

# Response Patterns in Probability based Web Panel

**ssrs**  
research. *refined.*

AAPOR Conference  
Toronto, ON

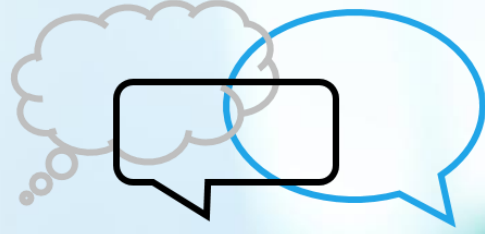
May 18, 2019

Chintan Turakhia  
Kyle Berta  
Jennifer Su  
Jennifer Schmidt  
Jonathan Best

The slide features a decorative border at the top and bottom consisting of a repeating pattern of hexagons. Some hexagons are outlined in blue, while others are in grey or black. The main content area is divided into a large dark grey rectangle on the left and a solid blue rectangle on the right.

# SSRS Opinion Panel Background

# SSRS opinion panel



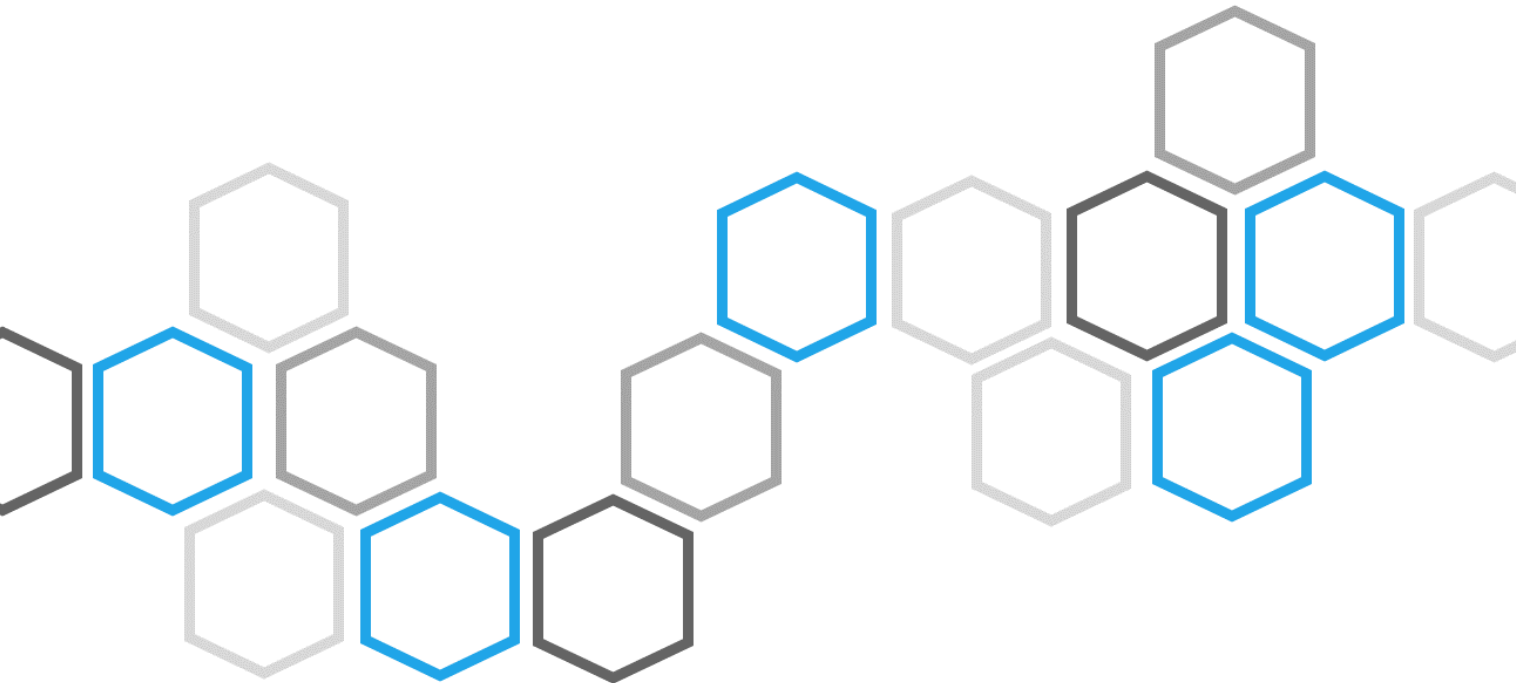
- Nationally representative panel of 10,000 respondents (and growing).
- Recruitment via SSRS Omnibus phone survey.
- Multi-mode panel: Internet respondents reached via Web, Non-internet respondents reached via phone.
- Text messaging capability.



Analytic Techniques:  
Use of Responsive Design and  
Non-Internet Calibration

# Using Responsive Design in Panel Recruitment

- Compute propensity score based on recruitment and panel participation rates.
- Control recruitment rates for various demographic groups based on the propensity scores.



Demographics	Relative Propensity Score
18 to 24	0.68
25 to 34	0.88
35 to 44	0.91
45 to 54	0.92
55+	1.00
LT High School	0.51
HS Grad	0.59
Some Col/Assoc	0.83
Bach/Post Grad	1.00
White Non-Hisp	1.00
Black Non-Hisp	0.79
Hispanic	0.90

# Non-Internet Respondents

- Approximately 10% of the U.S. population does not have the Internet;
- Ability to collect data from full general population via multi-mode or just online population calibrated to represent general population.
- For calibration:
  - Analyzed non-Internet population in 14 major national surveys (N = ~500,000) to understand who does not have the Internet, why, and whether an effective model could be built to account for the non-Internet population in surveys that do not cover this population.
  - SSRS analyzed over 500 variables in order to develop a final model predicting non-Internet use. Models attained high prediction (~80%).
  - For the online population, the calibration model serves as a propensity weight, weighting up persons who have the Internet but act, behave, and believe most like non-Internet respondents.

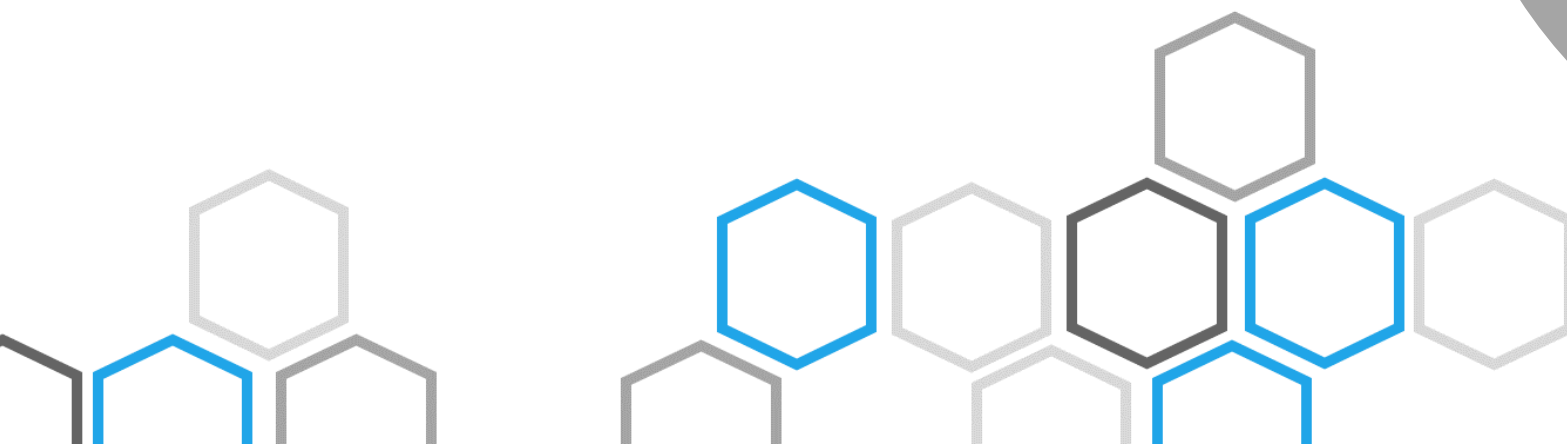
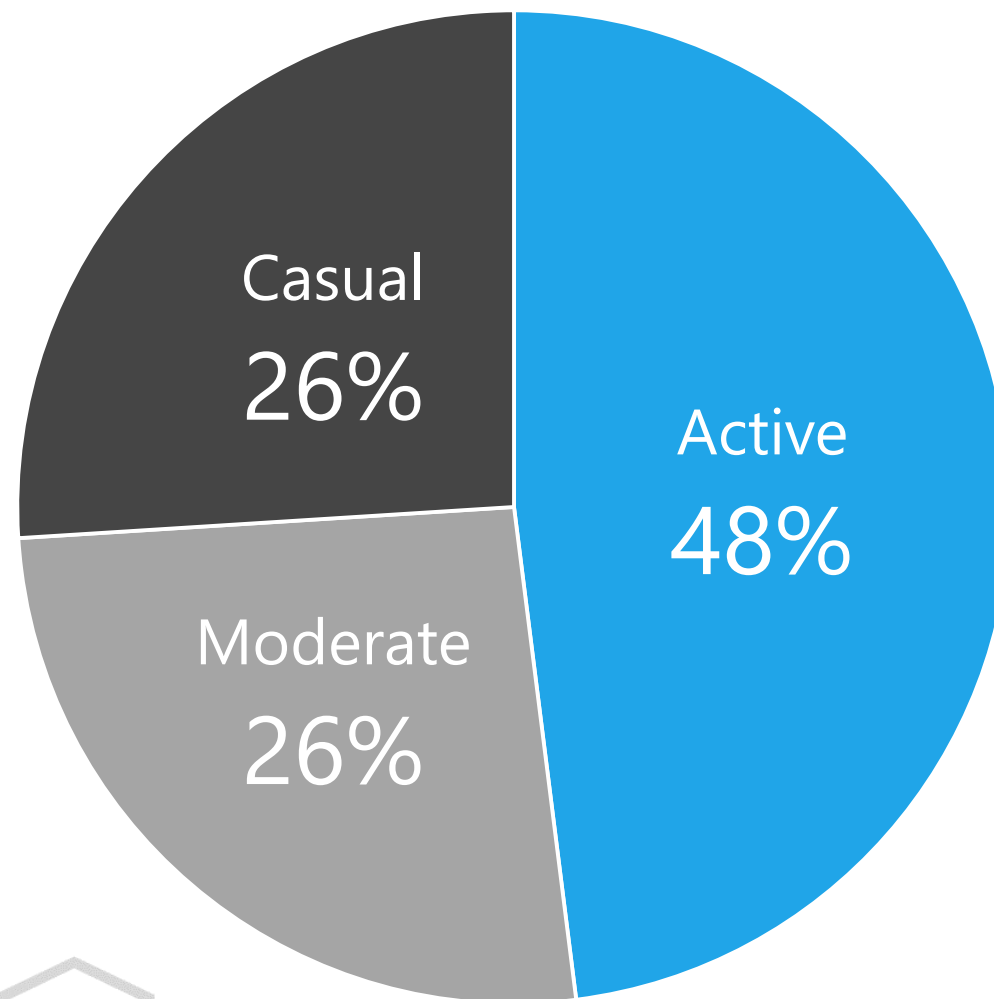


