Measuring Sexual Orientation and Gender Identity in the National Crime Victimization Survey

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The National Crime Victimization Survey (NCVS) collects information on nonfatal personal and property crimes both reported and not reported to police. As part of the ongoing redesign efforts for the NCVS, the Bureau of Justice Statistics (BJS) added sexual orientation and gender identity (SOGI) questions to the survey's demographic section in July 2016. The inclusion of these measures will provide important national-level estimates of victimization among lesbian, gay, bisexual, and transgender (LGBT) people and allow researchers to understand victimization risk and access to victim services. This article includes a discussion of the sexual orientation and gender identity measures that were added to the NCVS, and findings from the monitoring activities conducted during the first six months of data collection. In addition, population counts by sexual orientation and gender identity are estimated using July through December 2016 NCVS data.

Key words: National crime victimization survey; sexual orientation; sexual identity; gender identity; victimization.

1. Introduction

There is a growing interest in understanding the national status of the lesbian, gay, bisexual, and transgender (LGBT) population across key indicators of social, health, and economic well-being (IOM 2011; SOGI Federal Working Group 2016a, 2016b, 2016c). Historically, few national surveys have collected data on sexual orientation and gender identity. Research on LGBT persons is developing in the health and social fields, specifically in the US Federal Statistical System, with the addition of sexual orientation measures to the National Health Interview Survey (NHIS), both sexual orientation and gender identity measures on the Survey of Prison Inmates (SPI), Behavioral Risk Factor Surveillance System (BRFSS), and Population Assessment of Tobacco and Health (PATH), and the potential inclusion of sexual orientation and gender identity (SOGI) measures to the Current Population Survey (CPS) (Dahlhamer et al. 2014; Ellis et al. 2017; SOGI Federal Working Group 2016a, 2016b). However, sexual orientation and gender identity have been identified in other research as correlates of victimization, and national-level data are needed on the criminal victimization experiences of LGBT people.

As one of two primary sources of information on the nature of criminal victimization incidents in the United States, the National Crime Victimization Survey (NCVS) is a perfect vehicle for collecting information on the victimization experiences of LGBT persons. (The other primary source of information on criminal victimization in the United States is the Federal Bureau of Investigation's Uniform Crime Reporting program.) In 2016, after substantial research and testing, measures of SOGI were added to the NCVS (Martinez et al. 2017). The estimates produced through the survey will provide researchers and policy makers with information on the types of victimization experienced by the LGBT population and their access to victim services. Measuring sexual orientation and gender identity on the NCVS also provides data on other types of victimization experienced by LGBT people, including identity theft and stalking; and their interactions with law enforcement using data from the NCVS supplemental surveys (i.e., NCVS Identity Theft Supplement, Supplemental Victimization Survey, and Police Public Contact Survey). Overall, the inclusion of sexual orientation and gender identity in the NCVS provides more accurate and detailed data that can be used to inform public policy regarding this vulnerable population.

LGBT persons are at risk of experiencing certain types of victimization at a disproportionately higher rate or the same rate as their heterosexual peers. In particular, for both women and men, LGBT persons report intimate partner violence and sexual violence at rates equal to or higher than heterosexual women and men (Krebs et al. 2016; Walters et al. 2013). Transgender persons experience intimate partner and sexual violence at higher rates than those who do not identify as transgender (Krebs et al. 2016; National Coalition of Anti-Violence Programs 2016). Sexual minority youth disproportionately experience health risks, including violence; and are at risk of peer victimization related to their sexual orientation and gender identity or expression (Collier et al. 2013; Kann et al. 2011).

Important changes in federal laws related to protecting LGBT survivors of violence have occurred in recent years, including the Violence Against Women Reauthorization Act (VAWA) of 2013. VAWA sought to improve care and access to victim services for LGBT victims and explicitly prohibited discrimination of victims or survivors of violence based on actual or perceived SOGI status, which works to ensure access to key services (VAWA 2013, Pub. L. No. 113-4, Stat. 47). VAWA also identified LGBT victims as an underserved community, which allowed organizations to receive more funding to focus on LGBT domestic violence, dating violence, sexual assault, and stalking victims. In addition, The Matthew Shepard and James Byrd Jr. Hate Crimes Prevention Act of 2009 (HCPA) included language to allow for prosecution of hate crimes committed against persons based on their actual or perceived sexual orientation or gender identity (HCPA, 18 U.S.C. § 249). Measuring SOGI on the NCVS provides important data on victimization, access to victim services, and experiences of hate crimes to support these laws.

As research continues to develop in this area, federal data are needed to expand the knowledge on criminal victimization of the LGBT population. The addition of these measures to the NCVS provides important national-level estimates of victimization among LGBT people and allows researchers to understand victimization risk and access to victim services. This article will address the following research questions: (1) How did interviewers and respondents react to SOGI questions asked in the context of a crime survey; (2) What was item nonresponse for the SOGI questions, and how did this vary by demographic characteristics; and (3) How do SOGI population estimates collected on a

crime survey differ from other types of population surveys, specifically health-related surveys? It includes a discussion of the sexual orientation and gender identity measures that were added to the NCVS, and findings from the monitoring of data collection activities. In addition, population counts by sexual orientation and gender identity are estimated using July through December 2016 NCVS data.

2.   Methodology

2.1.   Timeline of Pretesting, Implementation, and Monitoring of SOGI Data Collection

In the fall of 2015, the Center for Survey Measurement (CSM) at the U.S. Census Bureau conducted cognitive testing of the proposed sexual orientation and gender identity questions for the NCVS (Figure 1). For more information about the cognitive interviews, please review the report by the U.S. Census Bureau (Martinez et al. 2017). Data collection of these questions began in July 2016. The U.S. Census Bureau conducted a debriefing questionnaire (August 2016 to September 2016), focus groups (September 2016), and targeted interviews (October 2016) with NCVS interviewers who collected SOGI data. Additional monitoring of the SOGI data has been conducted from November 2016 to the present.

2.2.   SOGI Data Collection Production Interviews in the 2016 NCVS

The inclusion of the SOGI questions in the NCVS began in July 2016. Before administering these new items, interviewers completed a self-study training to introduce them to the new items in the NCVS instrument and allow them to practice with the items before their first interview. In addition to training, the NCVS computer-assisted personal interviewing (CAPI) instrument includes a Frequently Asked Questions (FAQs) section for interviewers if respondents have questions about the SOGI items, including why the questions are important and relevant to a crime survey and definitions of each of the concepts (see Appendix 1, Section 5). The SOGI questions were placed at the end of the interview in a section with questions on disability, citizenship, veteran status, and household income. Once the questions were in the field, the U.S. Census Bureau and BJS began monitoring responses, refusal rates, and any information reported by interviewers.
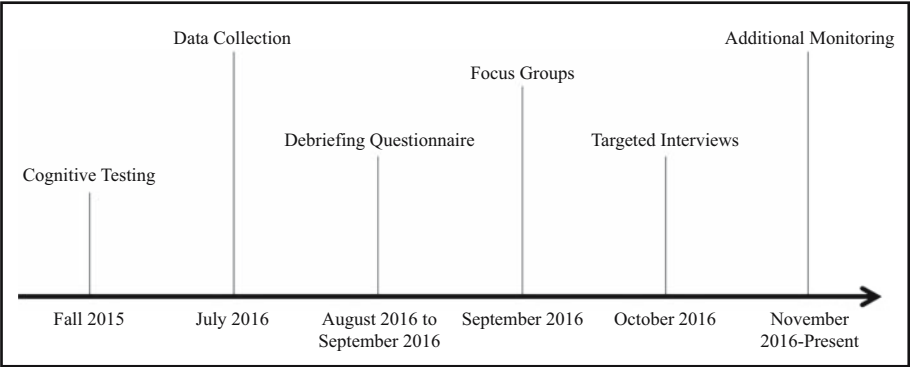

Fig. 1.   Timeline of pretesting, implementation, and monitoring of SOGI data collection.

2.3.   Defining Sexual Orientation and Gender Identity

Sexual orientation is defined by three dimensions: sexual identification (identity), sexual attraction, and sexual behavior. The measure used in the NCVS focuses on sexual identity. *Sexual identification (identity)* refers to the way a person identifies with a given sexual orientation (SMART 2009; SOGI Federal Working Group 2016a). The most commonly used terms to describe sexual orientation include lesbian, gay, bisexual, and heterosexual/straight (SOGI Federal Working Group 2016a). *Sexual attraction* refers to the relationship between a person's gender and the gender of the person(s) that they feel attracted to. *Sexual behavior* refers to the relationship between a person's gender and the gender of the individual(s) with whom they engage in sexual activity. Some measures of sexual orientation include all three dimensions of the concept and some only focus on sexual identity.

