Topic Salience and Propensity to Respond to Surveys: Findings from a National Mobile Panel

- **John Boyle PhD, ICF**
- **Lewis Berman PhD MS, ICF**
- **James Dayton, MBA, ICF**
- **Ronaldo Iachan, PhD, ICF**
- **Matt Jans, PhD, ICF**
- **Robynne Locke, MA, ICF**
- **Randy ZuWallack, MS, ICF**

FedCASIC Workshop
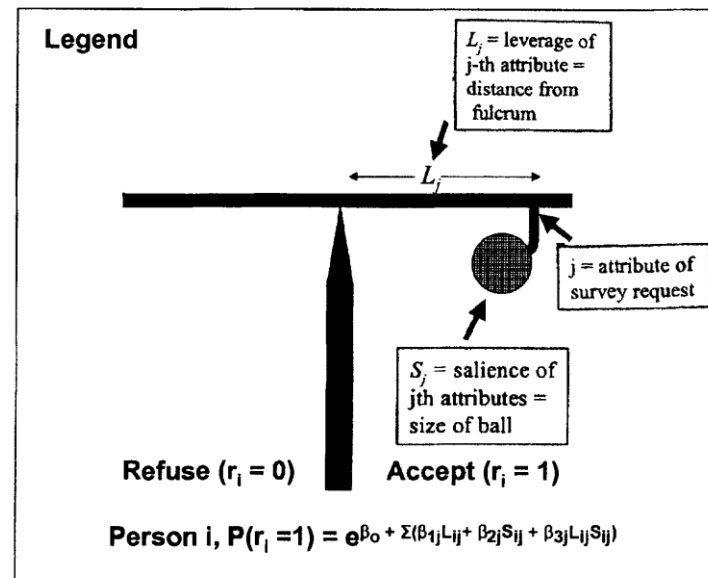
April 17, 2019

Theories of Survey Participation

- **Main Theories on Nonresponse (Tourangeau and Piewes 2013)**
  - Social Capital
  - Leverage-Salience Theory
  - Social Exchange Theory
- **Origins of Leverage-Salience Theory – Groves and Couper (1998)**
  - Researchers observe that respondents vary in terms of the attributes of a survey request that they judge as relevant to their decision to participate
  - Expert interviewers tailor the features of their request to heighten the salience of those elements they think will be most favorably received by potential respondent
- **Leverage-Salience Theory and Survey Participation (Groves, Singer and Corning, 2000)**
  - **Attributes** of a request that could be relevant to the response decision (survey design features)
  - **Each Attribute** has:
    - Leverage (intrinsic importance of the attribute to the respondent in decision)
    - Salience (emphasis given to the attribute during the survey request)
    - Valence (positive or negative to the participation decision)

# Leverage Saliency Theory (LST) Principals
(Groves, Singer, & Corning, 2000)

Impact of Survey Design Feature on participation decisions is a combination of three things

1. How salient a specific survey design feature is (i.e., whether it's noticed)
2. How much weight (leverage) respondent puts on that feature (i.e., how important it is to them)
3. And the valence of that weight (i.e., does it nudge them toward or away from participation)

Legend

L_j = leverage of j-th attribute = distance from fulcrum

L_j

j = attribute of survey request

S_j = salience of jth attributes = size of ball

Refuse ($r_i = 0$)   Accept ($r_i = 1$)

Person i, $P(r_i = 1) = e^{\beta_0 + \Sigma(\beta_{1j}L_{ij} + \beta_{2j}S_{ij} + \beta_{3j}L_{ij}S_{ij})}$
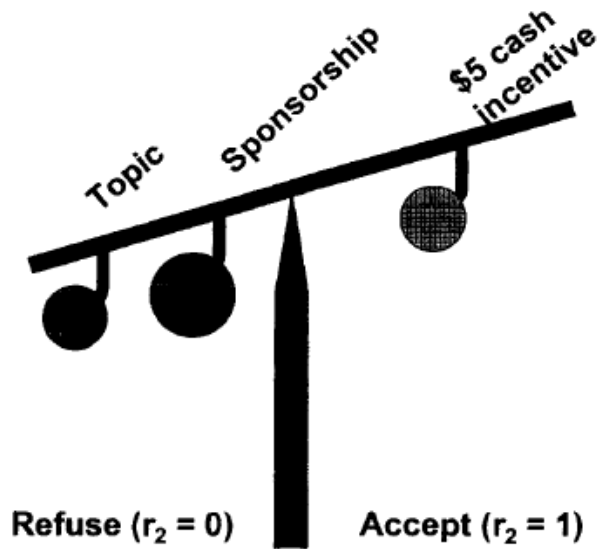
ICF

Salience and Leverage for a Respondent and Nonrespondent

Salience, Importance, and Valence of the same Design Feature may vary among respondents
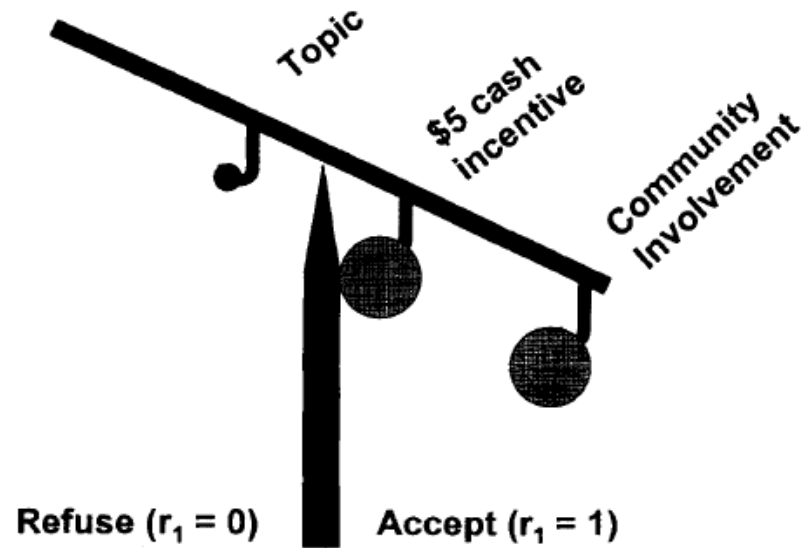
Person 1, $P(r_1 = 1) = e^{\beta_0 + \Sigma(\beta_{1j}L_{1j} + \beta_{2j}S_{1j} + \beta_{3j}L_{1j}S_{1j})}$

