

Current Measures of Sexual Orientation and Gender Identity in Federal Surveys

August, 2016

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I. Introduction and Purpose of the Working Paper

At a time when sexual and gender minority (SGM)¹ populations are becoming more visible in social and political life, there remains a lack of data on the characteristics and well-being of these groups. In order to understand the diverse needs of SGM populations, more representative and better quality data need to be collected. The U.S. Federal Government is taking several steps to coordinate data collection efforts across its many Departments. The Office of Management and Budget (OMB) convened the Federal Interagency Working Group on Measuring Sexual Orientation and Gender Identity (SOGI) to begin addressing the dearth of data for these populations and the issues surrounding methodological issues in collecting such data.

Although a few Federal agencies have collected information describing SGM populations for over a decade, some aspects of SOGI have been more routinely measured than others. Further, there are Federal agencies not currently collecting data on SOGI that have expressed interest in doing so. The purpose of this working paper is to describe how the concepts of SOGI are currently measured in U.S. Federal surveys.² This document is one of three working papers anticipated to be developed through the Interagency Working Group. A second working paper will review evaluations of questionnaire measurement, and a third will propose a research agenda to further improve sexual orientation and gender identity measures. Other working papers may be developed as research in this area further matures.

II. What to Measure: Concepts

Several key concepts are central to discussions of SOGI. These include sex, gender, transgender, and sexual orientation. Terms related to these concepts, such as *lesbian, gay, bisexual, and transgender (LGBT)*, may have more than one meaning based on social context. For Federal surveys, both the purpose of the survey and the specific dimension of SOGI intended to be measured are important design and measurement considerations. A related measure is the identification of same-sex households. However, the identification of same-sex households is not a direct measure of SOGI for the individuals in those households.

a. Sex and Gender

Sex and gender are foundational concepts in research on SOGI. Generally speaking, the term *sex* refers to the biological characteristics that are used to categorize individuals as *male, female, or intersex*. *Sex* refers to “the genetic, hormonal, anatomical and physiological characteristics on whose basis one is labeled at birth as either male or female” (IOM, 2011, p. 25). The term, *gender*, on the other hand, refers to “the socially constructed characteristics of women and men—such as norms, roles and relationships of and between groups of women and men” (WHO, 2016).

While *male* and *female* refer to sex, words like *masculine, feminine, man, and woman* all refer to gender.³ Gender is a multidimensional construct that has psychological, social, and behavioral dimensions that include gender identity and gender expression. It refers to the “cultural meanings of patterns of behavior, experience, and personality that are labeled masculine or feminine” (IOM, 2011,

¹ This working paper refers to the population of interest as sexual and gender minority (SGM) rather than the more commonly used reference as lesbian, gay, bisexual, and transgender (LGBT). We believe that SGM is more inclusive as it would include persons not specifically referenced by LGBT such as genderqueer, among others.

² For the purposes of this working paper, non-federal SOGI measures, such as those included in the California Health Interview Survey (CHIS), are discussed solely in the context of our review of federal measures.

³ Some argue that the concepts of *sex, male, and female* are also socially constructed (Kelly, 2016).

p.25). Gender identity refers to a person's internal sense of gender (e.g., being a man, a woman, or genderqueer) and potential affiliation with a gender community (e.g., women, trans women, genderqueer).

b. Transgender

The term *transgender* refers to a diverse population that departs significantly from gender norms ([IOM, 2011](#)). Often, a person's gender identity is consistent with their sex assigned at birth. A person whose gender identity and sex assigned at birth are consistent can be referred to as a *cis-gender* person (that is, a person whose gender is "consistent in sex."). The term *transgender* describes anyone whose gender identity differs from their sex assigned at birth ([Spade, 2008](#)). Some transgender individuals use hormones or elect for gender-affirming surgery, but not all transgender individuals do this.

