Our Presentation

1. Why Talk About Panels: How Panels Are Unique

2. Building Panels
    a. Maintenance and Growth
    b. Sampling and Recruitment
    c. Non-internet Coverage & Utilizing Mixed-mode Design in Panels
    d. Empanelment, Infrastructure, and Panelist Engagement

3. Considering Nonresponse and Other Error Sources in Panels
    a. Coverage, Representation, and Nonresponse
    b. Mode Effects
    c. Panel Conditioning
    d. Data Quality/Panelists that provide suboptimal responses
    e. Transparency in reporting

4. Fielding Studies from Panels: How are panelists deployed and employed for surveys?
    a. Sampling and Panelist Burden
    b. Fielding and Outreach
    c. Post data collection adjustments/weighting

Introduction: The Uniqueness of Panels

How Are Panels Different Than Cross-Sections?

1. The initial "ask" is to join a panel, not to complete a survey
   - Because the panelist will need to. Over time, do more work, it is not inconceivable that the effort to get panelists can more "more" than what is involved in cross-sectional research

2. A 2nd "ask" is typically empanelment/profiling

3. A "3 plus" ask is to do a lot of surveys

4. Panels have a relationship with their panelists
   - They therefore need infrastructure to deal with this ongoing relationship

5. The multi-stage nature of a panel requires multiple stages of, potentially, sampling, weighting, and survey operationalization

6. Panels need to deal with ongoing renumeration

7. Panels might have unique effects and nonresponse patterns

8. Panels live in supposed perpetuity and therefore need ongoing efforts to retain, recruit, and replenish

The Concept of Lifecycle

Panels are not static.

- Panels are like the human race: there are generations
  - New generations are "born"
  - Old generations "fade away"
  - As such, the loss in older generations and the insertion of new generations will change the makeup of the overall entity. (For example: Americans are more Hispanic today than a generation ago).

Source: US Census Bureau
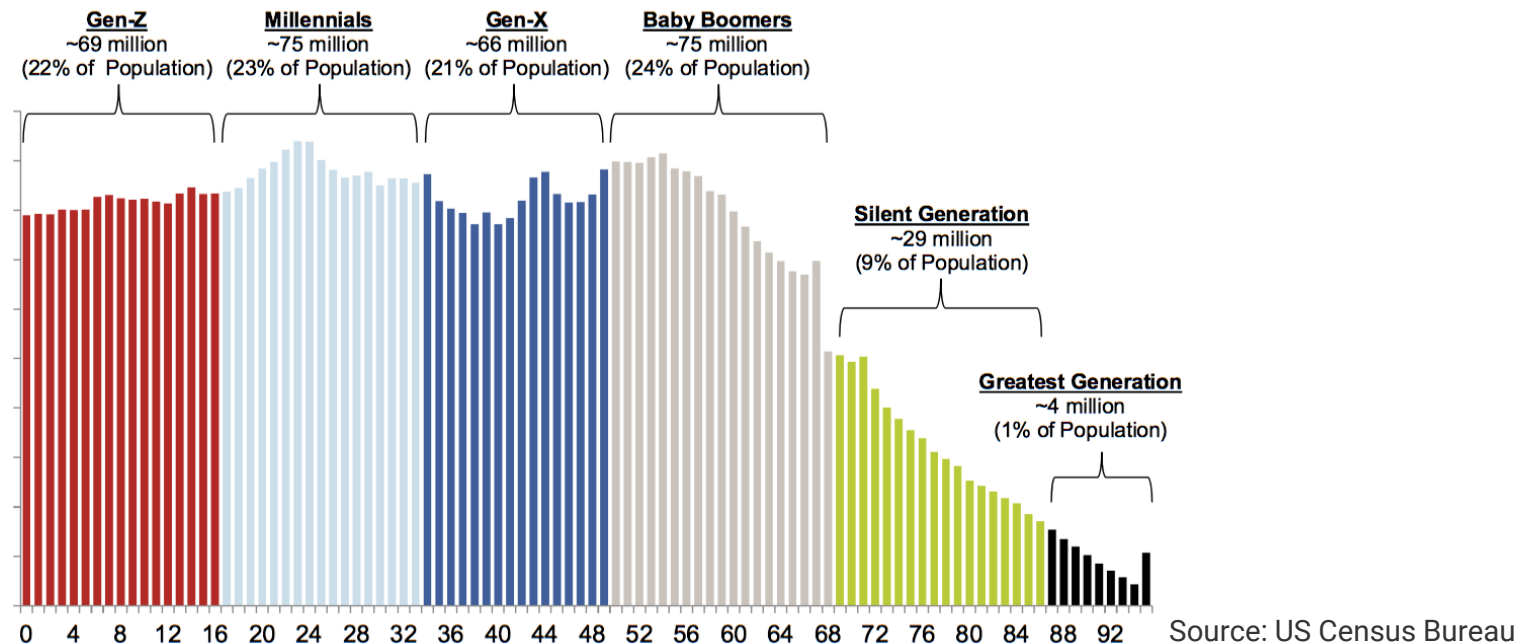
Building Panels

Questions to Consider in Building Panels

1. Maintenance and Growth

2. Sampling Frame and Sampling Strategies

3. Non-Internet Coverage

4. Modality of Recruitment

5. Effort: Number of mailings, calls, incentive amounts, use of a NRFU

6. Empanelment Requirements

7. Infrastructure: Portal, App, Helpdesk, Incentivization Structure, etc.

8. Panelist Relationships, Engagement and Retention

Maintenance and Growth
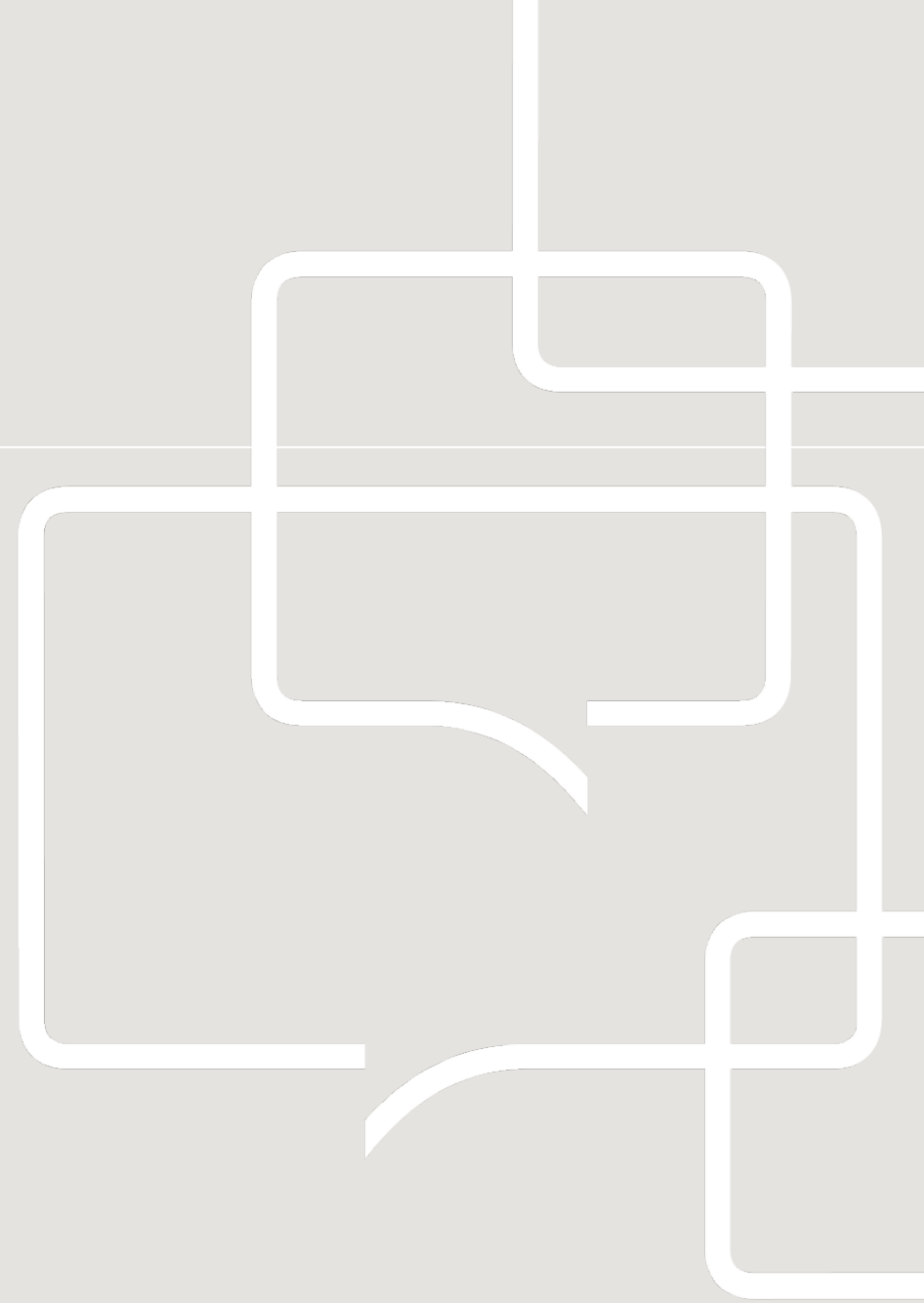
"How Large Is Your Panel?" Know What Number Your Panel Company is Quoting You
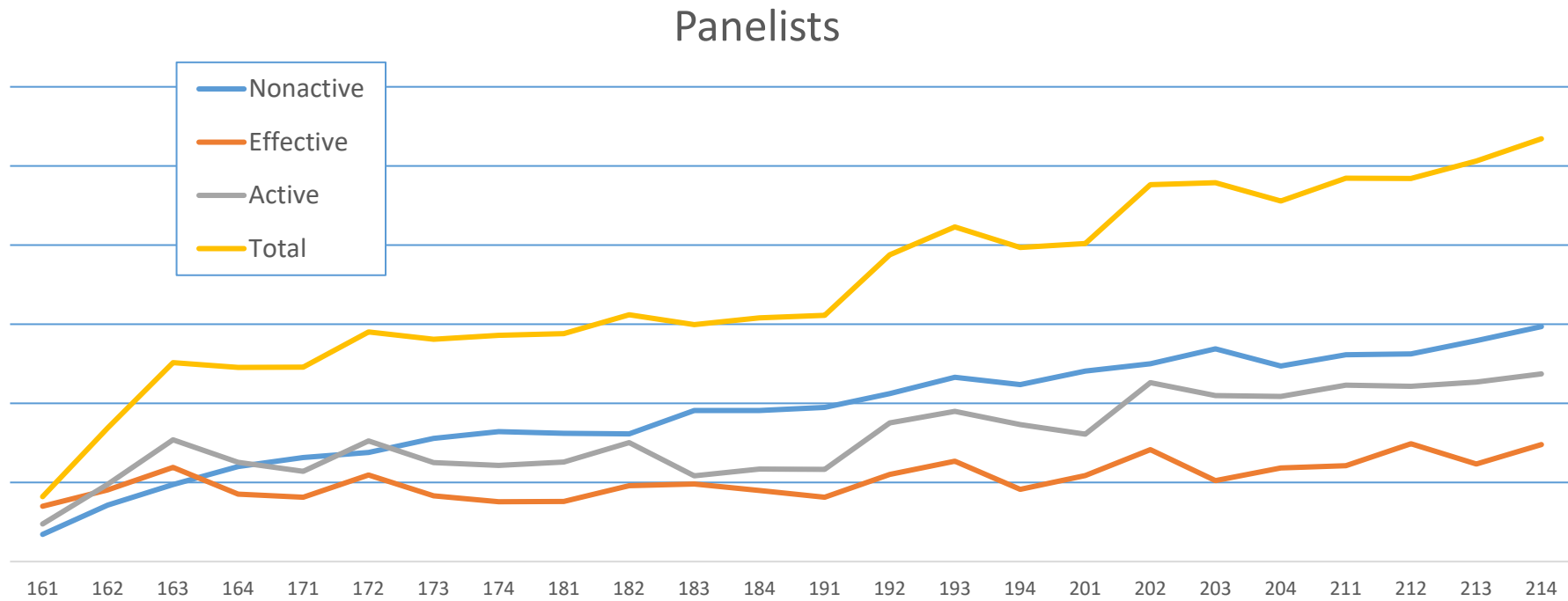
Sampling Frame and Sampling Strategies

Sampling Options

Sample Frame	Area Probability	DSF	RDD
Household Sample Coverage Rate	97%	~92%	~96%
Coverage Challenge	Clustering	Rural	Blocking and Screening
Typical Operationalization	Mail Push-to-Web/Multimodal	Mail Push-to-Web/Multimodal	Phone