Person 2, $P(r_2 = 1) = e^{\beta_0 + \Sigma(\beta_{1j}L_{2j} + \beta_{2j}S_{2j} + \beta_{3j}L_{2j}S_{2j})}$

Survey Feature under Study: Topic Salience (Importance to Respondent)

- Groves **theory of leverage-salience** (2000) explicitly identifies the **survey topic's importance** to the respondent (leverage) along with its prominence (salience) in the survey protocol as potential motivators of survey participation.

- Although review articles have often **listed possible factors** as motivators or barriers to survey participation, the use of **meta-analysis to quantify the impact** of these individual factors appears to begin in 1978 (Heberlein and Baumgartner).

- After examining nine factors affecting initial and final response rates in mail surveys across 98 studies, **number of contacts and the salience of the survey topic explained 51% of the variance in the final response rate.**

- Subsequent meta-analyses of factors affecting survey response rates did not include topic salience.

An Indirect Test of Topic Salience and Propensity to Respond

- In 2004, Groves and his colleagues described **an ideal design to test topic salience on response rate and response bias** (Groves, et al., 2004).

- However, they concluded that the **challenges of the ideal design are essentially insurmountable**. Truly independent repeated survey requests of the same subject are impossible …. Direct measures of people's interest sets are difficult to obtain ….. Making topic the only feature of a survey that is salient in the introduction is impractical …

- Hence, Groves adopted what he considers a **suboptimal design to test topic salience on response propensity and non-response bias** using a between subjects design, indirect measures of topic salience, and limited controls over other survey features.

# So What If We Could Implement an Optimal Design Using a Suboptimal Sample?

- A national, geographically and demographically representative sample drawn from a web panel
- Nearly 2,000 adults aged 18 and older
- Measures general propensity of participate in surveys
- Directly measure topic salience (how important to participate on topic X) across a range of topics for the same subjects
- Assess propensity to respond to a survey for one high salience and one low salience topic for the same subjects
- Keep all other features for the survey requests either the same or unstated
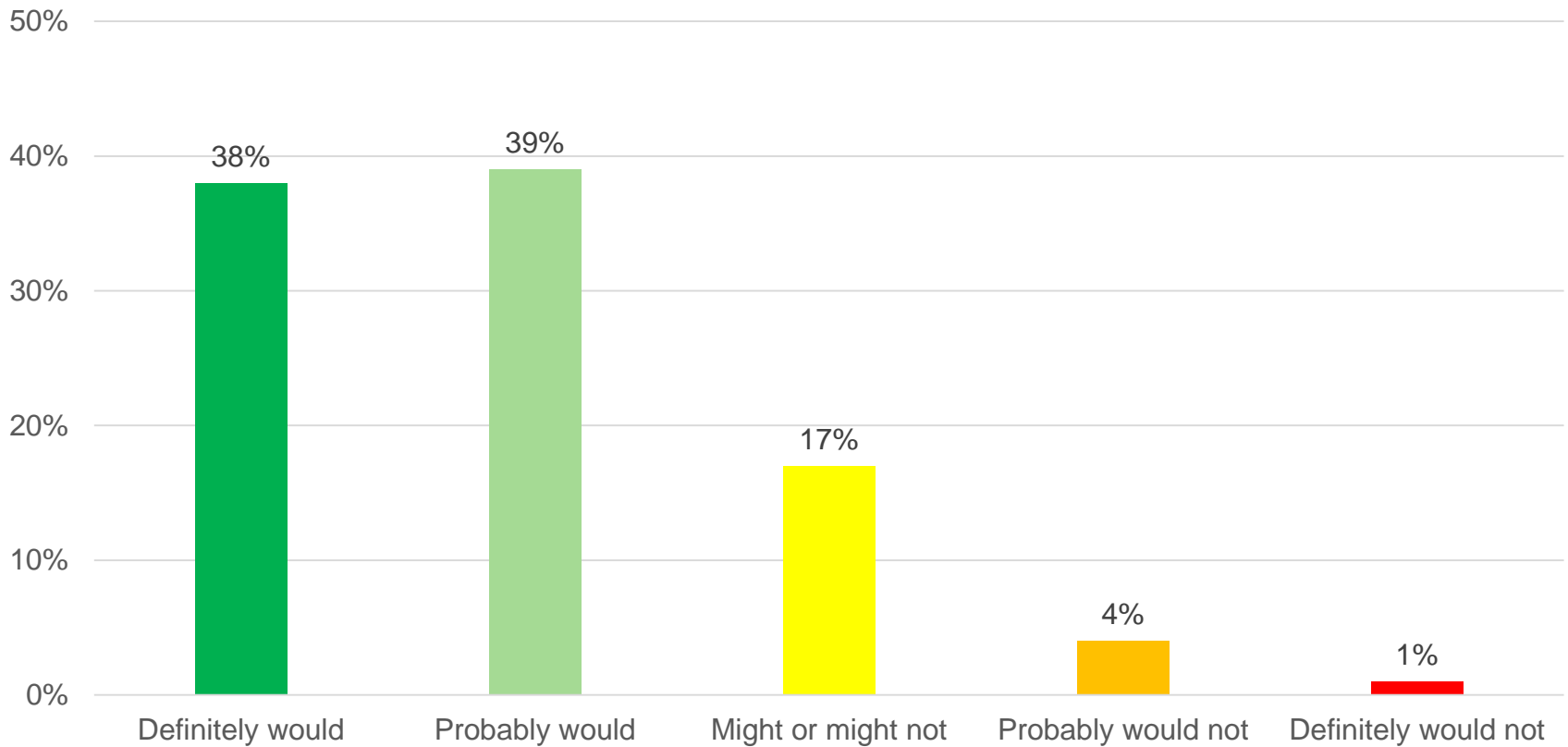
ICF