# Panel Engagement

# Engagement Level

Panelist engagement level is defined in three categories:

- Active (completed 3-4 surveys)
- Moderate (completed 2 of 4 surveys)
- Casual (completed 1 of 4 survey)



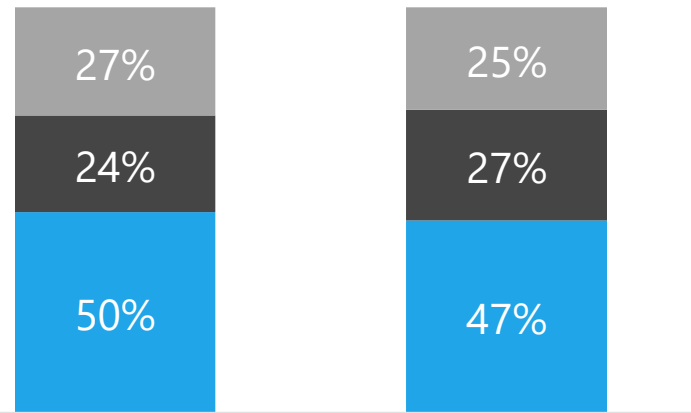


# Engagement Level by Gender & Education

No significant difference in engagement by gender and education.

■ Active ■ Moderate ■ Casual

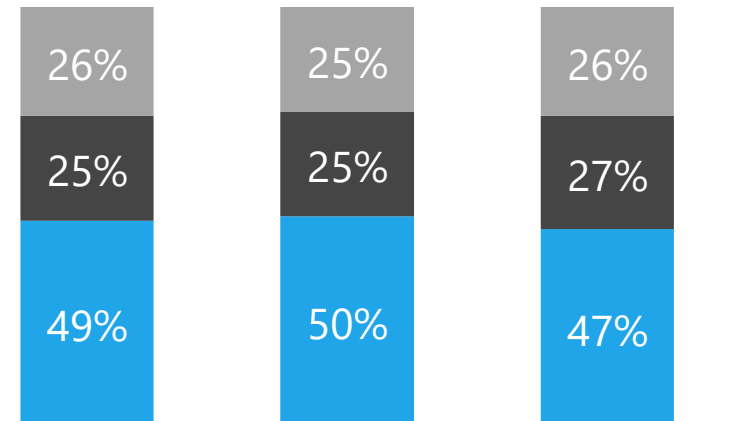
### Gender



(A)  
Male

(B)  
Female

### Education



(A)  
HS or less

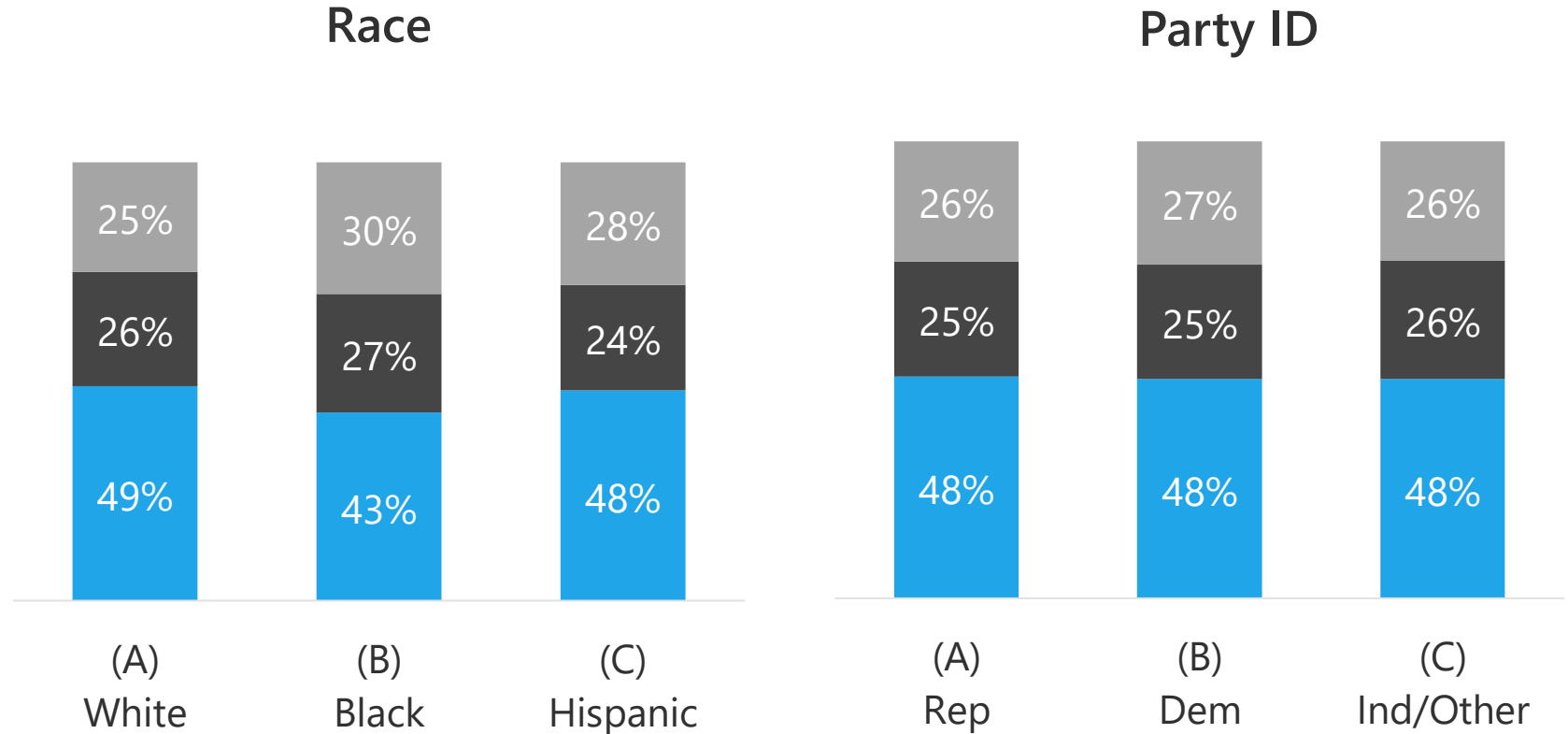
(B)  
Some college

(C)  
College graduate

# Engagement Level by Race and Party ID

No significant difference in engagement level by Race or Party ID.

