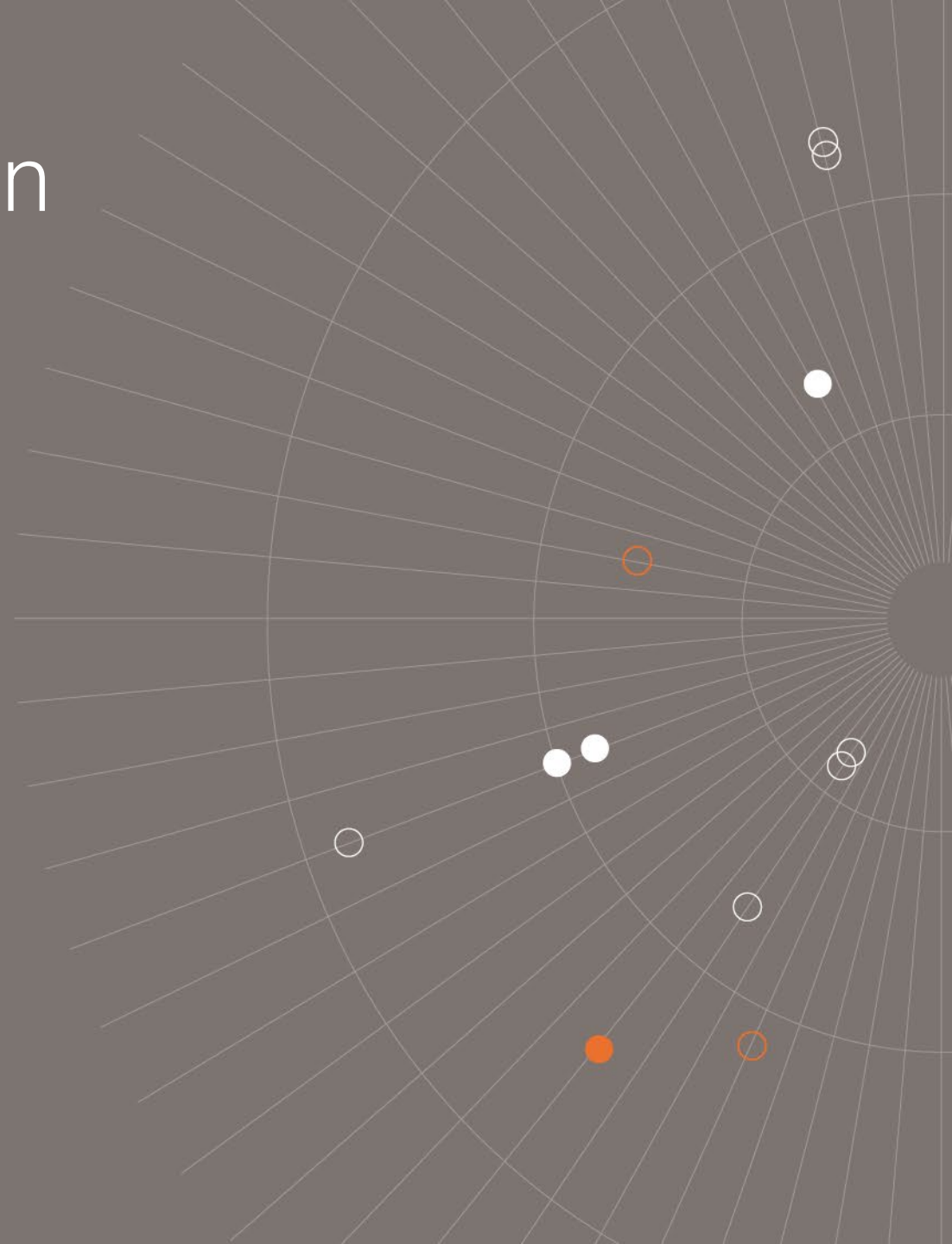


# A Multi-Mode Survey Design for the NLSY97 COVID-19 Supplement

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# Outline

01 Background and Data Collection Approach

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02 Response Rates Compared to Other Rounds