General Propensity to Respond to Surveys

Q30. Not counting Surveys On The Go or other survey panels, if you were contacted to conduct a survey on an interesting topic that was not unreasonably burdensome, how likely would you be to participate? N= 1,937

General Propensity to Respond to Surveys (Definitely Would) by Selected Demographics
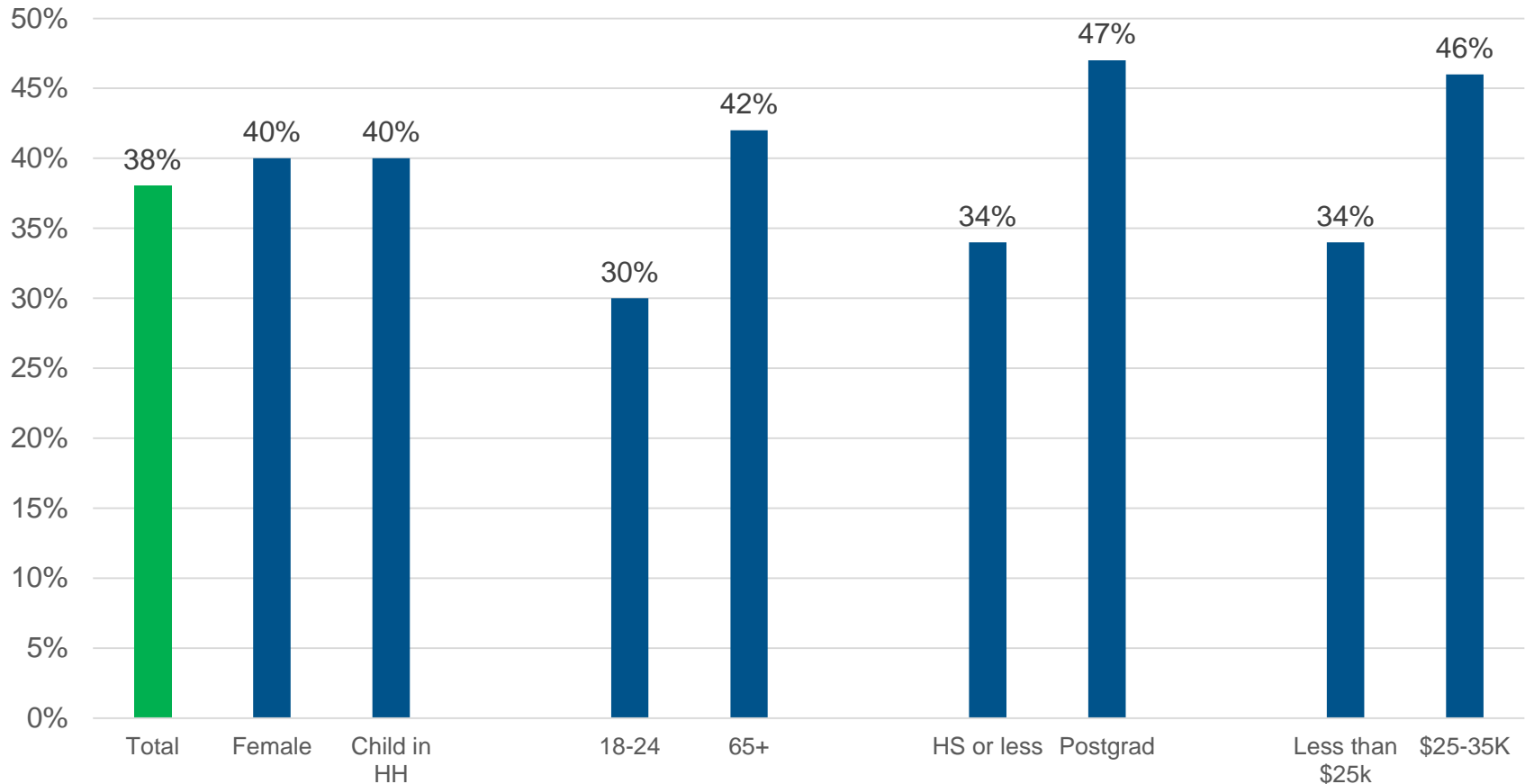

Q30. Not counting Surveys On The Go or other survey panels, if you were contacted to conduct a survey on an interesting topic that was not unreasonably burdensome, how likely would you be to participate? N= 1,937