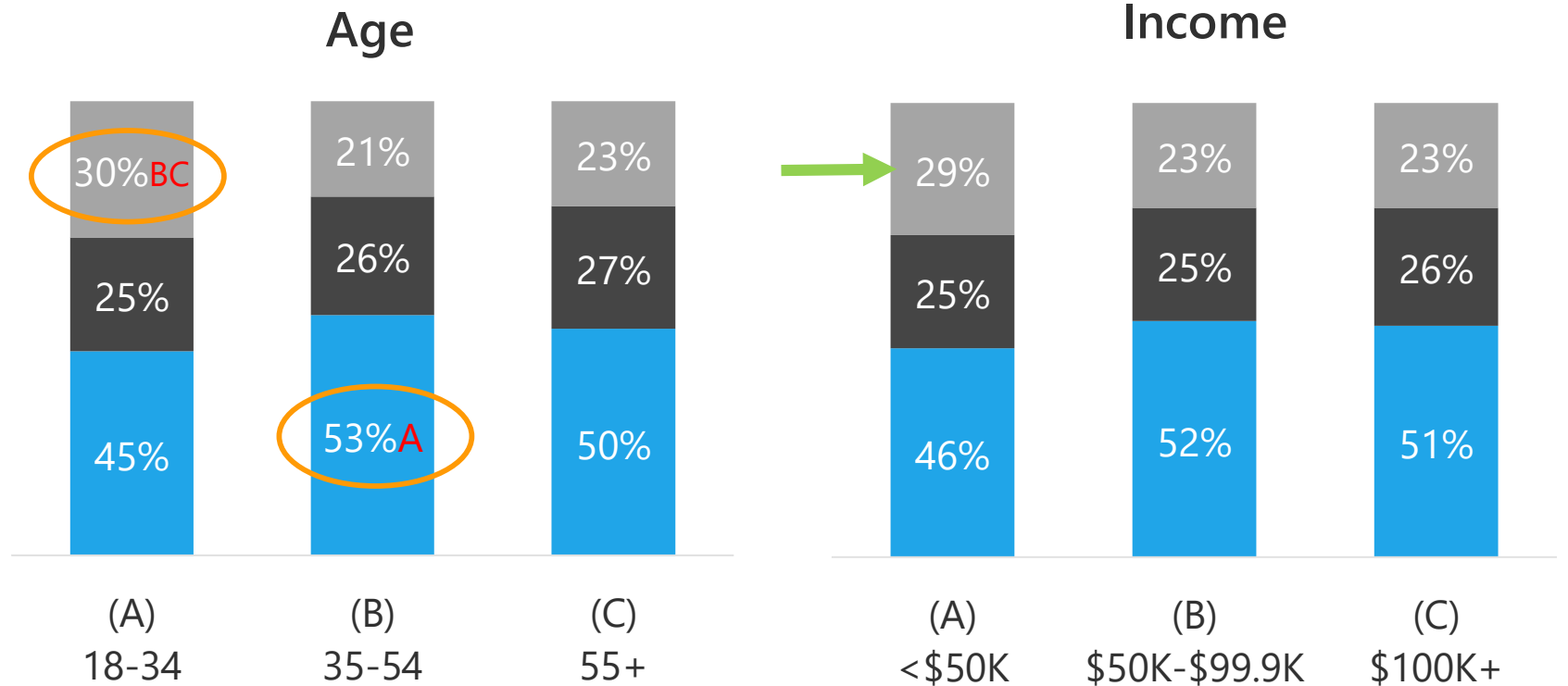
■ Active ■ Moderate ■ Casual



# Engagement Level by Income and Age

- Younger adults age 18-34 are less active (45%) and more casual (30%) panelists compared to older age groups.
- Lower income respondents are more likely to be casual panelists, although not significantly.

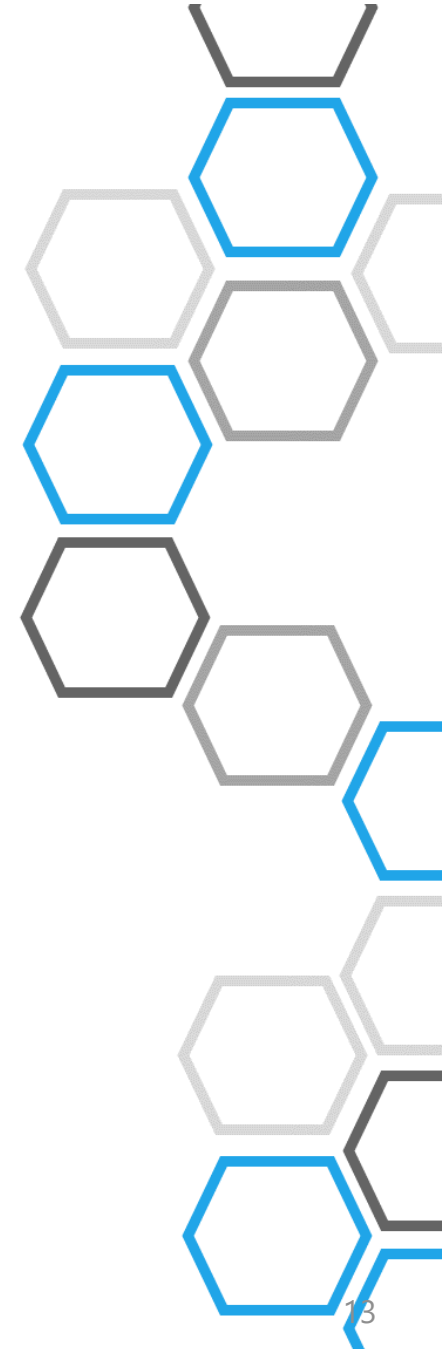
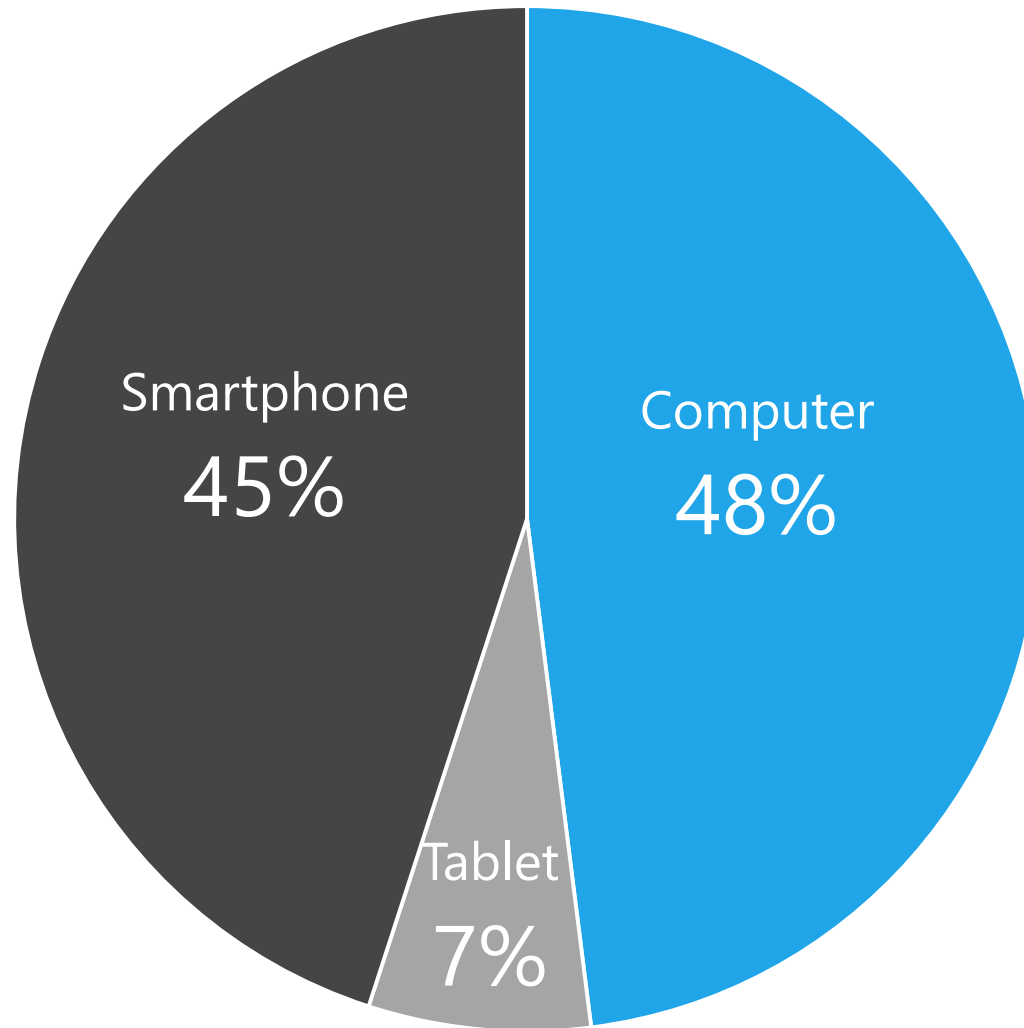
■ Active ■ Moderate ■ Casual





# Panel Participation by Device

# Participation by Device Type

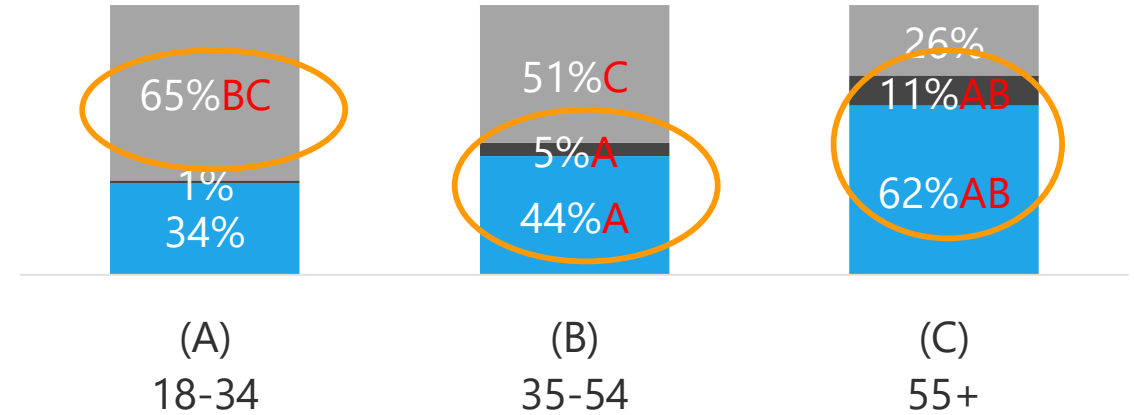


# Device Type by Age and Education

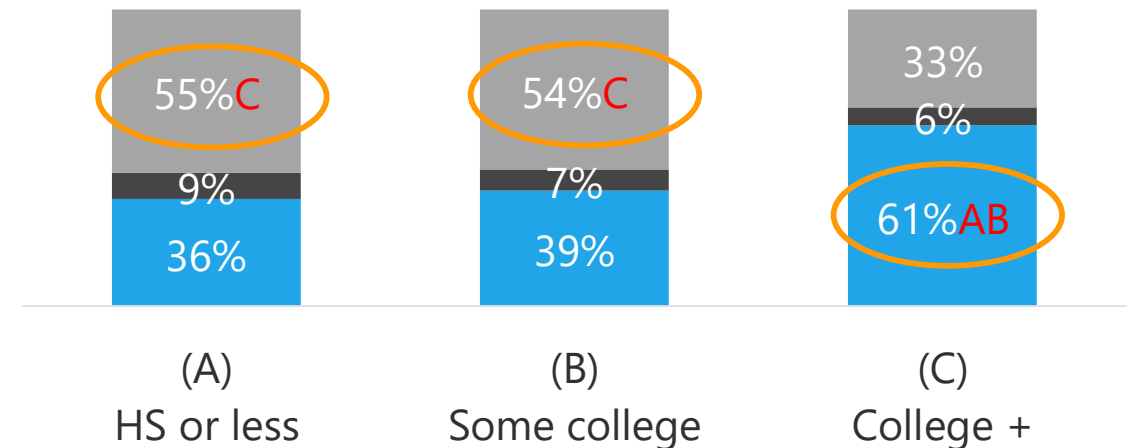
■ Computer ■ Tablet ■ Smartphone

- Older respondents are more likely to complete the survey on computers or tablets.
- Younger respondents are more likely to use smartphones.
- Respondents with a college degree are more likely to complete the survey on computer.
- Less educated respondents are more likely to use smartphones.

