Does Sexual Orientation and Gender Identity (SOGI) Question-Wording Influence Responses? An Experimental Test in a Non-Traditional Sample

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Abstract

Increasing visibility of sexual and gender minorities has led to heightened demand for accurate population statistics. Large-scale surveys increasingly measure sexual orientation and gender identity (SOGI). A measurement challenge is that questions must be understood by the non-LGBT population and meaningful to and respectful of the LGBT community. Poorly-worded questions incur measurement and nonresponse error risks. Motivated by varying prevalence estimates, this study assesses the impact of SOGI question wording on self-identification rates and item nonresponse. Respondents from two nonprobability surveys (MFour's Surveys on the Go® and Amazon Mechanical Turk [MTurk]), were randomly assigned to one of two sexual orientation and one of two gender identity measures used by three highly-influential health surveys: the California Health Interview Survey, Behavioral Risk Factor Surveillance System, and National Health Interview Survey. Results of the experiment are compared to each other and estimates from high-profile surveys. In addition to the experimental question wording results, this study demonstrates the potential for collecting SOGI data from nonprobability samples.

Key Words: SOGI, sexual orientation, gender identity, LGBT, question wording, measurement

Background
> "You don't really count, unless someone counts you."
> -Gary Dates, 2018

In 2012 Gallup estimated that 3.5% of the population identified as lesbian, gay, bisexual, or transgender (LGBT), and that estimate has increased every year since to 4.5% (Newport, 2018). These estimates are important for the LGBT community because being missing from data about health, criminal justice, the economy, and other research key to public policy considerations can be very problematic for a minority population.

Since   experiences and needs can be quite different between groups within the LGBT umbrella, distinguishing the subgroups of the LGBT population can be important in social science and public health research. For example, gay and bisexual men account for the majority of new HIV cases in the Unites States despite being a small minority of the population (Centers for Disease Control and Prevention,

2018) whereas lesbian women do not have this greatly elevated risk level (though people of all genders and sexual orientations can be impacted by HIV). Pew Research found that being LGBT was "very important" to their overall identity for 20% of bisexuals, "very important" to 48% of gay men, and 50% of lesbians (the number of transgender respondents was too small to report this measure) (Parker, 2015). As social and legal shifts are occurring in society, the need for data on each of these unique subgroups is being recognized. More and more large-scale surveys are asking sexual orientation and gender identity (SOGI) questions.

SOGI questions have unique measurement challenges. SOGI questions must be understood by the non-LGBT population (i.e., straight and cisgender people), but also meaningful to and respectful of the LGBT community. Straight (heterosexual) and cisgender people (those whose gender aligns with their sex assigned at birth) may not be familiar with the vocabulary sexual orientation and gender identity minorities use to describe themselves. They may be confused by a question that asks about gender and offers more than male and female as options. This can lead to misclassification. For a low incidence population such as transgender people, even a small proportion of cisgender people misclassifying themselves can greatly impact estimates. Further, if the questions are asked in a way that does not appropriately describe SOGI identities, LGBT individuals may refuse to answer or skip the questions or decide not to participate in the survey. This can also cause measurement error.

Figure 1 below shows that estimates of sexual orientation minorities vary considerably from different surveys (from 2.3%- 6.5%). Figure 2 shows estimates of gender identity minorities, which vary from 0.1%-0.5%. Some of this variation may be due to when the data were collected, as the Gallup poll showed increasing numbers of adults identifying as LGBT over time. It also may simply be due to the difficulty accurately measuring such a low incidence group. Another source of variation may be the question wording, which has varied across different instruments.

In our experiment, we seek to assess the impact of SOGI question wording on self-identification rates and item nonresponse to improve measurement. By randomizing respondents to one of two sexual orientation and one of two gender identity measures, we are able to compare differences in estimates.