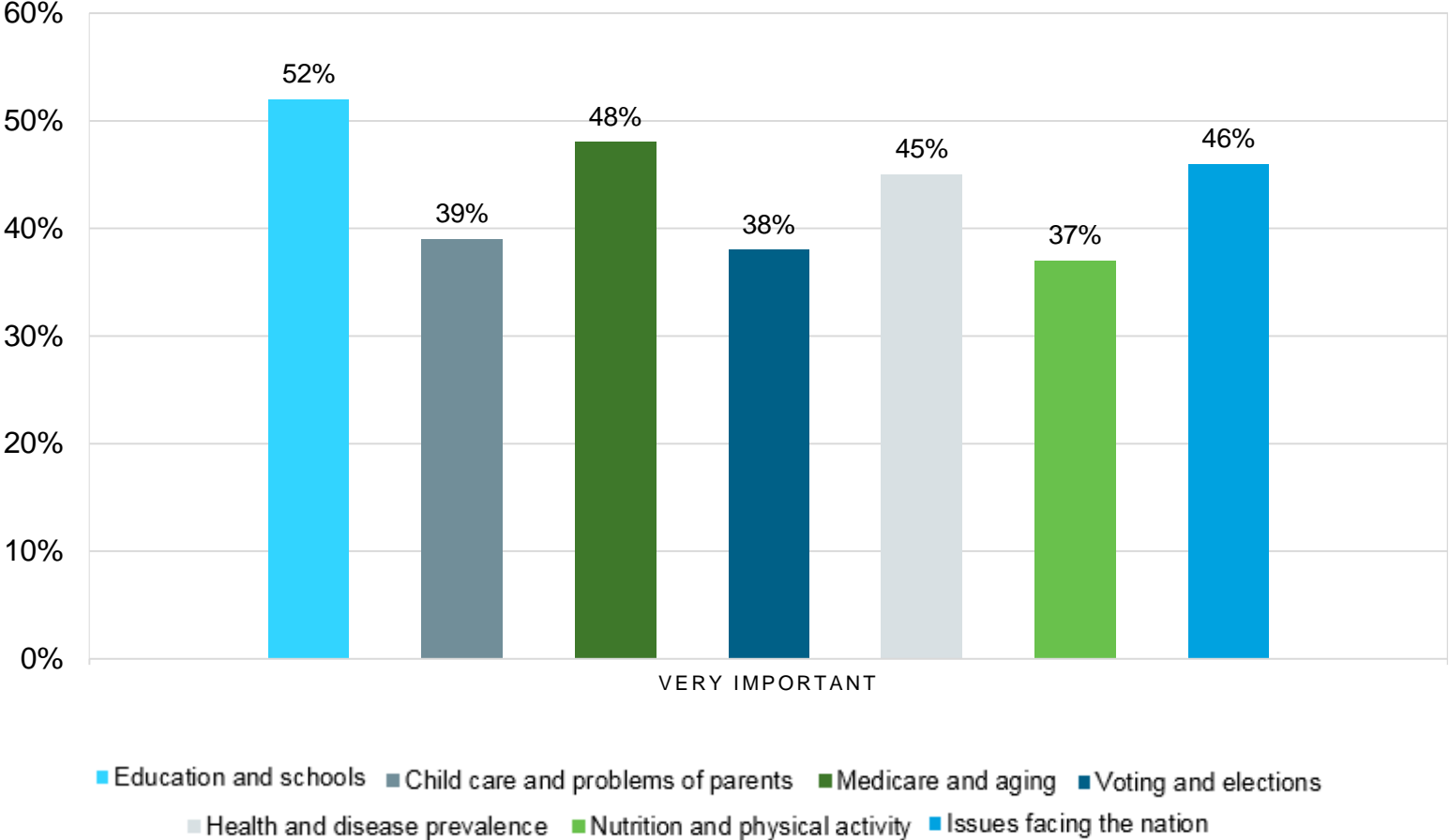# Stated Propensity to Respond to Surveys by Sponsor
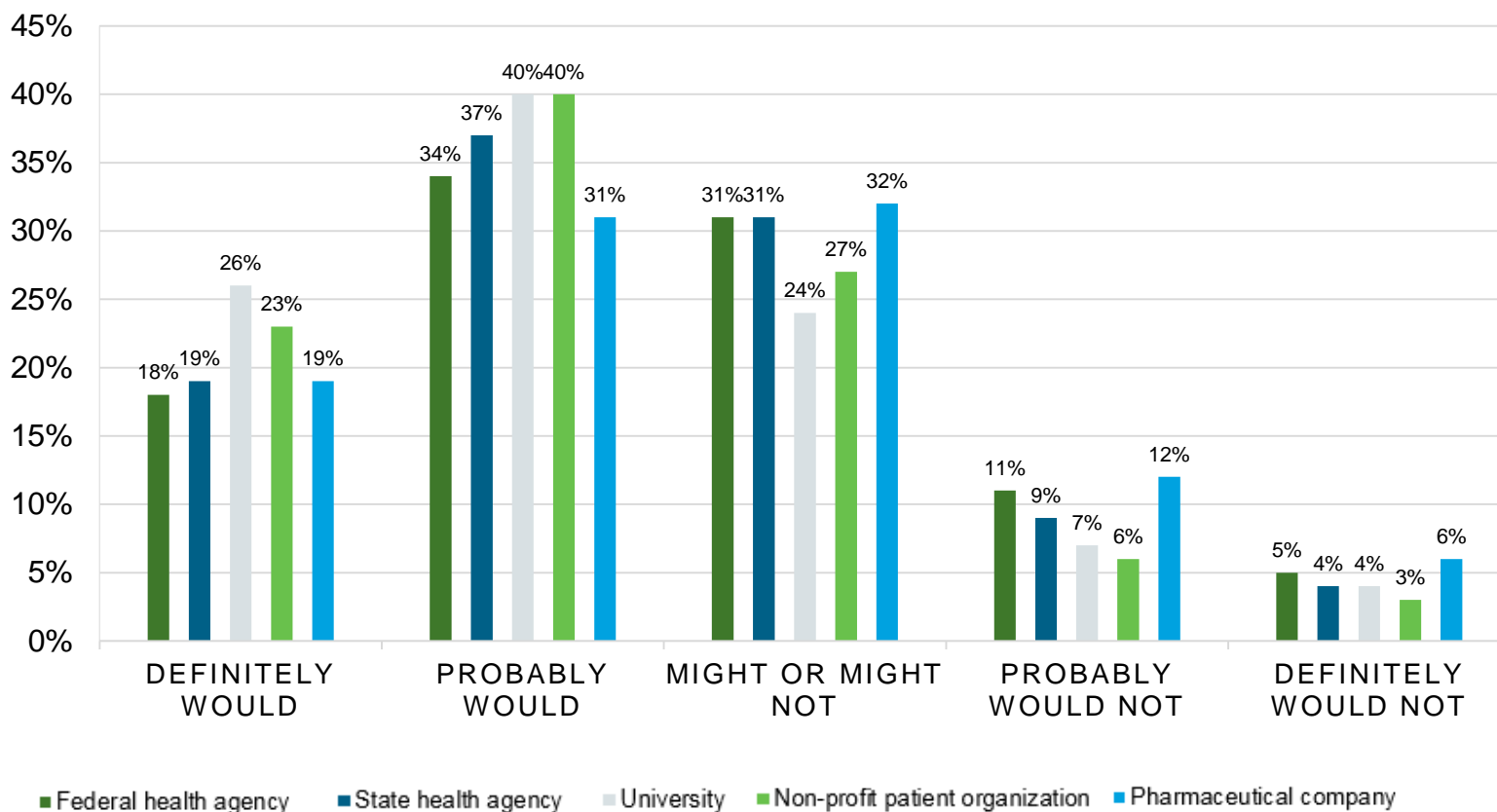
Q33. In general, how likely would you be to participate in a survey that was not too burdensome about your health, exercise, diet, and health care, if it was sponsored by …? N= 1,937

