

Optimizing Self and Proxy Response to Survey Questions on Sexual Orientation and Gender Identity

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Abstract

As a federal statistical agency, the Census Bureau faces several challenges if asked to include questions about sexual orientation and gender identity (SOGI) on our demographic surveys. In an effort to learn about methodological and measurement issues of concern as we consider the implications of introducing SOGI questions to Census Bureau sponsored surveys and the census, should we be tasked with doing so, we sponsored the 2016 Joint Program in Survey Methodology (JPSM) Practicum. The purpose of the research was to provide empirical evidence for federal statistical agencies regarding strategies to optimize self and proxy responses and reduce measurement error to SOGI questions on a voluntary, online survey. In this paper, we summarize the objectives, methodologies, and results from the 2016 JPSM Practicum, with a focus on the lessons to be learned by federal agencies that have added or are considering the addition of SOGI questions to their surveys.

Introduction

The U.S. Census Bureau is committed to reflecting the information needs of our changing society and is constantly examining the effectiveness of census and survey data to collect accurate information on people and families. There is increasing interest in and attention to measures of sexual orientation and gender identity (SOGI). As a federal statistical agency, the Census Bureau faces several challenges if asked to include SOGI questions on our demographic surveys, including:

- The comparatively small population of lesbian, gay, bisexual, and transgender (LGBT) persons in the United States suggests that relatively small sampling or reporting errors can lead to significant errors in estimation and description.¹
- The collection of SOGI data is perceived by some as sensitive.
- Many Census Bureau data collections depend upon a single household respondent to provide answers for other household members.
- Privacy and confidentiality of respondents must be carefully considered.
- No federal recommendations currently exist for which SOGI questions to field.²

In an effort to learn about methodological and measurement issues of concern as we consider the implications of introducing SOGI questions to Census Bureau sponsored surveys, the agency sponsored the 2016 Joint Program in Survey Methodology (JPSM) Practicum. The purpose of the research was to provide empirical evidence for federal statistical agencies regarding strategies to optimize self and proxy responses and reduce measurement error to SOGI questions on a voluntary, online survey. In this paper, we summarize the objectives, methodologies, and results from the 2016 JPSM Practicum, with a focus on the lessons to be learned by federal agencies that have added or are considering the addition of SOGI questions to their surveys.

¹ The most recent estimates suggest that just over 3 percent of the U.S. adult population identifies as Lesbian, Gay, or Bisexual (see Table 6) while estimates of the Transgender population in the United States range from 0.3 percent (Gates 2011) to 0.6 percent (Flores et al. 2016) of the adult population.

² The Census Bureau is participating in the Office of Management and Budget's Interagency Working Group on Sexual Orientation and Gender Identity, which has published a series of working papers documenting SOGI measures currently used on federal and other surveys, evaluations of those measures, and a proposed research agenda to address unresolved conceptual and methodological topics to measuring SOGI on surveys. These documents provide a comprehensive inventory of the SOGI measures that have been used and how well they perform. (Federal Interagency Working Group on Improving Measurement of Sexual Orientation and Gender Identity in Federal Surveys 2016a, 2016b, 2016c).

Background

At present, there are no SOGI questions on any of the surveys sponsored by the Census Bureau. However, the Census Bureau has gained experience with testing and implementing SOGI questions by fielding surveys sponsored by other federal agencies. In 2013, questions on sexual orientation were implemented on the National Health Interview Survey (NHIS), which is fielded by the Census Bureau and sponsored by the National Center for Health Statistics. SOGI questions were added to the National Crime Victimization Survey (NCVS) in 2016, which is fielded by the Census Bureau and sponsored by the Bureau of Justice Statistics. The Census Bureau is conducting cognitive testing of SOGI questions for the Current Population Survey (CPS), which is fielded by the Census Bureau and jointly sponsored by the Census Bureau and the Bureau of Labor Statistics. Cognitive testing is being carried out in four sites to test for regional differences, proxy reporting and knowledge of proxies, and privacy and sensitivity issues.³

While the Census Bureau does not currently ask SOGI questions on its surveys or the census, the agency continues to improve the quality of its estimates of same-sex couples, both married couples and unmarried partners, through a revision to the relationship question on some surveys. In the revised question, we have expanded the “husband or wife” and “unmarried partner” categories to distinguish between same-sex and opposite-sex relationships. The revised question also includes an automated check in electronic instruments that alerts the respondent when the relationship reported does not agree with the sex reports for the couple. For example, if Mary was reported as John’s opposite-sex husband/wife/spouse, but both individuals were recorded as female, a series of questions will be asked of the respondent, seeking their confirmation that the responses were correct and providing them with the opportunity to make corrections, if necessary.

³ The process of adding questions to a survey, such as the NHIS and NCVS, involves extensive cognitive testing followed by field testing. The empirical evidence derived from these tests is then used to formulate recommendations for adding or modifying survey content. The Office of Management and Budget has final approval authority for these changes.

We have learned several lessons from our testing to date, notably that relationship categories should be explicitly stated in addition to reporting sex and that an automated check is helpful in resolving inconsistent reporting. The revised relationship question is now used in the American Housing Survey, the Survey of Income and Program Participation, and is being phased into the Current Population Survey. This question was tested on the American Community Survey (ACS) in 2016 and is planned for implementation in the ACS in 2019, once the content testing cycle is completed.⁴ We also continue to test and work toward inclusion of the revised question in the 2020 Census.

In addition to our work to implement SOGI questions on surveys sponsored by other federal agencies and improve our measurement of same-sex couples, the Census Bureau is actively participating in the Office of Management and Budget's Interagency Working Group on Measuring Sexual Orientation and Gender Identity. This group's mission is to explore measurement of SOGI, considering multiple different dimensions of sex, gender, and sexuality. The group has released a series of working papers, providing guidance for OMB and other Federal agencies for the development, testing, and usage of SOGI measures to more accurately describe sexual and gender minority populations, including LGBT populations (Federal Interagency Working Group on Improving Measurement of Sexual Orientation and Gender Identity in Federal Surveys 2016a, 2016b, 2016c).