## Age



## Education

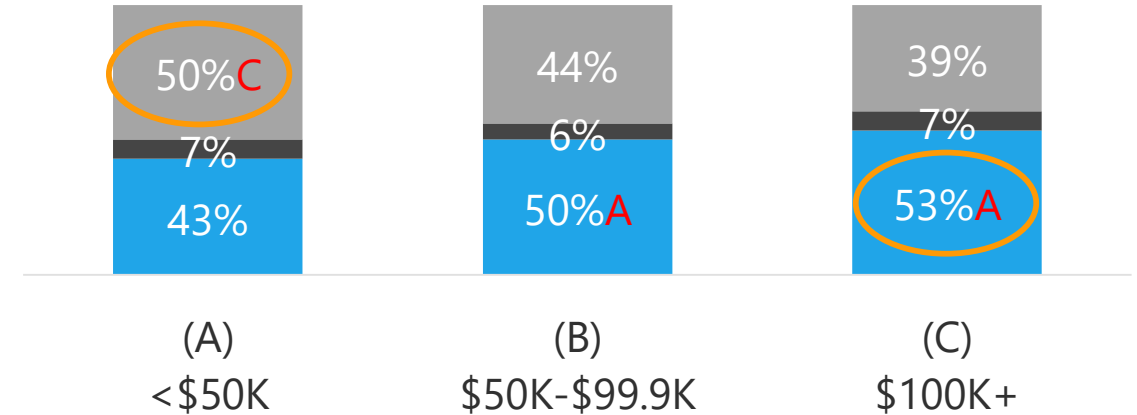


# Device Type by Income and Race

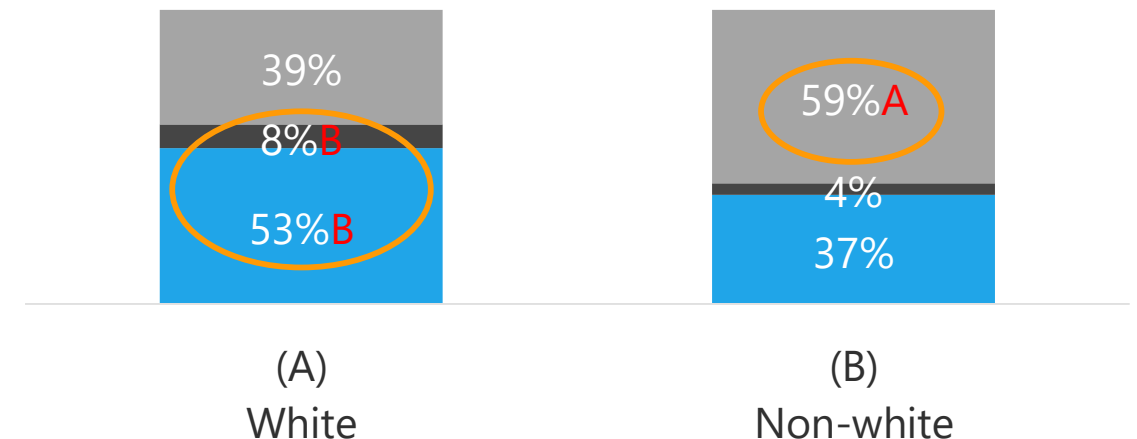
- Respondents from higher income households are more likely to complete surveys on computers while lower income respondents are more likely to utilize a smartphone.
- White respondents are more likely to complete the survey on computers and tablets.
- Non-white respondents take surveys on smartphones at a higher rate.

■ Computer ■ Tablet ■ Smartphone

## Household Income



## Race

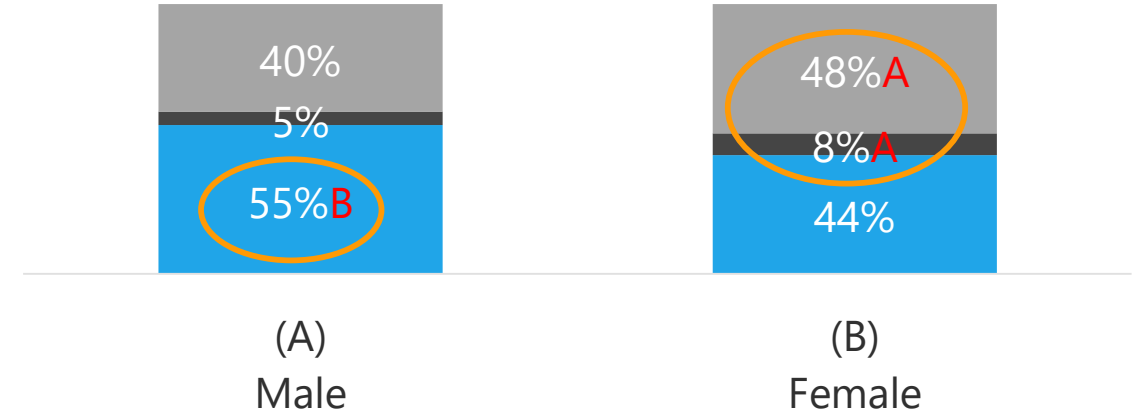


# Device Type by Gender & Parental Status

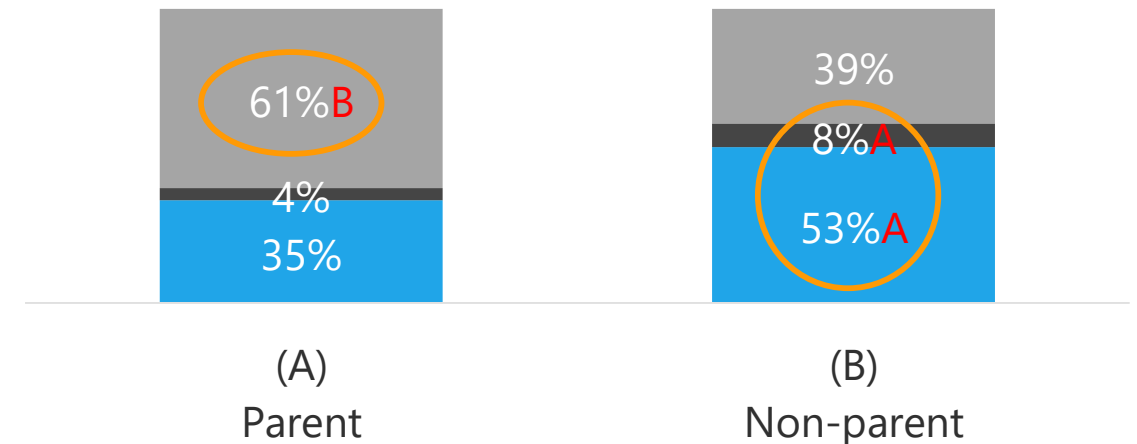
- Men are more likely to complete the survey on a computer.
- Women are more likely to use a tablet or smartphone.
- Parents are more likely to complete surveys on smartphones. Non-parents use tablets and computers more often.

■ Computer ■ Tablet ■ Smartphone

## Gender



## Parental Status



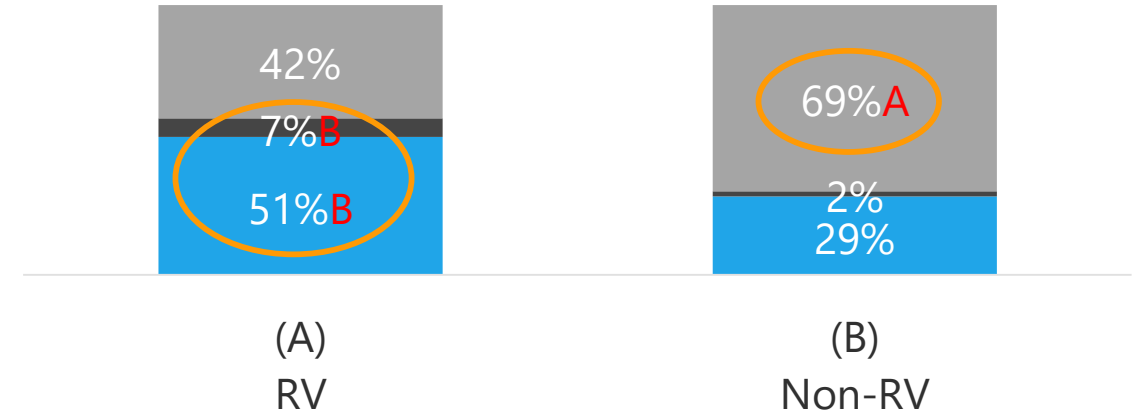


# Device Type by Registration and Party ID

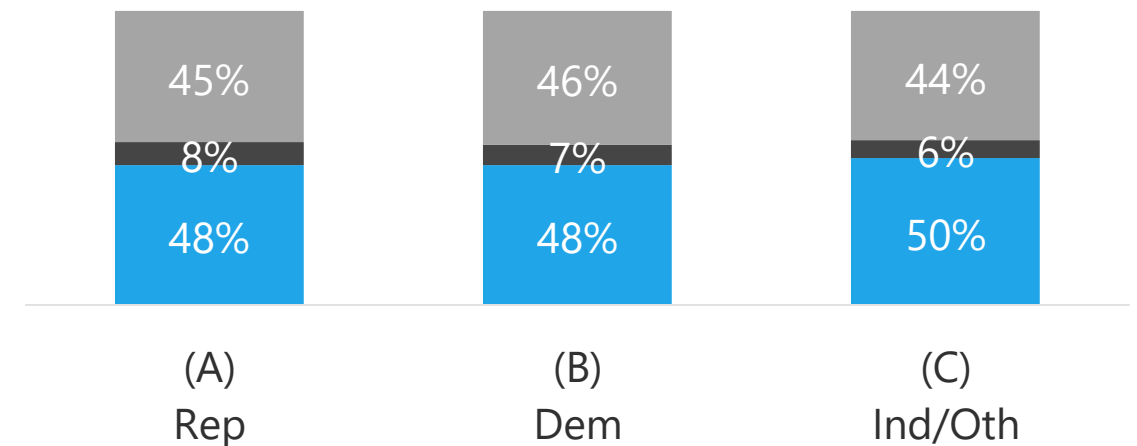
- Registered voters are more likely to use computers or tablets to complete the survey.
- Non-RVs are more likely to use smartphones.
- No significant difference in device usage by Party ID