Figure 1. Measurements of the prevalence of sexual orientation minorities varies across sources of estimates*.
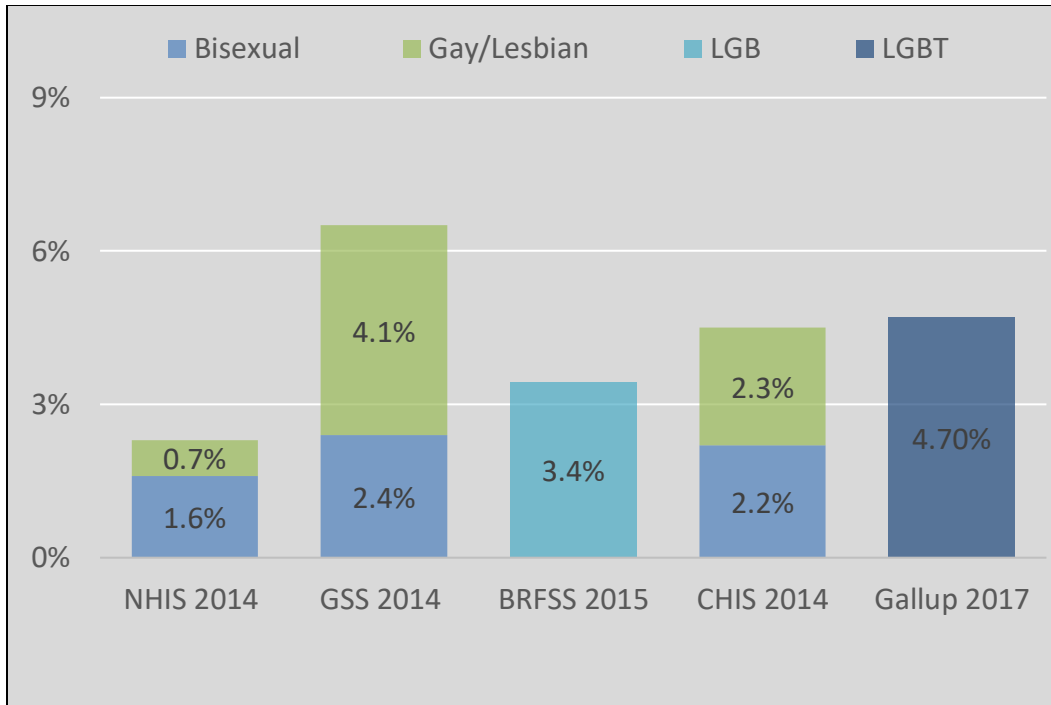
*Data retrieved by Matt Jans from the following: NHIS 2014**:**
https://www.cdc.gov/nchs/nhis/nhis_2014_data_release.htm; GSS2014:
https://gssdataexplorer.norc.org/variables/5081/vshow ; BRFSS 2015
https://www.cdc.gov/brfss/annual_data/annual_2015.html ; CHIS 2014
www.askchis.edu; Gallup 2017 https://news.gallup.com/poll/234863/estimate-lgbt-population-rises.aspx

Figure 2. Measurements of the prevalence of gender identity minorities (transgender and gender nonconforming) varies across sources.
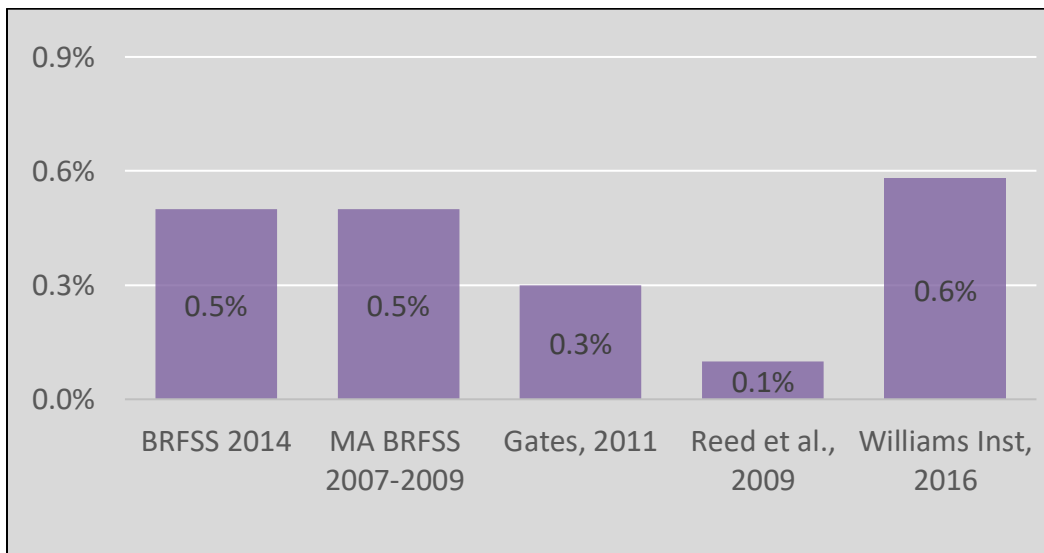
Comparing the BRFSS current wording with the wording from prior years for the sexual orientation measures, we suspect the **BRFSS–Current Version** may have lower item