2016 JPSM Practicum

The Census Bureau sponsored the 2016 Joint Program in Survey Methodology (JPSM) Survey Practicum, with the objective of identifying methods and techniques to optimize response and reduce measurement error to SOGI questions on an online survey.⁵ For the 2016 JPSM

⁴ For more information on the American Community Survey, please see <https://www.census.gov/programs-surveys/acs/>.

⁵ The survey practicum is a two-course sequence is an applied workshop in sample survey design, implementation, and analysis. See more at: <https://jpsm.umd.edu>.

Practicum, we proposed that the students design, pretest, and implement a short, voluntary online survey. The topic of the survey was negotiable, but we suggested the students field a work-related survey, including questions about wages, earnings, and employment arrangements. Besides the SOGI and work-related questions, we recommended the survey collect basic demographics of age, sex, race, Hispanic origin, and geography. We also requested the survey instrument collect data using a single household respondent to answer questions on behalf of all household members. This mimics the method used to collect data in the American Community Survey and Current Population Survey, providing an opportunity for us to evaluate the performance of SOGI questions in a proxy response environment – the central research question of the Practicum.

We address the following research questions in this paper:

- **Unit Response:** Does the inclusion of SOGI questions decrease response rates?
- **Item Nonresponse:** What is the rate of nonresponse to the SOGI questions among those who complete the survey?
- **Proxy versus Self-Response:** What is the rate of nonresponse to the SOGI questions when asked by proxy via a household informant?⁶
- **Question Wording:** Which question wording yields the lowest measurement error?

For the purpose of this paper, we focus in particular on the research questions concerned with item nonresponse and proxy versus self-response.

Methodology

For the 2016 JPSM Practicum, the students designed a Current Employment Survey, gathering information about employment status and personal characteristics of the survey respondents and the people they live with. The survey consisted of two stages, a cognitive test and main survey. Results from the cognitive test were used to refine the informal employment section

⁶ To date, no federal surveys ask SOGI questions by proxy, though CPS has begun cognitive testing and focus groups in four geographic regions. Two people from the same household will be asked the questions and their responses will be compared to evaluate responses in the proxy environment to see what the level of agreement is between two household members.

of the main questionnaire. Both the cognitive test and main survey were programmed in Qualtrics and fielded in Amazon’s Mechanical Turk (MTurk).^{7, 8} The cognitive test included 500 respondents, who were paid \$3.75 for their participation. The main survey included 5,000 respondents, each paid \$2.50.

Similar to the household surveys fielded by the Census Bureau, both the cognitive test and main survey began with a series of questions to generate a household roster – a list of all household residents and their relationship to the respondent. The SOGI questions were included in the demographic section of the survey, which occurs at the beginning of the survey. Respondents had to be 18 years or older. Other household members had to be 16 or older.

SOGI Questions on the Cognitive Test

After collecting the names and relationships of all household members, the cognitive test asked demographic questions, beginning with year of birth and age. These questions were followed by two questions to ascertain gender identity:

TREATMENT 1 QUESTIONS

Q6. [Was your/To the best of your knowledge, was [NAME]’s] sex assigned as male or female at birth?

1. Male
2. Female
8. I don’t know the answer
9. I prefer not to answer

Q7. [Do you/To the best of your knowledge, does [NAME]] currently describe [yourself/themselves] as male, female, or transgender?

1. Male
2. Female
3. Transgender
4. [Do not/Does not] identify as male, female or transgender
8. I don’t know the answer

⁷ Qualtrics is a web-based survey tool available for use by anyone with University of Maryland credentials.

⁸ Amazon’s Mechanical Turk is a web service providing “a marketplace for work that requires human intelligence.” Employers post jobs, referred to as Human Intelligence Tasks (HITs) and workers browse jobs and complete them in exchange for monetary payment set by the employer. See more at: <https://www.mturk.com>.

9. I prefer not to answer

The questions on gender identity were followed by a series of questions asking the respondent to describe what they thought the questions were asking, whether or not they recognized the difference between the two questions, whether or not the questions were difficult to answer, and how sensitive or personal they thought the questions were. These questions are provided in Appendix 1 at the end of this document.

Respondents were then asked one question on the sexual orientation of each household resident (see below). Follow-up questions about meaning, difficulty and sensitivity were asked next (see Appendix 2).

Q9. [Which/To the best of your knowledge, which] of the following best represents how [you think of yourself/[NAME] thinks of themselves]?

1. [IF (Q6=1 AND Q7=1): Gay, ELSE: Gay or lesbian]
2. Straight, that is, not [IF (Q6=1 AND Q7=1): gay, ELSE: gay or lesbian]
3. Bisexual
4. Something else
8. I don't know the answer
9. I prefer not to answer

SOGI Questions on the Main Survey

The main survey employed an experimental design, testing two versions of the gender identity questions. The first experimental panel, asked of half of the survey respondents, used the two-part question as displayed above. A third question was added to confirm the response:

Q8. Just to confirm, [you were/[NAME] was] assigned [IF Q6=1: male/IF Q6=2: female] at birth and now [describe yourself/describes himself/describes herself] as [IF Q7=1: male/IF Q7=2: female]. Is that correct?

1. Yes, that is correct
2. No, that is not correct

IF Q8=2, RETURN TO Q6. ELSE GO TO Q9.

The second experimental panel asked the following three questions, asking first about gender identity (Q6A) and then asking if someone identifies as transgender (Q7A). Sex assigned at

birth (Q8A) was asked only those who respond “Do not identify as male or female,” “I don’t know the answer,” or “I prefer not to answer.”

TREATMENT 2 QUESTIONS

Q6A. [Do you/To the best of your knowledge, does [NAME]] currently consider [yourself/themselves] male or female?

1. Male
2. Female
3. [Do not/Does not] identify as male or female
8. I don't know the answer
9. I prefer not to answer

Q7A. Sex is what a person is born. Gender is how a person feels. When a person’s sex and gender do not match, they might think of themselves as transgender. [Are you/To the best of your knowledge, is [NAME]] transgender?