Importance in Participating in Government Surveys by Topic Area
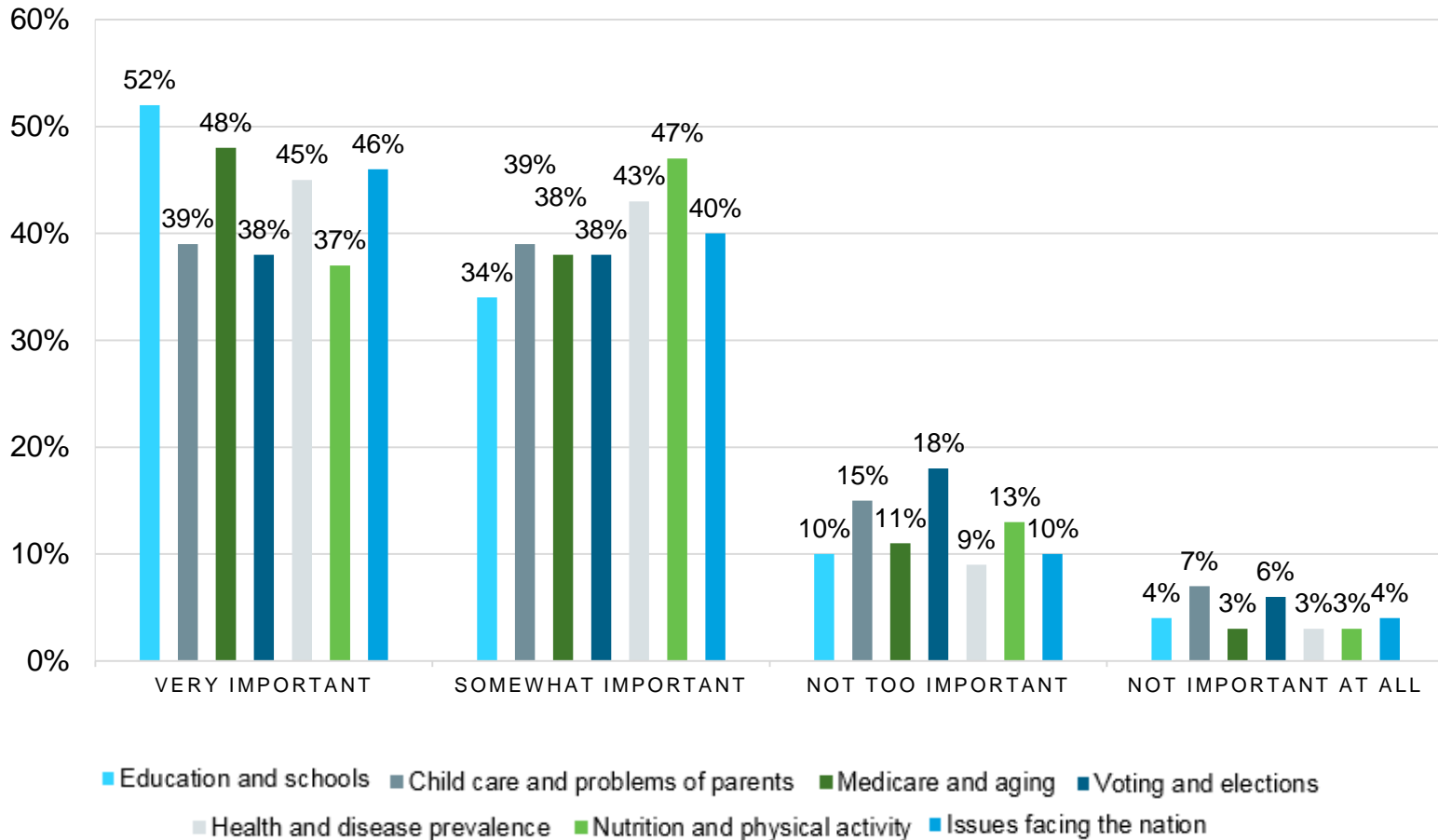
Q38. If you were asked to participate in government surveys on the following topics, how important do you think it would be for you to participate? N= 1,937