Impact of Big Data Classifier Sample Stratification on Recruiting

2021 Results w/ Big Data Sampling vs. 2020 Recruits
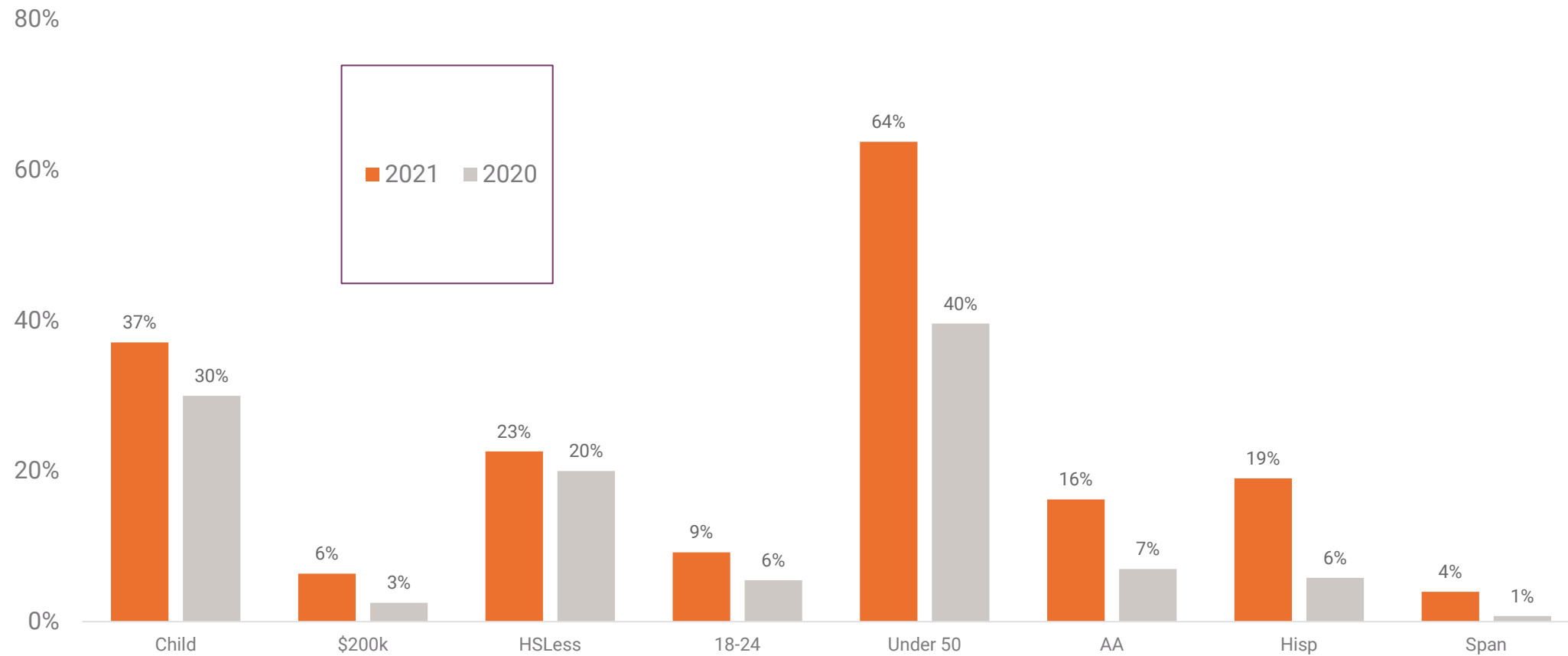
Recruiting Special Populations

AmeriSpeak 2021 Spanish Language Recruit

Case Status	N	%
TOTAL	**2,000**	**100%**
Complete	432	22%
Hispanic	1,801	90%
Spanish: Fluent Read/Speak	1,702	84%
Spanish survey takers	980	49%

Percent Spanish Recruit w/in Spanish Big Data Classifer by Modality of Recruiting

Mail: 22%
In-Person: 49%
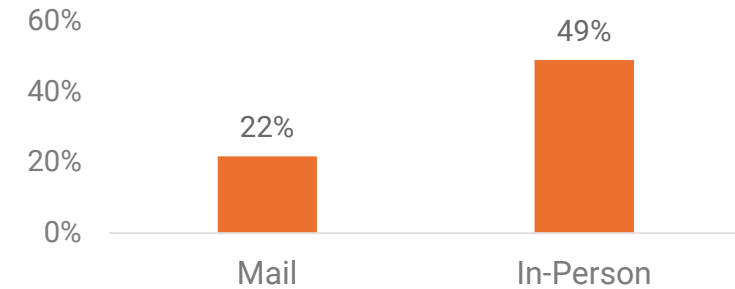
Effectiveness of MR6 at Right Recruiting

- MR1-5
- MR6

Very Conservative or Strong Republican: MR1-5 18%, MR6 49%
Somewhat/Very/Strong Conservative or Republican: MR1-5 34%, MR6 73%
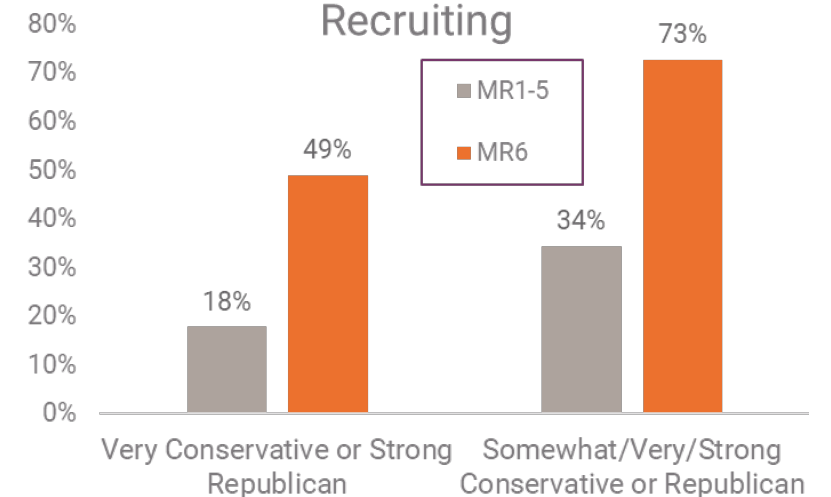
Non-Internet Coverage

The digital divide continues to narrow, but a sizeable portion of Americans remain offline

Internet Subscriptions, U.S. Households

33%   31%   30%   29%

32%   28%   24%   22%

18%   16%   15%   13%

2016   2017   2018   2019

— No Broadband such as cable, fiber optic or DSL   — No Cellular data plan

— Without any Internet subscription

American Community Survey (ACS) 1-Year Estimates 2016-2019.
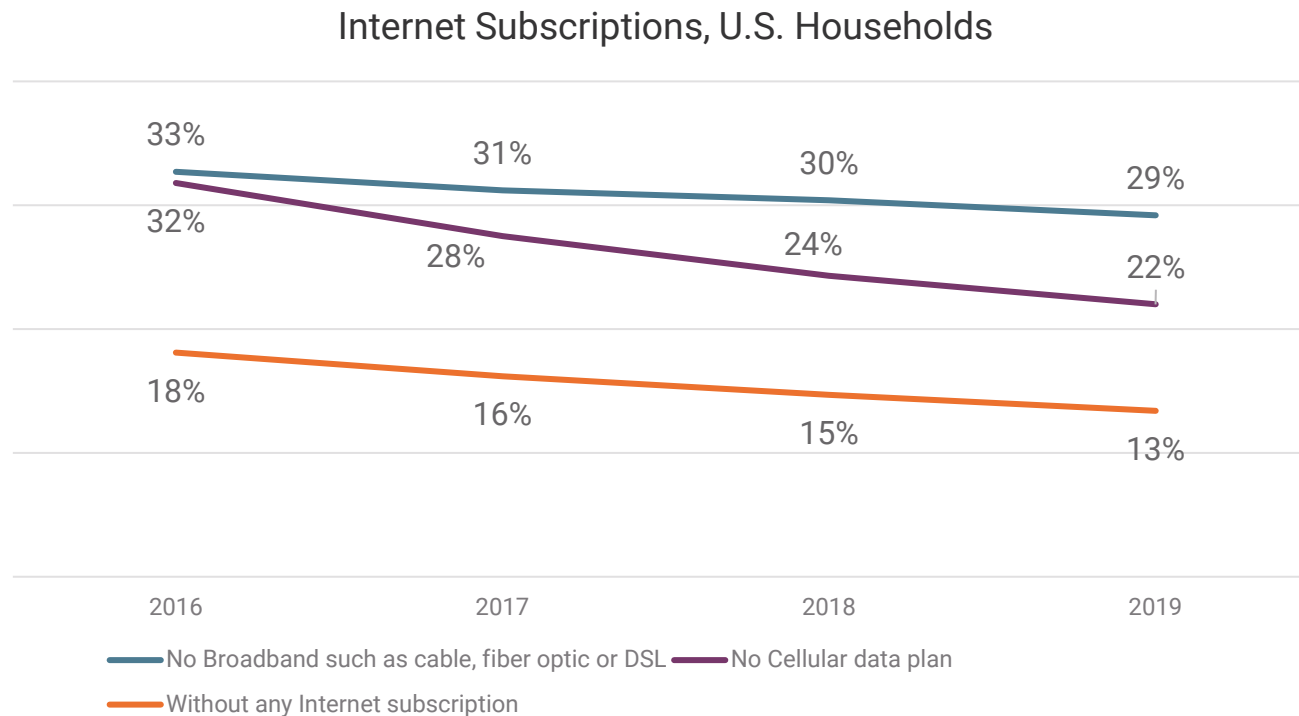
Strategies to include the non-Internet population

Providing Devices and/or Connections

PRO

- Single mode requires less complex management

CON

- Does not fully solve the nonresponse mode problem; those who are reluctant to use the Internet are less likely to participate

- Time and resources required to set up and manage devices

Mixed Mode Approach with "Offline" Mode

PRO

- Solves the nonresponse mode problem; those who do not want to use the Internet can participate

CON

- Requires integrated sample management and data collection system

- Potential mode effects

Leenheer & Scherpenzeel, 2013; Hoogendoorn and Daalmans, 2009; Reveilla et al., 2016; Cornesse, 2021; Reveilla et al. 2016; Bertoni, 2019; Dillman et al., 2009.
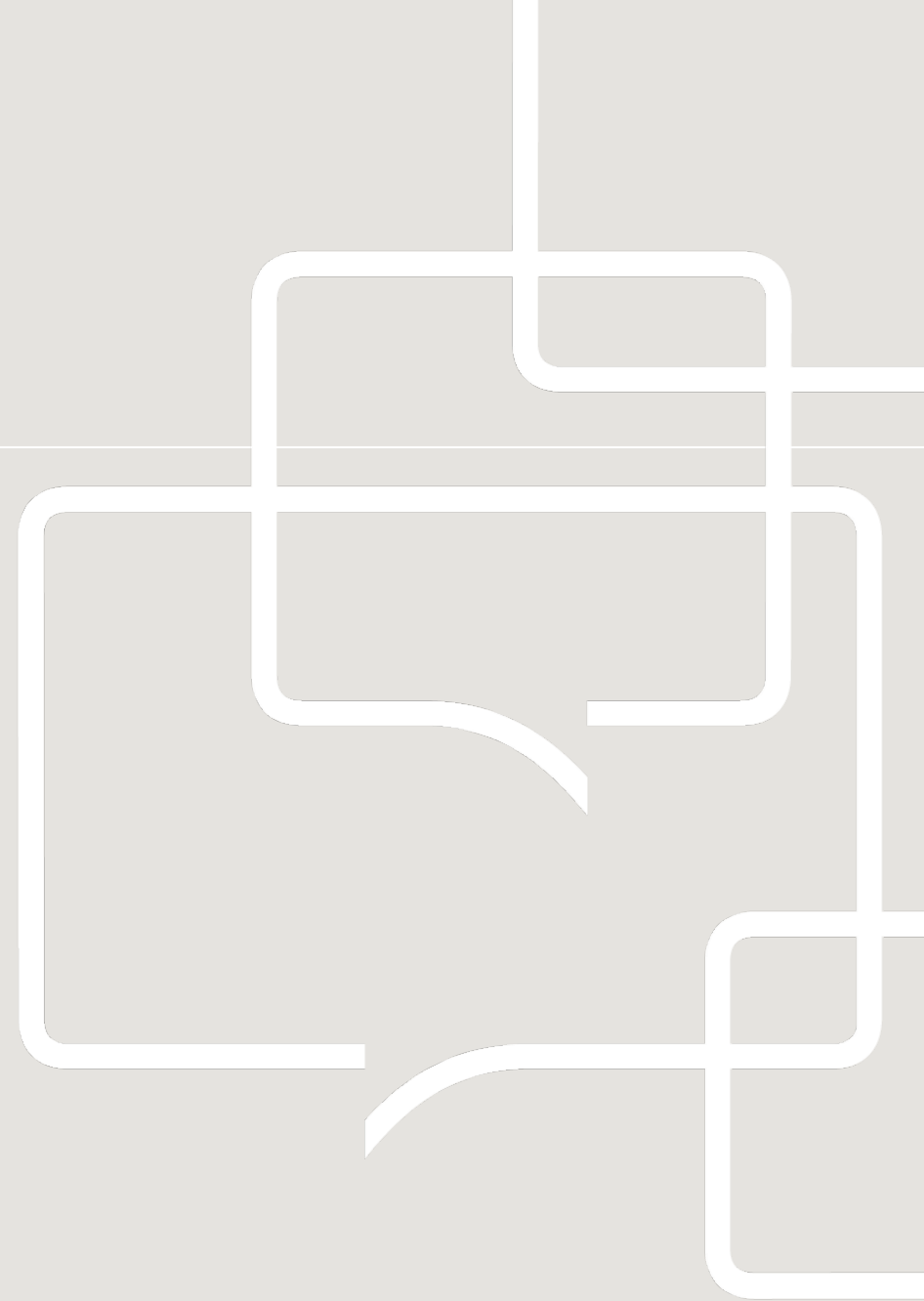
Modality

Modality of recruitment

- Most of the probability-based panels are using ABS, RDD, or a combination of both as their sample frame

- In most cases, panel recruitment mode is different than the recruitment questionnaire data collection mode, as well as the mode of panel sign-up process

  - For instance, probability-based panels that use an ABS frame initially start mailing recruitment materials to the sampled households and invite the households to join the panel through web or in-bound phone mode.