   Like sexual orientation, gender identity is comprised of several dimensions, specifically differences between the concepts of sex and gender. *Sex* is an individual's biological classification at birth as either male or female (IOM 2011; SOGI Federal Working Group 2016a). *Gender* is socially constructed and based on how the individual presents to society, as either male or female, and encompasses the concepts of gender identity and gender expression (SOGI Working Group 2016a). *Gender identity* refers to a person's internal sense of gender, while *gender expression* is the way one sees themselves or how they present their gender to society (SOGI Working Group 2016b). An individual's sex and gender may be consistent (cisgender) or may be different (transgender).

2.4.   Measures of Sexual Orientation and Gender Identity

2.4.1.   Sexual Orientation

The sexual orientation questions that were administered in the NCVS came from the National Health Interview Survey (NHIS), conducted by the National Center for Health Statistics (NCHS 2018), and measure sexual identity. These questions are also consistent with recommendations on measuring sexual orientation made by the Sexual Minority Assessment Research Team (SMART 2009). The NHIS questions had been previously tested using cognitive interviews and have performed well with persons age 18 or older. The question used in the 2016 NCVS had also been tested using cognitive interviews (Martinez et al. 2017), and is as follows:

Sexual orientation question

   1.   *Which of the following best represents how you think of yourself?*
      ○   *[Lesbian or] Gay*
      ○   *Straight, that is, not [lesbian or] gay*
      ○   *Bisexual*
      ○   *Something else*
      ○   *I don't know the answer*
      ○   *REFUSED*

The phrase "lesbian or" is only displayed and read if the respondent had been assigned female on the household roster, and answer categories displayed in all capital letters are not read aloud.

2.4.2. Gender Identity

The gender identity questions that were administered in the NCVS come from recommendations from the Gender Identity in U.S. Surveillance (GenIUSS) group and the California Health Interview Survey (CHIS 2018; GenIUSS Group 2014). The current recommendation for measuring gender identity is to use a two-step approach that asks about assigned sex at birth and current gender identity (GenIUSS Group 2014). Two questions are used to classify respondents as transgender or cisgender; and this method has been successful in identifying transgender individuals compared to single questions (Reisner et al. 2014; Tate et al. 2013; Xavier 2000; Xavier et al. 2007). In addition, using the two-step approach allows those transgender individuals who identify their current gender as male or female and not as transgender to identify as such, but still be classified as transgender using the two-step approach. In the NCVS, persons were identified as transgender if their responses to sex at birth and current gender identity were different, but not if they said "none of these" on the gender identity question. These gender identity questions had been previously tested using cognitive interviews and have performed well with persons age 18 or older, and were cognitively tested again for the NCVS (Martinez et al. 2017). The questions used in the 2016 NCVS are as follows:

Gender identity – assigned sex at birth question

    1. What sex were you assigned at birth, on your original birth certificate?

        ○ *Male*

        ○ *Female*

        ○ REFUSED

        ○ DON'T KNOW

Gender identity – current gender identity question

    2. Do you currently describe yourself as male, female, or transgender?

        ○ *Male*

        ○ *Female*

        ○ *Transgender*

        ○ *None of these*

        ○ REFUSED

        ○ DON'T KNOW

The respondent is asked the following confirmation question if they answer "male" and then "female," "transgender," or "none of these" to the gender identity questions or if they answer "female" and then "male," "transgender," or "none of these" to the gender identity questions.

Gender identity – confirmation question

3. *Just to confirm, you were assigned {FILL} at birth and now describe yourself as {FILL}. Is that correct?*
   ○ *Yes*
   ○ *No*
   ○ REFUSED
   ○ DON'T KNOW

The first fill in the confirmation question is populated with the answer given by the respondent to the first gender identity question (assigned sex at birth), and the fill options are "male" or "female." The second fill is populated with the answer given by the respondent to the second gender identity question (current gender identity). The fill options are "male," "female," or "transgender." Additionally, if the respondent answered "None of these" to the second gender identity question, then the phrase "describe yourself as {FILL}" is replaced with "do not describe yourself as male, female, or transgender."

If the respondent answers "No" to the confirmation question, then the survey instrument forces the interviewer to have the respondent change their answer to either the first or second gender identity question. The confirmation question will be asked again until the answer is "Yes" or the answers to the gender identity questions are not discordant.

2.5. Analytical Strategy

We used a mixed methods approach to answer our three research questions. To understand interviewer and respondent reactions to SOGI questions asked in the context of a crime survey *(research question 1)*, we solicited feedback from interviewers in three ways: a debriefing questionnaire, focus groups, and targeted interviews. The online debriefing questionnaire was sent to all Census Bureau interviewers working on the NCVS, and they responded to the questionnaire in August and September 2016. Approximately, 899 interviewers (77.3% response rate) reported completing at least one NCVS interview between July 1, 2016 and the time of the debriefing questionnaire, and completed the full debriefing questionnaire.

The debriefing questionnaire collected quantitative data about interviewer perceptions of instrument problems, and respondents' experience in and reactions to answering SOGI questions. Interviewers were also allowed to elaborate about their experiences with administrating the questions using a write-in response for comments. All write-in comments for each question were analyzed using grounded theory (for more information, see Charmaz 2006). Initial codes were first created from line by line coding by two independent coders. Then the independent coders developed theoretical memos, which are reports written by the researcher that document their thoughts about the individual codes and how codes can be related to each other. From these memos, the coders were able to generate themes. Then the coders independently coded each response for the agreed-upon themes, met to review any inconsistencies, and recoded responses as necessary. For

each response that had a difference in coding, the coders discussed why they coded each response with their specific theme until they both agreed on the same theme for the response. The researchers then conducted theoretical sampling. Theoretical sampling refers to a sample that is selected to gather more information or to develop a theme. This theoretical sampling took the form of focus groups and targeted interviews with interviewers, and was used to collect more data and help refine themes.

Six different focus groups, each one hour in length, with select interviewers from across the country were conducted by conference call in August 2016, after a full month of data collection with the new questions. Each focus group included two interviewers from one of the six U.S. Census Bureau regional offices (ROs). Interviewers from each RO were eligible to participate if they had conducted more than the average number of NCVS interviews within their region (number of interviews ranged from 13 to 22 across region) in July 2016. At least one interviewer selected per RO worked in a state that had legislative actions regarding transgender issues. The topics discussed in the focus groups included the ease of administering the questions, respondent reactions to the questions, and any other comments the interviewers had about the questions. As the researchers facilitated the focus groups, they wrote notes when interviewers mentioned new or relevant themes. After each focus group session, the researchers typed up their notes about the focus groups. These notes were reviewed again by the coders for themes. The coders also developed memos to refine the themes.

Targeted interviews were also conducted with interviewers who had collected specific answers to the SOGI questions. Twenty interviews were conducted in October 2016 with individual interviewers who had collected answers of *lesbian, gay, bisexual, something else,* or *I do not know the answer* to the sexual orientation question; or *transgender, none of these,* or differing *male* and *female* responses to the gender identity questions. The focus of these interviews was understanding how the SOGI questions worked with LGBT respondents. The researchers took notes during the interviews, created a detailed write-up about the interview and the interview responses, and then these interview notes were reviewed by the coders for themes.

We examined item nonresponse by respondent sociodemographic characteristics and breakoffs for each item to understand item nonresponse for the SOGI questions in the NCVS *(research question 2)*. Logistic regression models were used to examine the likelihood of nonresponse to the SOGI questions across various sociodemographic characteristics (i.e., age, sex, race and Hispanic origin, educational attainment, household income, interview language, and mode of interview). These models were also stratified by Hispanic origin to determine if there were subgroup differences in likelihood of nonresponse to the SOGI questions. Many of these demographic characteristics are used to create post-stratification weights of NCVS data. Therefore, it was important to analyze their effect on nonresponse to the SOGI questions, because these are variables known to account for nonresponse in the data. We also stratified our results by race and Hispanic origin because previous research has found that racial minorities have higher rates of nonresponse to SOGI questions compared to non-Hispanic Whites (Jans et al. 2015; SOGI Federal Working Group 2016b). Finally, population totals were estimated to compare sexual orientation and gender identity estimates administered in the setting of a crime survey to estimates from other types of population surveys, specifically health-related surveys *(research question 3)*.