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03 Outreach Effort and Role of Interviewers

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04 Conclusions and Future Research

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# Background and Data Collection Approach

## Many longitudinal studies are adding web data collection

- **The Panel Study of Income Dynamics introduced web data collection in 2021.**
  - Web was introduced after several years of development and testing.
  - To evaluate potential mode effects, one group was assigned to a web first sequential mixed mode approach and the other to a CATI first design.
  - About 40% of completed interviews were from the web mode.
- **The Health and Retirement Study introduced web data collection in 2018.**
  - Started testing a web mode in 2007 with off-year surveys between waves.
  - To evaluate the potential impact, a sequential mixed-mode experiment was included in 2018. Note: only some sample members were eligible for the web based on access to the internet, prior interview completion and other criteria.
- **The Understanding Society Study in the UK introduced web data collection mode in 2016.**
  - Started testing in 2009, leveraging the innovation panel, and developed an approach to target households most likely to respond via web.
  - In more recent years, sample members are assigned to either a web-first or CATI-first mixed-mode design.

## NLSY97 COVID-19 Supplement

- A sequential multi-mode web-first design with phone follow-up
- Short survey design (12 minutes) covering most pressing topics
- Initial outreach by email and advance letter with email and phone prompting later in the field period



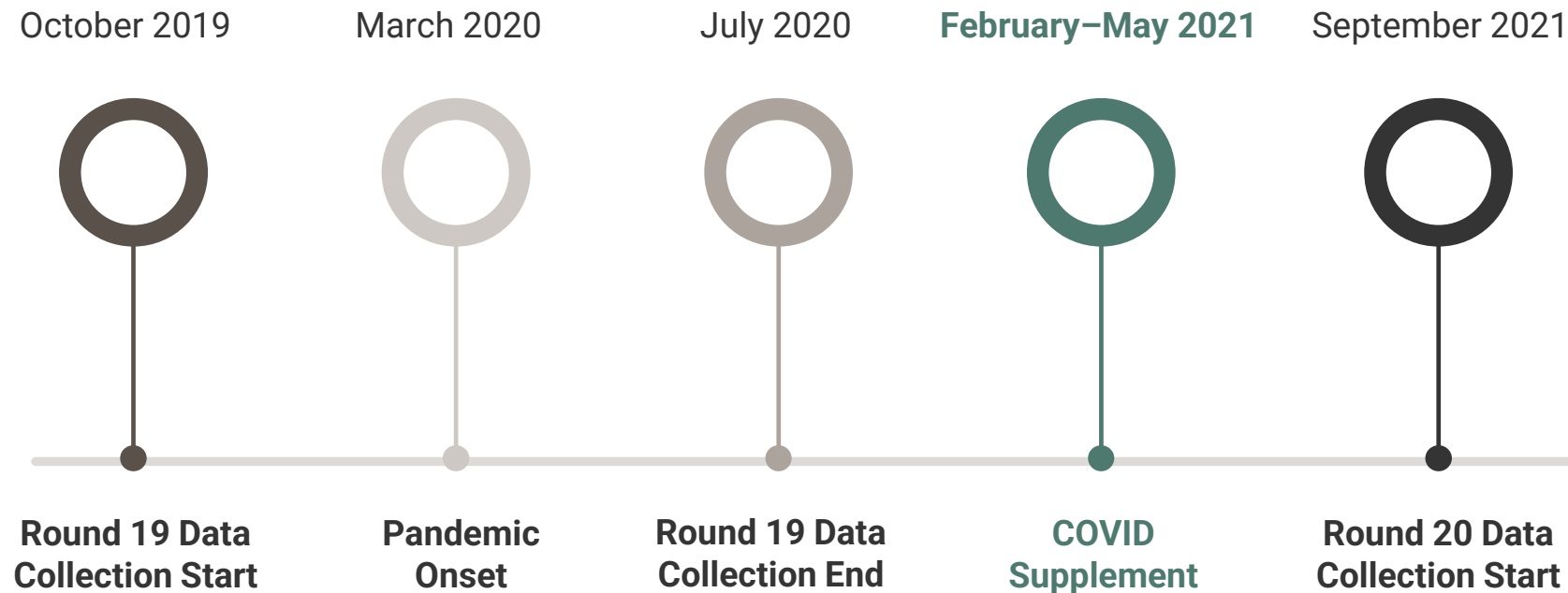
National Longitudinal Survey of Youth 1997  
NLS COVID SURVEY