- The different recruitment and data collection/panel sign-up modes decrease costs, increase response rates, improve coverage, and decrease nonresponse error

Modality of recruitment

- Probability based online panels can also concurrently administer the recruitment survey and panel sign-up process through different modes

    - One of the most commonly used strategies is to provide sample members with a mode choice

        - For instance, the recruitment mailing can provide both an URL link to the recruitment survey as well as an 800-phone number for the sample member to call in to respond to the recruitment survey and sign up to the panel

    - This method is mainly used to cover non-Internet populations and improve coverage as well as increase response rates

    - Subsequently, this method reduces coverage and nonresponse error and improves the sample composition in panels

Modality of recruitment during nonresponse follow-up

- Most probability-based panels use a different contact mode during nonresponse follow-up (NRFU) phase than the mode used during the initial recruitment contact phase

  – This method is used in order to increase recruitment response rates, reduce nonresponse error, and improve panel composition

  – The rationale of this approach is to start the recruitment using the least expensive method and provide advance notification for additional nonresponse follow-up efforts

Mixing modes during subsequent surveys after the recruitment

- Many probability-based online panels use different mode(s) to collect data in subsequent surveys than in recruitment

  – For instance, *(using the AmeriSpeak example)* once panelists join AmeriSpeak, they are offered the ability to select their preferred mode of participation: web or phone

  – This is mainly done to reduce costs, collect data faster, and increase data collection efficiency

Effort: Number of mailings, calls, incentive amounts, use of a NRFU

Choices in Level of Effort

In Recruiting

1. Number/type of mailings/phone attempts

2. Incentivization strategies

3. Modalities offered
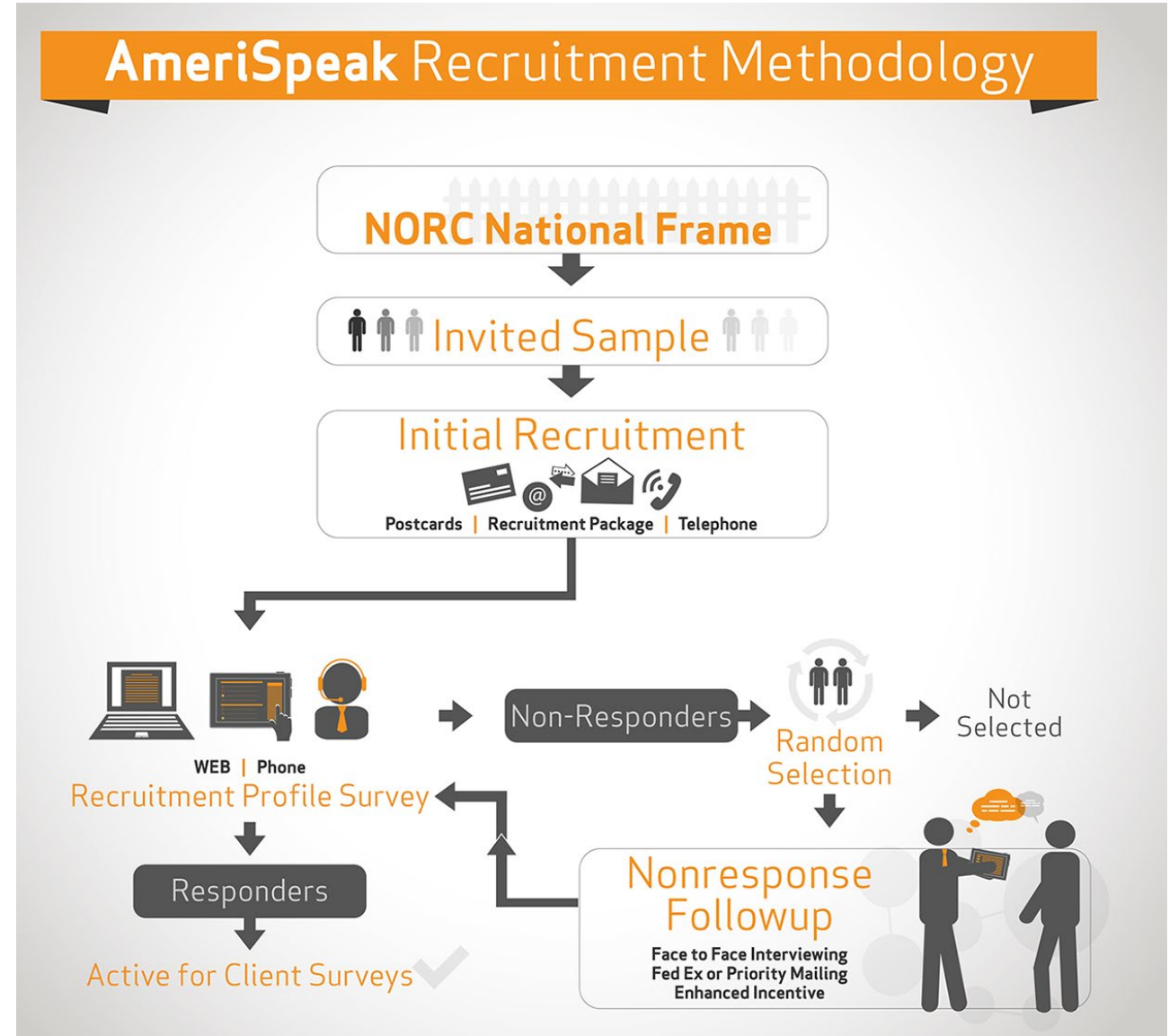
4. Use of a NRFU

In Retainment

1. Engagement Activities

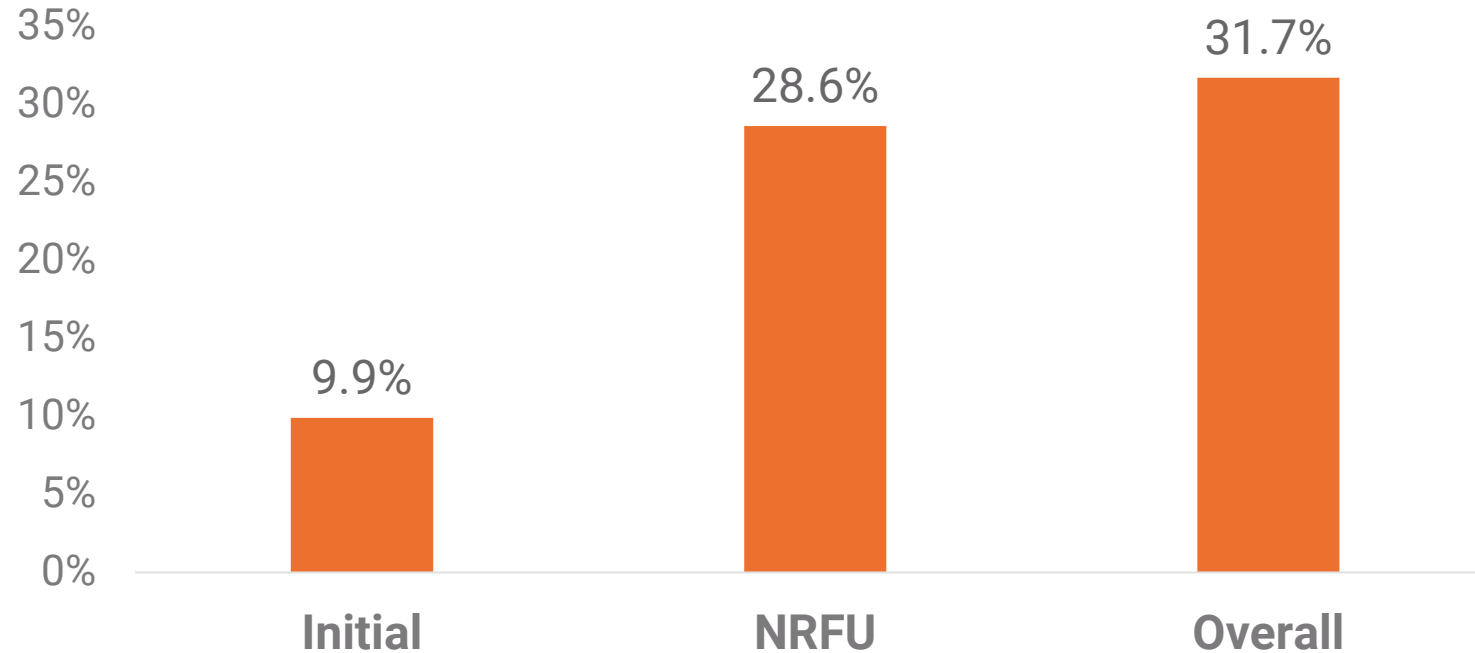2. Help Desk

3. Secondary Efforts

Initial Recruitment

- Pre-notification postcard

- +5 days, 9 x 12 recruitment packet w/ pre-incentive ($5), study brochure, and privacy policy.

- +11 days, reminder postcard

- +18 days, reminder postcard

- Call-ins allowed throughout

- +25 days, call-outs to matched telephones

- Post-incentive $25

NRFU Recruitment

- Federal Express study brochure and 2x pre-incentive

- In-person recruitment

AmeriSpeak Recruitment Methodology

NORC National Frame

Invited Sample

Initial Recruitment
Postcards | Recruitment Package | Telephone

WEB | Phone
Recruitment Profile Survey

Non-Responders

Random Selection

Not Selected

Responders

Active for Client Surveys

Nonresponse Followup
Face to Face Interviewing
Fed Ex or Priority Mailing
Enhanced Incentive

Response Rate (AAPOR RR3, Weighted)

NRFU boosts response rate by 3 times

A little more than half of panelists have been recruited during the NRFU recruitment stage

Empanelment
Requirements

Profiling

**Panels are unique in their collection of profile variables of panelists:**

1. Typical topics include:
   – Health
   – Health insurance
   – Health conditions
   – Political participation
   – Political knowledge and attitudes
   – Technology use
   – Detailed financial status
   – Ownerships (home, cars, etc.)
   – Hobbies, etc.

2. Not all panelists complete profile variables; panel can vary in their demand that such profiling be completed to become a member

3. Profile variables can be used to target subpopulations (e.g. a survey of persons without health insurance); weighting (rare), and/or provided as additional "value add" variables in client datasets

4. Profiling typically includes timely data (e.g., health insurance status, health status, stock ownership, etc), so periodic refreshing of panel data is critical

Infrastructure

Infrastructure

Panels range in their level of complexity, but generally, the larger they are the more they require extensive infrastructure
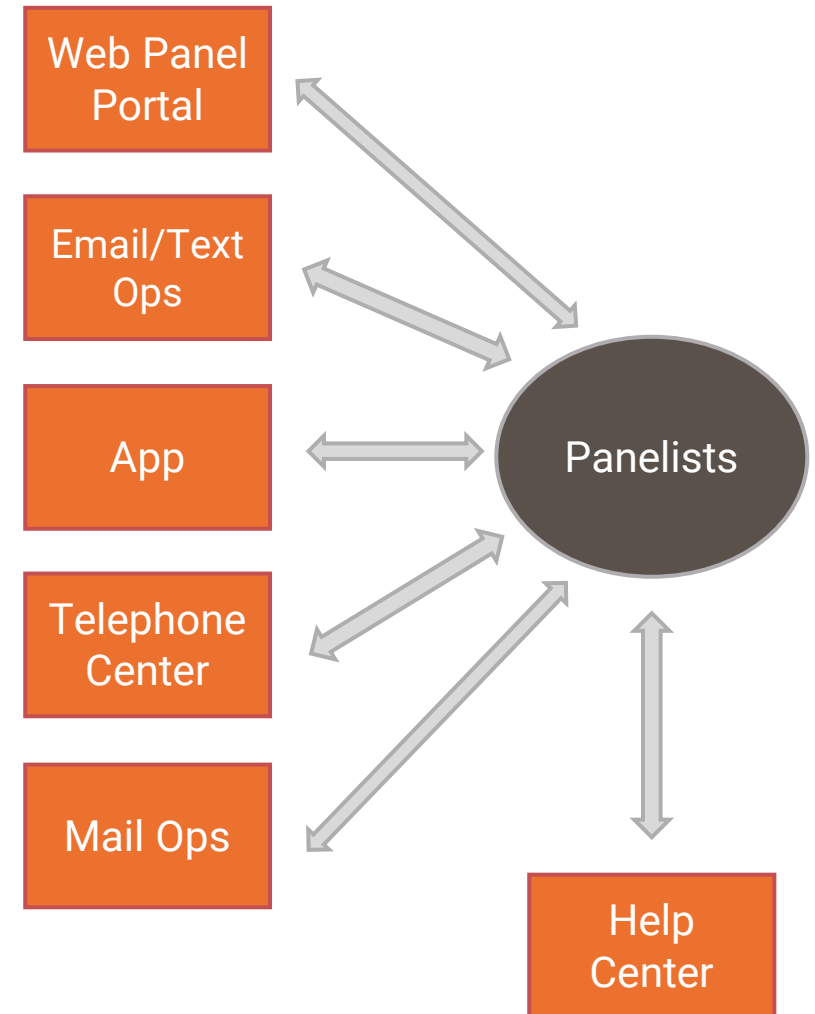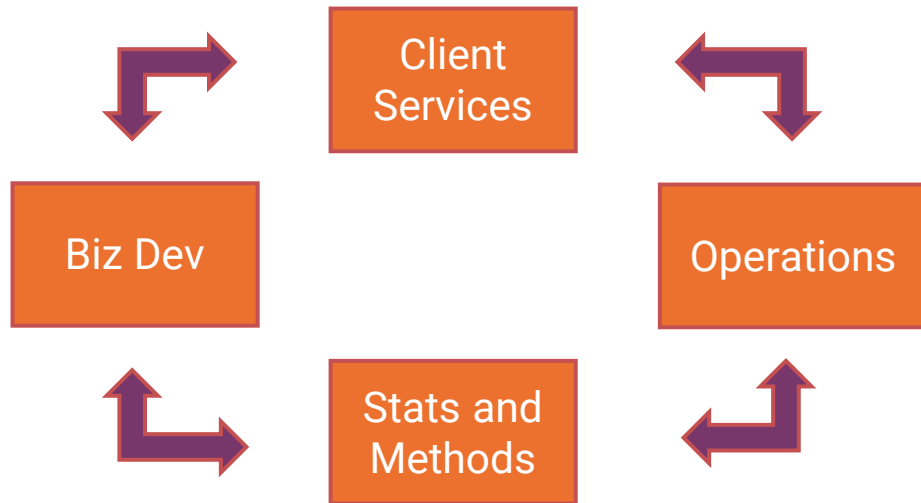
Panelist Relationships, Engagement and Retention