1. Yes
2. No
8. I don't know the answer
9. I prefer not to answer

IF Q6A_X IN (3,8,9) GO TO Q8A_X. ELSE GO TO Q9_X.

Q8A. [Was your/To the best of your knowledge, was [NAME]’s] sex assigned as male or female at birth?

1. Male
2. Female
8. I don't know the answer
9. I prefer not to answer

All respondents were asked the same question about the sexual orientation of each household member, using the same wording as question 9 from the cognitive test (shown above). As a reminder, respondents had to be 18 or older and other household members had to be 16 or older.

Research Questions

In this paper, we focused primarily on two of the research questions from our original proposal for the 2016 JPSM Practicum:

- **Item Nonresponse:** What is the rate of nonresponse to the SOGI questions among those who complete the survey?

- **Proxy versus Self-Response:** What is the rate of nonresponse to SOGI questions when asked by proxy via a household informant?

Since our primary concern in this paper is whether or not the respondents provided a response to the SOGI questions, the analysis focuses on item nonresponse overall, then considers how item nonresponse rates differ by proxy versus self-response and by question wording.

It is common practice to ask one person to provide information for other members of the household in current surveys. There is concern that proxy reporting to SOGI questions might generate poorer responses because respondents may not be comfortable sharing information about others, or may not have that information available to them in the first place. Agreement between proxy and self-responses has been shown to vary based on the indicator and relationship between the proxy and individual they are reporting for (Gilpin et al. 1994; Kojetin and Jerstand 1997; Kojetin and Mullin 1995; Mathiowetz and Groves 1985; Moore 1988). To date, surveys conducted by U.S. Federal statistical agencies have asked SOGI questions only on self-response surveys. We know from other English-speaking countries that proxy reporting is not permitted on surveys in New Zealand or the United Kingdom due to concerns about accuracy and confidentiality (Joloza et al. 2010).

Whether responding for themselves or another household member, some survey questions are more sensitive in nature. Respondents may be reluctant to answer or in some cases provide what they believe to be the socially desirable, but inaccurate, response to questions. This includes questions on topics such as earnings and income, drug use, abortion, sexual behavior and orientation, voting, and religion (Tourangeau and Yan 2007). It has been established that respondents are more likely to respond accurately to sensitive questions, or at least report socially undesirable behaviors at a higher rate, in self-administered survey modes such as web surveys (Kreuter, Presser, and Tourangeau 2009; Tourangeau et al. 2000; Torangeau and Smith 1996).

To evaluate proxy versus self-response as well as item nonresponse, we compare item nonresponse rates to the SOGI questions for self-response versus proxy-response. We include those

who skip the question as well as those who marked “don’t know” or “prefer not to answer” in the estimate of item nonresponse. Higher item nonresponse rates for proxy versus self-response may indicate that a proxy respondent does not have sufficient knowledge or is not comfortable providing a response to these questions for other household members. Ability or willingness to respond to SOGI questions for other household members is of central concern as we consider fielding these questions on household surveys with proxy response. We also evaluate the item nonresponse rates for proxy responses based on the relationship of the household member to the respondent.

Two versions of the two-step question on gender identity were tested in this survey. We evaluated the distributions of the responses, with particular attention to item nonresponse among proxy and self-responses to each set of questions. Higher levels of item nonresponse to one set of questions may indicate the importance of question wording and/or sequence.

We further evaluate item nonresponse rates for the SOGI questions by comparing the item nonresponse rates of SOGI to other questions. The comparison to earnings and household income is of particular interest to us, as these questions routinely exhibit some of the highest item nonresponse in the American Community Survey (U.S. Census Bureau 2016) and are among the questions ACS interviewers report that respondents find confusing, take longer to answer, and are uncomfortable answering (Raglin 2014). We make separate comparisons for the proxy and self-responses to evaluate the respondents’ willingness/ability to respond to these questions.

Finally, for any SOGI question that shows a significant difference between the self and proxy rates of item nonresponse, we will evaluate the relationship of the respondents to those household members they do not provide a response for. This analysis may help to identify if there are some household relationships where SOGI reporting may be more difficult to obtain.

Results

Demographic Profile of Sample

Table 1 presents a profile of the Practicum sample by selected demographic characteristics along with the distributions for the same characteristics from the 2015 ACS. Since the Practicum sample is not a probability sample, and not considered representative of the U.S. population, we also include data from the 2015 ACS distribution to better understand how the Practicum sample may differ from the national population.⁹ We show ACS data for all response modes and for Internet response only, since the Practicum survey was administered online. We provide distributions from the Practicum data for self-response and proxy-response (hereafter referred to as self and proxy, respectively) as well as the total distribution for all household members.

The Practicum sample is quite young, with over half of respondents (self) and household members (proxy) falling into the categories of *Under 25* and *25 to 34*. Over half of Practicum respondents had a *bachelor's degree or higher* and an additional 38 percent had *some college or an associate's degree*. Just over 78 percent of all household members, including respondents, fell into these top two categories for educational attainment. Over 70 percent of survey respondents were non-Hispanic White, 71 percent of all household members in the sample were non-Hispanic White.

Breakoffs

The Practicum's main survey had 4,991 completed interviews. A complete interview was defined as any case where the respondent clicked through the end of the interview, regardless of the number of questions that were answered. There were 67 cases dropped from the main questionnaire data set because it was not possible to verify the respondent was 18 years or older. Five of the 67 cases were completed interviews while the remaining 62 were breakoffs. There were

⁹ We did not perform any statistical tests in Table 1, so we cannot make statements as to statistical similarities or differences between the Practicum and the ACS.

119 partial interviews where the individual began the survey and progressed at least through the age question, but did not complete the survey. A summary of the sections where the breakoffs occurred is provided in Table 2. Breakoffs that occurred after the household roster and demographics sections are grouped together. Compared to other roster items, break-offs were more frequent at the SOGI questions (8.4 percent for self and 12.6 percent for proxy). However, the majority (65.5 percent) of breakoffs occurred later in the questionnaire after the SOGI items. (JPSM Practicum 2016).

