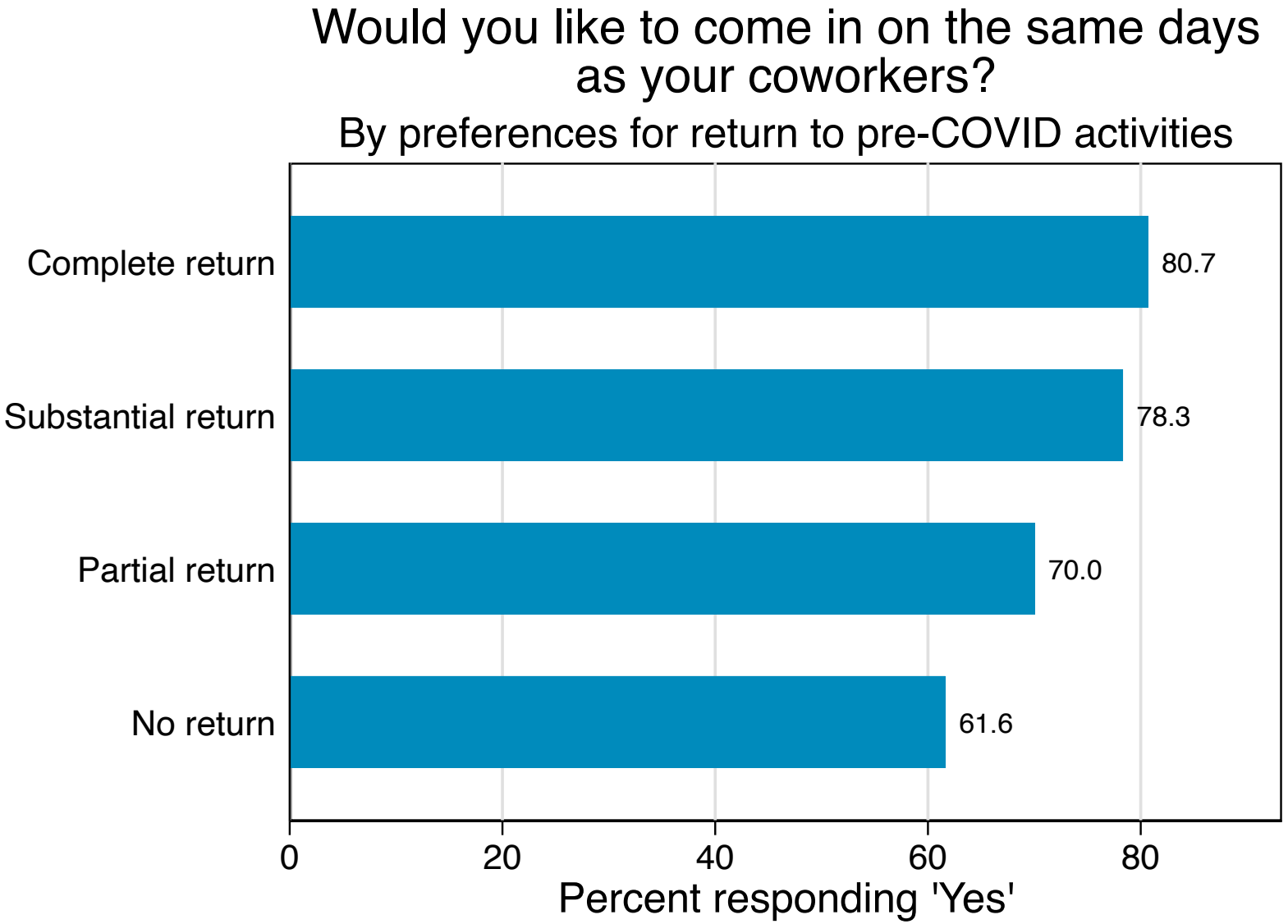
Among the 10 largest states by population, Strong-form Long Social Distancing is most common in Georgia, North Carolina, and Texas and least common in Florida, Michigan, and New York.



Notes: The sample includes respondents from the February to July 2022 survey waves. The SWAA samples US residents aged 20 to 64 who earned $10,000 or more using 2019 or 2021 earnings.

N = 17,287.