Panelist retention and engagement

Communication with panelists after the recruitment:

- Welcome packet

- New recruit mailings *(in experiment phase)*

- Profile surveys

- Client surveys

- Birthday greeting cards

- Quarterly newsletters

- Surveys administered to refresh demographics (periodically)

- Engagement efforts for under-represented populations

    - E.g., Hispanic engagement *(in experiment phase)*

Overview

- **Research question:** How to best retain Hispanic and Latino respondents in AmeriSpeak?

- **Hypothesis**: Latino-focused engagement will increase retention

- **Experimental design**:
  - 2x2
  - Series of engagement surveys on Latino issues (yes/no)
  - Series of infographics using survey results on Latino issues (yes/no)

Completion Rates

Highest to lowest

1) Engagement survey + Infographic
2) Infographic
3) Engagement survey
4) None

Rates drop across time

Complete Rates (Weighted)
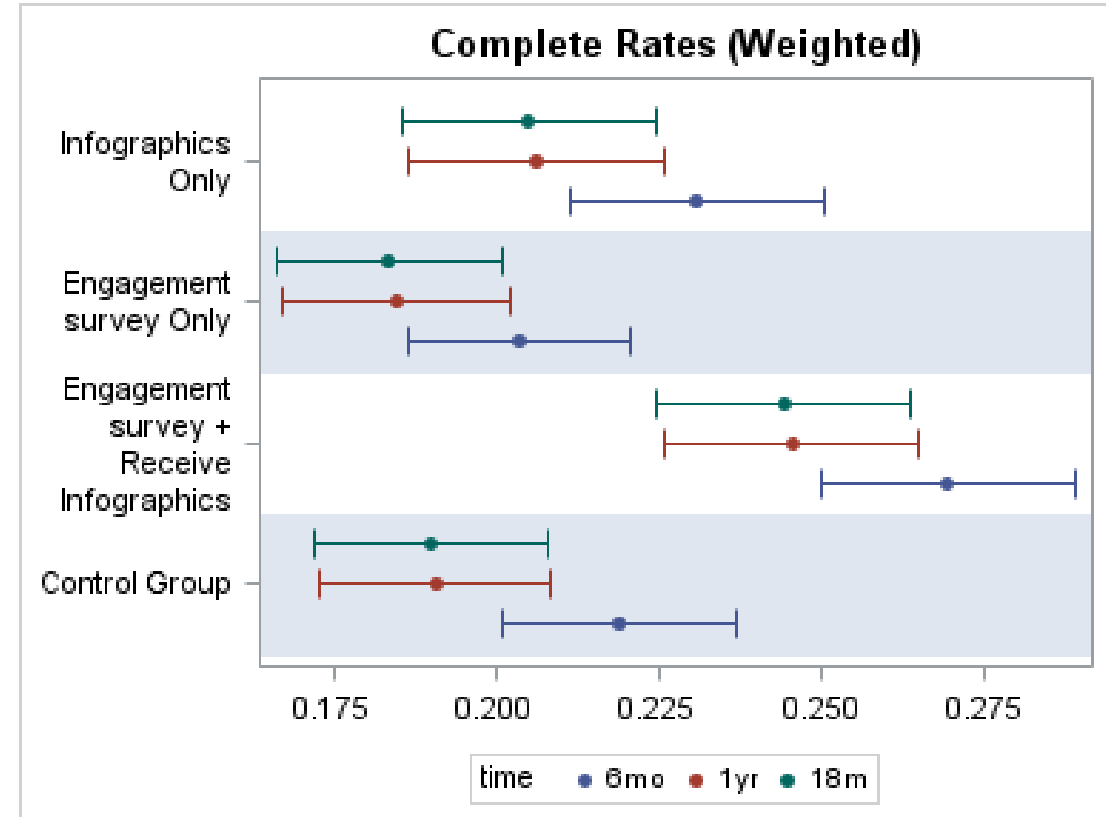
New Recruit Mailings Experiment

- **Research Objective:** Assess if engagement mailings and emails sent in the first six months of empanelment impact participation rates and retention

- **Sample Universe:** Newly recruited panelists, >=18

- **Experiment Groups:**

  – No mail or email

  – Email-only

  – Mail-only

  – Both mail and email

Mean CR

Legend:
- No mail or email
- Both mail and email
- Email only
- Mail only
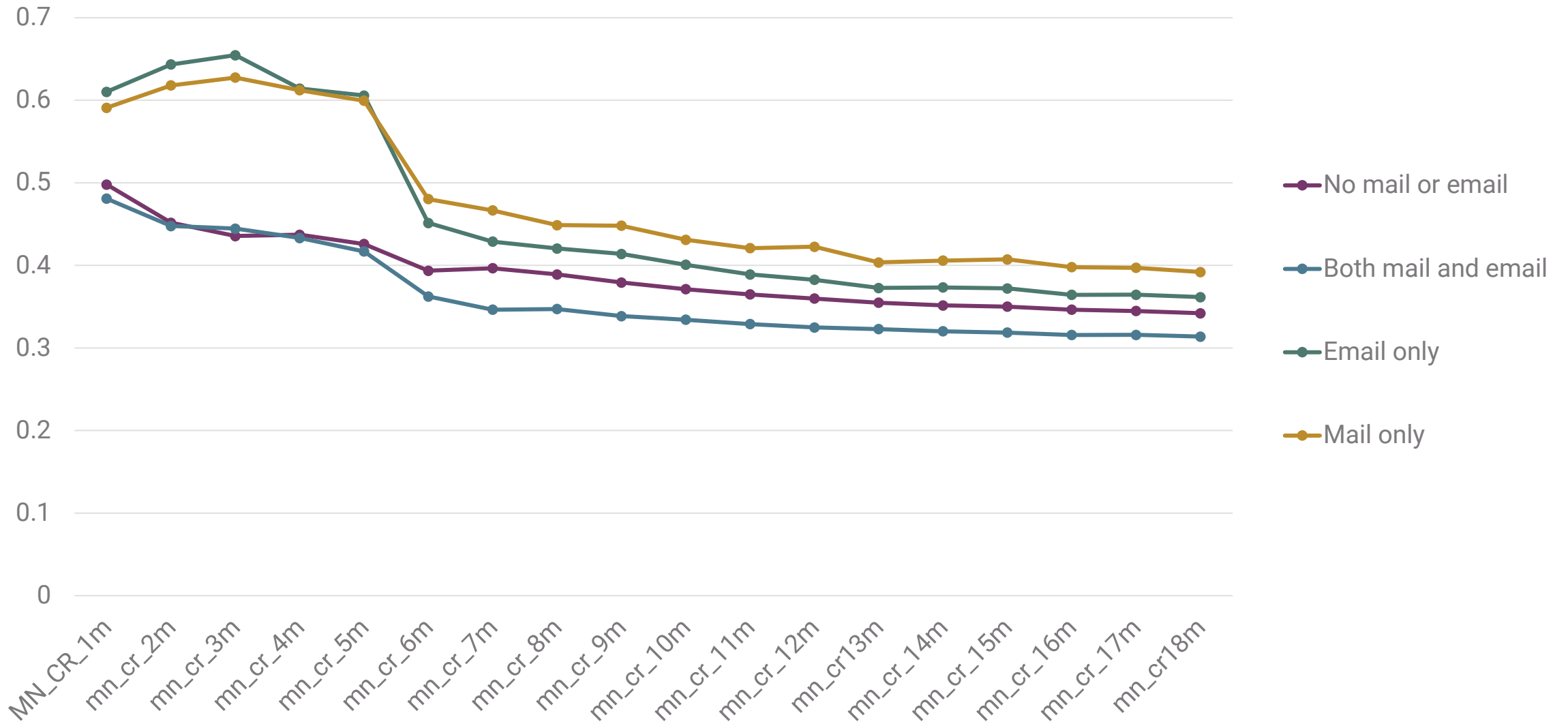
Response and Error in Panels

Review: Issues in Panel Quality and Potential Error

1. Response rates

2. Overall representativeness

3. Considering recruiting effort on nonresponse

4. Considering modality/mode effects

5. Panel conditioning

6. Dealing with cheaters/panelists that provide suboptimal responses

7. Transparency

Response rates

Response Rates in Panels

$$\text{Recruitment rate (RECR)} = \frac{IC}{IC + (R + NC + O) + e(UH + UO)}$$
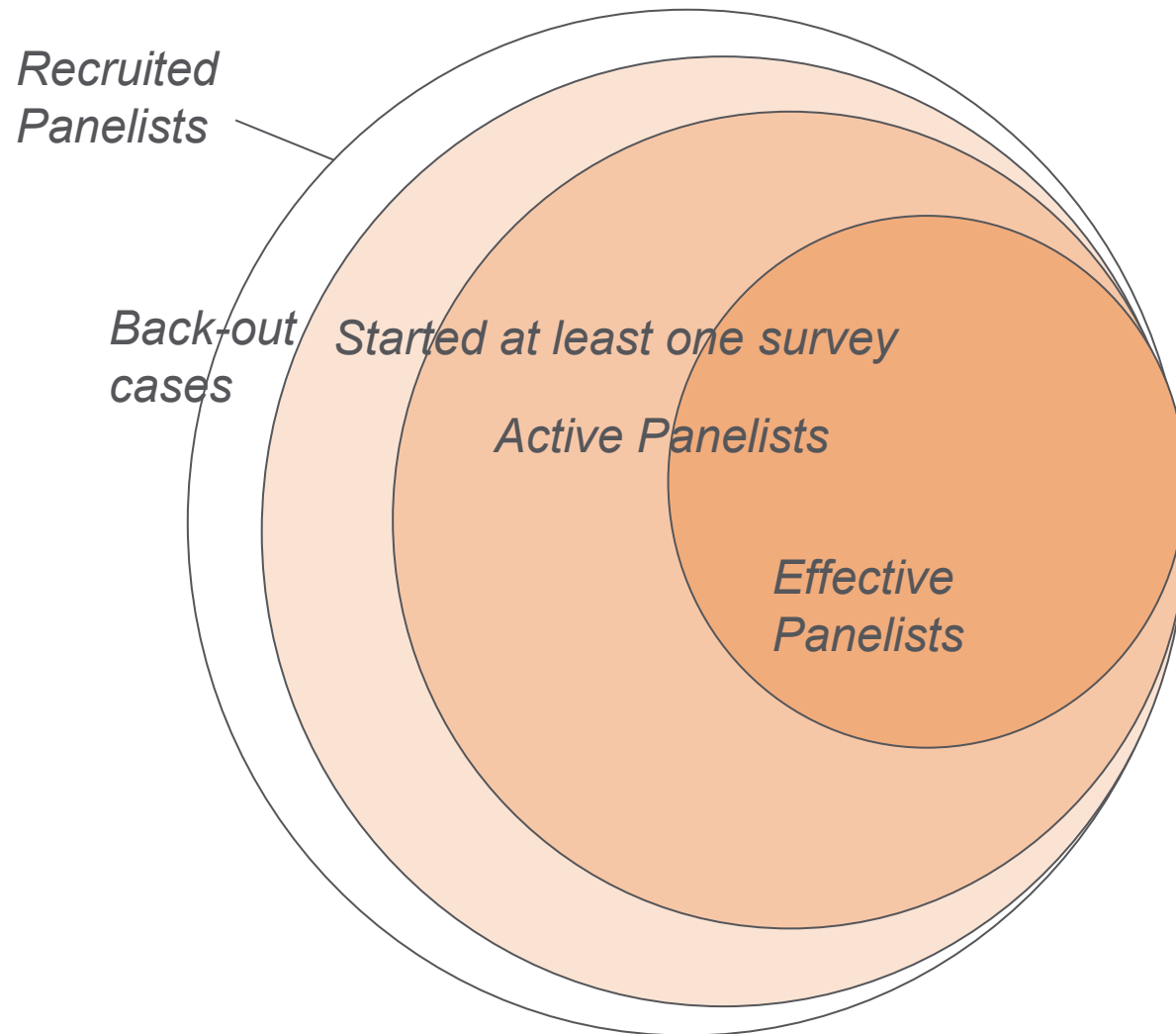
$$\text{Profile rate (PROR)} = \frac{(I + P)}{(I + P) + (R + NC + O)}$$

$$\text{Completion rate (COMR)} = \frac{(I + P)}{(I + P) + (R + NC + O)}$$

$$\text{Cumulative response rate (CUMRR)} = \text{RECR} \times \text{PROR} \times \text{COMR}$$

Overall Representativeness

Recruited Panelists

Back-out cases

Started at least one survey

Active Panelists

Effective Panelists

- All recruited panelists

- Started at least one survey (non-backouts)

- Active panelists

- Effective panelists

Working With the End in Mind: Nonresponse In Panels

Nonresponse Types in Panels:

1. Recruitment: Recruits/Non-recruits

2. Empanelment: Dropouts or *Backouts*

3. Complete Attrition: Persons who stop participating entirely

4. Graduated Attrition: Persons whose cooperation rate declines

Measurements of Nonresponse:

1. Recruits: Whether they joined or not!!

2. Backouts: Whether they did any profile surveys (and/or combined with initial client surveys)

3. Complete Attriters: Active Status: 6-month, 12-month, etc.

4. Graduated Attriters: "Effective" Panelists: Using the "current" (6 mo, 12 mo) completion rate as a weight
    – Really a "total nonresponse" measure given nonrecruits, backouts and complete attriters will have a weight of zero.