Item Nonresponse

The distribution of responses to the SOGI questions is provided in Table 3. We present results separately for self and proxy responses, as well as the total response distribution for all household members (self plus proxy). Distributions are shown separately by treatment.¹⁰ The percentage who did not provide a response to the SOGI questions – the response was not provided or the respondent selected *Don't know* or *Prefer not to answer* – was low in both treatments. The percentage of household members for which we did not receive a response for sexual orientation was 1.6 in treatment 1 and 1.8 in treatment 2. In treatment 1, *Sex assigned at birth* and *Current gender identity* went unanswered for just 31 or 0.6 percent of household members (12 or 0.5 percent for self-response and 19 or 0.6 percent for proxy response). In treatment 2, *Current gender identity* went unanswered for just 19 or 0.3 percent of all household members (7 or 0.3 percent for self-response and 12 or 0.4 percent for proxy response). The item nonresponse to the *Transgender* question was 48 or 0.9 for all household members (19 or 0.8 percent for self-response and 29 or 0.9 percent for proxy response).

¹⁰ In treatment 2, sex assigned at birth was only asked of those whose response to current gender was "Does not identify as male or female," "Don't know," or "Prefer not to answer." Because only 42 household members received this question, we chose not to present results here.

The willingness and ability of respondents to provide responses to SOGI questions for not only themselves but also for other household members (i.e., proxy responses) is of particular interest for our research. To evaluate this, we first conducted chi-square tests to determine if there were differences in the overall distribution of the self and proxy responses to the SOGI questions (shown in Table 3).^{11, 12} The results of these tests, provided in Table 4, confirm there are significant differences in the responses to the SOGI questions in both treatments. All three questions showed significant differences in Treatment 1, while responses to the questions on current gender identity and sexual orientation showed significant differences in Treatment 2.

We performed t-tests of the SOGI responses within each treatment by response type to identify significant differences in responses by type, self versus proxy. As item nonresponse is of primary interest for this research, we focus just on the results for that category. As shown in Table 5, there were no statistically significant differences in item nonresponse in self versus proxy reporting for *Sex assigned at birth* in treatment 1 or *Current gender identity* in either treatment 1 or 2. We do find that in both treatments, there was a significant difference in item nonresponse to the question on *Sexual orientation*. As we might expect, item nonresponse was higher for proxy response than self-response, with differences of 1.6 percentage points in treatment 1 and 1.9 percentage points in treatment 2. While there was a higher rate of item nonresponse to sexual orientation, the rate was still low (less than 3 percent for proxy responses in either treatment)

LGBT Estimates

Table 6 presents estimates for the period 2004-2015 of the percent of adults in the United States who identify as lesbian, gay or bisexual from several surveys, showing estimates from the Practicum and several other published sources. The results from the Practicum (7.6 percent and 8.1

11 For the chi-square and t-tests, we used the complete “No answer” category, including those who did not respond or indicated they did not know they answer or preferred not to answer. We did not perform statistical tests on the responses to each of these three categories separately.

12 The significance level for all tests is $\alpha = 0.1$.

percent, depending upon treatment), shaded in gray, are provided at the end of the list of U.S. estimates. We conducted a chi-square test of the differences in response distribution between treatments, which indicated there are no statistically significant differences between treatments in the response distribution ($\chi^2 = 5.4931$, $p\text{-value} = 0.2403$). We also include some international data sources at the end of the table.¹³ The estimates from the Practicum appear higher than most other data sources, but as this was not a probability sample and cannot be generalized to any population, it is not possible to draw any conclusions about these differences or what they might indicate.

To estimate the number of individuals in the Practicum who are transgender, we first had to calculate an estimate for treatment 1. Transgender describes anyone whose gender identity differs from the sex assigned at birth (Spade 2008). For the purpose of this research, the estimate of transgender includes those whose answer to the question on *Current gender identity* was “transgender” and those whose responses to *Sex at birth* and *Current gender identity* differed (e.g., *Sex at birth* = Male and *Current Gender* = Female). The cross tabulation used to derive the estimate for Treatment 1 is provided in Table 7. Response combinations that are indicative of transgender are highlighted in gray.

Table 8 compares the transgender estimates in treatments 1 and 2, which are 0.5 percent and 1.5 percent, respectively. Statistical testing indicates the 1 percentage point difference between treatments is statistically significant ($p\text{-value} = 0.000$), suggesting the questions in treatment 2 generate a higher number of transgender responses compared to responses to the questions asked in treatment 1. There are few estimates of the transgender population in the United States. In 2011, Gates (2011) estimated that 0.3 percent of the U.S. population is transgender by averaging the results of surveys conducted in Massachusetts and California. Using data from the CDC’s Behavioral Risk Factor Surveillance System (BRFSS), Flores et al. (2016) estimate that 0.6 percent of the U.S.

¹³ We did not conduct any statistical tests of difference between the LGB and transgender from the Practicum and those from other sources. We are therefore unable to comment as to whether there are any statistically significant differences between estimates.

population (1.4 million) is transgender. While we cannot state whether our estimates differed significantly from other published estimates, we do see that the estimates from treatment 1 seem closest to other published estimates. In their evaluation of one-step versus two-step gender identity questions, Matt Jans and colleagues (Jans et al. 2015) found the measures had similar transgender identification rates, but the one-step question (same as the question used for treatment 2 in the Practicum) took longer to answer than the two-step question (same as the question used for treatment 1 in the Practicum). In addition, the one-step question had a higher percentage of cases where gender identity was not ascertained. Jans et al. concluded that “two short, quick, and clear questions are better than one long confusing one.”

Item Nonresponse Rates in Context

To provide context for the item nonresponse rates within the Practicum survey, we compiled the results for the SOGI questions to the item nonresponse for several other questions (see Table 9).¹⁴ Interestingly, the highest rate of item nonresponse was observed in the question on year of birth. Overall item nonresponse to year of birth was 5.5 percent, which was driven by the item nonresponse in proxy responses (9.5 percent). There was little item nonresponse to the question on age. It may be that respondents either knew or were willing to guess the age of other household members, but were not able to approximate or calculate year of birth if they didn't know it.