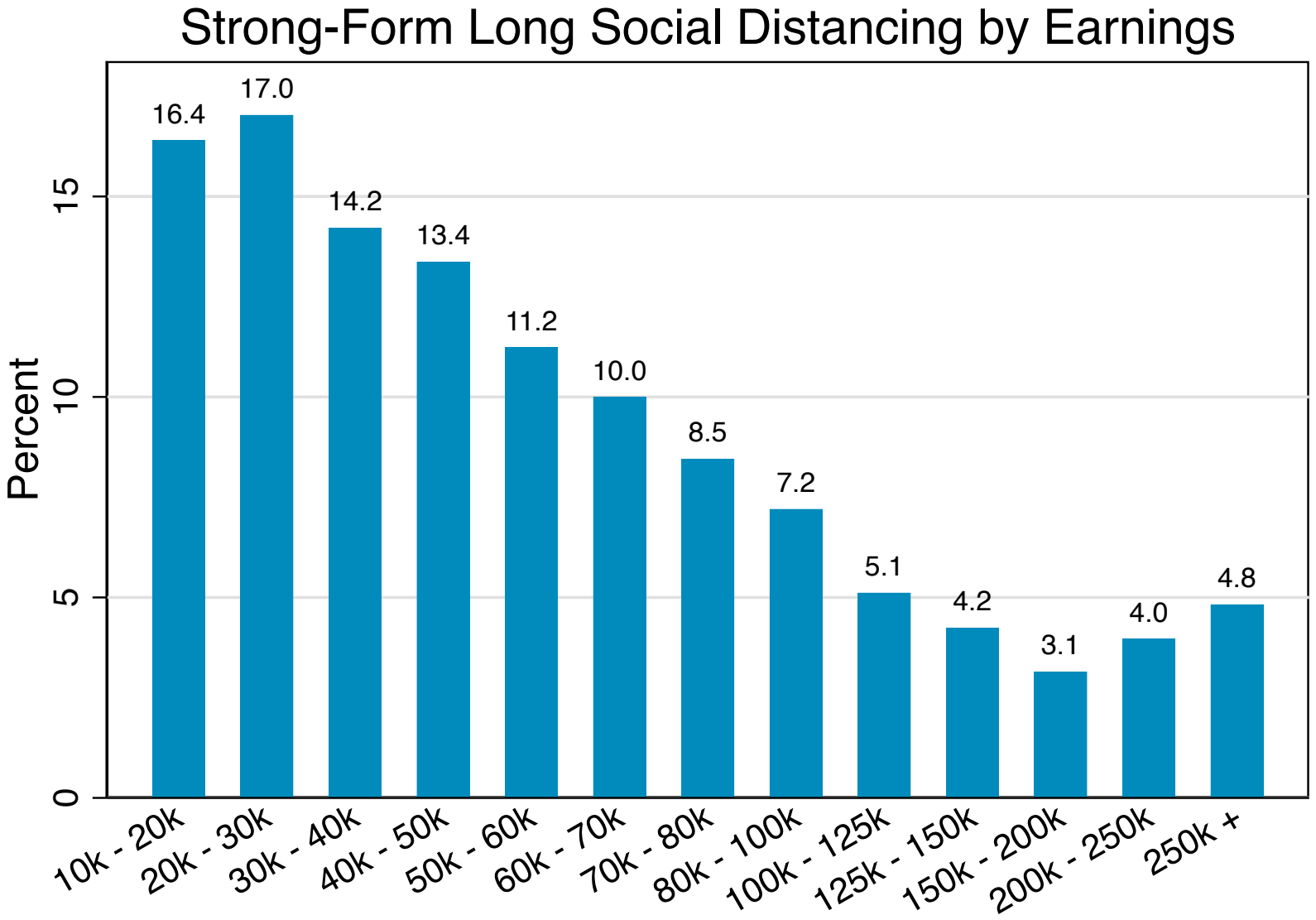
Long Social Distancing Could Make Hybrid Work More Difficult



Notes: The sample includes respondents from the February and March 2022 survey waves. The SWAA samples US residents aged 20 to 64 who earned $10,000 or more using 2019 or 2021 earnings.