- When panels say they are representative, well, it depends what they are talking about!

Comparison of Demographics by Sample Type and the ACS
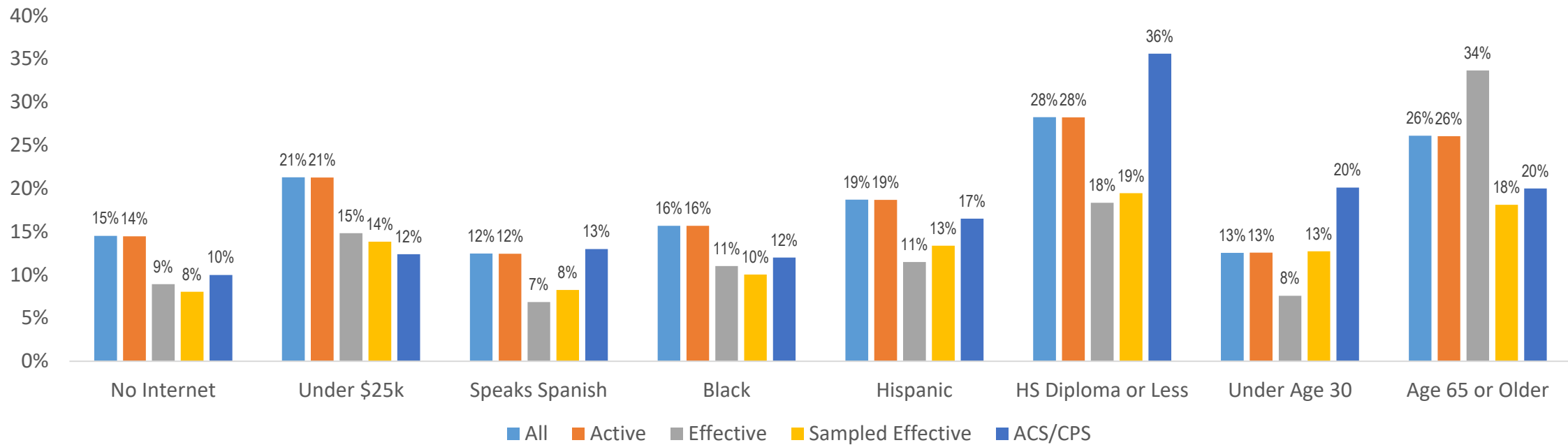
- Panelists have a "honeymoon" period that lasts about 6 months

- There is then a slower decline in participation over time that is markedly flat

Participation Rates By Annual Panelist

Year/Quarter
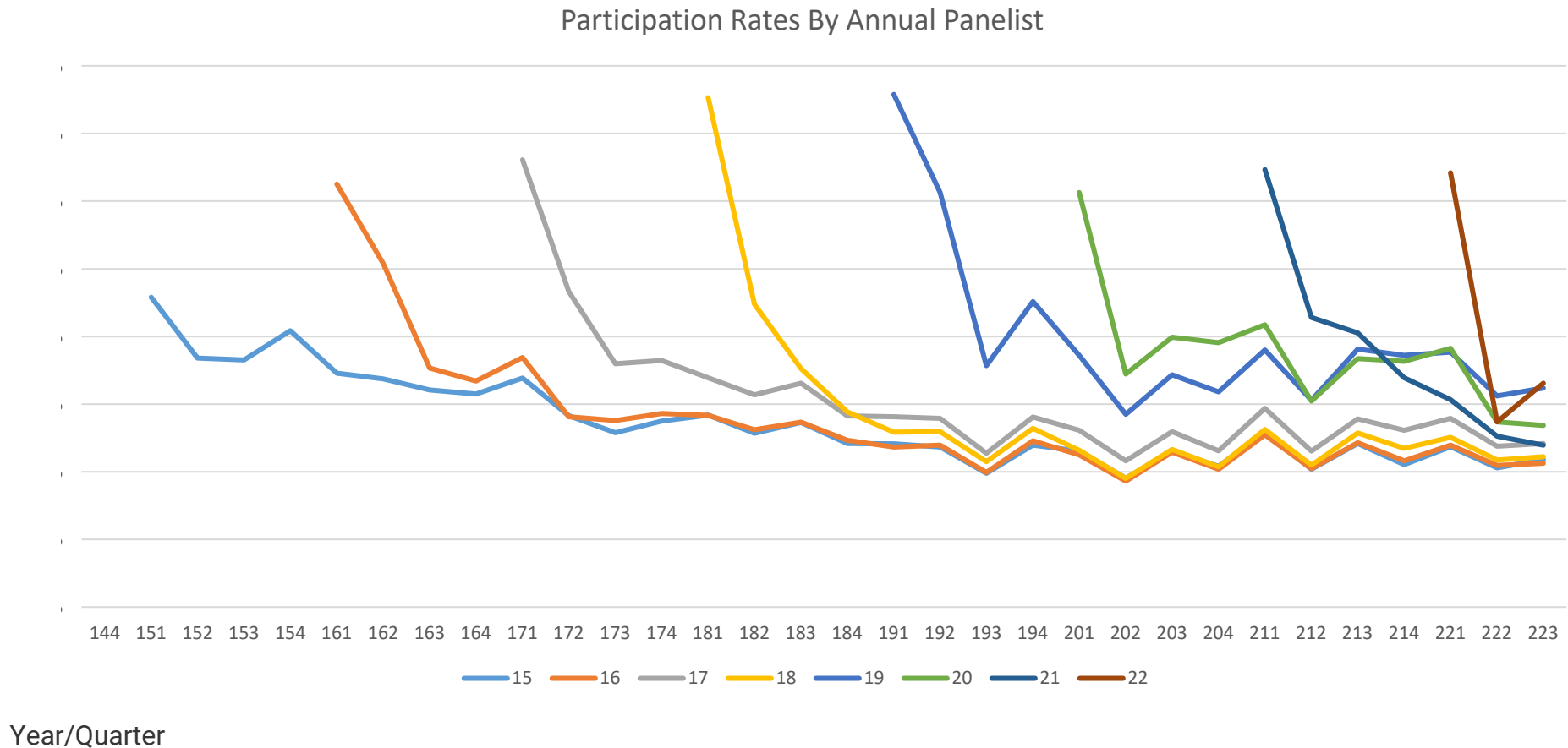
Systematic Nonresponse Over Time?

AmeriSpeak research finds little change over time in nonresponse (from where panelists initially start)

Participation by Quarters by Educ

Participation by Quarters by PartyID
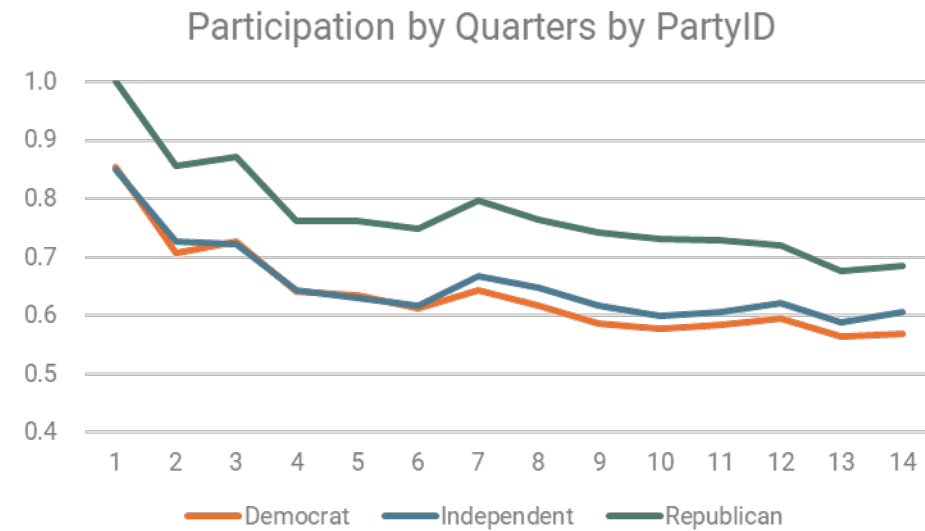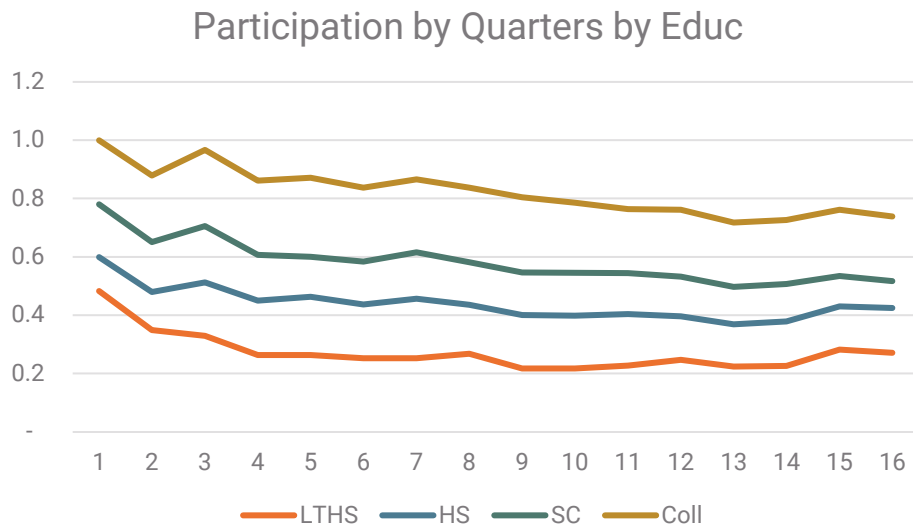
Considering recruiting effort on nonresponse

Demographics by Recruitment Mode and Benchmark (ACS)
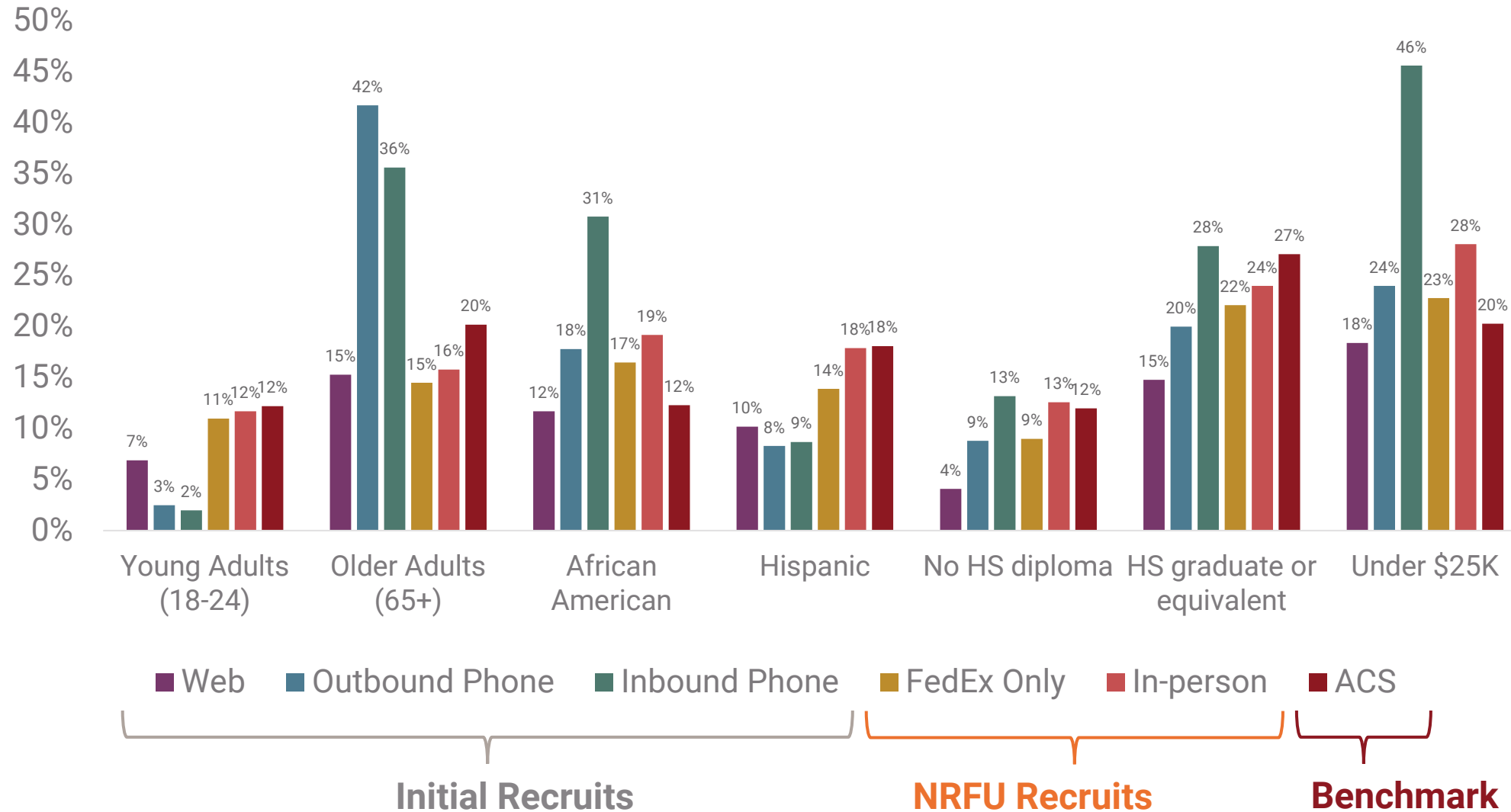
NRFU Produces Different Estimates for Measurement of Attitudes and Opinions (even after weighting)