3.   Results

3.1.   *Debriefing Questionnaire, Focus Groups, and Targeted Interviews*

During the debriefing questionnaire, interviewers were asked to report any type of issue experienced while administering the SOGI questions to respondents. Interviewers were able to select all types of issues they encountered. The results from this debriefing questionnaire are not meant to make inferences about all interviewers, but merely to report the experiences of interviewers who responded to the debriefing questionnaire. Although rare, some interviewers reported both experiencing no issues, as well as a general option for other types of issues. The results indicate that interviewers felt the gender identity questions were easier to read than the sexual orientation question. About half of interviewers (52%) reported no issues with the gender identity questions, while a smaller percentage (37%) reported no issues when administering the sexual orientation question (Figure 2). About 50% of interviewers reported at least one respondent having a negative reaction to the sexual orientation question itself, while 39% of interviewers reported a negative reaction the gender identity questions. These findings should be interpreted with caution as it is unknown whether the problems were with a single respondent or a larger proportion of respondents interviewed by each interviewer. Interviewers may also misremember how often respondents reported a concern or may only focus on the concerns that were important or stood out to them. Additionally, a smaller percentage of interviewers reported that respondents had difficulty answering the gender identity questions (4%) than the sexual orientation question (9%).

A major theme that emerged from the qualitative analysis was that respondents questioned the relevance of sexual orientation and gender identity to crime. This theme included any mention that respondents questioned the reason for asking the questions,
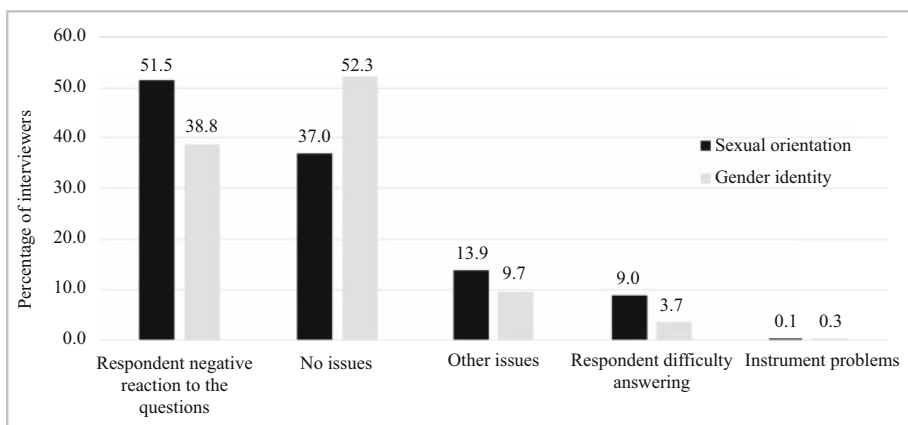
Fig. 2.   *Issues experienced by interviewers for sexual orientation and gender identity items.*
Note: These are response options to the question: Have you experienced any of the following issues? Mark all that apply. Percentages will not add to 100% because respondents were allowed to select more than one answer. Interviewers reported these issues from at least one respondent. An example of other issues reported is respondents questioning the relevancy of the question to crime. Instrument problems refer to issues with the software an interviewer uses to administer the survey. N = 899.
Source: U.S. Census Bureau internal debriefing questionnaire for NCVS interviewers.

including simply questioning the relevance of these questions to experiencing crime and wanting to understand why the government was interested in this information. FAQs were included in the CAPI instrument to aid interviewers in addressing this concern with respondents. The FAQs specify that sexual orientation and gender identity are correlated with victimization, and the questions are included to better understand this relationship. In addition, the FAQs mention that discrimination against persons because of their sexual orientation or gender identity is prohibited by federal hate crime statutes and the 2013 reauthorized VAWA; and the inclusion of these items allows researchers to better address policy-relevant questions about hate crime victimization and victim services. Overall, the inclusion of the FAQs resulted in positive reactions from the respondents and assisted interviewers in being able to address any concerns. Upon hearing these questions, some respondents also tried to answer the relevancy of these questions themselves. They attributed the asking of these questions to current events involving transgender individuals, to politics, or to the change in the cultural discourse around LGBT issues.

A second theme that emerged was some respondents felt the interviewers should have been able to tell their sexual orientation or gender identity by just looking at them, and expressed discomfort at the perceived suggestion of not being straight. These respondents mentioned that the answer to these questions should be obvious without having to ask, and that asking these questions indicated that they might not present as straight or cisgender.

Although the majority of respondents did not have difficulty understanding the question, interviewers remarked that some respondents had negative or emphatic reactions to the content of the question, which indicates that some respondents may have been uncomfortable answering. In particular, some older adults had negative reactions to the gender identity questions, and expressed discomfort at answering the sexual orientation question or did not know how to answer because they were confused by the terms. Additionally, some men (across all age ranges) answered emphatically that they were straight and male. A smaller portion of respondents felt some level of discomfort about answering as *lesbian*, *gay*, or *bisexual*, and hesitated slightly before answering. Some interviewers themselves expressed concerns that the sexual orientation question would impact response rates to future interviews, but these comments were only given by about 1% of all interviewers who answered the full debriefing questionnaire.

Interviewers did state that some respondents had positive reactions to the questions. The sexual orientation question was easy for LGB respondents to understand and answer; some respondents had already divulged their sexual orientation earlier in the interview, and many just answered the question matter-of-factly. Many of these respondents had positive reactions to the question, stating that they were "thrilled" and "appreciated that the question was included" in the survey.

The focus groups also gathered information from interviewers about the *something else* response category for the sexual orientation question. About 0.22% of all respondents age 16 or older selected this response category and the NCVS instrument did not collect any additional information when a respondent chose this answer. In the targeted interviews, interviewers clarified that respondents who chose *something else* tended to move on with the interview without voluntarily providing additional information about why they chose that response. However, some interviewers perceived that English-speaking respondents who identified as something else may not have wanted to disclose their sexual orientation

or felt that their sexual orientation was not captured by the categories presented (queer, pansexual, asexual, etc.). During Spanish-speaking interviews, respondents who selected an answer of *something else* generally needed the interviewer to repeat the question and usually responded that they were "normal." This indicates that respondents who answered *something else* in Spanish might have experienced confusion about the terminology used. Therefore, when some straight respondents were asked about their sexual orientation in a Spanish-speaking interview, those not familiar with the term "straight" selected the *something else* response option.

Interviewers also stated that there were concerns related to the *none of these* response category in the current gender identity question. About 0.17% of all respondents age 16 or older selected this response category and the NCVS instrument did not collect any additional information when a respondent chose this answer. In the targeted interviews, interviewers reported mixed reasons for the use of the *none of these* response category. In some instances, interviewers sensed that this answer was the result of respondents being generally offended and not wanting to answer the gender identity questions, rather than describing themselves as something other than male, female, or transgender. The data from the focus groups and targeted interviews with interviewers suggested that the *none of these* response category may have been marked by interviewers in instances when respondents did not really want to answer the question but did not outright refuse. This issue was discovered early in data collection, and messages were sent to interviewers to reinforce the proper use of the *none of these* response category. However, in other instances interviewers did believe that respondents used this category because their gender identity was not represented in the gender described question (i.e., bigender or genderqueer).

In summation, while the interviewers reported that some respondents had negative reactions or sensitivity to the SOGI questions, overall it appeared that respondents were able to understand and answer the questions. Nonetheless, because many interviewers experienced at least some pushback from respondents, it is important to examine nonresponse patterns for respondents.

3.2. Item Nonresponse and Breakoffs

Item nonresponse to the SOGI questions was low compared to other questions in the NCVS. About 2.77% of respondents refused to answer the sexual orientation question. About 0.41% of respondents answered *don't know* to the question. These two nonresponse categories combined with other missing responses (i.e., respondents that were eligible, or in-universe, but had a missing response due to changes to variables used to define the universe of the question, such as age or sex, in postdata collection processing) to the sexual orientation question account for 3.51% of all respondents age 16 or older (Table 1). Less than one percent (0.97%) of respondents refused to answer the gender identity questions. Only 0.01% of respondents answered *don't know* to the questions. These two nonresponse categories combined with other missing responses to the gender identity questions account for 1.33% of all respondents age 16 or older. Comparatively, about 25% of respondents answered *don't know* or refused to answer a question about household income.