■ Computer ■ Tablet ■ Smartphone

### Registration Status



### Party ID

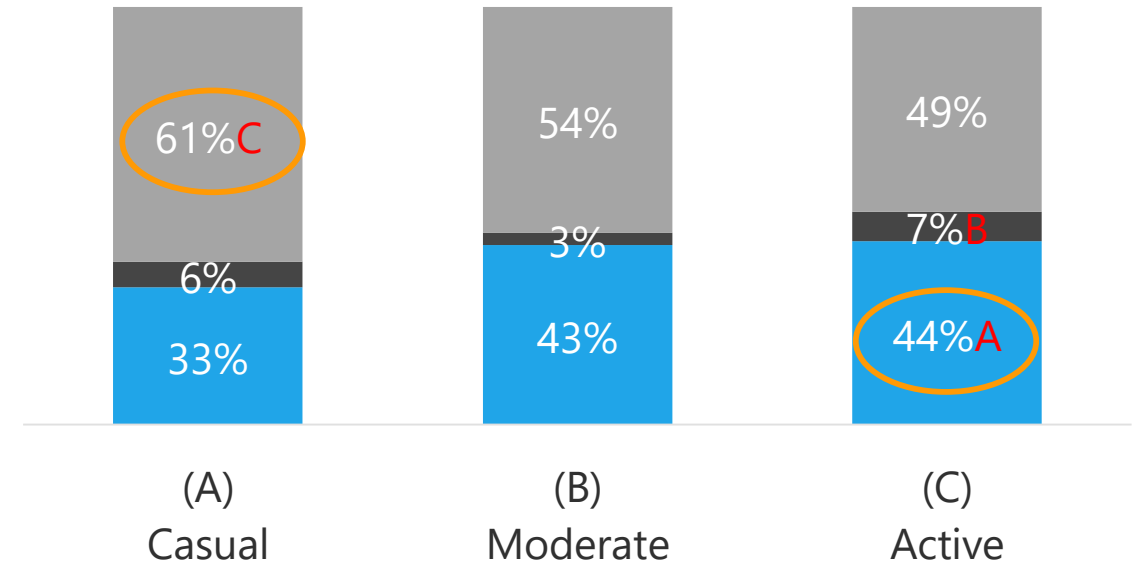


# Device Type by Engagement Level

- Active panelists are more likely to complete the survey on a computer than Casual panelists.
- Casual panelists are more likely to utilize a smartphone for surveys than Active panelists.

■ Computer ■ Tablet ■ Smartphone

## Engagement Level

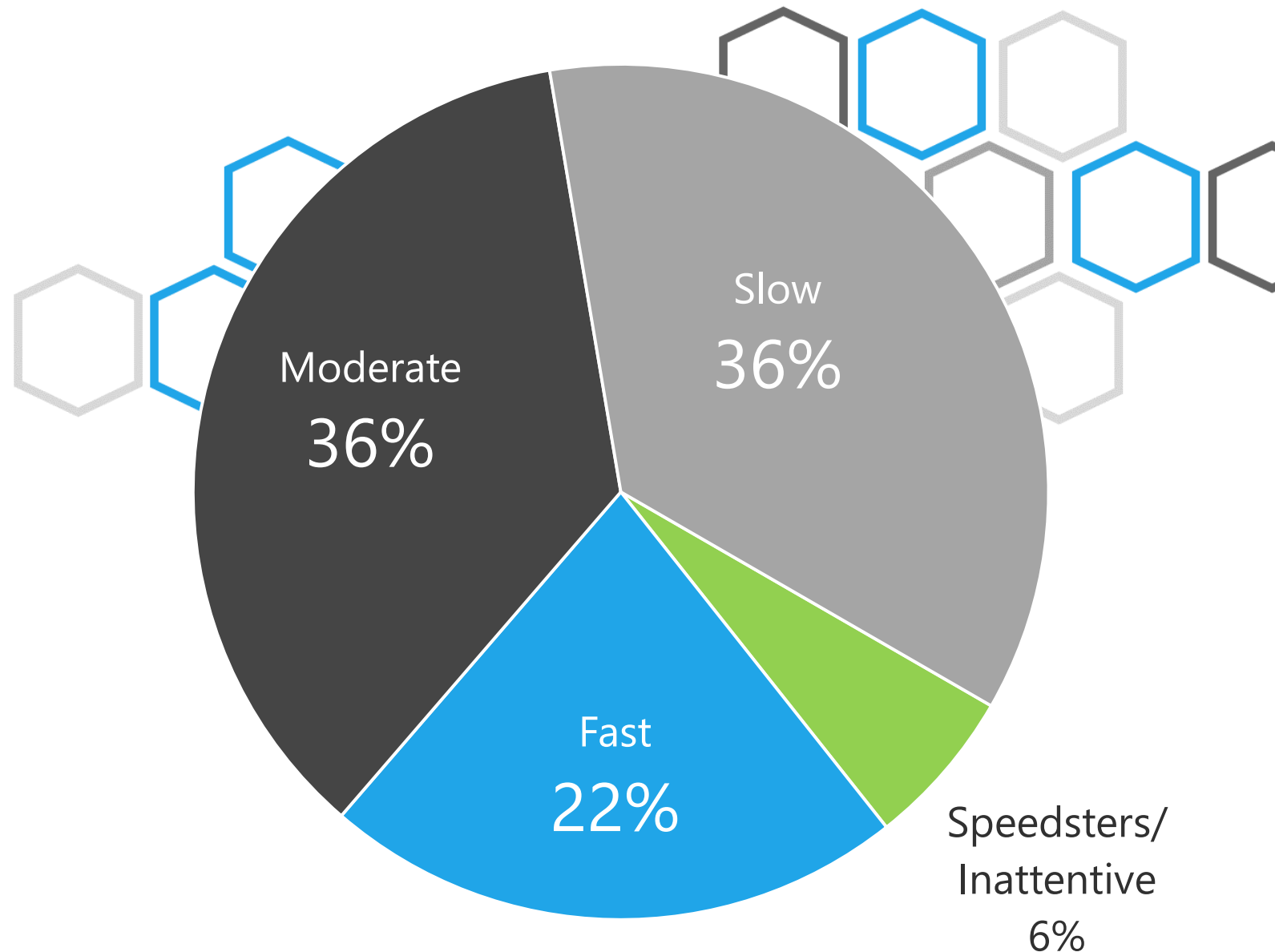




# Evaluating Survey Speed

# Categorizing Speed

- **MEDIAN LENGTH: 22.4 MIN.**
- **SPEEDSTERS/INATTENTIVE**
  - Over 40% below median
- **FAST SURVEY TAKERS**
  - 20% to 40% below median
- **MODERATE SURVEY TAKERS**
  - +/- 20% of median
- **SLOW SURVEY TAKERS**
  - Over 20% above median