Looking to the other rates of item nonresponse presented in Table 9, we see that the percentage of item response was higher for the questions on *Earnings* (2.5 percent overall) and *Household income* (3.0 percent overall) than any of the SOGI questions.¹⁵

¹⁴ Please note that we did not separate the other variables by treatment; only SOGI responses are analyzed separately by treatment. Also, the only questions on the survey that included the “Don't know” and “Prefer not to answer” response categories were the SOGI questions and household income.

¹⁵ We did not perform statistical testing on these differences, therefore cannot state whether the differences in item nonresponse are significant.

Relationship Status for Proxy Nonresponses

In an effort to understand who may not be willing or able to provide a response to SOGI questions, we looked at the relationship of the respondent to household members in those instances where a proxy response was not provided. Because *Sexual orientation* was the only SOGI item where the rate of item nonresponse was higher for proxy reporting versus self-reporting, we restrict our analysis to just that item.

Table 10 provides the distribution relationship to the household member for cases where there was no response to the *Sexual orientation* question. Across treatments, we find the largest nonresponse categories to be *Child, Brother/Sister, and Housemate/roommate*. It is interesting to find there is nonresponse for both relative and nonrelative household members. Also, we note that a larger number of these responses fell in the “Don’t know” category, followed by “Prefer not to answer” and those who did not provide a response at all.

Discussion and Next Steps

The Census Bureau sponsored the 2016 JPSM Practicum with the goal of learning more about fielding SOGI questions on surveys, with a particular focus on asking these questions in a household survey where respondents were asked to provide responses for themselves as well as other household members. In this paper, we have begun our analysis of the data obtained in the 2016 JPSM Practicum by focusing on results from the Main Survey, with a focus on item nonresponse overall and by self versus proxy response.

We learned that, at least in the context of a voluntary, online survey where respondents received a small payment for completing the survey that the rates of item nonresponse are quite low overall for both self and proxy response. This suggests that survey respondents are able to and willing to provide responses to these questions.

In comparison to self-reports, there were significantly higher rates of item nonresponse in proxy responses to the question on sexual orientation. We also found evidence to suggest that some relationship categories may yield higher rates of nonresponse. In subsequent work, we plan to evaluate results from the Practicum's cognitive testing to further explore this finding. We also anticipate that results from ongoing research on proxy response for the Current Population Survey will provide valuable insight on this topic.

Finally, we observed that rates of item nonresponse to SOGI questions seem to be lower than the rates for earnings and income. This finding is of interest, as it suggests that in spite of concerns about the sensitivity of SOGI questions, they may be, in fact, no more sensitive or difficult to answer. The sensitivity of the SOGI questions, as illustrated through item and unit nonresponse rates is something that we are particularly interested in evaluating should we undertake subsequent testing of these questions.

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Selected demographic characteristics (percent of total)	2016 JPSM Practicum ¹			2015 American Community Survey ²			
	Total	Self	Proxy	All Response Modes	Margin of Error	Internet Response Only	Margin of Error
Age	100.0	100.0	100.0	100.0		100.0	
Under 25	18.6	14.4	22.0	15.5	<0.1	13.5	0.1
25 to 34	35.3	44.6	27.7	17.1	<0.1	18.0	0.1
35 to 44	18.7	22.3	15.8	15.9	<0.1	17.2	0.1
45 to 54	13.2	11.6	14.6	16.8	<0.1	18.3	0.1
55 to 64	9.7	5.7	13.0	16.0	<0.1	17.3	0.1
65 and over	4.5	1.5	6.9	18.6	<0.1	15.8	0.1
Education	100.0	100.0	100.0	100		100	
Less than high school	5.4	0.5	9.3	15.6	<0.1	9.6	0.1
High school graduate	16.3	9.3	21.9	27.1	0.1	20.0	0.1
Some college or associate's degree	35.1	38.2	32.7	30.1	<0.1	29.7	0.1
Bachelor's degree or higher	43.2	52.0	36.1	27.1	<0.1	40.7	0.1
Race and ethnicity	100.0	100.0	100.0	100		100	
Hispanic	9.3	8.1	10.3	15.7	<0.1	9.8	0.1
Non-Hispanic							
White	71.0	73.4	69.2	64.1	<0.1	74.0	0.2
Black	7.3	6.9	7.6	12.0	<0.1	6.5	0.1
Two or More Races	3.7	4.1	3.4	1.7	<0.1	1.9	<0.1
Other	8.6	7.5	9.5	6.4	<0.1	7.9	0.1

¹ Respondents had to be adults aged 18 and over. Other household members were 16 or over.

² Responses for adults aged 16 and over. For more information on the American Community Survey, please visit <https://www.census.gov/programs-surveys/acs/>.

Source: U.S. Census Bureau 2015 American Community Survey and 2016 JPSM Practicum

	Number	Percent
Total breakoffs	119	100.0
Respondent		
SOGI questions	10	8.4
Other roster questions	4	3.4
Person 2		
SOGI questions	15	12.6
Other roster questions	1	0.8
Person 3-10 within the roster	11	9.2
After the roster	78	65.5

Note: A total of 67 cases were dropped from the main questionnaire data set because it was not possible to verify the respondent was 18 years of age or older. Five of these cases were completed interviews and the remaining 62 were breakoffs.