Dear [Respondent Name],

For more than 20 years, the data you have provided has helped researchers better understand the needs of your generation. Now, in these unprecedented times, we understand that you, like most Americans, may be worried about your loved ones, your health, and your financial security.

In difficult times, such as the COVID-19 pandemic that our country now faces, your continued participation in the National Longitudinal Surveys is vital both for informing immediate public policies and for understanding the important long-term effects on the nation's general well-being.

The NLSY97 COVID Supplement was fielded halfway between Round 19 and Round 20 of NLSY97



# NLSY97 COVID Supplement Approach

## Outreach



### Initial

- Advance letter w/ web link
- Mass email w/ clickable web link

### Follow-Up

- Interviewer prompting w/ phone, email, & text
- Mass email reminders
- Last chance mailing/email

## Data Collection



### Fielding

- 2/2021 – 5/2021
- 8,490 fielded cases
- Soft launch 200 cases

### Questionnaire

- Work status
- Schooling
- Health

## Incentives



### Tiered Incentive

- \$10 base
- \$20 base for targeted demographics\*
- \$25 end of round incentive\*

\*Higher/additional incentives for sample members with historically lower probability of response

## Outcome measures analyzed



### **Response Rates**

Response rates  
overall and by mode

Comparison to other  
NLSY97 rounds



### **Outreach Effort**

Number of attempts  
per complete

Comparison to other  
NLSY97 rounds



### **Representation & Nonresponse Bias**

Demographic  
composition  
compared to other  
NLSY97 rounds



### **Interviewer Impact**

Response rates by  
interviewer outreach

Representation by  
interviewer outreach



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# Findings

About two-thirds of fielded sample responded to the COVID supplement, lower than other NLSY97 rounds

- COVID supplement response rate was lower than recent NLSY97 rounds
- Most of the responses came in via the web with some phone completion
- Although the response rate was lower, the field period was also significantly shorter than regular NLSY97 rounds

### COMPLETION RATES BY ROUND AND BY MODE

<i>NLSY97 COVID Supplement</i>	Field	Overall	Web	Phone	In-Person
COVID Supplement	4 mos.	<b>64.2%</b>	54.7%	9.5%	0.0%
<i>NLSY97 Comparison Rounds</i>	Field	Overall	Web	Phone	In-Person
Round 19 (before supp.)	10 mos.	<b>79.4%</b>	0.0%	76.1%	3.3%
Round 20 (after supp.)	12 mos.	<b>77.0%</b>	0.0%	75.2%	1.8%

Note: Response rates are based on total non-deceased cases

The COVID supplement required fewer attempts per completion on average

- COVID supplement outreach effort was significantly lower than recent NLSY97 rounds
- The web-first design reduced the effort per complete by more than 50% compared to round 19 (from 23.7 attempts on average to 9.4)
- Over 70% of completes in the COVID supplement required 5 or fewer outreach attempts by interviewers
- About 22% of completes did not require any interviewer outreach

### OUTREACH EFFORT BY ATTEMPTS THRESHOLDS

		Completes w/		
<i>NLSY97 COVID Supplement</i>	Attempts/ Complete	< 6 Attempts	6-10 Attempts	11+ Attempts
COVID Supplement	9.4	71.1%	18.0%	11.0%
<i>NLSY97 Comparison Rounds</i>	Attempts/ Complete	< 6 Attempts	6-10 Attempts	11+ Attempts
Round 19 (before supp.)	23.6	22.8%	26.6%	50.6%
Round 20 (after supp.)	31.5	15.1%	29.1%	55.8%