Importance in Participating in Government Surveys by Topic Area

Chart: "VERY IMPORTANT"
- Education and schools: 52%
- Child care and problems of parents: 39%
- Medicare and aging: 48%
- Voting and elections: 38%
- Health and disease prevalence: 45%
- Nutrition and physical activity: 37%
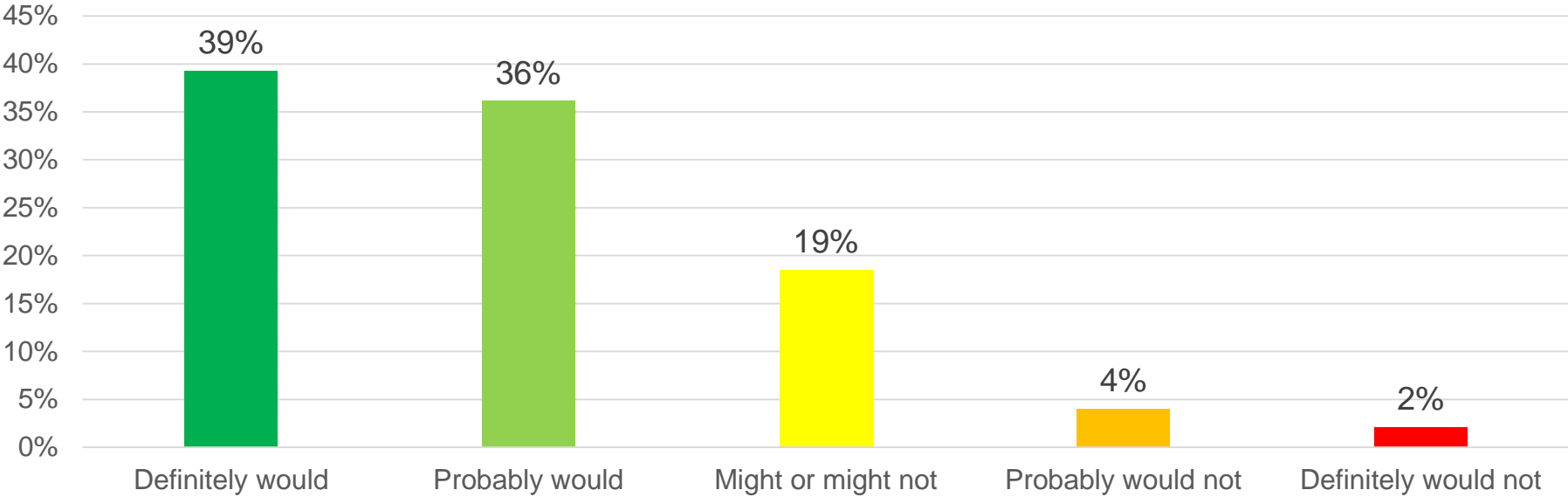- Issues facing the nation: 46%

Q38. If you were asked to participate in government surveys on the following topics, how important do you think it would be for you to participate? N= 1,937

Propensity to Respond to Government Surveys (Important Topic)

Q39. If you were contacted this week to participate in a government survey about (Topic rated Very/Somewhat Important by Respondent), how likely would you be to participate?
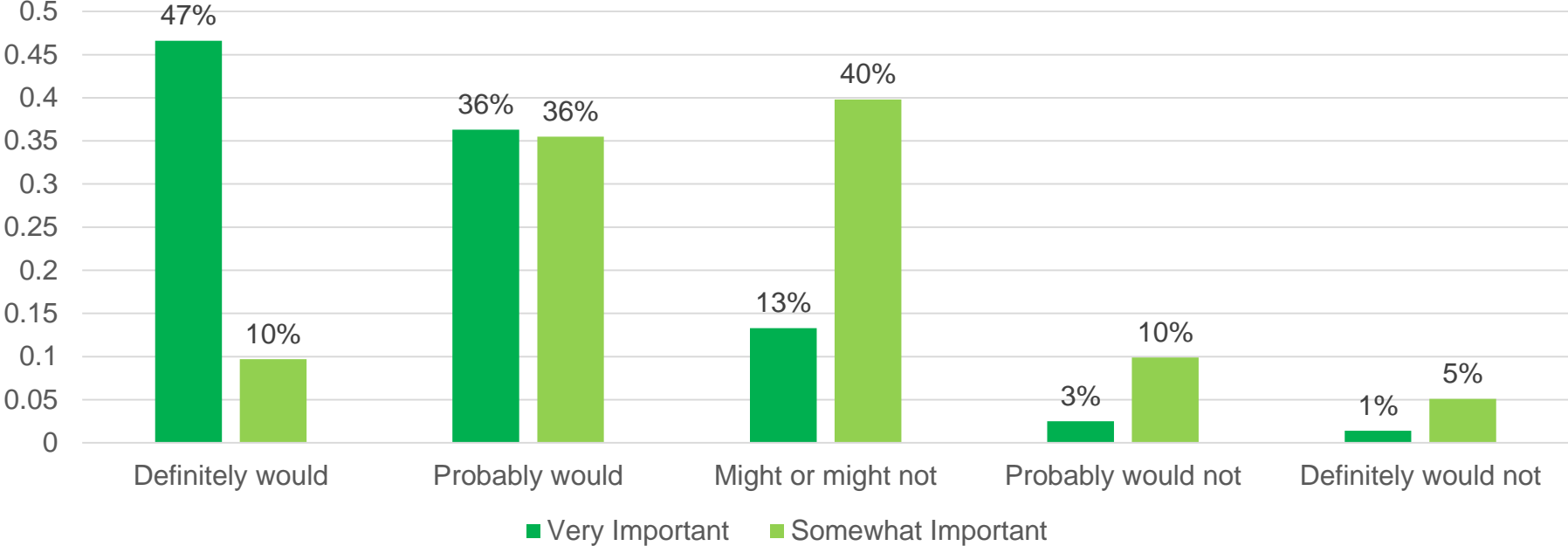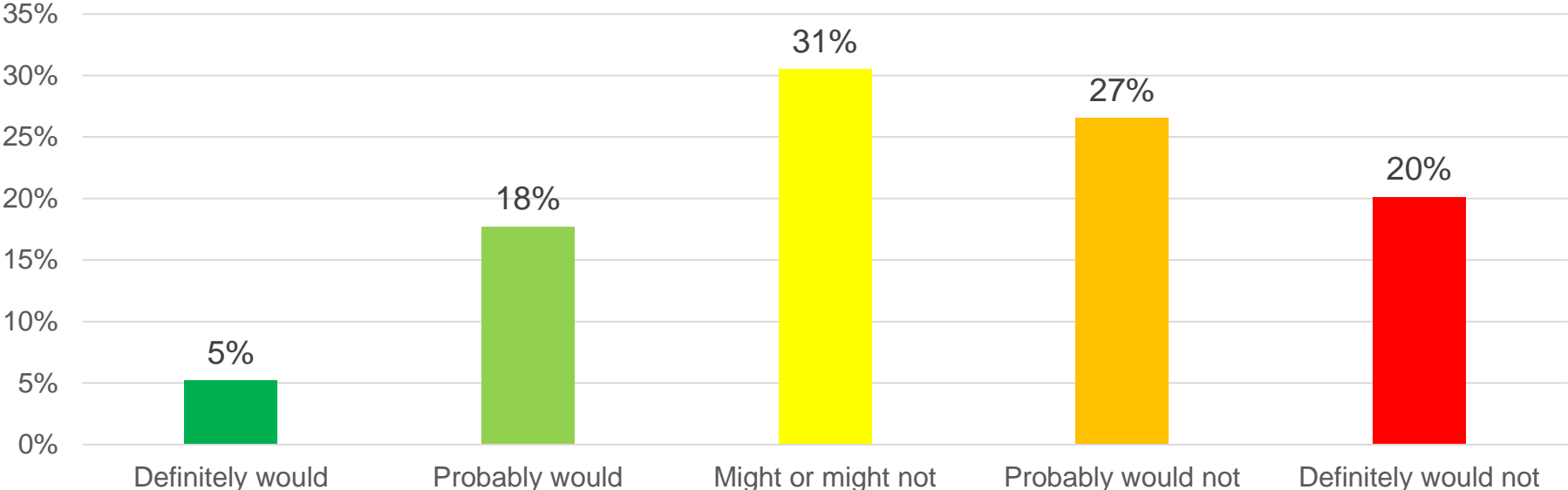Base: At least one topic was very or somewhat important   N=1876