nonresponse for a few reasons. The **BRFSS–Prior Version** included the option "Other," which might be alienating in describing identity and increase item nonresponse. "Other" may be appropriate as a survey response option for questions about objects (which of these items did you buy recently?) or activities (which sports do you watch on television?). However, it can be an insensitive choice for questions pertaining to identity, as being labeled "Other" can have connotations of social exclusion and being not part of a community. Further, we expect the updated version of the question may better capture people who are questioning their sexuality by distinguishing those who do not know ("I don't know the answer") from those who do not want to answer ("I don't want to answer.") This distinction is not made in the prior BRFSS version. We do not expect the estimate of sexual orientation minorities to greatly differ by question wording for these measures.

BRFSS uses a one-step gender identity measure (with a long introduction and definition), while **CHIS** uses a two-step measure. The two-step measure may be easier to answer and reduce item nonresponse. The description of what transgender means in the BRFSS question may help address instances where cisgender people misunderstand the question and misclassify themselves as transgender. The **CHIS** two-step measure allows people to report one assigned sex assigned at birth and a different gender without identifying as "transgender," which could increase accurate classification of transgender people. The sex assigned at birth question is worded to not imply that the person was their assigned sex at birth, and only to asks which sex was on their birth certificate. This subtle but important distinction is respectful of the reality that many transgender people feel they have always been the gender they currently express, including at birth. However, the CHIS question is not entirely without concerns. One concern is that transgender respondents may see the sex at birth question, and unaware there is an additional question about gender identity, assume the researchers are only considering assigned sex. This may cause item nonresponse. A way to avoid this problem may be to switch the order of the two questions or to have both visible on the same screen. Another consideration is that some transgender people for personal or legal reasons get their birth certificate replaced with one that accurately reflects their gender, and may answer the sex assigned at birth question based on their current birth certificate.

Methods

In this experiment, we propose to randomly assign respondents to one of two sexual orientation (SO) and one of the two gender identity (GI) measures. These are shown here:

<div align="center">

Sexual Orientation Measures
</div>

    1. **BRFSS–Prior Version** (Behavioral Risk Factor Surveillance System, 2016)
"Do you consider yourself to be"
- ❑ Straight
- ❑ Lesbian or gay
- ❑ Bisexual
- ❑ Other
- ❑ I don't want to answer

    2. **BRFSS–Current Version (NHIS)** (Behavioral Risk Factor Surveillance System, 2018)

"Which of the following best represents how you think of yourself?"
- ❏ [IF Gender = Female, INSERT "Lesbian or"] Gay
- ❏ Straight, that is, not [IF Gender = Female, "Lesbian or"] Gay
- ❏ Bisexual
- ❏ Something else
- ❏ I don't know the answer
- ❏ I don't want to answer

If "Something else": How do you describe you sexual identity? *Open Text Response*

Gender Identity Measures

1. **BRFSS** (Behavioral Risk Factor Surveillance System, 2015)

Some people describe themselves as transgender when they experience a different gender identity from their sex at birth. For example, a person born into a male body, but who feels female or lives as a woman would be transgender. Some transgender people change their physical appearance so that it matches their internal gender identity. Some transgender people take hormones and some have surgery.
Do you consider yourself to be transgender?"
- ❏ *Yes, Transgender, male-to-female*
- ❏ *Yes, Transgender, female to male*
- ❏ *Yes, Transgender, gender nonconforming*
- ❏ *No*

I don't want to answer

2. **CHIS** (California Health Interview Survey, 2017)
"On your original birth certificate, was your sex assigned as male or female?"
- ❏ *Male*
- ❏ *Female*
- ❏ *I don't want to answer*

"Do you currently describe yourself as male, female, or transgender?"
- ❏ *Male*
- ❏ *Female*
- ❏ *Transgender*
- ❏ *None of these*
- ❏ *I don't want to answer*

(If "None of these" in question above)
"What is your current gender identity?
Open Text Response

Noting that the purpose of the experiment is to compare the question wording rather than to produce prevalence estimates, we selected a nonprobability. We are using multiple sources to collect these data, including MFour's *Survey on the Go®* opt-in panel

www.mfour.com and Amazon Mechanical Turk, which assigns workers "tasks" of completing the survey questions. Both of these options offer the advantage of being less expensive and faster than traditional surveys. We may add additional panels in future.