Source: 2016 JPSM Practicum

Table 3. Responses to Sexual Orientation and Gender Identity Questions by Treatment and Response Type						
Treatment and SOGI Responses	Total		Self Response		Proxy Response	
	N	%	N	%	N	%
Treatment 1						
Sex assigned at birth	5,619	100	2,493	100	3,126	100
Male	2,838	50.5	1,176	47.2	1,662	53.2
Female	2,750	48.9	1,305	52.3	1,445	46.2
No answer ¹	31	0.6	12	0.5	19	0.6
Don't know	5	0.1	2	0.1	3	0.1
Prefer not to answer	15	0.3	3	0.1	12	0.4
No response	11	0.2	7	0.3	4	0.1
Current gender identity	5,619	100	2,493	100	3,126	100
Male	2,826	50.3	1,174	47.1	1,652	52.8
Female	2,725	48.5	1,289	51.7	1,436	45.9
Transgender	15	0.3	6	0.2	9	0.3
Does not identify as male, female, or transgender	22	0.4	12	0.5	10	0.3
No answer ¹	31	0.6	12	0.5	19	0.6
Don't know	8	0.1	0	0.0	8	0.3
Prefer not to answer	16	0.3	6	0.2	10	0.3
No response	7	0.1	6	0.2	1	0.0
Sexual orientation	5,619	100	2,493	100	3,126	100
Gay or lesbian	174	3.1	93	3.7	81	2.6
Straight (not gay or lesbian)	5,045	89.8	2,185	87.6	2,860	91.5
Bisexual	252	4.5	158	6.3	94	3.0
Something else	56	1.0	38	1.5	18	0.6
No answer ¹	92	1.6	19	0.8	73	2.3
Don't know	55	1.0	3	0.1	52	1.7
Prefer not to answer	32	0.6	15	0.6	17	0.5
No response	5	0.1	1	0.0	4	0.1

Table continues on next page.

Table 3. Responses to Sexual Orientation and Gender Identity Questions by Treatment and Response Type (continued)

Treatment and SOGI Responses	Total		Self Response		Proxy Response	
	N	%	N	%	N	%
Treatment 2						
Current gender identity	5,593	100.0	2,498	100.0	3,095	100.0
Male	2,825	50.5	1,209	48.4	1,616	52.2
Female	2,726	48.7	1,272	50.9	1,454	47.0
Does not identify as male or female	23	0.4	10	0.4	13	0.4
No answer ¹	19	0.3	7	0.3	12	0.4
Don't know	2	0.0	2	0.1	0	0.0
Prefer not to answer	12	0.2	5	0.2	7	0.2
No response	5	0.1	0	0.0	5	0.2
Transgender	5,593	100.0	2,498	100.0	3,095	100.0
Yes	86	1.5	38	1.5	48	1.6
No	5,459	97.6	2,441	97.7	3,018	97.5
No answer ¹	48	0.9	19	0.8	29	0.9
Don't know	28	0.5	11	0.4	17	0.5
Prefer not to answer	19	0.3	8	0.3	11	0.4
No response	1	0.0	0	0.0	1	0.0
Sexual orientation	5,593	100.0	2,498	100.0	3,095	100.0
Gay or lesbian	168	3.0	102	4.1	66	2.1
Straight (not gay or lesbian)	4,965	88.8	2,139	85.6	2,826	91.3
Bisexual	286	5.1	188	7.5	98	3.2
Something else	73	1.3	50	2.0	23	0.7
No answer ¹	101	1.8	19	0.8	82	2.6
Don't know	58	1.0	4	0.2	54	1.7
Prefer not to answer	34	0.6	12	0.5	22	0.7
No response	9	0.2	3	0.1	6	0.2

¹ The category of *No answer* includes those who marked "I don't know," "I prefer not to answer," or did not respond at all to the question.

² In treatment 2, sex assigned at birth was only asked of those whose response to current gender was "Does not identify as male or female," "Don't know," or "Prefer not to answer." The percentages for this variable represent the percentage of the subset that were asked this question. All other percentages in the table are for the total number in that treatment.

Note: Some of the standard errors for the response rates are available in Table 5.

Source: 2016 JPSM Practicum

Table 4. Chi Square Testing of Self versus Proxy Responses to Sexual Orientation and Gender Identity Questions by Treatment and Question			
Treatment and SOGI Responses¹	Degrees of Freedom	Chi-Square Value	Probability
<u>Treatment 1</u>			
Sex assigned at birth	2	20.8896	<.0001
Current gender identity	4	20.0883	0.0005
Sexual orientation	4	75.8856	<.0001
<u>Treatment 2</u>			
Current gender identity	3	8.872	0.031
Transgender	2	0.515	0.773
Sexual orientation	4	117.9988	<.0001

¹ The Chi Square test was done on each response category and the complete "No answer" category from Table 3.

Table 5. Statistical Test for Responses to Sexual Orientation and Gender Identity Questions by Treatment and Response Type

Treatment and SOGI Responses	Self Response		Proxy Response		Difference		
	%	S.E. (%)	%	S.E. (%)	%	S.E. (%)	P-Value
Treatment 1							
Sex assigned at birth	100		100				
Male	47.2	1.0	53.2	0.9	-6.0	1.3	0.000008
Female	52.3	1.0	46.2	0.9	6.1	1.3	0.000005
No answer ¹	0.5	0.1	0.6	0.1	-0.1	0.2	0.519478
Current gender identity	100		100				
Male	47.1	1.0	52.8	0.9	-5.8	1.3	0.000018
Female	51.7	1.0	45.9	0.9	5.8	1.3	0.000017
Transgender	0.2	0.1	0.3	0.1	0.0	0.1	0.730577
Does not identify as male, female, or transgender	0.5	0.1	0.3	0.1	0.2	0.2	0.346528
No answer ¹	0.5	0.1	0.6	0.1	-0.1	0.2	0.519478
Sexual orientation	100		100				
Gay or lesbian	3.7	0.4	2.6	0.3	1.1	0.5	0.016266
Straight (not gay or lesbian)	87.6	0.7	91.5	0.5	-3.8	0.8	0.000003
Bisexual	6.3	0.5	3.0	0.3	3.3	0.6	0.000000
Something else	1.5	0.2	0.6	0.1	0.9	0.3	0.000713
No answer ¹	0.8	0.2	2.3	0.3	-1.6	0.3	0.000001
Treatment 2							
Current gender identity	100.0		100.0				
Male	48.4	1.0	52.2	0.9	-3.8	1.3	0.004533
Female	50.9	1.0	47.0	0.9	3.9	1.3	0.003349
Does not identify as male or female	0.4	0.1	0.4	0.1	0.0	0.2	0.908592
No answer ¹	0.3	0.1	0.4	0.1	-0.1	0.2	0.484686
Sexual orientation	100.0		100.0				
Gay or lesbian	4.1	0.4	2.1	0.3	2.0	0.5	0.000038
Straight (not gay or lesbian)	85.6	0.7	91.3	0.5	-5.7	0.9	0.000000
Bisexual	7.5	0.5	3.2	0.3	4.4	0.6	0.000000
Something else	2.0	0.3	0.7	0.2	1.3	0.3	0.000084
No answer ¹	0.8	0.2	2.6	0.3	-1.9	0.3	0.000000

¹ The category of *No answer* includes those who marked "I don't know," "I prefer not to answer," or did not respond at all to the question.