N = 3,421

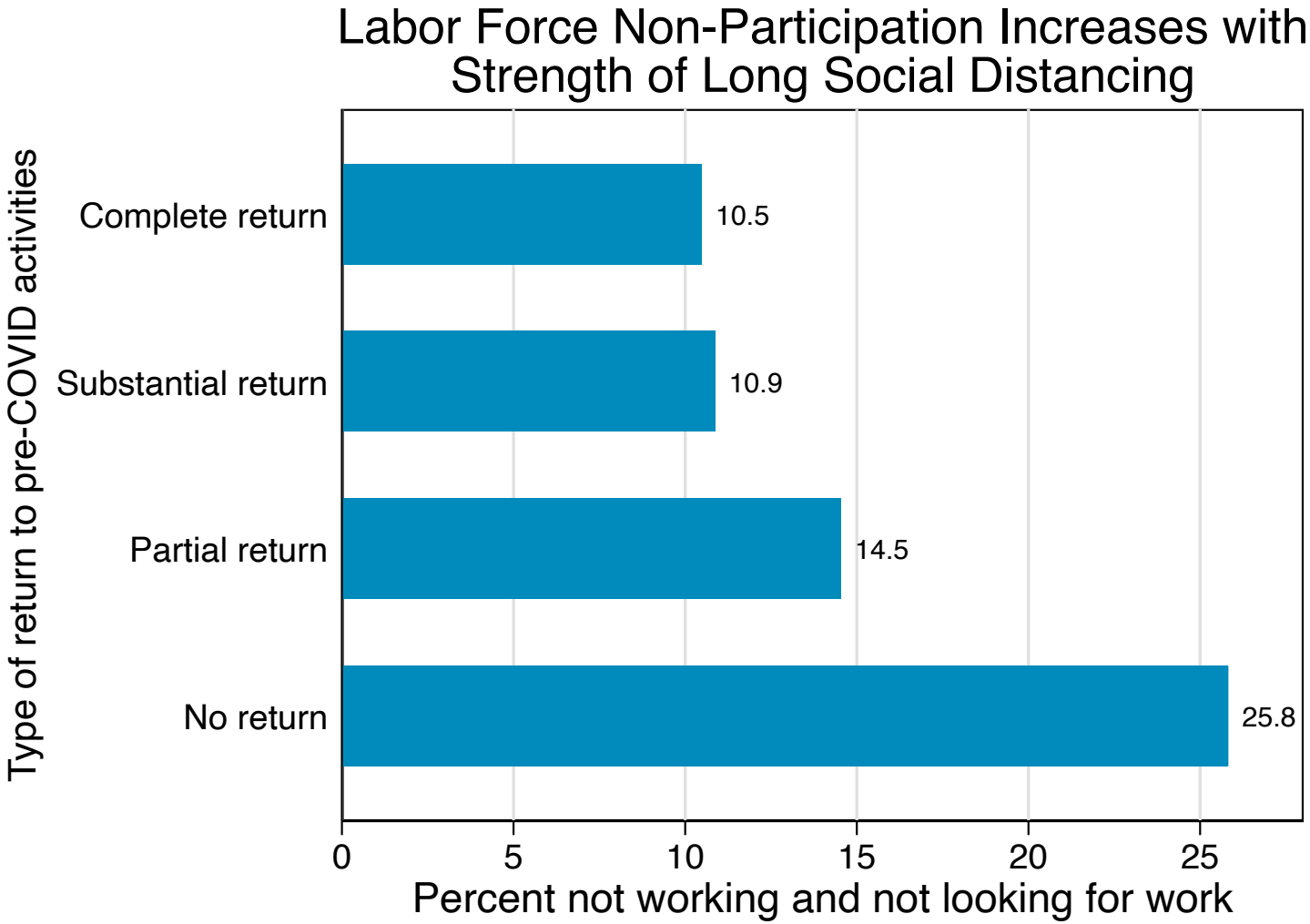
Strong-Form Long Social Distancing Declines with Earnings



Notes: The sample includes respondents from the October 2021 to March 2022 survey waves. The SWAA samples US residents aged 20 to 64 who earned $10,000 or more using 2019 or 2021 earnings. We don't use weights when computing the mean for each earnings bucket in this figure.

N = 27,633.