Representation differed slightly from other rounds

- COVID supplement was more female, non-black/Hispanic, educated, and had higher income than other recent rounds
- Lower income, less educated, and black respondents were less likely to respond
- Demographic differences across rounds likely a reflection of variation in accessibility for completing web survey
- Interviewer outreach helped to reduce demographic gaps

## DEMOGRAPHICS BY ROUND

Demographics		COVID	Round 19	Round 20
Sex	Male	45.9%	49.2%	49.0%
	<b>Female</b>	<b>54.1%</b>	<b>50.8%</b>	<b>51.0%</b>
Race/Ethnicity	Black	24.9%	27.2%	27.8%
	Hispanic	20.8%	21.1%	21.1%
	Mixed	0.9%	0.9%	0.8%
	<b>Non-Black/Hispanic</b>	<b>53.4%</b>	<b>50.8%</b>	<b>50.3%</b>
Education	Less than HS	15.3%	17.5%	18.0%
	High School	21.8%	24.0%	23.6%
	Some College	16.8%	16.1%	16.3%
	<b>Bachelor's+</b>	<b>37.9%</b>	<b>33.9%</b>	<b>33.5%</b>
	Unknown	8.2%	8.6%	8.7%
Income	\$0	3.1%	4.0%	4.2%
	\$1–24K	15.2%	17.0%	16.9%
	\$25–50K	20.4%	20.6%	20.8%
	<b>\$50K+</b>	<b>59.1%</b>	<b>55.3%</b>	<b>55.0%</b>
	Unknown	2.2%	3.1%	3.1%

## Nonresponse bias analysis

- Compare respondent demographics of completes for each round to the corresponding proportion from the full non-deceased sample
- **Absolute relative nonresponse bias:** the absolute ratio of the direct nonresponse bias and estimate derived from the full sample
- **Average relative nonresponse bias:** average of the absolute relative nonresponse bias (ARNB) across all demographic comparisons

$$\text{Nonresponse Bias} = \bar{Y}_{r,demo} - \bar{Y}_{n,demo}$$

$$\text{Absolute Relative Nonresponse Bias} = \left| \frac{\bar{Y}_{r,demo} - \bar{Y}_{n,demo}}{\bar{Y}_{n,demo}} \right|$$

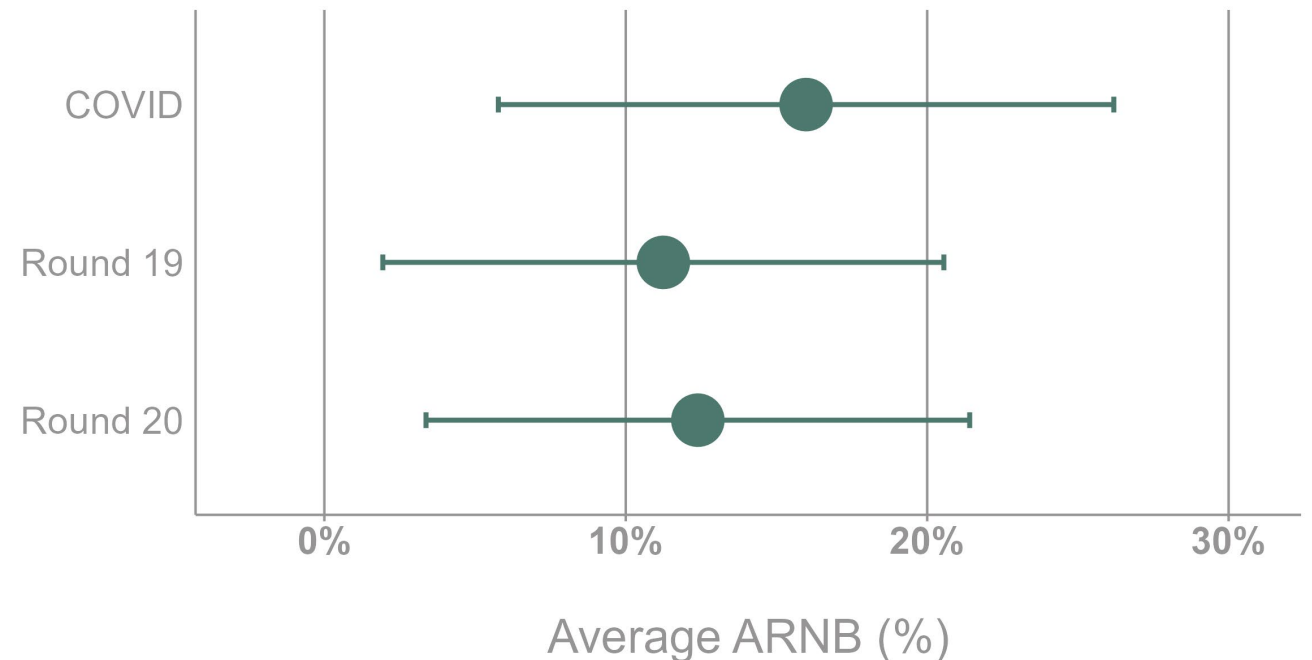
$\bar{Y}_{r,demo}$  unweighted estimated proportion derived from completes for each round