There are several dimensions of gender that can be measured: *gender identity*, *gender expression*, and *gender dysphoria*. Some surveys might aim to measure *gender identity*, or an individual's self-identified sense of gender. Others might be more interested in measuring *gender expression*, or an individual's external manifestation of gender. A survey may also aim to identify all individuals who experience *gender dysphoria*, the experience of a marked difference between self-identified gender and assigned gender for a period of at least six months associated with clinically significant distress caused by this incongruence ([APA, 2013](#)). Someone may be diagnosed with gender dysphoria whether or not that person has taken any steps to align their gender expression with their (inner) gender identity.⁴

c. Sexual Orientation

Sexual orientation has three main dimensions: *sexual attraction*, *sexual behavior*, and *sexual identity*. *Sexual attraction* refers to the relationship between a person's gender and the gender(s) of the individuals to whom that person is sexually attracted (for example, whether an individual is attracted to men, women, or both men and women). *Sexual behavior* refers to the relationship between a person's gender and the gender(s) of the individuals with whom that person engages in sexual activity (for example, whether an individual has sex partners who are of the same sex, the opposite sex, or both). *Sexual identity* refers to the way a person self-identifies with a given sexual orientation (for example, how an individual thinks of the individual's self) ([SMART, 2009](#)).

The most commonly used terms to describe different sexual orientations are *lesbian*, *gay*, *bisexual*, and *heterosexual/straight*.⁵ In general, people who self-identify as *gay* or *lesbian* are primarily attracted to and/or have sex with people of the same-sex. However, the concepts of sexual identity, attraction, and behavior do not always follow these patterns, or individuals may not want to identify as *gay* or *lesbian* even if they are attracted to the same sex or only occasionally have different-sex relations. Therefore, although some surveys focus only on sexual identity, others measure all three components of sexual orientation.

⁴ Gender dysphoria is classified as a mental disorder by the DSM-5. However the DSM-5 states that gender nonconformity is not itself a mental disorder. Rather it is the presence of clinically significant stress associated with the untreated condition. Nevertheless, there is some controversy around the categorization of the term, and especially its predecessor, *gender identity disorder*, as a mental illness ([Lev, 2016](#)).

⁵ The term *homosexual* is sometimes used to describe individuals who are attracted to those of the same gender, engage in sexual activity with those of the same gender, and/or self-identify as *lesbian* and *gay*. The term *heterosexual* similarly corresponds to those with *straight* identities and/or different-sex attraction and/or partners. Because of its appearance as a mental disorder in the DSM-I and DSM-II, the term *homosexual* is sometimes seen as unfavorable. *Homosexuality* was declassified as a mental disorder beginning with the publication of the DSM-III in 1973.

Surveys should focus on accurate measurement of the dimension(s) in which they are interested for the purposes of the study ([SMART, 2009](#)). Asking the ‘right’ question for the purpose of the information collection can be challenging. Conceptual dimensions may be fluid over time and may not necessarily align for a given person. Academically, these distinctions are clear but the perceptions of the general public are often not. For example, while sex and gender can be defined as two different concepts, most people do not think of it that way. This disconnect often contributes to measurement and design issues.

d. Household Relationships

Many Federal surveys collect household relationship data for all individuals living in the same housing unit. Household relationship data can be used to provide an indirect estimate of the SGM population through the measurement of same-sex couples. This approach, however, does not provide a direct measure of sexual orientation, and yields an incomplete estimate, since persons not in a relationship or not living in the same household as their partner will not be identified ([MRFHS 2014](#)).