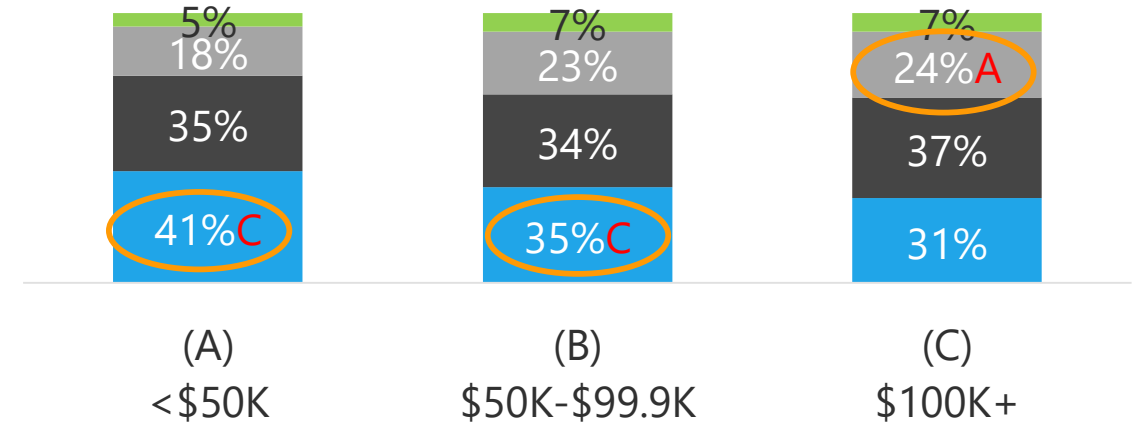


# Speed by Income & Education

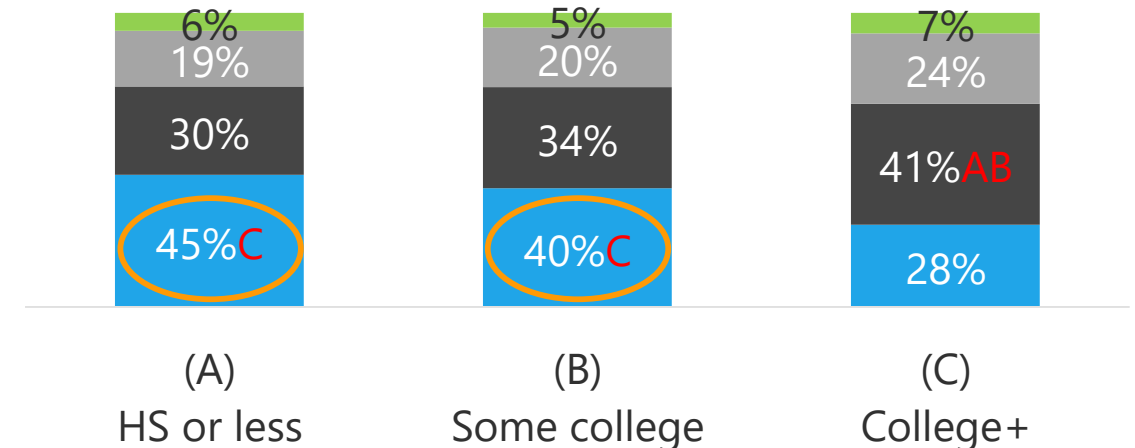
■ Slow ■ Moderate ■ Fast ■ Speedsters

- Lower income respondents are more likely to be slow survey takers, while higher income respondents are more likely to be fast survey takers.
- Respondents with some college or less are more likely to be slow survey takers compared to those with a college degree.
- Speedsters about same across all income and education categories.

## Income

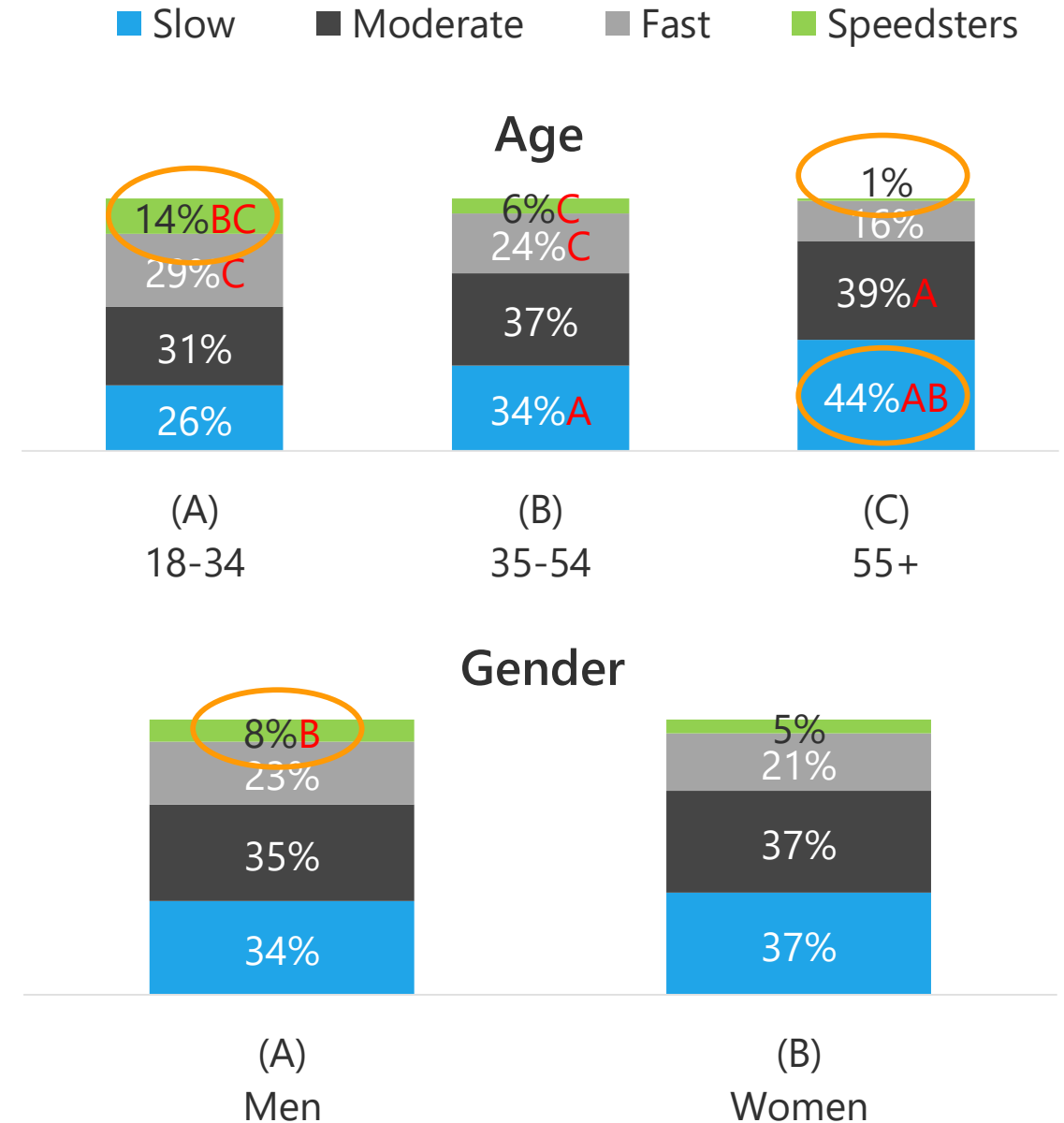


## Education



# Speed by Age & Gender

- Older respondents complete the survey at a slower speed and least likely to be speedsters.
- Those age 18-34 are more likely than those 35+ to be categorized as speedsters.
- Men are more likely than women to be flagged as speedsters.



# Speed by Race & Voter Registration Status

- Non-white respondents are more likely to be flagged as speedsters.
- Non-RVs are more likely to be categorized as speedsters.

■ Slow ■ Moderate ■ Fast ■ Speedsters

### Race



(A)  
White

(B)  
Non-white

### Registration Status

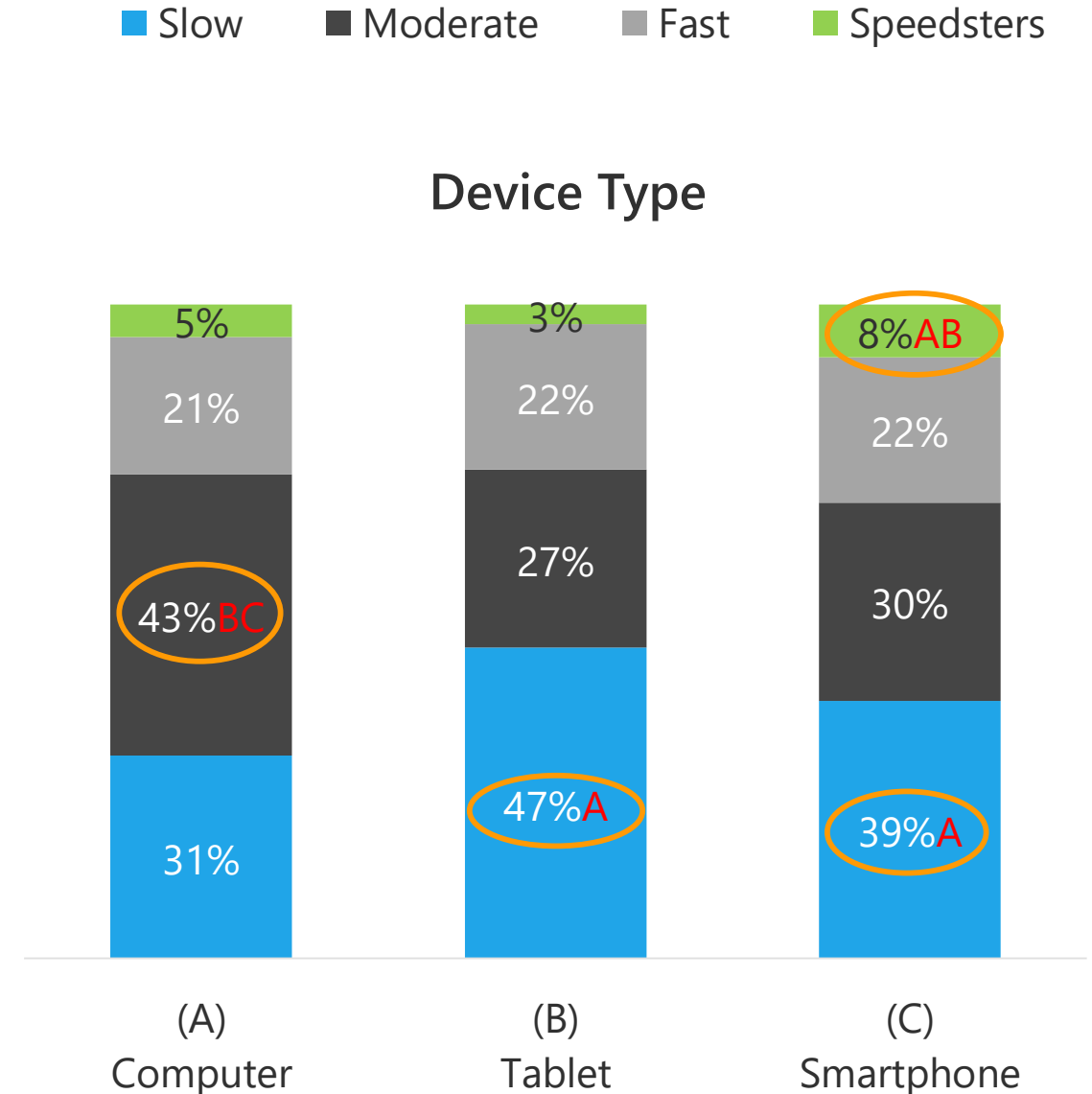


(A)  
RV

(B)  
Non-RV

# Speed by Device Type

- Smartphone and Tablet survey takers are slower than computers.
- Computer completes are more consistently categorized as moderate speed than completes on mobile devices.
- Smartphone survey takers are more likely to be categorized as speeders than those on computers or tablets.