	Items different at p = 0.05
Gun Control	10/39 = 25.6%
GSS	5/29 = 17.2%
NASA	4/17 = 23.5%
Overall	**19/85 = 22.4%**

Statistical significance is determined by a χ2 Test (NRFU vs. Initial)

Considering modality/mode effects

Mode measurement effects during panel survey data collection

- While a mixed mode methodology **improves representativeness** and reduces costs, it can also potentially **increase mode measurement effects**

  – Researchers want to maximize representativeness

  – Researchers want to minimize mode effects

- Are the differences in estimates due to mode effects vs. composition differences (sample representation)?

  – Conducted a study to assess this question

  – Examined ~100 items

Panelist usual mode — Experimental study mode

Phone — Phone — **Phone-Phone**

Web — Phone — **Web-Phone**

Web — Web — **Web-Web**
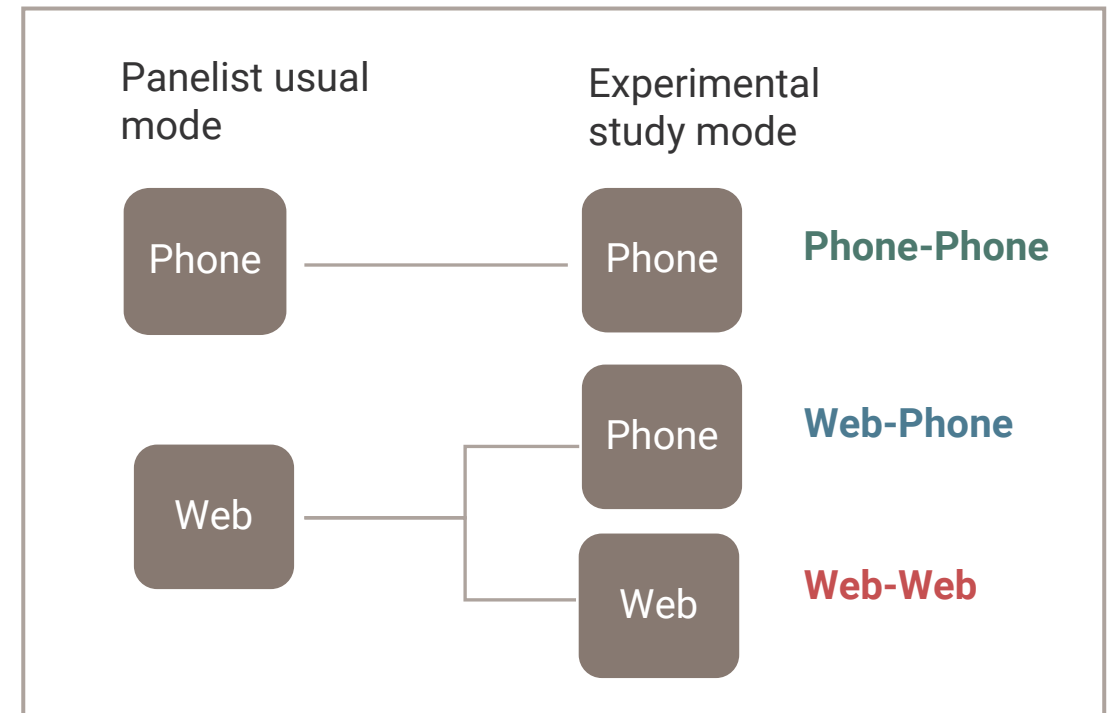
Are the differences due to composition or the survey mode?

In general, do you think the benefits the United States gets from legal immigration outweigh the risks, or are the risks to the United States great enough so that legal immigration should be further limited?
% Outweigh
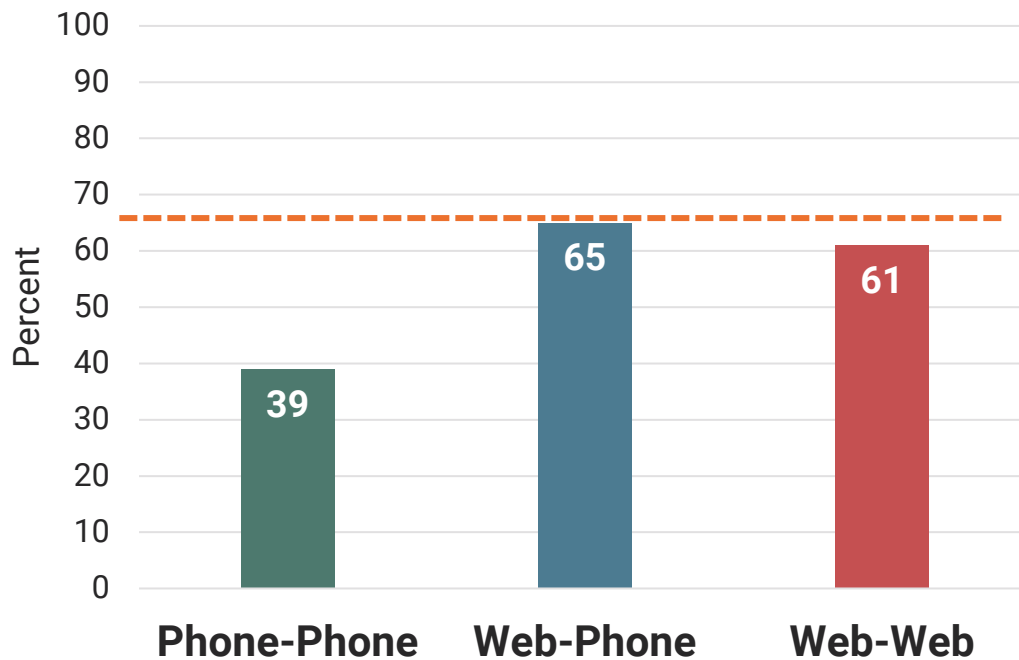
Is there a lot of discrimination against each of the following groups, or not?
Blacks
% Yes, a lot of discrimination

	Phone-Phone	Web-Phone	Web-Web
% Outweigh	39	65	61

	Phone-Phone	Web-Phone	Web-Web
% Yes, a lot of discrimination	72	76	66
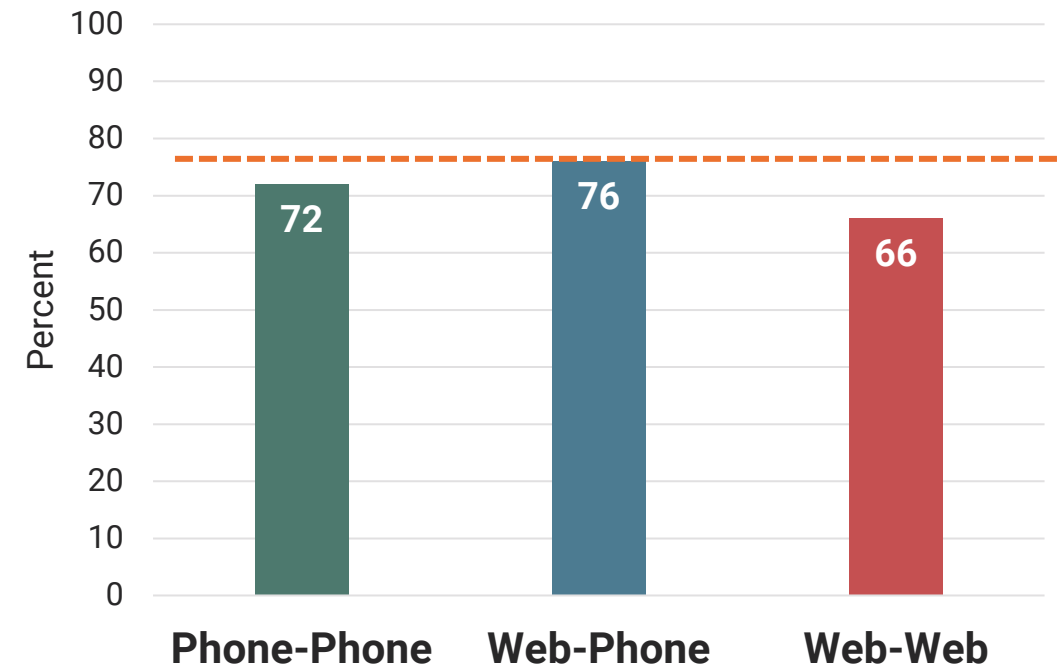
Are the differences due to composition or survey mode differences?

	Different at p = 0.05
Selection *(Composition differences)*	22%
Measurement *(Mode effects)*	10%
Both	7%
None	61%
TOTAL	**98 items**

Panel conditioning

Panel conditioning is the change in a person's survey responses that is influenced by their panel tenure and panel experiences

- Examples of panel conditioning effects

  - *Improve quality:* As their panel tenure increases panelists may be more willing to offer an opinion, <u>reducing no opinion and DK survey responses</u>
  - *Degrade quality:* More tenured Panelists learn to take surveys more quickly by <u>refusing to answer survey questions </u>more often than less tenured panelists

- Positive or negative influences on repeated measures

  - *Improve quality:* when respondents have the time to think about the inquired topic
  - *Degrade quality:* when the panelists change their true attitudes and behaviors due to exposure to the topic in past surveys

# Does Panel Tenure Matter? Recent AmeriSpeak Research

1. Willingness of offering an opinion?

2. Become more knowledgeable and interested?

3. Provide more extreme responses to attitudinal questions?

4. Provide more moderate and/or no opinion responses?

5. Provide more or less item non-response, speeding, and satisficing?

Results in Literature and Recent AmeriSpeak Research Consistent: Generally Weak to Null Effects

- **Increase in willingness to offer an opinion** – No evidence of a difference in willingness to offer an opinion

- **Increase in Knowledge** – Later responses were found to be somewhat more accurate

- **Response extremity** – No evidence that panelists change in extremity

- **Change in no opinion responses** – No evidence of change

- **More or less item non-response, speeding, and satisficing** – No change in item nonresponse; Survey length somewhat larger for later responses; No evidence in difference in satisficing

Panel conditioning effects are generally either insignificant or modest and often tending to improved response