The low incidence of this population presents challenges in comparing theses measures' effectiveness. Initial power analyses suggest 1,500 – 2,000 completed questionnaires to observe a main effect of question wording on SO identification rates, and approximately 6,000 completed questionnaires would be needed for transgender identification.

We have at this time collected responses from 1,000 MFour panelists. We plan to collect an additional 1,000 responses from an MTurk sample, and may add additional sample if possible.

3.   Results

The MFour survey remained in the field until the quota of 1,000 completed questionnaires was obtained. Analyses in this report are based on 998 respondents. The MTurk component of this study is planned, but not yet fielded.

3.1 Sexual Orientation
Estimates of sexual orientation minority were similar across both versions of the BRFSS question. Estimates from these questions can be reasonably compared or have data combined for analyses from sources that used these questions.

Figure 3. Sexual Orientation minority estimates from current experiment and other survey sources*
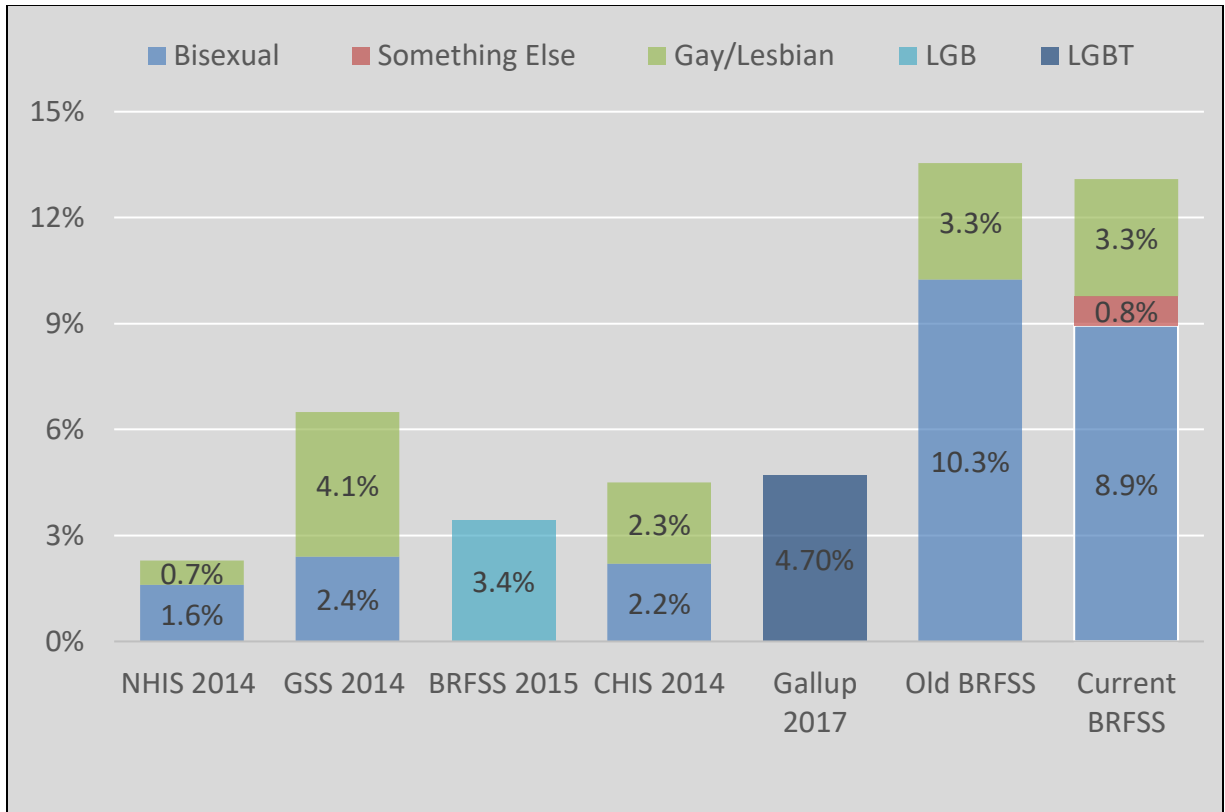
Gender Identity
Both questions yielded similar gender identity rates. Estimates from these questions can be reasonably compared or have data combined for analyses from sources that used these questions.