These nonresponse rates varied by certain demographic characteristics. A similar percentage of male and female respondents refused to answer the SOGI questions.

Table 1.   *Unweighted percent of nonresponse to sexual orientation and gender identity (combined responses to sex at birth and current gender identity questions) items.*

	Sexual orientation		Gender identity	
	Refusal nonresponse	Total nonresponse[a]	Refusal nonresponse	Total nonresponse[a]
Demographics	Percent	Percent	Percent	Percent
Total	2.77%	3.51%	0.97%	1.33%
Sex[b]				
Male	2.71%	3.48%	0.95%	1.33%
Female	2.82%	3.54%	0.99%	1.33%
Race/Hispanic origin[b]				
Non-Hispanic white	2.77%	3.45%	1.00%	1.32%
Non-Hispanic black	2.92%	3.73%	1.12%	1.59%
Hispanic	2.53%	3.33%	0.71%	1.09%
Age[b]				
16–17	1.97%	3.05%	0.54%	0.88%
18–24	1.97%	2.84%	0.41%	0.73%
25–34	2.63%	3.33%	0.68%	1.04%
35–49	2.49%	3.20%	0.93%	1.35%
50–64	3.22%	3.87%	1.17%	1.49%
65 or older	2.96%	3.80%	1.21%	1.54%
Region				
Northeast	3.66%	4.82%	1.10%	1.76%
Midwest	2.76%	3.39%	0.91%	1.14%
South	2.44%	3.07%	0.95%	1.34%
West	2.78%	3.62%	1.03%	1.29%
Location of residence				
Urban	3.50%	4.38%	0.97%	1.37%
Suburban	2.65%	3.41%	1.07%	1.42%
Rural	1.78%	2.25%	0.68%	0.96%

[a]Total nonresponse includes all nonresponse, including refusals, don't knows, and in-universe missing.
[b]Based on data collected on the household roster for the sampled household, including the name, age, sex, race, Hispanic origin, marital status, and education level of each person living in the household.
Source: Bureau of Justice Statistics, based on internal data from the U.S. Census Bureau, National Crime Victimization Survey, July–December 2016.

Nonresponse to the sexual orientation question was similar across the race and Hispanic origin groups, while a slightly lower percentage of Hispanics (0.71%) refused to answer the gender identity questions compared to non-Hispanic Whites (1.00%) and non-Hispanic Blacks (1.12%). Respondents age 16 to 24 generally had lower refusal rates to the sexual orientation question than persons age 25 or older. About one percent of respondents age 50 to 64 and 65 or older refused to answer the gender identity questions, compared to only 0.54% of respondents age 16 to 17 and 0.41% of respondents age 18 to 24. This difference in nonresponse by age supports the qualitative result that found that older respondents had a harder time understanding or answering the sexual orientation and gender identity questions. Differences in nonresponse were also observed by region for the sexual orientation question. More respondents in the Northeast refused to answer the sexual orientation question than respondents in the Midwest, South, and West. For gender

identity, nonresponse was similar across region. A greater percentage of respondents living in urban areas refused to answer the sexual orientation question than respondents in suburban and rural areas. Less than one percent of respondents living in rural areas (0.68%) refused to answer the gender identity questions, compared to 0.97% of respondents in urban areas and 1.07% of respondents in suburban areas.

Breakoffs from the survey at the SOGI questions were also low. Breakoffs include respondents that stopped participating in the survey at this question. Of all breakoffs, 0.24% happened at the sexual orientation question. About 0.10% of all breakoffs happened at the sex at birth question, 0.04% of all breakoffs happened at the current gender identity question, and no respondents broke off from the survey at the gender confirmation question. For comparison, about 13% of all breakoffs occurred when respondents were asked if their house was rented or owned, which is very early on in the instrument, and about 0.29% of all breakoffs occurred at the hearing-based disability question, which is at the end of the instrument with the SOGI items.

The analysis examined various predictors of nonresponse to the sexual orientation question and found that total household income, age, mode of interview, educational attainment, and race predicted nonresponse of sexual orientation (i.e., a refusal). The effect of every one category increase in income was to decrease the odds of nonresponse to the sexual orientation question by a factor of 0.97 holding sex, race and Hispanic origin, age, educational attainment, interview language, and mode of interview constant ($p < 0.001$, Table 2). The effect of every one-year increase in age was to increase the odds of nonresponse by a factor of 1.01 ($p < 0.001$). The effect of interviews conducted over the phone, compared to interviews conducted in person, was to increase the odds of nonresponse by a factor of 1.34 ($p < 0.001$). The effect of every one year increase in educational attainment was to increase the odds of nonresponse by a factor of 1.01 ($p < .05$). The effect of being a race other than Hispanic, non-Hispanic White, or non-Hispanic Black decreased the odds of nonresponse by a factor of 0.76 compared to being non-Hispanic White ($p < .05$).

The analysis also examined various predictors of nonresponse to the combined gender identity questions (i.e., a refusal or I don't know the answer) and found that nonresponse is closely related to age and mode of interview. The effect of every one-year increase in age was to increase the odds of nonresponse to the gender identity question by a factor of 1.01 ($p < .001$), holding sex, race and Hispanic origin, income, educational attainment, interview language, and mode of interview constant (Table 2). The effect of interviews conducted over the phone, compared to interviews conducted in person, was to increase the odds of nonresponse by a factor of 1.77 ($p < .001$). The effect of mode of interview on nonresponse to gender identity differed by Hispanic origin. Among Hispanics, the effect of interviews conducted over the phone was to decrease the odds of nonresponse by a factor of 0.46 compared to interviews conducted in person ($p < .05$, Table 3). Among non-Hispanic respondents, the effect of interviews conducted over the phone, compared to interviews conducted in person, was to increase the odds of nonresponse by a factor of 2.10 ($p < .001$).

3.3.   SOGI Population Estimates

Using NCVS data from July through December 2016, population estimates and percent distribution of SOGI among all persons age 16 or older were estimated. The NCVS data

Table 2. *Unweighted logistic regression of nonresponse to sexual orientation and gender identity questions by sociodemographics.*

Respondent characteristic	Sexual orientation		Gender identity	
	Logged odds	Odds ratios	Logged odds	Odds ratios
Female	−0.03	0.93	0.04	1.08
	(0.03)		(0.05)	
Race (ref = non-Hispanic white)				
Non-Hispanic black	−0.01	0.99	−0.11	0.80
	(0.05)		(0.08)	
Hispanic	−0.09	0.83	−0.01	0.98
	(0.05)		(0.01)	
Non-Hispanic other	−0.14*	0.76*	−0.13	0.77
	(0.06)		(0.10)	
Age	0.01***	1.01***	0.01***	1.01***
	(0.01)		(0.01)	
Household income	−0.03***	0.97***	−0.02	0.98
	(0.01)		(0.02)	
Years of education	0.08*	1.01*	0.01	1.00
	(0.01)		(0.01)	
Language (ref = English)				
Spanish	0.09	1.19	0.29	1.77
	(0.10)		(0.22)	
Other language	0.17	1.40	−0.04	0.92
	(0.26)		(0.36)	
Mode of interview (ref = face to face interviews)				
Telephone	0.14***	1.34***	0.29***	1.77***
	(0.03)		(0.06)	
Intercept	−4.50***		−6.09***	
	(0.30)		(0.47)	

Note: Standard errors in parentheses.
***p<0.001, **p<0.01, *p<0.05.
Source: Bureau of Justice Statistics, based on internal data from the U.S. Census Bureau, National Crime Victimization Survey, July-December 2016.

were weighted to the US population age 16 or older in order to produce estimates. Overall, 1.26% of all persons age 16 or older identified as gay or lesbian, 0.60% identified as bisexual, and 0.11% identified as transgender (Figure 3; Appendix Tables 1 and 2). Among transgender respondents, 51.7% identified as transgender on the current gender identity question and 48.3% reported discordant sex at birth and current gender identity. These data indicate that it is important to collect gender identity using the two-step method to provide an accurate measure of the transgender population. It is possible that if only current gender identity was collected, about half of transgender respondents may not be identified as such if they only selected their currently identified gender (i.e., male or female) and not transgender.

Looking at demographic characteristics, the majority of persons age 16 or older regardless of sex, age, race and Hispanic origin, or where they lived identified as straight. The percent distributions of those persons who identified as gay or lesbian were similar for

Table 3.   Unweighted logistic regression of nonresponse to gender identity by sociodemographics by Hispanic and non-Hispanic respondents.