Dealing with cheaters/panelists that provide suboptimal responses
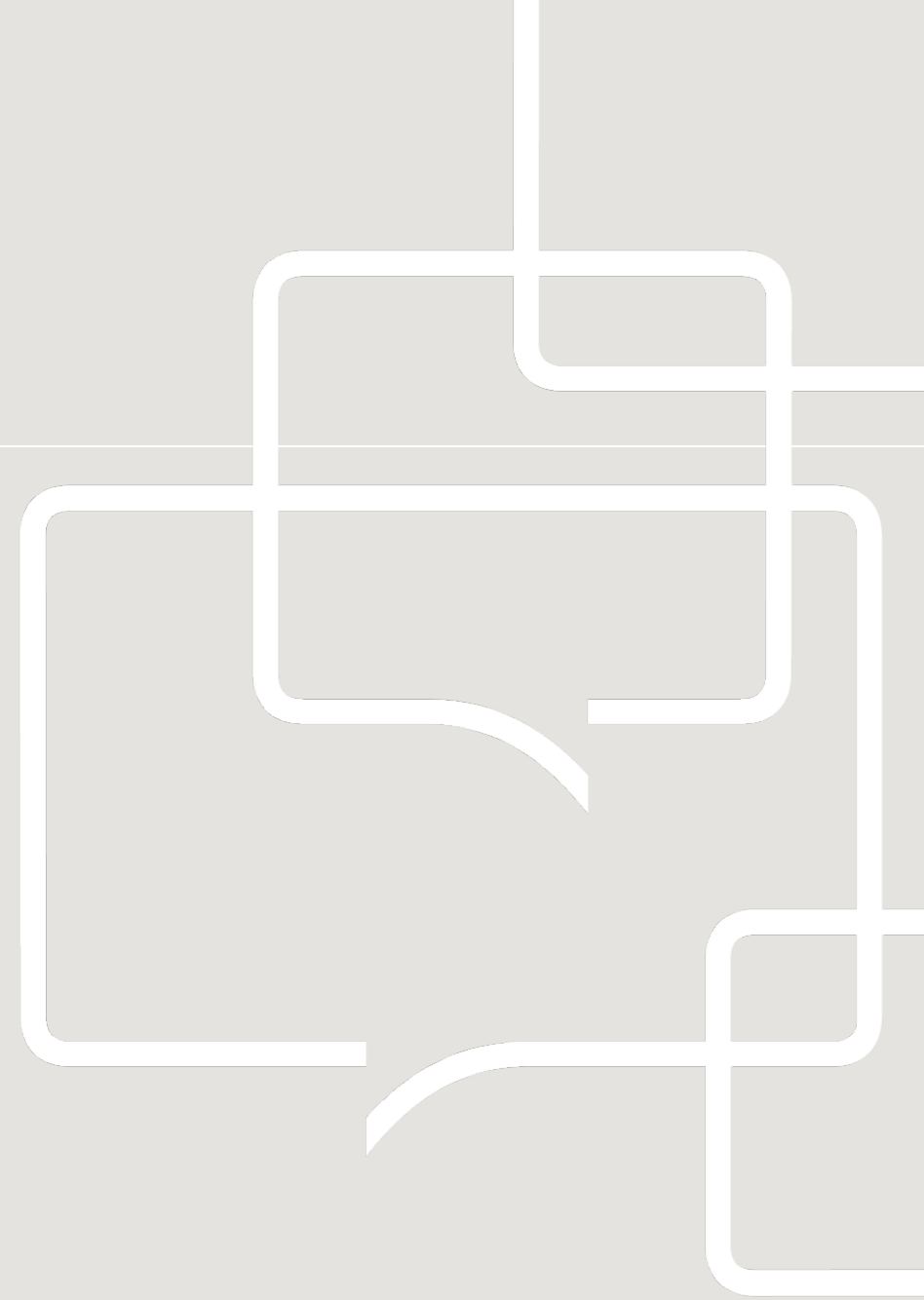
Users of online panel data are concerned about potential data quality issues introduced by three types of respondents.

Fraudulent respondents

- Complete multiple surveys
- Misrepresent themselves at sign up
- Misrepresent themselves in screening

Professional respondents

- Belong to multiple panels
- Complete large numbers of surveys

Inattentive respondents

- Speed
- Straightline
- Give non-substantive answers
- Skip items

These data quality issues are more of a concern for nonprobability-based panels because of their sampling and recruitment methods.

Probability-based panels

- Select and recruit panelists from a set sampling frame

- Recruit using well-established contact modes

- Researchers have precise control over who is invited and allowed to join

Nonprobability-based panels

- No set sampling frame

- Use ads to recruit

- Successful recruitment requires seeing an ad and self-selecting into membership

- Fraud easier

- Burden higher and thus potentially more professional respondents

Transparency

Standard Disclosure in Project Reports

✓ Rights of Human Subjects Documentation

✓ Panel Construction Protocol

✓ Within-Panel/Study-Specific Sampling Protocol

✓ Gaining Cooperation Protocol

    ✓ Schedule of Email/SMS texting/Outbound Phone Outreach

    ✓ Respondent Incentives

✓ Data Quality Inspection Reviews

✓ Response Rate Reporting by Component

(using AAPOR Standard Definitions)

✓ Weighting Complete Documentation

    ✓ Base weighting

    ✓ Post-stratification weighting

    ✓ Trimming rules

    ✓ Control totals and benchmarking sources

AAPOR Transparency Initiative
AMERICAN ASSOCIATION FOR
PUBLIC OPINION RESEARCH

TI Compliance Checklist
(revised April 2021)

Required Disclosure Elements for Immediate Release	Does My Methodology Statement Include:
1. Data Collection Strategy: Describe the data collection strategies employed (e.g. surveys, focus groups, content analyses).	
2. Who Sponsored the Research and Who Conducted It. Name the sponsor of the research and the party(ies) who conducted it. If the original source of funding is different than the sponsor, this source will also be disclosed.	
3. Measurement Tools/Instruments. Measurement tools include questionnaires with survey questions and response options, show cards, vignettes, or scripts used to guide discussions or interviews. The exact wording and presentation of any measurement tool from which results are reported as well as any preceding contextual information that might reasonably be expected to influence responses to the reported results and instructions to respondents or interviewers should be included. Also included are scripts used to guide discussions and semi-structured interviews and any instructions to researchers, interviewers, moderators, and participants in the research. Content analyses and ethnographic research will provide the scheme or guide used to categorize the data; researchers will also disclose if no formal scheme was used.	
4. Population Under Study. Survey and public opinion research can be conducted with many different populations including, but not limited to, the general public, voters, people working in particular sectors, blog postings, news broadcasts, an elected official's social media feed. Researchers will be specific about the decision rules used to define the population when describing the study population, including location, age, other social or demographic characteristics (e.g., persons who access the internet), time (e.g., immigrants entering the US between 2015 and 2019). Content analyses will also include the unit of analysis (e.g., news article, social media post) and the source of the data (e.g., Twitter, Lexis-Nexis).	
5. Method Used to Generate and Recruit the Sample. The description of the methods of sampling includes the sample design and methods used to contact or recruit research participants or collect units of analysis (content analysis).	

Panel Surveys: How are panelists deployed and employed for surveys?

Fielding Surveys in Probability Panels

1. Sampling for studies

2. Options in fielding

3. Use/Burden

4. Outreach strategies to bolster response

5. Weighting

Sampling for studies

# Considerations in Study Sampling

1. Ensuring even use
   - Needing to generate a random sample of respondents
   - Needing to ensure panelists are used equally
   - Needing to ensure panelists participation is evenly spaces

2. A potential to reduce nonresponse
   - Sample stratification to release proportionate to Census counts
   - AmeriSpeak: 48 strata gender x educ x race/ethnicity x age
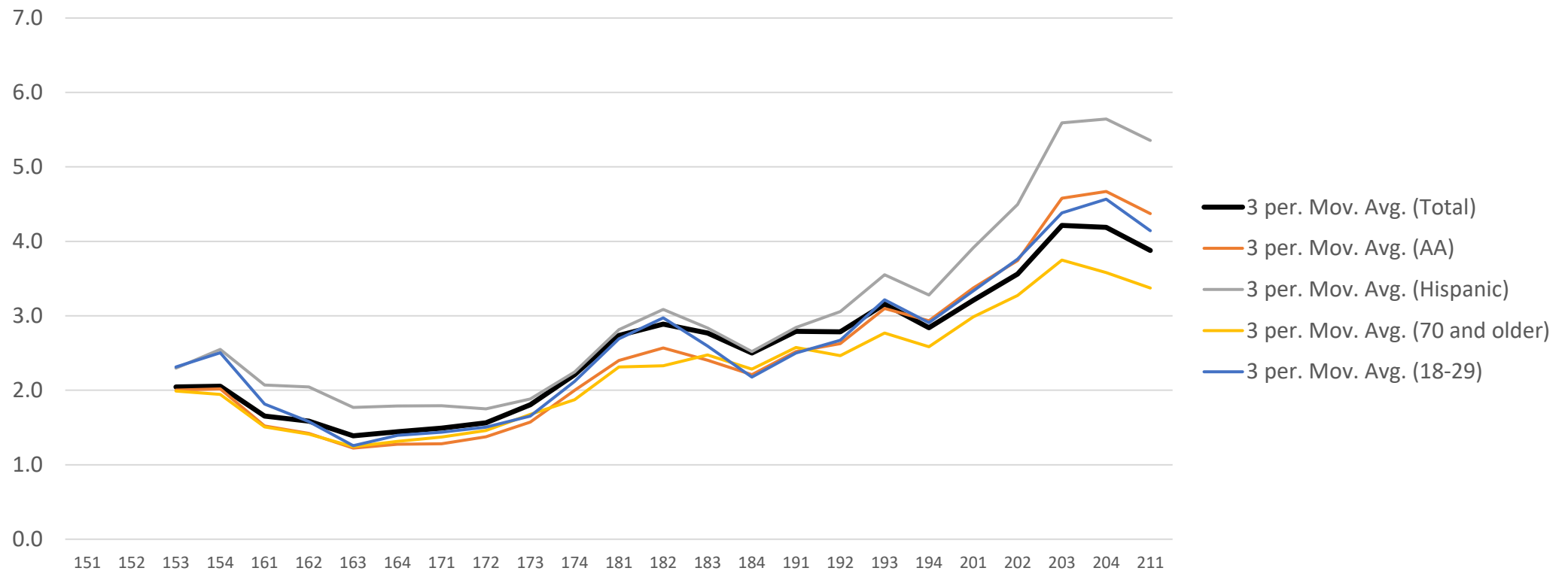   - Potentially sample based on historical cooperation rate
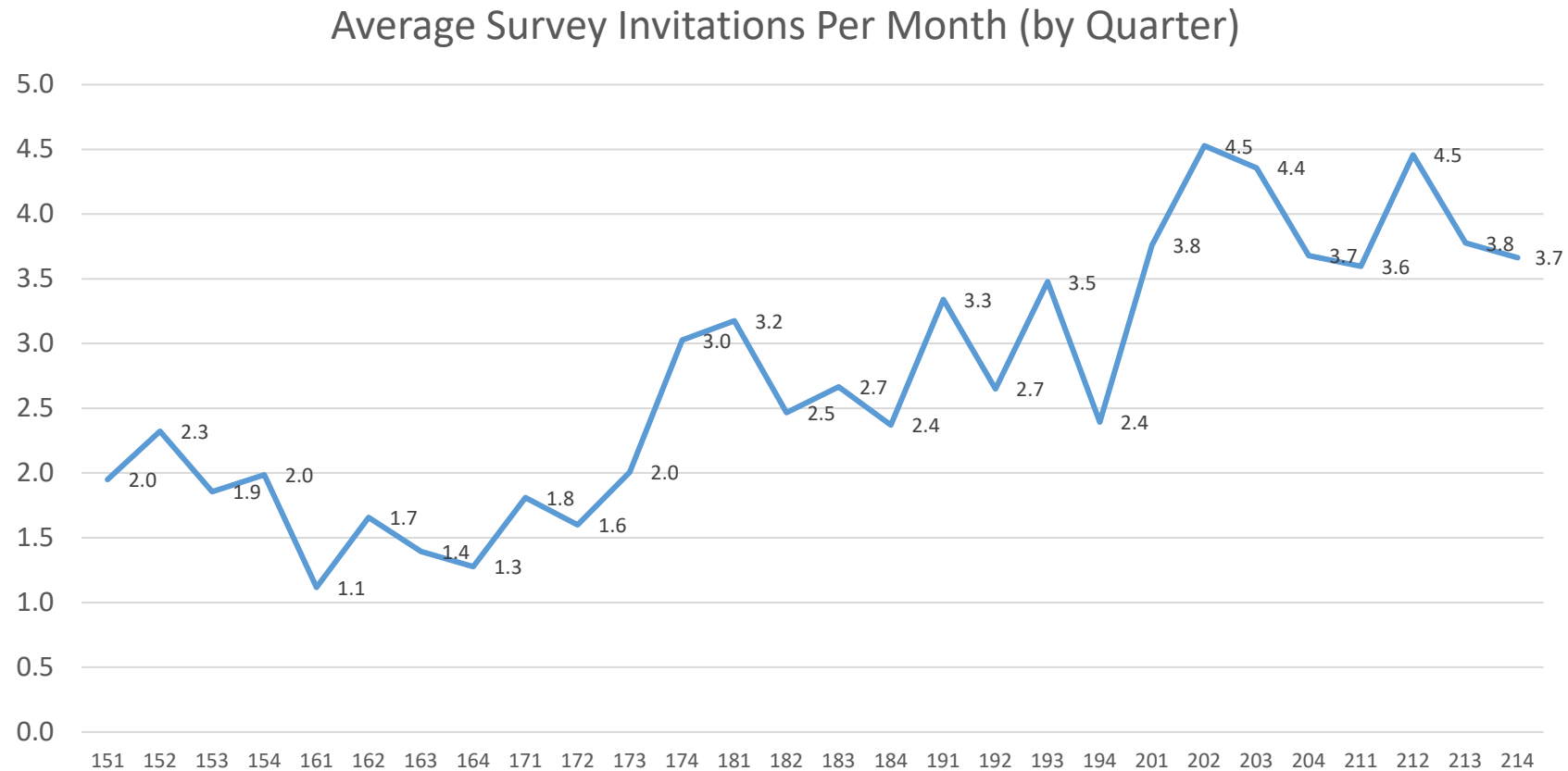
Use/Burden
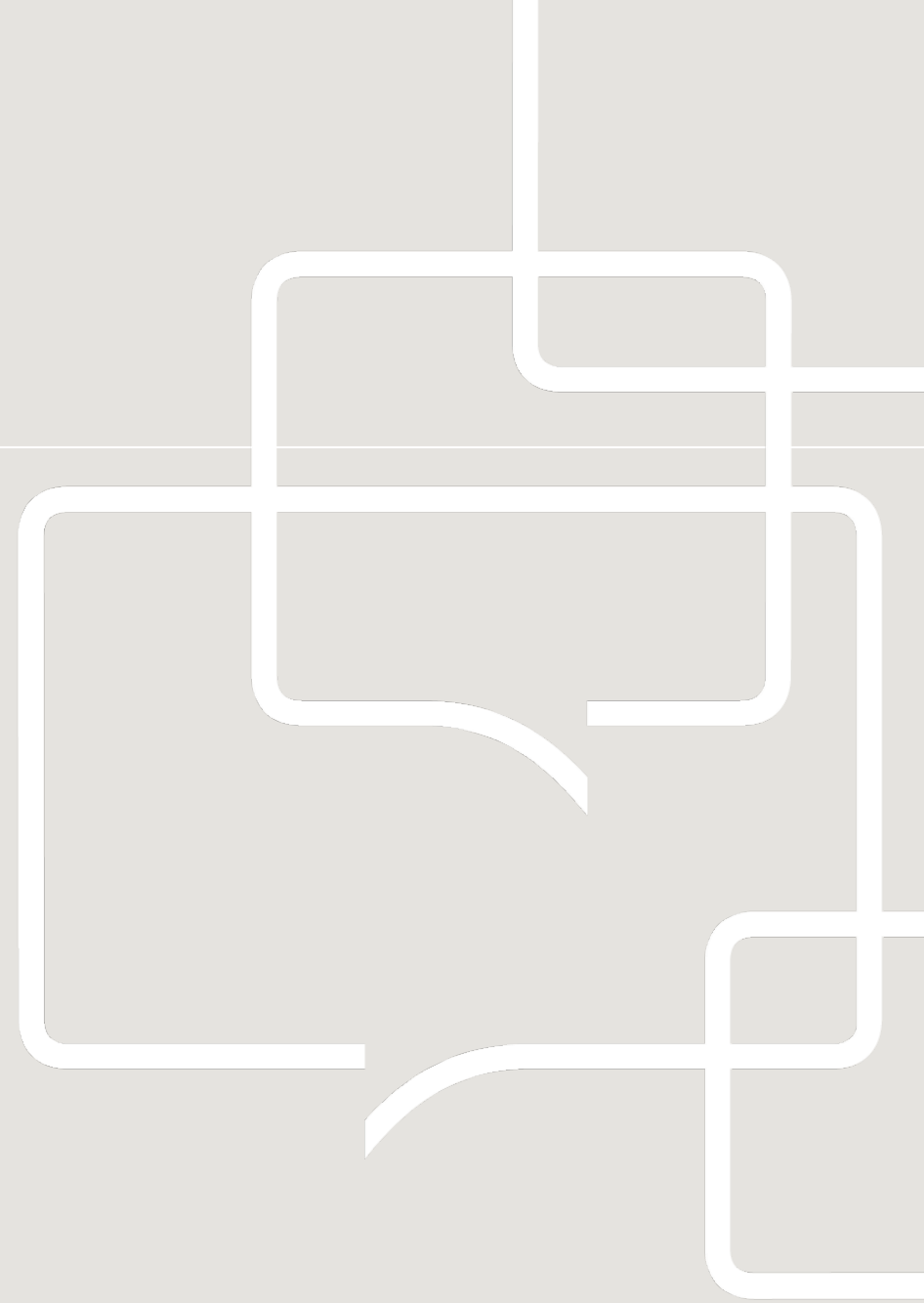
Differential burden by demographics