² In treatment 2, sex assigned at birth was only asked of those whose response to current gender was "Does not identify as male or female," "Don't know," or "Prefer not to answer." The percentages for this variable represent the percentage of the subset that were asked this question. All other percentages in the table are for the total

Source: 2016 JPSM Practicum

Table 6. Percent of Adults who Identify as Lesbian, Gay, or Bisexual					
Year, Survey, and Source			Total	Lesbian or gay	Bisexual
Year	Survey	Source			
<i>United States</i>					
2004-2005	National Epidemiological Survey on Alcohol and Related Conditions	Gates 2011	1.7	1.0	0.7
2006-2008	National Survey of Family Growth (Ages 18-44)	Gates 2011	3.7	1.4	2.3
2008	General Social Survey	Gates 2011	2.8	1.7	1.1
2009	California Health Interview Survey	Gates 2011	3.2	1.8	1.4
2009	National Survey of Sexual Health and Behavior	Gates 2011	5.6	2.5	3.1
2011-2013	National Survey of Family Growth (Ages 18-44)	Copen et al 2016			
	Females		6.8	1.3	5.5
	Males		3.9	1.9	2
2012	Gallup	Gates and Newport 2012	3.4		
2013	National Health Interview Survey	Ward et al 2016	3.4	1.6	0.7
2014	National Health Interview Survey	NCHS 2014	3.4	1.6	0.7
2015	National Health Interview Survey	NCHS 2015	3.4	1.6	0.8
2016	2016 JPSM Practicum (<i>not national</i>)				
	Treatment 1		7.6	3.1	4.5
	Treatment 2		8.1	3.0	5.1
<i>International</i>					
2005	Canadian Community Health Survey (Ages 18-59)	Gates 2011	1.9	1.1	0.8
2005	Australian Longitudinal Study of Health and Relationships	Gates 2011	2.1	0.9	1.2
2009-2010	UK Integrated Household Survey	Gates 2011	1.5	1	0.5
2010	Norwegian Living Conditions Survey	Gates 2011	1.2	0.7	0.5

Sex at birth by response type	Current Gender									
	Male		Female		Transgender		Does not identify as male, female, or transgender		No answer ¹	
	N	%	N	%	N	%	N	%	N	%
Total	2,826	100.0	2,725	100.0	15	100.0	22	100.0	14	100.0
Male	2,813	99.5	4	0.1	12	80.0	4	18.2	4	28.6
Female	9	0.3	2717	99.7	3	20.0	15	68.2	4	28.6
No answer ¹	4	0.1	4	0.1	0	0.0	3	13.6	6	42.9
Self response	1,174	100.0	1,289	100.0	6	100.0	12	100.0	6	100.0
Male	1,166	99.3	2	0.2	4	66.7	3	25.0	0	0.0
Female	7	0.6	1286	99.8	2	33.3	8	66.7	0	0.0
No answer ¹	1	0.1	1	0.1	0	0.0	1	8.3	6	100.0
Proxy response	1,652	100.0	1,436	100.0	9	100.0	10	100.0	8	100.0
Male	1647	99.7	2	0.1	8	88.9	1	10.0	4	50.0
Female	2	0.1	1431	99.7	1	11.1	7	70.0	4	50.0
No answer ¹	3	0.2	3	0.2	0	0.0	2	20.0	0	0.0

Gray shading indicates a response combination that is indicative of transgender.

¹ The category of *No answer* includes those who marked "I don't know," "I prefer not to answer," or did not respond at all to the

Source: 2016 JPSM Practicum

Table 8. Number and Percent Identified as Transgendered by Treatment		
Treatment	N	%
Treatment 1	5,619	100
Transgender	28	0.5
Self response	15	0.3
Proxy	13	0.2
Treatment 2	5,593	100.0
Transgender	86	1.5
Self response	38	0.7
Proxy	48	0.9

Source: 2016 JPSM Practicum

Table 9. Item Nonresponse for Selected Variables

Selected Variables	Total		Self Response		Proxy Response	
	N	%	N	%	N	%
Total	11,212	100.0	4,991	100.0	6,221	100.0
Age	22	0.2	0	0.0	22	0.4
Year of birth	613	5.5	23	0.5	590	9.5
Marital status	16	0.1	8	0.2	8	0.1
Race	10	0.1	7	0.1	3	0.0
Educational attainment	10	0.1	1	0.0	9	0.1
Business or farm owner	9	0.1	1	0.0	9	0.1
Worked for pay	15	0.1	5	0.1	10	0.2
Worked without pay	10	0.1	0	0.0	10	0.2
Employed (full or part-time)	13	0.1	0	0.0	13	0.2
Works more than one job	13	0.1	7	0.1	6	0.1
Number of jobs	3	0.0	1	0.0	2	0.0
Hours worked at main job	42	0.4	6	0.1	36	0.6
Hours worked typical at main job	32	0.3	2	0.0	30	0.5
Hours worked at other job	14	0.1	7	0.1	7	0.1
Hours worked typical at other job	8	0.1	4	0.1	4	0.1
Earnings	283	2.5	59	1.2	224	3.6
Household income	337	3.0	147	2.9	190	3.1
SOGI Questions						
Treatment 1	5,619	100.0	2,493	100.0	3,126	100.0
Sex assigned at birth	31	0.6	12	0.5	19	0.6
Current gender identity	31	0.6	12	0.5	19	0.6
Sexual orientation	92	1.6	19	0.8	73	2.3
Treatment 2	5,593	100.0	2,498	100.0	3,095	100.0
Sex assigned at birth ¹	13	31.7	6	35.3	7	29.2
Current gender identity	19	0.3	7	0.3	12	0.4
Transgender	48	0.9	19	0.8	29	0.9
Sexual orientation	101	1.8	19	0.8	82	2.6

Note: For the SOGI and household income items, nonresponse includes those who marked "I don't know," "I prefer not to answer," or did not respond at all to the question.

