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Do Americans' Opinions About Federal Transportation Tax Options Depend on Survey Mode? A Comparison of Results from Telephone and Online Surveys

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This research project compared the results from a public opinion survey about transportation taxes that was administered using two different survey modes: a national, random-digit-dial (RDD) telephone survey, and an online survey with respondents recruited from

a panel. The goal of this study was to assess survey mode impacts in two dimensions: respondent characteristics (*who* responds) and question responses (*how* they respond).

Survey researchers are increasingly using online survey panels as a replacement for RDD surveys, to lower costs, among other reason. However, research is needed to identify likely survey mode effects in a transportation context.

Study Methods

The same questionnaire was administered to the US adult population using two survey modes, an online panel and an RDD telephone survey.

Phone survey: The Survey Research Lab (SRL) at Portland State University conducted interviews from February 21 to April 28, 2017 with 1,201 adults reached by both cell phone (40%) and landline phone (60%).

Online survey: This survey was administered using SurveyMonkey Audience, an online panel of participants voluntarily recruited from people who have participated in SurveyMonkey surveys. The survey was administered from March 6 to March 20, 2017 in English; 1,277 participants provided complete responses.

Findings

A comparative analysis of the results from both survey modes shows that survey mode mattered: the RDD phone and online panel samples differ in terms of both *who* completed the survey and *how* respondents answered questions.

Analysis of Who Responded

Respondents' sociodemographic characteristics differed by survey mode for most variables – race/ethnicity, education, income, and age. This variation ranged from a low of 1.3 percentage

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points to a high of 11.1 percentage points. The phone survey respondents were more likely to be minority (other than Asian-American), low-income, uneducated beyond high-school, and seniors (60+).

Comparing the respondent population for both survey modes to US Census Bureau data for the full US population shows that both modes recruited respondent populations who were statistically significantly different from US adults across most sociodemographic categories tested.

Analysis of How Respondents Answered

Another analysis compared how respondents from the two samples answered different types of questions: opinions about the transportation system, opinions about the priority government should place on transportation issues, support for different transportation tax options, and knowledge and opinions about government funding for public transit. For this analysis, we accounted for the respondent differences between the survey modes by weighting both datasets to match the Census Bureau's 2015 American Community Survey one-year estimates with respect to gender, race, Hispanic ethnicity, education level, imputed income values, and age.

Responses were statistically significantly different by survey mode for most questions, with the magnitude of the differences often 10 percentage points or more and in one case as large as 19 percentage points.

The only discernable pattern in the variation by survey mode relates to support for the different tax options presented to respondents. For four of the ten tax options there was no statistically significant difference in the percent supporting each tax, but for the other six taxes the online sample had consistently higher support.

Implications for Survey Research

The study results suggest that researchers should assume that survey mode effects will lead to differences in *who* responds, as well as to *how* respondents answer questions. For trend surveys, it would be unwise to switch between the two survey modes given the clear survey mode effect.

The findings from this study cannot prove that one survey mode is more or less representative of the US population in terms of personal characteristics and opinions. However, surveyors wishing to reach disadvantaged populations may wish to opt for the RDD phone survey, which has higher percentages of these respondents than the online survey.

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To Learn More

For more details about the study, download the full report at transweb.sjsu.edu/project/1729.html