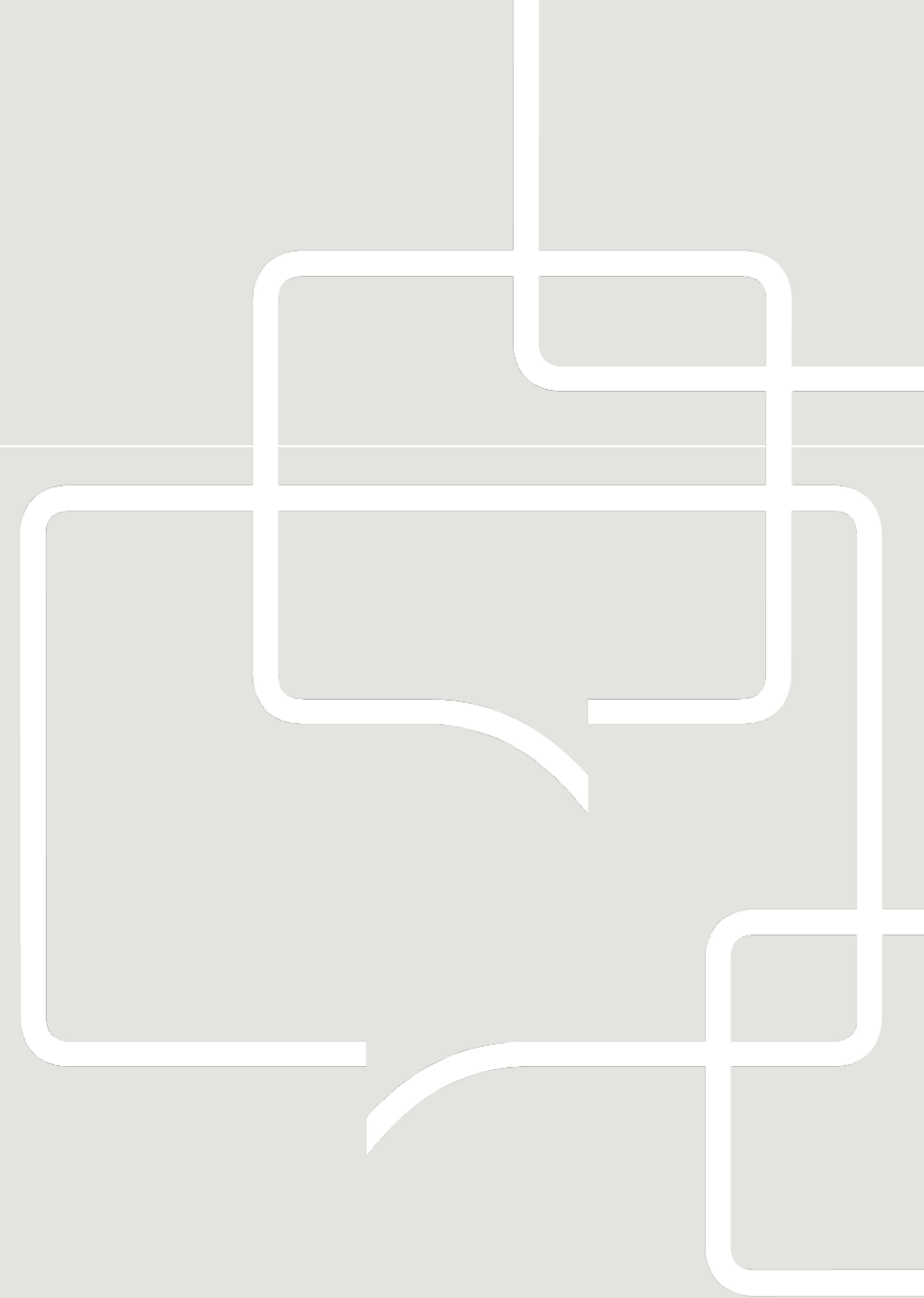AmeriSpeak uses its panelists 3x less than typical nonprobability samples

Average Survey Invitations Per Month (by Quarter)

The typical respondent has now been in the panel for over three years.

Average Survey Invitations Per Month (by Quarter)

Options in fielding

Considerations in Study Fielding

1. **How to alert panelists**
   - CAWI panelists might get a different method than CATI

2. **When and how often**
   - How many texts / calls / emails
   - How are all spaced out

3. **How much to incent**
   - Based on length / burden / response rate goals

4. **How long to field**
   - Longer generally garners higher response, but without repeated / more spread-out interventions, with less impact

5. **Whether to do anything further**
   - Options not part of the standard method
   - prenotification mailings, nonresponse mailings, etc.

Outreach strategies to bolster response

Strategies to increase cooperation in panel surveys

Targeting inactive and intermittent panelists

1. Using a different contact mode (e.g., mail) than the usual contact mode (e.g., web and phone)
   – Pre-notification letters (USPS mailings)

2. Pre-completion cash incentives
   – Re-establishing social trust

3. Messaging & Convenient questionnaire access
   – Sending study-specific URL + PIN instead of directing them to panel portal
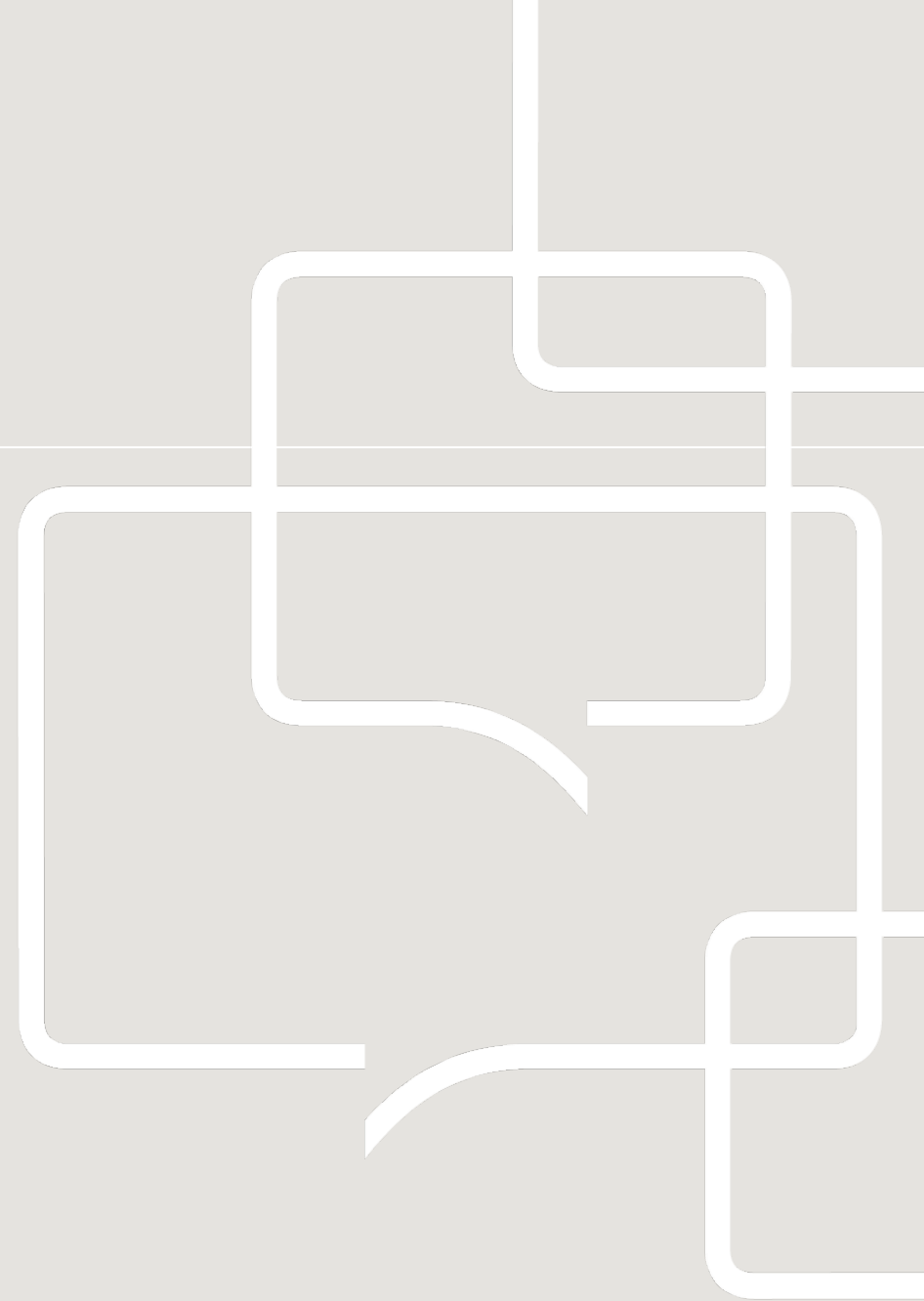   – Reducing panelist burden

We examined which of these interventions work for low-cooperation segments of the panel

Help bring back panelists that are less engaged

Beneficial cost implications – less expensive to bring back already recruited panelists than recruit new panelists

1. Using a different contact mode (e.g., mail) than the usual contact mode (e.g., web and phone)
   – Pre-notification letters resulted in a higher survey cooperation

2. Pre-completion cash incentives
   – Monetary pre-incentive helped but are not always necessary

3. Messaging & Convenient questionnaire access
   – Messaging does not matter as much – just need to remind panelists of surveys

Weighting

As two stage designs, panels can develop weighting procedures for both stages

- Stage One: Household Panel Weights:
    1. Probability of selection of the housing units for each sample
    2. Unknown eligibility
    3. Household nonresponse that occurs after recruitment
- Stage One: Person Panel Weights:
    1. Adjustment for nonresponse associated with panel members
    2. Raking ratio adjustment to person-level population totals
- Stage Two: Survey Weights:
    1. Apply the panel weight
    2. Weighting class nonresponse adjustment
    3. Raking, including interactives (age x gender, race/ethnicity x gender, age x race/ethnicity)

Q and A!
(And Thank You!)

NORC at the University of Chicago