¹ In treatment 2, sex assigned at birth was only asked of those whose response to current gender was "Does not identify as male or female," "Don't know," or "Prefer not to answer." The percentages for this variable represent the percentage of the subset that were asked this question. All other percentages in the table are for the total number in that response type and in the case of SOGI items, the number in that treatment.

Source: 2016 JPSM Practicum

Table 10. Respondent's Relationship to Household Member Where No Proxy Response Was Provided to Question on Sexual Orientation				
Relationship	No Response (total)	Don't Know	Prefer Not to Answer	No Answer
<i>Treatment 1</i>	73	52	17	4
Opposite-sex spouse	1	--	1	--
Opposite-sex unmarried partner	5	3	1	1
Same-sex spouse	1	--	1	--
Child	15	7	6	2
Parent	6	2	4	--
Brother/Sister	16	15	1	--
Other relative	1	1	--	--
Housemate/roommate	20	18	2	--
Roomer/boarder	2	1	--	1
Other nonrelative	6	5	1	--
<i>Treatment 2</i>	82	54	22	6
Opposite-sex spouse	6	2	3	1
Opposite-sex unmarried partner	1	1	--	--
Same-sex unmarried partner	1	--	1	--
Child	22	14	7	1
Parent	8	2	3	3
Brother/Sister	15	12	3	--
Other relative	7	7	--	--
Housemate/roommate	14	11	3	--
Roomer/boarder	2	1	1	--
Other nonrelative	6	4	1	1
Note: -- represents zero.				
Source: 2016 JPSM Practicum				

Appendix 1. Follow-up items to gender identity questions on the cognitive test.

QA. The previous screen included two questions. Did you notice a difference between the questions?

1. Yes
2. No

IF QA=1, GO TO QB. ELSE GO TO QC.

QB. What differences did you notice?

DISPLAY OPEN-ENDED BOX

QC. We previously asked if you currently identify as male, female, or transgender. What does transgender mean to you?

DISPLAY OPEN-ENDED BOX

QD. How comfortable were you about being asked whether [you are/[NAME] is] male, female, or transgender?

1. Extremely comfortable
2. Somewhat comfortable
3. Neither comfortable nor uncomfortable
4. Some uncomfortable
5. Extremely uncomfortable

IF QD_X IN (4,5), GO TO QE_X. ELSE GO TO QF_X.

QE. Why were you uncomfortable?

DISPLAY OPEN-ENDED BOX

IF Q6_X IN (1,2), GO TO QF_X. ELSE GO TO QH_X.

QF. You answered that [your/[NAME]'s] sex was assigned as [male/female] at birth. How confident are you of your answer?

1. Extremely confident
2. Somewhat confident
3. Neither confident nor unconfident
4. Some unconfident
5. Extremely unconfident

QG. How did you know [your/[NAME]'s] assigned sex at birth?

DISPLAY OPEN-ENDED BOX

IF Q7_X IN (.,8,9), GO TO QK_X. ELSE IF X=1, GO TO Q9_X. ELSE GO TO QI_X.

QH. You [answered that you did not know/did not wish to answer] whether [your/[NAME]'s] sex was assigned as male or female at birth. Why [do you not know/did you wish not to answer/was this]?

DISPLAY OPEN-ENDED BOX

IF Q7_X IN (.,8,9), GO TO QK_X. ELSE IF X=1, GO TO Q9_X. ELSE GO TO QI_X.

QI. You also answered that [NAME] [does not] currently identifies as [male/female/transgender/male, female, or transgender]. How confident are you of your answer?

1. Extremely confident
2. Somewhat confident
3. Neither confident nor unconfident
4. Some unconfident
5. Extremely unconfident

QJ. How did you know [NAME]'s current gender identity?

DISPLAY OPEN-ENDED BOX

GO TO Q9_X.

QK. You answered that you [did not know/did not wish to answer] whether [you/[NAME]] currently [identify/identifies] as male, female, or transgender. Why [do you not know/did you wish not to answer]?

DISPLAY OPEN-ENDED BOX

Appendix 2. Follow-up items to sexual orientation questions on the cognitive test.

QL. How comfortable were you about being asked whether [you are/[NAME] is] [gay/gay or lesbian], straight, or bisexual?

1. Extremely comfortable
2. Somewhat comfortable
3. Neither comfortable nor uncomfortable
4. Some uncomfortable
5. Extremely uncomfortable

IF QL_X IN (4,5), GO TO QM_X. ELSE IF Q9_X IN (.,8,9), GO TO QP_X. ELSE IF X=1, GO TO Q10_X. ELSE GO TO QN_X.

QM. Why were you uncomfortable?

DISPLAY OPEN-ENDED BOX

IF Q9_X IN (.,8,9), GO TO QP_X. ELSE IF X=1, GO TO Q10_X. ELSE GO TO QN_X.

QN. How confident are you that [NAME] is [gay/gay or lesbian/straight/bisexual/something other than [gay/gay or lesbian], straight, or bisexual]?

1. Extremely confident
2. Somewhat confident
3. Neither confident nor unconfident
4. Some unconfident
5. Extremely unconfident

QO. How did you know whether [NAME] identifies as [gay/gay or lesbian], straight, bisexual, or something else?

DISPLAY OPEN-ENDED BOX

GO TO Q10_X.

QP. You [answered that you did not know/did not wish to answer] whether [you are/[NAME] is] [gay/gay or lesbian], straight, bisexual, or something else. [Please explain why you did not know./Why was this?]

DISPLAY OPEN-ENDED BOX