Respondent characteristic	Among Hispanic respondents		Among non-Hispanic respondents	
	Logged odds	Odds ratios	Logged odds	Odds ratios
Female	0.05	1.11	0.03	1.07
	(0.16)		(0.05)	
Age	0.01	1.00	0.02***	1.02***
	(0.01)		(0.01)	
Household income	−0.05	0.95	−0.02	0.98
	(0.04)		(0.02)	
Years of education	−0.02	0.98	0.01	1.01
	(0.01)		(0.01)	
Language (ref = English)				
Spanish	0.45	2.47	4.94	>999.9
	(0.23)		(165.0)	
Other language	5.12	>999.8	−0.15	0.75
	(478.80)		(0.36)	
Mode of Interview (ref = face to face interviews)				
Telephone	−0.39*	0.46*	0.37***	2.10***
	(0.18)		(0.06)	
Intercept	−10.09		−11.12	
	(478.80)		(165.0)	

Note: Standard errors in parentheses.
***p<0.001, **p<0.01, *p<0.05.
Source: Bureau of Justice Statistics, based on internal data from the U.S. Census Bureau, National Crime Victimization Survey, July-December 2016.

males and females, 1.41% of males age 16 or older identified as gay compared with 1.13% of females who identified as gay or lesbian (Figure 4). A higher percentage of females identified as bisexual (0.85%) than compared to males (0.32%). Looking at distributions by race and Hispanic origin, 1.38% of non-Hispanic Whites age 16 or older, 1.12% of
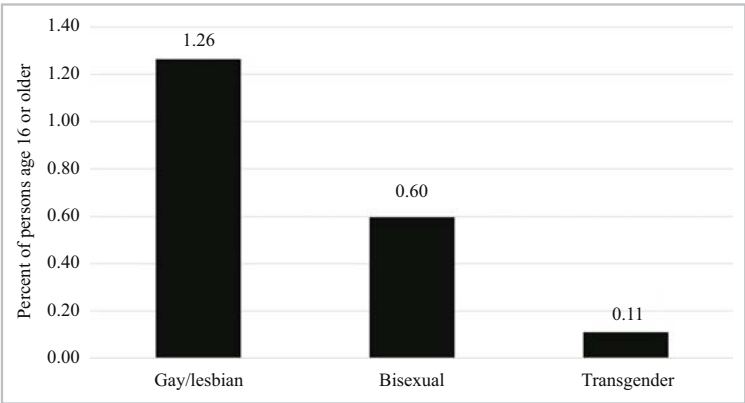
Fig. 3.   Percent of persons age 16 or older who identified as LGBT.
Source: Bureau of Justice Statistics, based on internal data from the U.S. Census Bureau, National Crime Victimization Survey, July–December 2016.
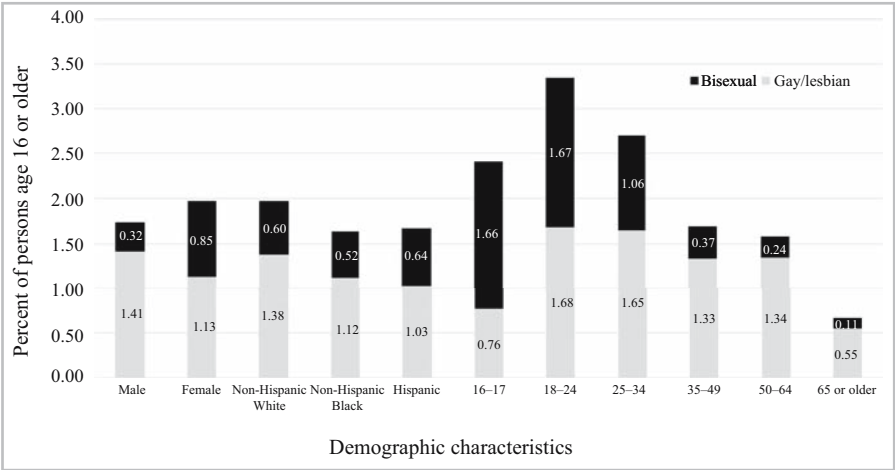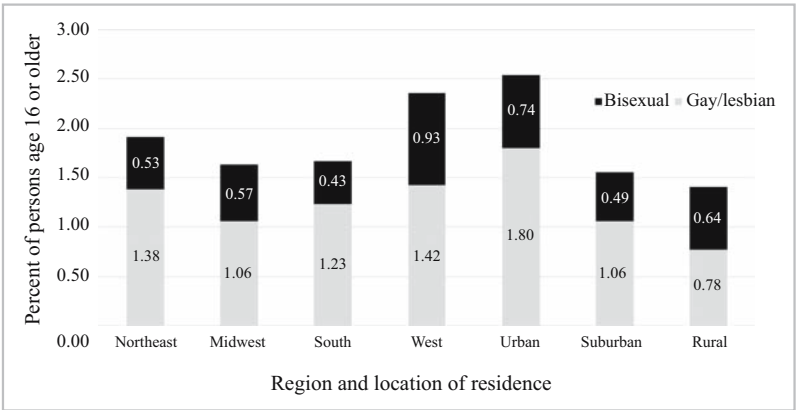
Fig. 4.   *Percent of persons age 16 or older who identified as LGB, by demographic characteristics.*
Source: Bureau of Justice Statistics, based on internal data from the U.S. Census Bureau, National Crime Victimization Survey, July–December 2016.

non-Hispanic Blacks, and 1.03% of Hispanics identified as gay or lesbian. About 0.60% of non-Hispanic Whites, 0.52% of non-Hispanic Blacks, and 0.64% of Hispanics identified as bisexual. Percent distributions of those who identified as gay or lesbian varied by age. A higher percentage of persons ages 18 to 24 (1.68%) and ages 25 to 34 (1.65%) identified as gay or lesbian compared to persons ages 16 to 17 (0.76%), 35 to 49 (1.33%), 50 to 64 (1.34%), and 65 or older (0.55%). A larger percentage of younger persons ages 16 to 17 (1.66%) and 18 to 24 (1.67%) identified as bisexual than persons ages 25 to 34 (1.06%), 35 to 49 (0.37%), 50 to 64 (0.24%), and 65 or older (0.11%).

The percent distributions varied among region and location of residence as well. About 1.38% of persons who live in the Northeast and 1.42% of persons who live in the West identified as gay or lesbian, compared to 1.06% of persons who live in the Midwest and 1.23% of persons who live in the South (Figure 5). A higher percentage of persons who

Fig. 5.   *Percent of persons age 16 or older who identified as LGB, by region and location of residence.*
Source: Bureau of Justice Statistics, based on internal data from the U.S. Census Bureau, National Crime Victimization Survey, July–December 2016.

live in the West (0.93%) identified as bisexual than persons who live in the Northeast (0.53%), Midwest (0.57%), or South (0.43%). A larger percentage of persons who live in urban areas (1.80%) identified as gay or lesbian compared to persons who live in suburban areas (1.06%) or rural areas (0.78%). Similarly, a higher percentage of persons who live in urban areas (0.74%) identified as bisexual compared to persons who live in suburban areas (0.49%) or rural areas (0.64%).

The majority of persons age 16 or older regardless of sex, age, race and Hispanic origin, or where they lived, identified as either male or female. The distribution of persons age 16 or older who identified as transgender was similar across demographic characteristics. The distribution was similar among race and Hispanic origin, about 0.10% of all non-Hispanic Whites, non-Hispanic Blacks, and Hispanics age 16 or older identified as transgender. Among age groups, 0.22% of persons ages 16 to 17 and 0.21% of persons ages 18 to 24 identified as transgender compared to about 0.10% of persons age 25 or older. Distributions were similar among regions and location of residence. About 0.18% of persons who live in the West identified as transgender, compared to about 0.10% of persons who live in the Northeast (0.08%), Midwest (0.07%), or South (0.11%). About 0.10% each of persons who live in urban (0.13%), suburban (0.11%), and rural (0.06%) areas identified as transgender.