III. Current Measurement

Currently, there are eleven Federal surveys and one Federal study that collect data on sexual orientation, including identity, attraction, and behavior, and gender identity. The eleven surveys include: Health Center Patient Survey (HCPS), National Adult Tobacco Survey (NATS), National Health and Nutrition Examination Survey (NHANES), National Health Interview Survey (NHIS), National Inmate Survey (NIS), National Crime Victimization Survey (NCVS), National Survey of Family Growth (NSFG), Youth Risk Behavior Surveillance System (YRBSS), National Survey on Drug Use and Health (NSDUH), National Survey of Older Americans Act Participants (NSOAAP), and Behavior Risk Factor Surveillance System (BRFSS). The one study includes Population Assessment of Tobacco and Health (PATH). Ten of the twelve surveys/study are collected by the Department of Health and Human Services. Two surveys, the NIS and the NCVS, are collected by the Department of Justice.⁶

All of these surveys/study collect data on sexual identity. Three of the surveys/study collect sexual attraction (PATH, NSFG, and NSDUH); four collect sexual behavior (NSFG, NHANES, NIS, YRBSS); and six collect gender identity (PATH, HCPS, NATS, NIS, NCVS, BRFSS).

a. Sexual Identity

Table III.a summarizes current measures of sexual identity. In brief, there are two main ways sexual identity is asked in Federal surveys /studies:

- *Which of the following best represents how you think of yourself?* (NHIS/NHANES, NCVS, NSOAAP)⁷ and

⁶ At the time of this writing, several Federal agencies have planned, field tested, or prepared additional, national information collections including measures of sexual orientation and/or gender identity. These include the High School Longitudinal Survey and the Medicare Current Beneficiary Study, among others.

⁷ For the 2013 and 2014 NHIS, follow-up questions were asked for initial responses of “something else” and “I don’t know the answer” in an effort to reduce misreporting and to accommodate more inclusive terms. Upon analysis, NHIS found that the percentage of sample adult respondents who received these follow-up questions was quite low (~0.6% in both 2013 and 2014). Further, comparisons of sexual orientation estimates before and after back-coding of responses to account for follow-up question responses revealed no substantive differences. Hence, the follow up questions were removed starting with the 2015 survey. NHANES questions were changed in 2015-2016 to be consistent with the questions used in other surveys at NCHS.

- “Do you think of yourself as...” (NSFG/NSDUH/PATH/NATS/BRFSS)⁸.

Table III.a Current Measures of Sexual Identity in Federal Surveys			
Survey Name	Current Question	Mode	Population
NHIS (DHHS/CDC/ NCHS) Topic asked: 2013-present Current Question: 2015-present	(ACISIM/F) Which of the following best represents how you think of yourself? [If R is female then Lesbian or] Gay Straight, that is, not [If R is female then Lesbian or] Gay Bisexual Something else I don't know the answer (Refused)	CAPI, with some telephone follow-up	U.S. adult civilian, non- institutionali zed population aged 18+
NHANES (DHHS/CDC/ NCHS) Topic asked: 2001-present Current Question: 2015-present	(SXQ.295/296) Which of the following best represents how you think of yourself? [If R is female then Lesbian or] Gay Straight, that is, not [If R is female then Lesbian or] Gay Bisexual Something else I don't know the answer	ACASI	U.S. adult civilian, noninstitutio nalized population aged 18-59
NSFG (DHHS/CDC/ NCHS) Years asked: 2002, 2006- 2010, 2011-13 Current Question: 2006-2013	(ORIENT) Do you think of yourself as... Heterosexual or straight Homosexual or Gay [If R is female then Lesbian] Bisexual Something else (Don't Know) (Refused)	ACASI	U.S. adult civilian, noninstitutio nalized population aged 15-44

⁸ In 2002, NSFG featured different response options (that is, heterosexual, homosexual, bisexual, something else). NSFG has used the current response options starting in 2006. HCPS and NIS are variants on the NSFG question format. NSDUH has a modified response option, listing the most common response option first. It does not include a “something else” option. In 2013 PATH used the NSFG question (Do you think of yourself as) with modified NHIS follow-up. In 2014-2015, PATH moved to the single NSFG question format without the modified NHIS follow up question. The YRBSS uses a unique question format (that is, “which of the following best describes you?”).