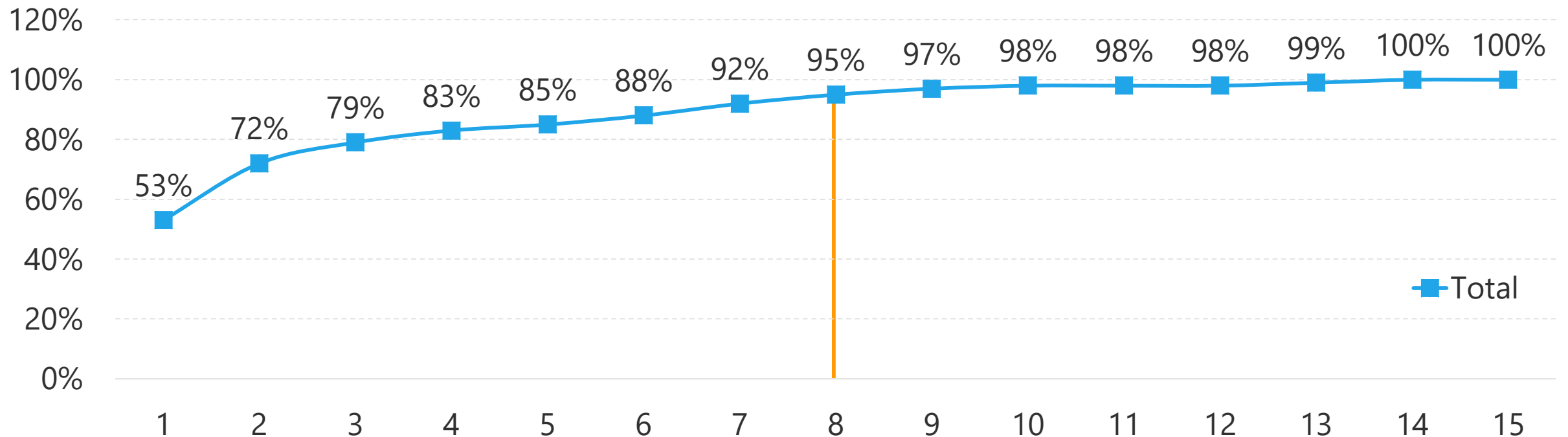


# Survey Participation by Field Period



# Completions by Days in Field

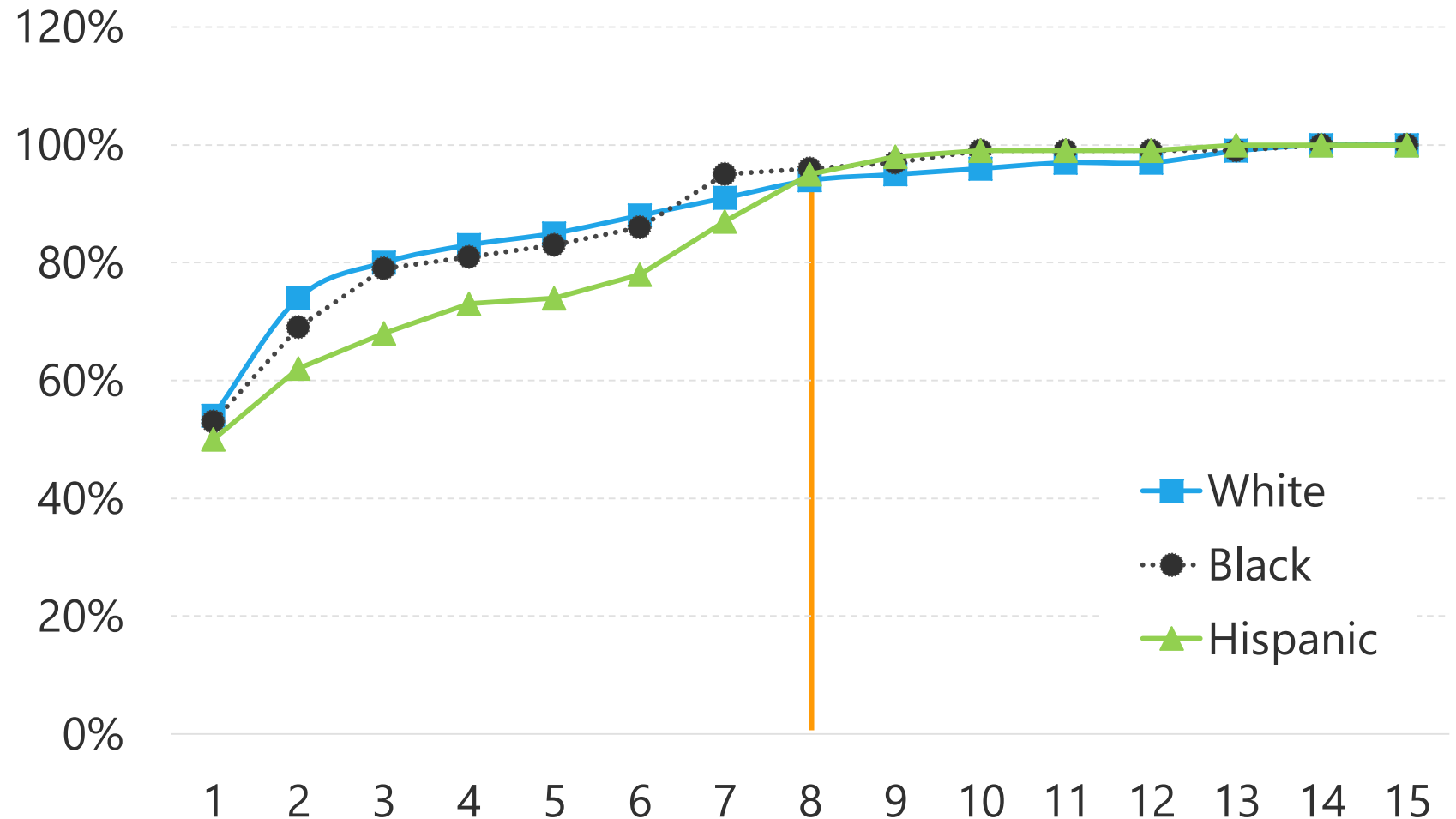
- More than one half (53%) completed the survey the same day they are invited.
- On average, panelists as a whole completed the survey within 2.7 days of being invited to participate.
- 95% of completions achieved by day 8 in field.



# Field Period by Demographics: Race

Average number of days in field before completion:

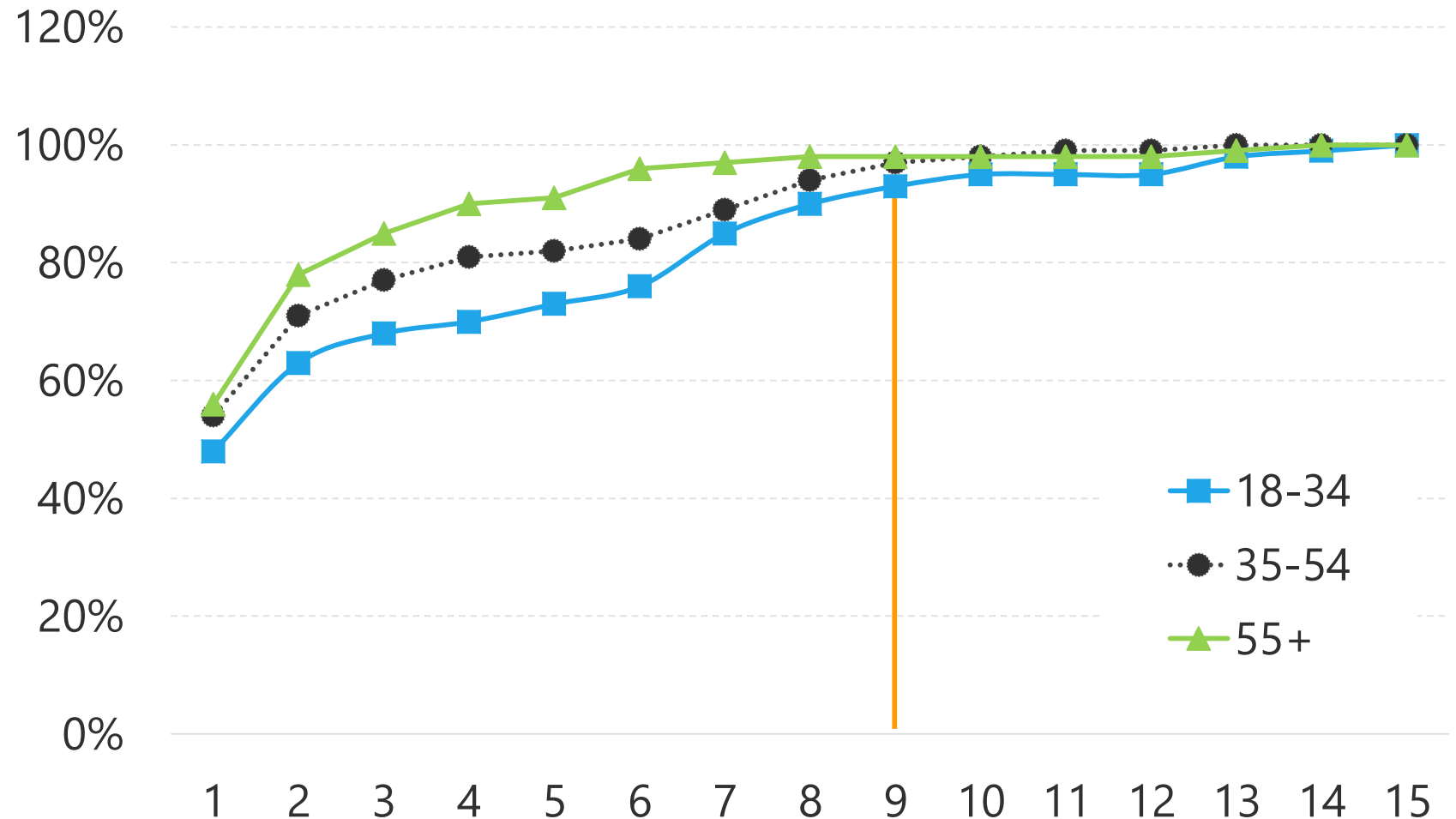
- White: 2.6 days
- Black: 2.7 days
- Hispanic: 3.2 days