Based on 2015 NHIS data, 97.6% of persons identified as straight, 1.6% identified as gay or lesbian, and 0.8% identified as bisexual (Figure 6) (NCHS 2015b). This compares to 2016 NCVS data where 97.5% of all persons age 18 or older identified as straight, 1.3% identified as gay or lesbian, and 0.6% identified as bisexual. In general, given the differences in methodology the two surveys found reasonably comparable population estimates. It should also be noted that while the National Survey on Drug Use and Health (NSDUH) and National Survey of Family Growth (NSFG) use slightly different question wording, the NCVS estimate of all persons age 18 or older that identified as gay or lesbian was also comparable to those findings (Medley et al. 2016; NCHS 2015a). However, the percentages of adults who identified as bisexual in the NSDUH and NSFG appeared to be higher than the estimate from the NCVS (Medley et al. 2016; NCHS 2015a).
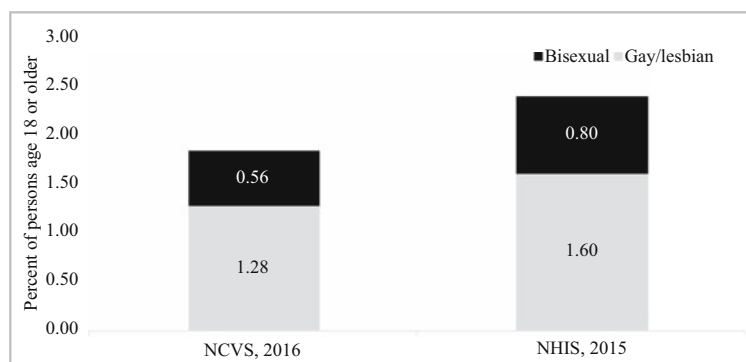

Fig. 6.   Percent of adults who identified as LGB.
Source: Bureau of Justice Statistics, based on internal data from the U.S. Census Bureau, National Crime Victimization Survey, July–December 2016; and National Center for Health Statistics, National Health Interview Survey, 2015.

The NCVS was the first national household-based survey to include a gender identity measure for all respondents ages 16 or older. Currently there are limited national, population-based data collections that the NCVS can be compared to; however, some researchers have estimated the transgender population using the CDC's Behavioral Risk Factor Surveillance System (BRFSS) (Flores et al. 2016; Herman et al. 2017). Although the data collection, methodology, question wording, and sampled population vary by each of these surveys, it is useful to compare estimates to assess data quality. The BRFSS uses a one-step measure to identify transgender persons (*Do you consider yourself to be transgender?*), while the NCVS uses the two-step measure as previously discussed. The research using BRFSS found that 0.6% of U.S. adults identified as transgender. The NCVS estimate for adults who identified as transgender was 0.1%, which is lower than the estimate from the research using the BRFSS data.

4. Discussion

This article addressed three research questions about sexual orientation and gender identity measurement in a large-scale population-based federal survey. A multi-method approach was taken to address these questions including conducting a debriefing questionnaire, focus groups, and targeted interviewers with interviewers, analyzing nonresponse, breakoffs, and estimating the populations. Additionally, the sexual orientation estimates generated from the NCVS data were compared to existing estimates from another household-based survey. Overall, interviewers indicated that both they and the respondents did not have difficulty understanding or comprehending the SOGI items. Nonresponse and breakoffs were low for both sexual orientation and gender identity. Similar LGB population totals using NCVS data were estimated compared to another population-based federal survey.

Interviewers and respondents generally reacted positively to the addition of the SOGI items. Including SOGI items in a crime survey did not present any major problems related to the collection of these data or other demographic data or victimization data. Based on the debriefing interviews, focus groups, and targeted interviews, interviewers indicated that the most common issue respondents had was related to the relevance of these items on a crime survey. However, interviewers were able to address these concerns by using the FAQs that were provided in the CAPI instrument and explain their importance in better understanding the relationship between these characteristics and experiences with criminal victimization. Respondents were understanding and more positive about the questions once this information from the FAQs was provided and explained. During the focus groups, interviewers indicated that English-speaking respondents may have chosen the *something else* response category to sexual orientation because they may not have wanted to disclose their sexual orientation or felt that their sexual orientation was not captured by the categories presented. Whereas, Spanish-speaking respondents may have selected *something else* when there was confusion about the terminology used. This finding is consistent with other research in the field (Stern et al. 2016). Given this, BJS and the Census Bureau continue to monitor the *something else* response category and consider approaches to improving the measurement of sexual orientation among non-English speakers, in particular. In general, interviewers reported fewer issues with the gender

identity questions than the sexual orientation question. Interviewers reported mixed reasons for the use of the *none of these* response category in the second step question for gender identity. In some instances, interviewers felt that respondents chose that response category when they were offended and did not want to answer the question; whereas, in other cases interviewers indicated that respondents used this response category because their gender identity was not represented in the existing response categories. While the interviewers reported that some respondents exhibited sensitivity and other issues toward the questions, overall respondents were able to understand and answer the questions.

Item nonresponse and breakoffs were low for both the sexual orientation and gender identity items. Older and more educated persons were more likely to refuse to answer the sexual orientation question. Older persons were also more likely to refuse to answer the gender identity questions. Respondents who were interviewed over the phone were more likely to refuse both the sexual orientation and gender identity questions compared to those who were interviewed in person.

A direct comparison could be made since the NCVS used the same measure as the NHIS. In general, the NCVS found reasonably comparable population estimates given the methodological differences between the two surveys. These are both household-based surveys using the same question wording, and may be why the results are similar. The NCVS estimates were also compared to other research estimating the transgender population using the BRFSS. The NCVS estimates of the transgender population were less than the population estimated using BRFSS data. These differences are likely a result of differences in the two surveys, including question design and wording, survey context (crime vs. health), and data collection methods.

As with any research, there were some limitations to the collection of SOGI items in the NCVS. The NCVS did not collect data on the *something else* response category for sexual orientation; therefore, it is difficult to fully assess whether persons identified as something else or whether they did not want to respond to the item. In addition, the NCVS did not collect information on the *none of these* response category for the second step question for gender identity. Again, this makes it difficult to determine whether these respondents may be identifying as gender non-conforming, or if they were choosing the response category for another reason. The findings on respondent reactions and any negative reactions came from the interviewers and not directly from the respondents. This is a limitation as the data received was from the perspective of the interviewers whose experience or interpretation of the situation could have been different than the respondents. Future research should seek to address these issues.

SOGI questions can be successfully administered on a large-scale population-based survey. Respondents are able to answer the questions with general ease and have minimally negative reactions to the items. It is recommended that these items be added to other surveys that may be considering including them. However, there are a few considerations to keep in mind. Placement of the questions should be considered; in the NCVS they were placed at the end of the instrument so that they would not have any effect on crime rates. One should also consider why the questions are being added to the survey. It was clear from this research that respondents questioned the relevance of these items on a crime survey, but were willing to answer them once they understood their purpose. Providing FAQs for interviewers to be able to reference when providing additional

clarification to respondents was effective, and therefore is a recommended approach for other surveys. Finally, if gender identity is used, using the two-step method is recommended. Based on data from the NCVS, about half of transgender persons age 16 or older did not identify as transgender in the current gender identity question. Instead, they reported different responses to their sex at birth and current gender identity.

The BJS and the Census Bureau continue to monitor performance, data quality, and field interviewers' concerns as the data are collected. Based on experiences from the NCVS data collection of sexual orientation and gender identity, some key issues emerged as areas to focus future research. These areas are also consistent with those identified in the SOGI Federal Working Group's *Toward a Research Agenda for Measuring Sexual Orientation and Gender Identity in Federal Surveys* report (2016c). These areas include monitoring response categories, specifically *something else* for sexual orientation and *none of these* for gender identity. Current terminology is continually evolving. In addition, more research is needed administering these items in languages other than English. Prior research has indicated that terms related to sexual orientation and gender identity may have different meaning or lack a direct translation in other languages. Finally, as data collection in the NCVS continues, analyses on victimization experiences, including types of victimization and incident characteristics, can be examined. The field of research around sexual orientation and gender identity continues to grow. Despite concerns that may exist related to adding these questions to surveys, the NCVS has shown that they can be successfully administered in a household-based crime survey.

5. Appendix

Table A1. Weighted estimates of persons age 16 or older by sexual orientation.