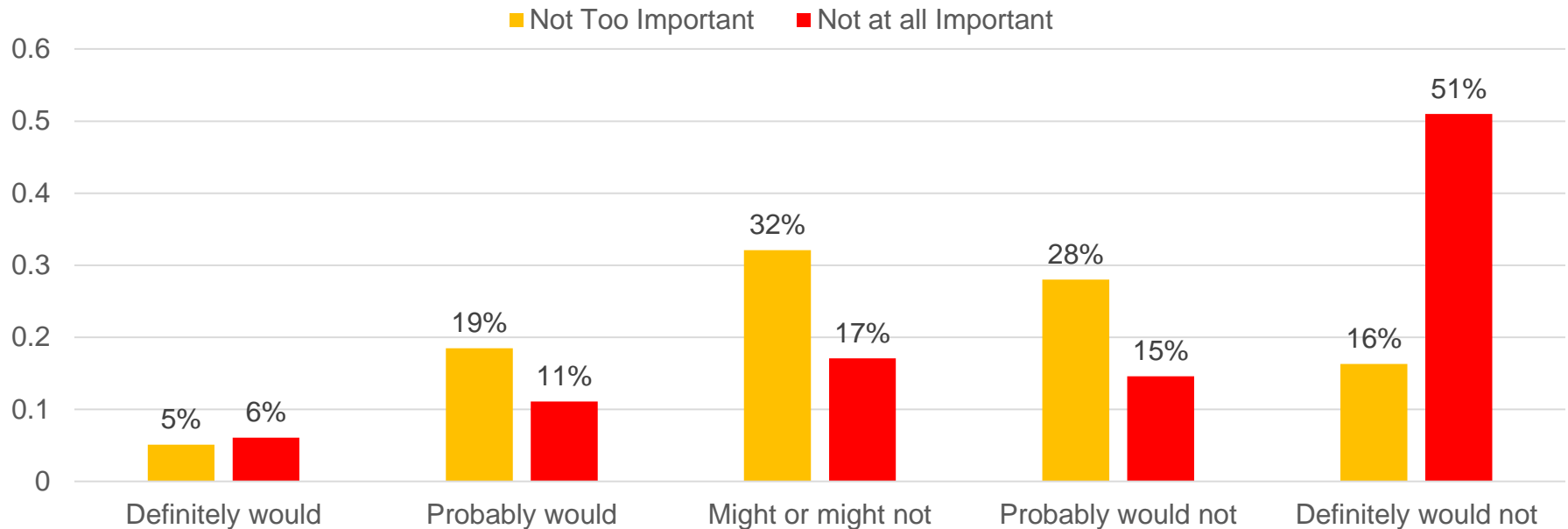# Propensity to Respond to Government Surveys (Important Topic)

Q39. If you were contacted this week to participate in a government survey about (Topic rated Important by Respondent), how likely would you be to participate? Base: At least one topic was very or somewhat important   Total N=1876 Very Important N=1515   Somewhat Important N=366

Propensity to Respond to Government Surveys (Not Important Topic)

Q44. If you were contacted this week to participate in a government survey about (Topic rated Not too/Not at all Important by Respondent), how likely would you be to participate?
Base: At least one topic was not too or not at all important N=922

Propensity to Respond to Government Surveys (Not Important Topic)

■ Not Too Important   ■ Not at all Important

|	Definitely would	Probably would	Might or might not	Probably would not	Definitely would not
Not Too Important	5%	19%	32%	28%	16%
Not at all Important	6%	11%	17%	15%	51%

Q44. If you were contacted this week to participate in a government survey about (Topic rated Not too/Not at all Important by Respondent), how likely would you be to participate?
Base: At least one topic was not too or not at all important
Total N=922   Not too important N=820   Not at all important N=102