Table III.a Current Measures of Sexual Identity in Federal Surveys			
Survey Name	Current Question	Mode	Population
NSDUH (DHHS/ SAMHSA/ CBHSQ) Years asked: 2015-present	(QD63) Which one of the following do you consider yourself to be? Heterosexual, that is, straight [If R is female then Lesbian or] Gay Bisexual (Don't Know) (Refused)	ACASI	U.S. adult civilian, noninstitutionalized population aged 18 and older
PATH (DHHS/ NIH and DHHS/FDA) Topic asked: 2013-present Current Question: 2014	(R02_AM0063/R03_AM0063) Do you consider yourself to be... Straight Lesbian or Gay Bisexual Something else Don't know Refused	ACASI	U.S. civilian, noninstitutionalized population aged 14 and older
HCPS (DHHS/HRSA/ BPHC) Year asked: 2014	(DMO8a) Do you think of yourself as straight or heterosexual, as gay, lesbian or homosexual, or as bisexual? Straight or heterosexual Gay, Lesbian, homosexual Bisexual Not sexual/celebrate/none Other, please specify	CAPI	All health center patients, ages 15 and older
NATS (DHHS/CDC) Years asked: 2012-2014	(SEXUALORIENT1) Do you think of yourself as...? [If R is female then Lesbian or] Gay Straight, that is, not [If R is female then Lesbian or] Gay Bisexual Something else (Don't Know) (Refused) [If R selects "Something else" in SEXUALORIENT1] (SEXUALORIENT2) By something else, do you mean that ... You are not straight, but identify with another label such as queer, trisexual, omnisexual or pansexual	CATI	U.S. adult civilian, noninstitutionalized population aged 18 and older

Table III.a Current Measures of Sexual Identity in Federal Surveys			
Survey Name	Current Question	Mode	Population
	<p>You are transgender, transsexual or gender variant You have not figured out your sexuality or are in the process of figuring it out You do not think of yourself as having sexuality You do not use labels to identify yourself You made a mistake and did not mean to pick this answer You mean something else. (Don't Know) (Refused)</p> <p>[If R selects "You mean something else" in SEXUALORIENT2] (SEXUALORIENT3)You gave "Don't know" as an answer. Is that because ... You don't understand the words. You understand the words, but you have not figured out your sexuality or you are in the process of figuring it out You mean something else (Don't Know) (Refused)</p> <p>[If R selects "You mean something else" in SEXUALORIENT3] Please tell me what you mean by "something else"? Open ended</p>		
<p>NIS (DOJ/BJS)</p> <p>Years asked: 2007, 2008-2009, 2011-2012</p>	<p>(D5) Do you consider yourself to be heterosexual or 'straight', bisexual, or homosexual or gay? 'Straight,' which is also called Heterosexual Bi-sexual [If R is male] Homosexual or Gay [If R is female, DK, Refused] Homosexual, Gay, or Lesbian Other (Don't Know)</p>	ACASI/PAPI	Prison and jail inmates, age 18 and older (except in 2011-12, which included inmates age 16 or older)
<p>NCVS (DOJ/BJS)</p> <p>Years asked: July 2016-present</p>	<p>Which of the following best represents how you think of yourself? [If R is female then Lesbian or] Gay Straight, that is, not [If R is female then Lesbian or] Gay Bisexual Something else I don't know the answer</p>	Interviewer administered, CAPI, in-person and telephone interviewing	U.S. adult civilian, noninstitutionalized population aged 16 and older