Demographics	Number of persons age 16 or older					Percent of persons age 16 or older				
	Gay/lesbian	Straight	Bisexual	Something else	Don't know	Gay/lesbian	Straight	Bisexual	Something else	Don't know
Total	2,937,090	226,389,420	1,384,380	545,910	1,021,175	1.26%	97.46%	0.60%	0.24%	0.44%
Sex[a]										
Male	1,580,010	109,099,895	357,990	206,580	534,920	1.41%	97.60%	0.32%	0.18%	0.48%
Female	1,357,080	117,289,525	1,026,390	339,330	486,255	1.13%	97.34%	0.85%	0.28%	0.40%
Race/Hispanic origin[a]										
Non-Hispanic White	2,060,130	145,625,345	902,920	387,775	581,885	1.38%	97.37%	0.60%	0.26%	0.39%
Non-Hispanic Black	315,070	27,541,315	146,235	47,995	99,515	1.12%	97.84%	0.52%	0.17%	0.35%
Hispanic/	380,315	36,040,060	237,225	50,610	197,175	1.03%	97.66%	0.64%	0.14%	0.53%
Age[a]										
16–17	54,385	6,879,450	117,780	34,960	29,455 !	0.76%	96.68%	1.66%	0.49%	0.41%
18–24	446,655	25,406,200	444,175	115,320	151,420	1.68%	95.64%	1.67%	0.43%	0.57%
25–34	666,605	39,119,015	428,790	115,645	150,150	1.65%	96.64%	1.06%	0.29%	0.37%
35–49	756,280	55,478,330	207,295	111,045	220,765	1.33%	97.72%	0.37%	0.20%	0.39%
50–64	773,525	56,561,360	139,435	111,960	214,400	1.34%	97.86%	0.24%	0.19%	0.37%
65 or older	239,635	42,945,065	46,905	56,985	254,990	0.55%	98.63%	0.11%	0.13%	0.59%
Region										
Northeast	547,815	38,541,700	211,480	100,715	264,070	1.38%	97.17%	0.53%	0.25%	0.67%
Midwest	539,575	49,692,250	291,160	129,155	208,905	1.06%	97.70%	0.57%	0.25%	0.41%
South	1,083,410	85,985,440	378,465	125,960	241,835	1.23%	97.92%	0.43%	0.14%	0.28%
West	766,290	52,170,030	503,275	190,085	306,365	1.42%	96.73%	0.93%	0.35%	0.57%
Location of residence										
Urban	1,387,665	74,434,300	573,265	263,430	408,800	1.80%	96.58%	0.74%	0.34%	0.53%
Suburban	1,284,360	118,401,820	593,855	218,425	531,135	1.06%	97.83%	0.49%	0.18%	0.44%
Rural	265,065	33,553,300	217,260	64,055	81,245	0.78%	98.16%	0.64%	0.19%	0.24%

Note: Numbers rounded to nearest 5.

! Interpret with caution. Estimate based on 10 or fewer sample cases, or coefficient of variation is greater than 50%.

[a]Based on data collected on the household roster for the sampled household, including the name, age, sex, race, Hispanic origin, marital status, and education level of each person living in the household.

Source: Bureau of Justice Statistics, based on internal data from the U.S. Census Bureau, National Crime Victimization Survey, July–December 2016.

Table A2. *Weighted estimates of 16 or order by gender identity.*

Demographics	Number of persons age 16 or older					Percent of persons age 16 or older				
	Male	Female	Transgender[a]	None of these	Don't know	Male	Female	Transgender[a]	None of these	Don't know
Total	113,568,135	122,754,055	265,290	438,135	210,430	47.87%	51.74%	0.11%	0.18%	0.09
Race/Hispanic origin[b]										
Non-Hispanic White	74,150,450	78,093,575	160,180	276,075	90,355	48.54%	51.12%	0.10%	0.18%	0.06
Non-HispanicBlack	12,741,565	15,913,260	35,610	39,415	39,640	44.29%	55.31%	0.12%	0.14%	0.14
Hispanic	17,826,680	19,634,245	40,440	77,155	44,395	47.38%	52.19%	0.11%	0.21%	0.12
Age[b]										
16–17	3,660,205	3,565,610	16,185 !	18,555 !	2,095 !	50.40%	49.10%	0.22% !	0.26% !	0.03
18–24	13,366,840	13,567,930	56,545	69,160	24,130 !	49.35%	50.09%	0.21%	0.26%	0.09
25–34	20,417,715	20,937,435	52,680	83,480	15,255 !	49.19%	50.44%	0.13%	0.20%	0.04
35–49	28,266,940	29,319,320	71,785	79,630	60,850	48.91%	50.73%	0.12%	0.14%	0.11
50–64	28,371,520	30,612,310	37,565	107,570	54,590	47.94%	51.72%	0.06%	0.18%	0.09
65 or older	19,484,920	24,751,455	30,530	79,740	53,505	43.88%	55.75%	0.07%	0.18%	0.12
Region										
Northeast	19,328,775	21,304,905	31,405	93,370	86,080	47.32%	52.16%	0.08%	0.23%	0.21
Midwest	25,098,465	26,851,795	38,715	87,620	36,660	48.16%	51.53%	0.07%	0.17%	0.07
South	42,505,110	46,537,240	96,730	129,615	61,815	47.58%	52.10%	0.11%	0.15%	0.07
West	26,635,780	28,060,115	98,445	127,535	25,875	48.47%	51.07%	0.18%	0.23%	0.05
Location of residence										
Urban	37,866,975	41,179,230	106,905	156,960	61,220	47.71%	51.88%	0.13%	0.20%	0.08
Suburban	59,198,250	63,627,320	138,385	249,660	111,660	48.00%	51.59%	0.11%	0.20%	0.09
Rural	16,502,910	17,947,505	20,000 !	31,515	37,550	47.78%	51.96%	0.06% !	0.09%	0.11

Note: Numbers rounded to nearest 5.

! Interpret with caution. Estimate based on 10 or fewer sample cases, or coefficient of variation is greater than 50%.

[a]Includes respondents with discordant responses to the sex at birth and currently described gender questions. That is, respondents may have identified using the transgender response category or identified with a different gender than their assigned sex at birth.

[b]Based on data collected on the household roster for the sampled household, including the name, age, race, Hispanic origin, marital status, and education level of each person living in the household.

[c]White and black race categories exclude persons of Hispanic or Latino origin.

Source: Bureau of Justice Statistics, based on internal data from the U.S. Census Bureau, National Crime Victimization Survey, July–December 2016.

6.   References

Charmaz, Kathy. 2006. *Constructing Grounded Theory: A Practical Guide Through Qualitative Analysis*. Los Angeles: Sage. Available at: http://www.sxf.uevora.pt/wp-content/uploads/2013/03/Charmaz_2006.pdf (accessed July 2019).

CHIS (California Health Interview Survey). 2018. *CHIS Questionnaires*. Los Angeles: UCLA Center for Health Policy Research. Available at: http://healthpolicy.ucla.edu/chis/design/Pages/questionnairesEnglish.aspx (accessed November 2018).

Collier, K.L., G. van Beusekom, H.M.W. Bos, and T.G.M. Sandfort. 2013. "Sexual orientation and gender identity/expression related peer victimization in adolescence: A systematic review of associated psychosocial and health outcomes." *Journal of Sex Research* 50: 299–317. DOI: https://doi.org/10.1080/00224499.2012.750639.

Dahlhamer, J.M., A.M. Galinsky, S.S. Joestl, and B.W. Ward. 2014. "Sexual orientation in the 2013 National Health Interview Survey: A quality assessment." *Vital Health Statistics* 2(169): 1–24. Available at: https://www.cdc.gov/nchs/data/series/sr_02/sr02_169.pdf (accessed July 2019).

Ellis, R., M. Virgile, J. Holzberg, D.V. Nelson, J. Edgar, P. Phipps, and R. Kaplan. 2017. *Assessing the Feasibility of Asking Sexual Orientation and Gender Identity in the Current Population Survey: Results from Cognitive Interviews*. Washington, DC: Center for Survey Measurement, U.S. Census Bureau and Office of Survey Methods Research, Bureau of Labor Statistics. Available at: https://www.bls.gov/osmr/research-papers/2017/html/st170210.htm (accessed July 2019).

Flores, A.R., J.L. Herman, G.J. Gates, and T.N. Brown. 2016. *How Many Adults Identify as Transgender in the United States?* Los Angeles, CA: The Williams Institute. Available at: https://williamsinstitute.law.ucla.edu/wp-content/uploads/How-Many-Adults-Identify-as-Transgender-in-the-United-States.pdf (accessed July 2019).

GenIUSS Group. 2014. *Best Practices for Asking Questions to Identify Transgender and Other Gender Minority Respondents on Population-Based Surveys*. Los Angeles, CA: The Williams Institute. Available at: https://williamsinstitute.law.ucla.edu/wp-content/uploads/geniuss-report-sep-2014.pdf (accessed July 2019).