# Field Period by Demographic: Age

Average number of days in field before completion:

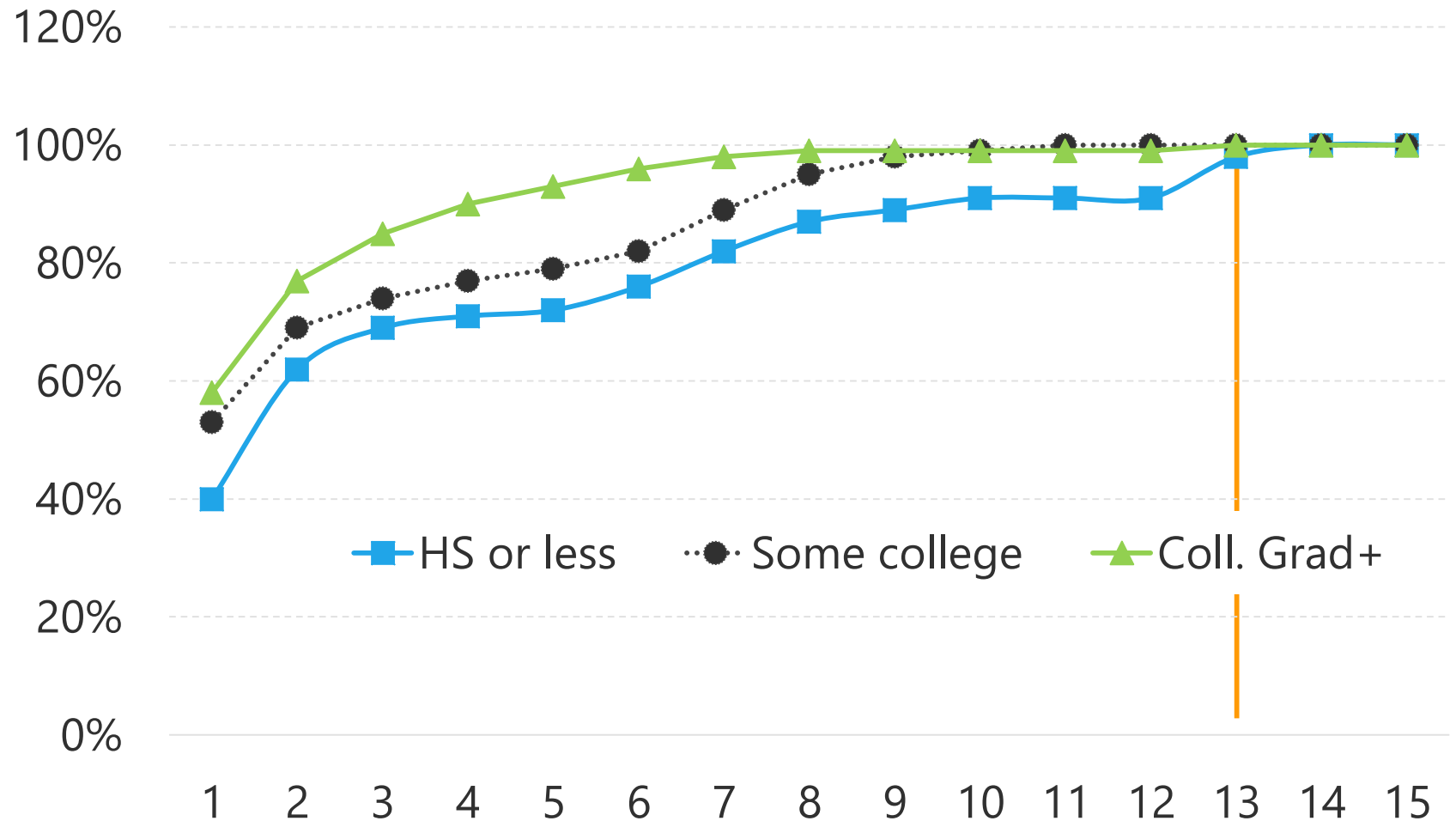
- 18-34: 3.5 days
- 35-54: 2.6 days
- 55+: 2.2 days



# Field Period by Demographic: Education

Average number of days in field before completion:

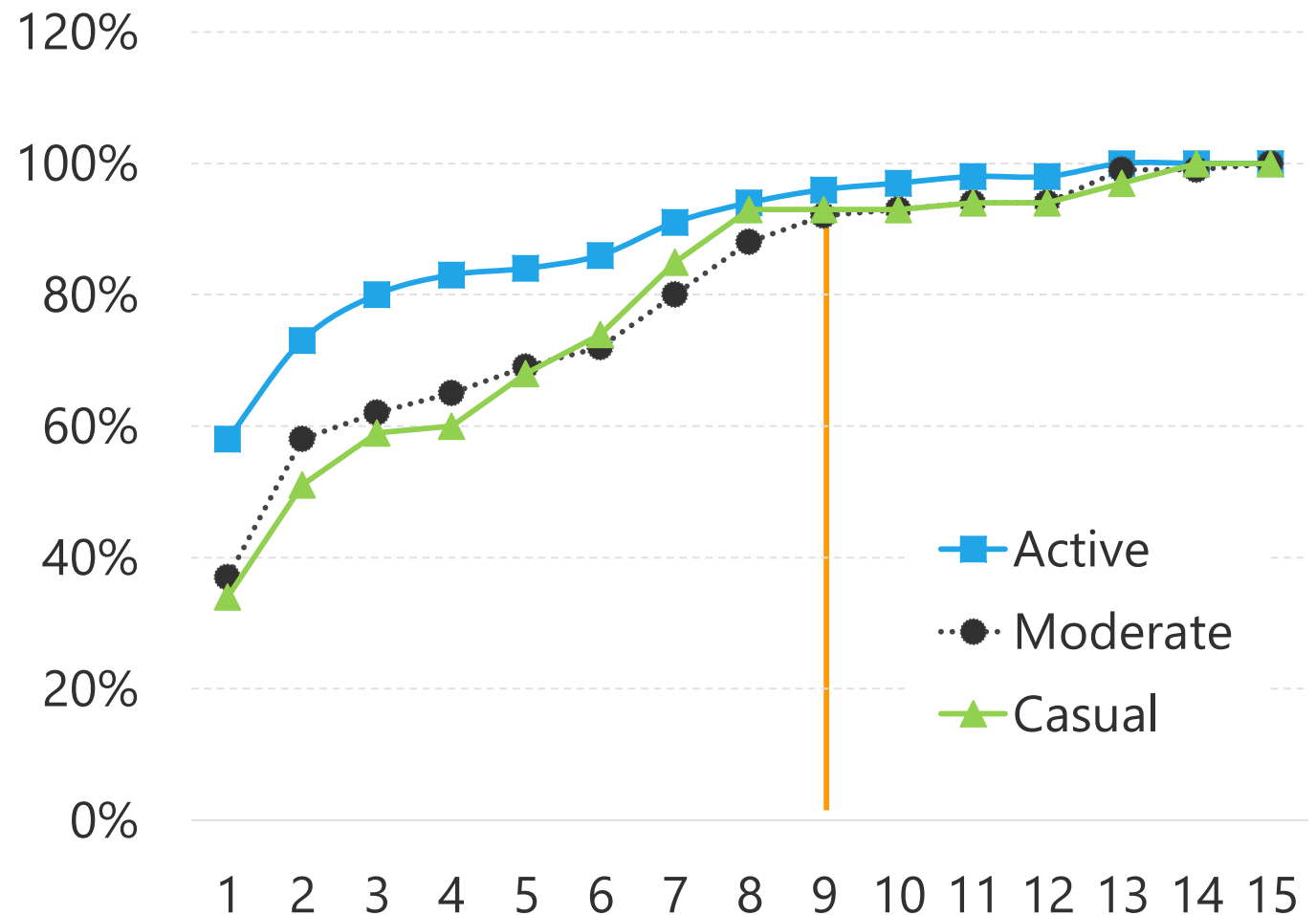
- HS or less: 3.9 days
- Some college: 2.9 days
- College graduates: 2.1 days



# Field Period by Demographic: Engagement Level

Average number of days in field before completion:

- Active: 2.7 days
- Moderate: 4.0 days
- Casual: 4.0 days





# Summary

# Closing remarks

- Panelist engagement can be maintained across all demographic groups with proper efforts;
- Nearly half of panel respondents take surveys via smart phone. Important for surveys to be smartphone friendly;
- Lower income and lower education respondents take surveys at a lower speed and therefore survey length and cognitive burden is higher among these groups;
- Majority of panel completion are achieved in 8 to 9 days in field;
- Use of responsive design at recruitment stage can yield a more representative panel;
- Use of calibration techniques for non-internet respondents.



Chintan Turakhia  
SSRS  
cturakhia@ssrs.com  
@chintant

contact

**ssrs**  
research. *refined.*