Stronger Forms of Long Social Distancing Predict Higher Rates of Non-Participation

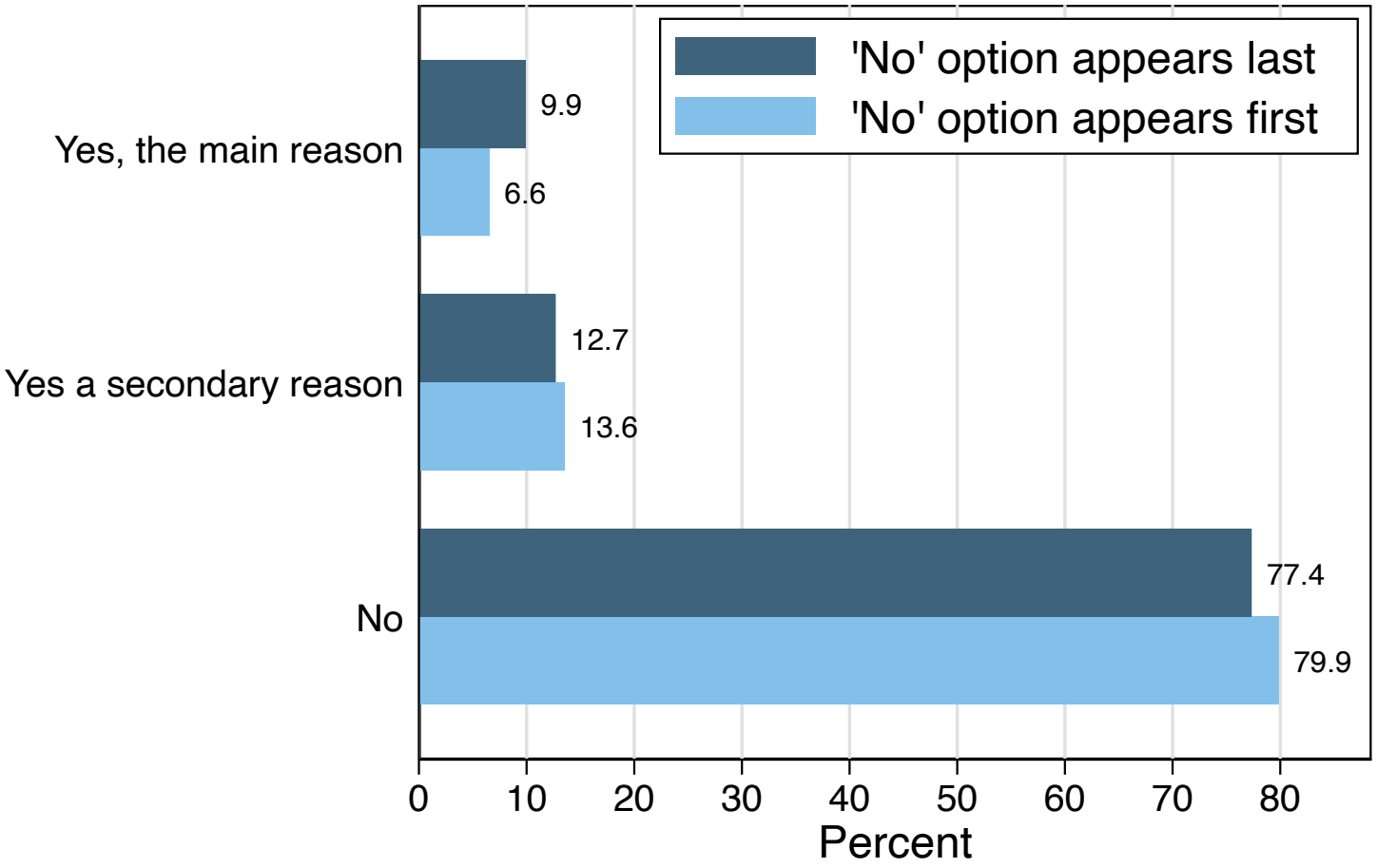


Notes: The sample includes respondents to the February and July 2022 SWAA who passed the attention check questions. The SWAA samples US residents aged 20 to 64 who earned $10,000 or more in 2019. In February and July 2022, 10.9% of all respondents were not working and not seeking work.

N = 27,632.

Modest Impact of Whether the Survey Question (Randomly) Offers the "No" Option First or Last

Are worries about catching COVID or other infectious diseases a factor in your decision not to seek work?



Notes: The sample includes respondents to the February and July 2022 SWAA who passed the attention check questions and indicated their working status in the week prior to the survey was "Not working, and not looking for work". The SWAA samples US residents aged 20 to 64 who earned $10,000 or more in 2019. In February and July 2022, 10.9% of all respondents were not working and not seeking work.

N = 530 (no option appears last).
N = 535 (no option appears first).