Herman, J.L., A.R. Flores, T.N.T. Brown, B.D.M. Wilson, and K.J. Conron. 2017. *Age of Individuals who Identify as Transgender in the United States*. Los Angeles, CA: The Williams Institute. Available at: https://williamsinstitute.law.ucla.edu/wp-content/uploads/TransAgeReport.pdf (accessed July 2019).

IOM (Institute of Medicine). 2011. *The Health of Lesbian, Gay, Bisexual, and Transgender People: Building a Foundation for Better Understanding*. Washington, DC: The National Academies Press. Available at: http://www.nationalacademies.org/hmd/Reports/2011/The-Health-of-Lesbian-Gay-Bisexual-and-Transgender-People.aspx (accessed March 2018).

Jans, M., J. Viana, D. Grant, S.D. Cochran, A.C. Lee, and N.A. Ponce. 2015. "Trends in sexual orientation missing data over a decade of the California Health Interview Survey." *American Journal of Public Health* 105(5): e43–e50. DOI: https://doi.org/10.2105/AJPH.2014.302514.

Kann, L., E.O. Olsen, T. McManus, S. Kinchen, D. Chyen, W.A. Harris, and H. Wechsler. 2011. *Sexual Identity, Sex of Sexual Contacts, and Health-Risk Behaviors Among*

Students in Grades 9–12 — Youth Risk Behavior Surveillance, Selected Sites, United States, 2001–2009. Washington, DC: Centers for Disease Control and Prevention. (MMWR 60(SS07):1–133). Available at: https://www.cdc.gov/mmwr/preview/mmwrhtml/ss6007a1.htm (accessed July 2019).

Krebs, C., C. Lindquist, M. Berzofsky, B. Shook-Sa, K. Peterson, M. Planty, L. Langton, and J. Stroop. 2016. *Campus Climate Survey Validation Study Final Technical Report*. Washington, DC: Bureau of Justice Statistics. (NCJ 249545). Available at: https://www.bjs.gov/content/pub/pdf/ccsvsftr.pdf (accessed July 2019).

Martinez, M., A. Henderson, J. Luck, and M.C. Davis. 2017. *Cognitive Pretesting of the National Crime Victimization Survey Supplemental Victimization Survey*. Suitland, MD: U.S. Census Bureau, Center for Survey Measurement. Available at: https://www.census.gov/library/working-papers/2017/adrm/rsm2017-03.html (accessed November 2018).

Medley, G., R.N. Lipari, J. Bose, D.S. Cribb, L.A. Kroutil, and G. McHenry. 2016. *Sexual Orientation and Estimates of Adult Substance Use and Mental Health: Results from the 2015 National Survey on Drug Use and Health*. Washington, DC: Substance Abuse and Mental Health Services Administration. Available at: https://www.samhsa.gov/data/sites/default/files/NSDUH-SexualOrientation-2015/NSDUH-SexualOrientation-2015/NSDUH-SexualOrientation-2015.htm (accessed July 2019).

National Coalition of Anti-Violence Programs. 2016. *Lesbian, Gay, Bisexual, Transgender, Queer, and HIV-Affected Intimate Partner Violence in 2015*. New York, NY: Emily Waters. Available at: https://avp.org/wp-content/uploads/2017/04/2015_ncavp_lgbtqipvreport.pdf (accessed March 2018).

NCHS (National Center for Health Statistics). 2015a. *Sexual identity for men and women 18–44 years of age*. Washington DC: NCHS. Available at: https://www.cdc.gov/nchs/nsfg/key_statistics/s.htm#sexualorientation (accessed March 2018).

NCHS (National Center for Health Statistics). 2015b. *Sexual Orientation and Health among U.S. Adults: National Health Interview Survey, 2015*. Washington DC: NCHS. Available at: https://www.cdc.gov/nchs/data/nhis/sexual_orientation/asi_2015_stwebsite_tables.pdf (accessed March 2018).

NCHS (National Center for Health Statistics). 2018. *NHIS Data, Questionnaires and Related Documentation*. Washington DC: NCHS. Available at: https://www.cdc.gov/nchs/nhis/data-questionnaires-documentation.htm (accessed November 2018).

Reisner, S.L., K.J. Conron, L.A. Tardiff, S. Jarvi, A.R. Gordon, and S.B. Austin. 2014. "Monitoring the health of transgender and other gender minority populations: validity of natal sex and gender identity survey items in a U.S. national cohort of young adults." *BMC Public Health* 14(1): 1224. Available at: https://bmcpublichealth.biomedcentral.com/articles/10.1186/1471-2458-14-1224 (accessed July 2019).

SMART, The Sexual Minority Assessment Research Team. 2009. *Best Practices for Asking Questions about Sexual Orientation on Surveys*. Los Angeles, CA: The Williams Institute. Available at: https://williamsinstitute.law.ucla.edu/wp-content/uploads/SMART-FINAL-Nov-2009.pdf (accessed July 2019).

Stern, M.J., S. Michaels, C. Milesi, M.H. Viox, and H. Morrison. 2016. *Task 1.32.a: Develop and Test Sexual and Gender Minority Status (LGBT) Items Final Summary Report*. Washington, DC: Centers for Medicare and Medicaid Services, Office of Minority Health. (HHSM-500-2014-00035I). Available at: https://www.cms.gov/

About-CMS/Agency-Information/OMH/Downloads/Research-Report-sexual-gender-minority-status-items.pdf (accessed July 2019).

SOGI Federal Working Group (Federal Interagency Working Group on Improving Measurement of Sexual Orientation and Gender Identity in Federal Surveys). 2016a. *Current Measures of Sexual Orientation and Gender Identity in Federal Surveys*. Available at: https://s3.amazonaws.com/sitesusa/wp-content/uploads/sites/242/2014/04/WorkingGroupPaper1_CurrentMeasures_08-16.pdf (accessed March 2018).

SOGI Federal Working Group (Federal Interagency Working Group on Improving Measurement of Sexual Orientation and Gender Identity in Federal Surveys). 2016b. *Evaluations of Sexual Orientation and Gender Identity Survey Measures: What Have We Learned?* Available at: https://s3.amazonaws.com/sitesusa/wp-content/uploads/sites/242/2014/04/Evaluations_of_SOGI_Questions_20160923.pdf (accessed March 2018).

SOGI Federal Working Group (Federal Interagency Working Group on Improving Measurement of Sexual Orientation and Gender Identity in Federal Surveys). 2016c. *Toward a Research Agenda for Measuring Sexual Orientation and Gender Identity in Federal Surveys: Findings, Recommendations, and Next Steps*. Available at: https://s3.amazonaws.com/sitesusa/wp-content/uploads/sites/242/2014/04/SOGI_Research_Agenda_Final_Report_20161020.pdf (accessed March 2018).

Tate, C.C., J.N. Ledbetter, and C.P. Youssef. 2013. "A two-question method for assessing gender categories in the social and medical sciences." *Journal of Sex Research* 50(8): 767–776. DOI: https://doi.org/10.1080/00224499.2012.690110.

The Matthew Shepard and James Byrd Jr. Hate Crimes Prevention Act of 2009 (HCPA), 18 U.S.C. § 249 (2009). Available at: https://www.congress.gov/111/bills/s909/BILLS-111s909is.pdf (accessed July 2019).

VAWA, Violence Against Women Reauthorization Act of 2013, Pub. L. No. 113-4, Stat. 47 (2013). Available at: https://www.congress.gov/113/plaws/publ4/PLAW-113publ4.pdf (accessed July 2019).

Walters, M.L., J. Chen, and M.J. Breiding. 2013. *The National Intimate Partner and Sexual Violence Survey (NISVS): 2010 Findings on Victimization by Sexual Orientation*. Atlanta, GA: National Center for Injury Prevention and Control, Centers for Disease Control and Prevention. Available at: https://www.cdc.gov/violenceprevention/pdf/nisvs_sofindings.pdf (accessed July 2019).

Xavier, J.M. 2000. *The Washington Transgender Needs Assessment Survey: Final report for phase two*. Washington, DC: Administration for HIV/AIDS of the District of Columbia. DOI: https://doi.org/10.13140/RG.2.2.23988.65924.

Xavier, J., J.A. Honnold, and J. Bradford. 2007. *The Health, Health-related Needs, and Lifecourse Experiences of Transgender Virginians*. Richmond, VA: Virginia Department of Health, Division of Disease Prevention. Available at: http://www.vdh.virginia.gov/content/uploads/sites/10/2016/01/THISFINALREPORTVol1.pdf (accessed July 2019).