$\bar{Y}_{n,demo}$  unweighted estimated proportion derived from full non-deceased sample for each round

## Nonresponse bias similar for COVID versus other rounds

- The average of the absolute relative nonresponse bias across the demographics tested was similar for the COVID supplement compared to both Round 19 and Round 20 of the NLSY97
- Major reason why nonresponse bias for web-first survey was similar to other rounds was because of interviewer impact

### AVERAGE ABSOLUTE RELATIVE NONRESPONSE BIAS



# Response rate and representation depended on outreach effort and mode

## KEY OUTCOMES BY INTERVIEWER OUTREACH

- Web with prompting reached demographic groups less likely to respond via web, and phone interviewing reached even more of those less likely to respond to web
- Interviewer outreach increased representation of males, less educated, and lower income respondents
- Interviewer outreach and prompting increased representation across key outcome measures as non-working respondents were more likely to respond with prompting or by phone

Key Outcomes		Web Comp no Outreach	Web Comp w/ Outreach	Phone Comp
N		1224	3561	831
Response Rate		14.0%	40.7%	9.5%
Sex	Male	35.4%	46.3%	60.0%
	Female	64.6%	53.7%	40.0%
Education	Less than HS	11.3%	14.4%	25.4%
	High School	15.8%	22.0%	29.6%
	Some College	17.6%	16.8%	16.0%
	Bachelor's+	48.3%	38.4%	20.2%
	Unknown	7.1%	8.4%	8.8%
Worked Last Week	Yes	77.3%	75.7%	64.4%
	No	22.1%	23.5%	35.4%

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# Conclusions and Future Research



A carefully designed multi-mode survey approach with web-first data collection can yield high quality information

### **Response Rates**

Web-first mixed-mode approach achieved a 66% response rate when supplemented with interviewer prompting and additional phone outreach on a quick fielding timeline

### **Outreach Effort**

A web-first survey drastically reduced outreach effort compared to other NLSY97 rounds with most respondents requiring 5 or fewer outreach attempts

### **Representation & Nonresponse Bias**

Some demographic groups were less represented but nonresponse bias did not significantly differ from other NLSY97 rounds

### **Interviewer Impact**

Interviewer outreach was critical to achieving a high response rate and a more representative sample

## Future research can help inform how to scale web-first approach for longer, more complex longitudinal surveys


- **Testing** – Testing is critical to introducing web into longitudinal surveys to understand potential impacts to response rates, representation, and survey estimates.
- **Mode preferences** – Mode preferences and completion history can be helpful in targeting web to those most likely to respond via the internet.
- **Contact information** – Web-first mixed-mode surveys require robust contact information for efficient follow-up (e.g., email, cell phone number).
- **Interviewing staff** – Interviewing staff are necessary for executing effective follow-up outreach strategies to achieve a high response rate.

A group of people are gathered around a table, looking at a document that features a pie chart. The scene is dimly lit, with a dark overlay. The text 'Thank you.' is prominently displayed in the center-left.

# Thank you.

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 **NORC** at the  
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