Figure 4. Estimates of Transgender and/or Gender Nonconforming from current experiment and other survey sources, showing the current study estimates in green and prior estimates in purple.
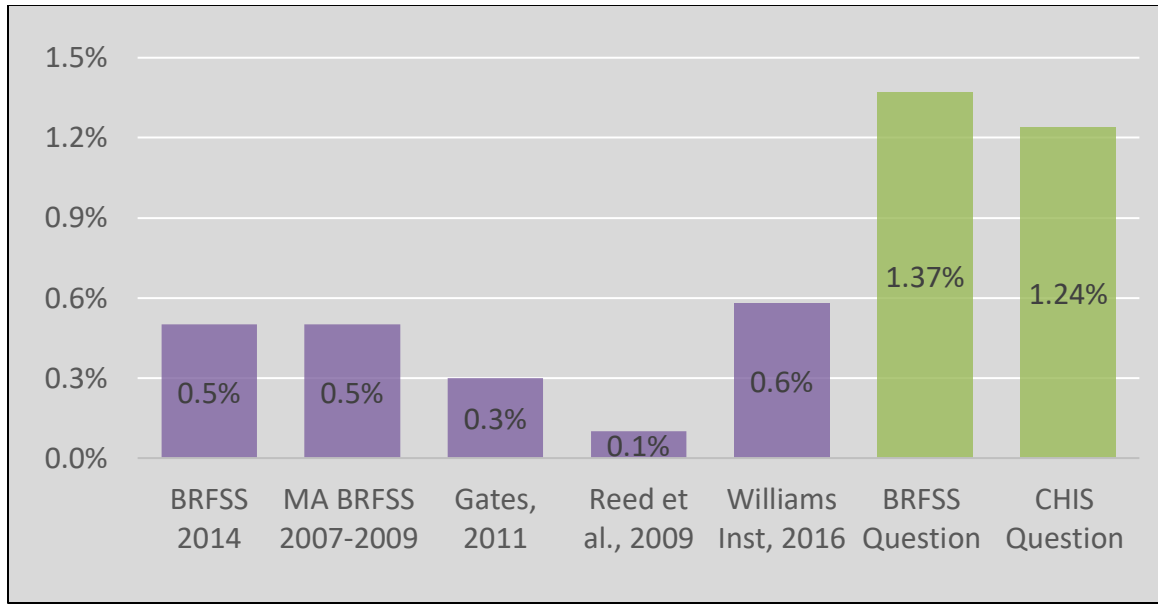
4. Discussion

The time and expense of conducting a mobile panel survey is dramatically lower than a random digit dial phone method, and was effective for comparing survey questions. Mobile panel and nonprobability methods are "fit for purpose" when comparing question wording, but may not be sufficient for prevalence estimates

As noted, the sample size must be quite large to meaningfully compare the gender identity measures. A cost-effective way to achieve this may be to pool responses from multiple surveys willing to incorporate this experiment into their project. Calculated variables can be used so that respondents from either question type are combined for analysis within each individual survey, but pooled by question type across multiple surveys for analysis of the question experiments.

After further data collection using the MTurk sample, we will further examine the effect of question-wording and benchmark results to population-based surveys.

Questions identifying sexual and gender minorities are increasingly used in health, demographic, and economic surveys. Improving SOGI measurement improves statistical validity of these surveys. It should be noted that questions selected for this experiment were chosen for their prominence and may not reflect best practices in SOGI measurement for self-administration. (Jans, et al 2018)

Future research should also assess how these measures perform differently in different regional, age, race, and ethnicity groups. While survey researchers strive to develop questions with timeless wording, that may not always be possible in areas where the vocabulary is rapidly evolving. These questions may need to change over time to reflect

ongoing changes in society's vocabulary, or as better descriptors are identified through qualitative research.

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