Propensity to Respond to Government Surveys by Topic Importance
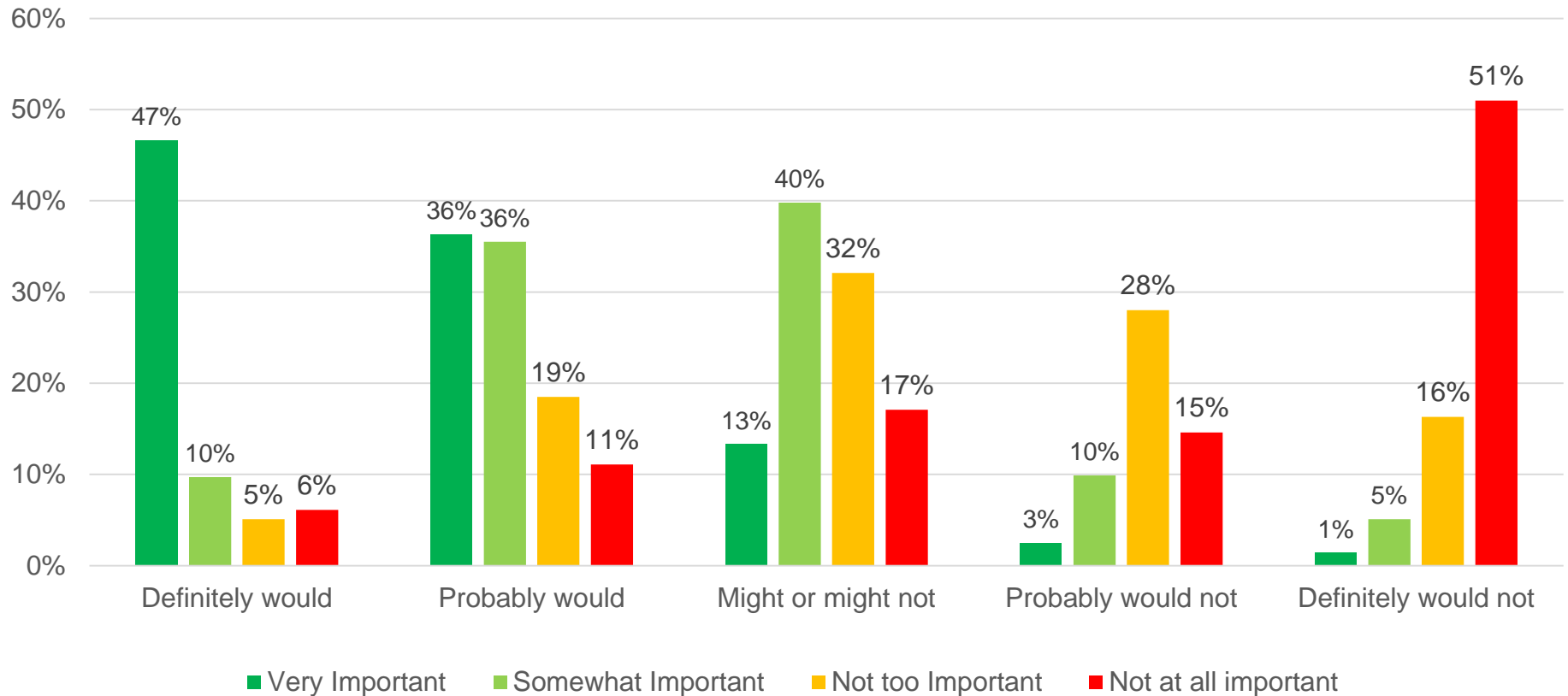
Q39/Q44. If you were contacted this week to participate in a government survey about (Topic Importance), how likely would you be to participate?
Very important N=1510   Somewhat important N=366   Not too important N=820 Not at all important N=102

How Does Propensity to Respond Translate into Response Rate?

- **Assess the behavioral intent (propensity) to respond to a survey by topic**
- **Estimate the population size for each category of behavioral intent**
- **Convert behavioral intent to likely behavior based on market research practice (e.g., purchase likelihood)**
  - Definitely would = 90%
  - Probably would = 45%
  - Probably would not = 0
  - Definitely would not = 0
- **For each segment, multiply intent by likely behavior to estimate response rate**
- **Add response rate across each segment to produce a total population response rate**

ICF

Effect of Topic Salience on Likelihood of Responding to Survey

Topic	Stated Propensity to Respond	Ratio of Stated to Actual	Estimated Response	Stated Propensity to Respond	Ratio of Stated to Actual	Estimated Response	Total Estimated Response
	Definitely Would			Probably Would			
Very Important	47.0%	90.0%	42.3%	36%	45%	16.2%	58.4%
Somewhat Important	10%	90.0%	9.0%	35%	45%	15.8%	24.8%
Not too Important	5%	90.0%	4.5%	19%	45%	8.6%	13.1%
Not Important At All	6%	90.0%	5.4%	11%	45%	5.0%	10.4%

Q39/Q44. If you were contacted this week to participate in a government survey about (Topic Importance), how likely would you be to participate? Very important N=1510   Somewhat important N=366
Not too important N=820 Not at all important N=102

Conclusions about Topic Salience and Propensity to Respond

- The likelihood of responding to a survey is directly related to the importance of the topic to the respondent.

- The importance of the seven topics varies across the population:

- Consequently, researchers should consider tailored protocols to compensate for population segments with lower interest in the survey topic (or any topic).

- Since topic importance can be partially predicted by demographics and lifestyle, sample information and paradata may be somewhat useful in a tailored design to optimize topic salience and alternative appeals to the target audience.

- However, more powerful predictors of underlying propensity to respond and salience of design features require additional information about the individual or household to better target design features.

- These could be provided by limited screening information obtained during the contact process.

- The enhanced paradata within an evidence-based, response propensity model would permit a much more effective responsive/adaptive design for survey data collection.

ICF

Thank You.

- **Contact information:**
  - john.boyle@icf.com