Table III.a Current Measures of Sexual Identity in Federal Surveys			
Survey Name	Current Question	Mode	Population
	(Refused)		
NSOAAP (DHHS/ACL) Years asked: 2014-2016	<p>(ACISIM/F) Which of the following best represents how you think of yourself? [If R is female then Lesbian or] Gay Straight, that is, not [If R is female then Lesbian or] Gay Bisexual Something else Refused Don't Know</p> <p><i>If R answers "Something else" to ACISIM/F:</i> (ACISMELS/FELS) What do you mean by something else? You are not straight, but identify with another label such as queer, trisexual, omnisexual or pansexual You are transgender, transsexual or gender variant You have not figured out or are in the process of figuring out your sexuality You do not think of yourself as having sexuality You do not use labels to identify yourself You mean something else Refused Don't Know</p> <p><i>If R answers "Don't know" to ACISMELS/FELS:</i> (ACISIMDK/FDK) What do you mean by don't know? You don't understand the words You understand the words, but you have not figured out or are in the process of figuring out your sexuality You mean something else Refused Don't know</p> <p><i>If R answers "Something else" to ACISIMDK/FDK:</i> (ACIMSESP/FSERP) What do you mean by something else? Open ended</p>	CATI	Administrati on on Aging Title III service participants. Most respondents are aged 60 and older. Respondents answering questions under the Caregiver module are adults age 18 and over.
YRBSS (DHHS/CDC) Years asked: 2015	<p>(Q68) Which of the following best describes you? Heterosexual (straight) Gay or Lesbian Bisexual Not sure</p>	School-based, self- administered PAPI	9 th – 12 th graders

Survey Name	Current Question	Mode	Population
BRFSS (DHHS/CDC) Years asked: 2014	(582) Do you consider yourself to be: Straight Lesbian or Gay Bisexual	CATI (Optional module)	U.S. adult civilian, noninstitutionalized population aged 18 and older

Location in Survey

In the NHIS, the questions appear in the sample adult core module, where a sample adult responds on behalf of his/herself. The NCVS and the NSOAAP also include the questions in the demographic section. However, generally, sexual identity questions tend to be placed at the end of ACASI sections and not to be placed with other demographic questions. In NHANES, NSDUH, NSFG, and PATH, the sexual identity question appears in the ACASI module, often as the last question. In NATS, it is asked as the closing question in computer assisted interviewing, in the NIS, the sexual identity question is asked as the last question asked of all inmates. In the YRBSS and BRFSS, the sexual identity question appears in optional modules, not the core survey. The HCPS includes the questions in the second demographic section, amidst questions about education, marital, employment, and veteran status.

b. Sexual Attraction

Table III.b presents current measures of sexual attraction used by NSFG and NSDUH; and PATH.⁹ The NSDUH question is slightly different from the NSFG question format.

Survey Name	Current Question	Mode	Population
NSFG (DHHS/CDC/NCHS) Years asked: 2002, 2006-2010, 2011- 2013	(ATTRACT) People are different in their sexual attraction to other people. Which best describes your feelings? Are you... [If R is male] Only attracted to females Mostly attracted to females Equally attracted to females and males Mostly attracted to males Only attracted to males Not sure [If R is female] Only attracted to males Mostly attracted to males Equally attracted to males and females Mostly attracted to females	ACASI	U.S. adult civilian, non-institutionalized population aged 15-44

⁹ In wave 1 of PATH, different response options were used for males and females; in waves 2 and 3, only one set of response options was provided.

Table III.b. Sexual Attraction

Survey Name	Current Question	Mode	Population
	Only attracted to females Not sure		
NSDUH (DHHS/ SAMHSA/ CBHSQ) Years asked: 2015- present	<p>(QD62) People are different in their sexual attraction to other people. Which best describes your feelings?</p> <p>[If R is male] I am only attracted to females I am mostly attracted to females I am equally attracted to females and males I am mostly attracted to males I am only attracted to males I am not sure (Don't Know) (Refused)</p> <p>[If R is female] I am only attracted to males I am mostly attracted to males I am equally attracted to males and females I am mostly attracted to females I am only attracted to females I am not sure (Don't know) (Refused)</p>	ACASI	U.S. adult civilian, noninstitutionalized population aged 18 and older
PATH (DHHS/NIH and DHHS/FDA) Years asked: 2013- present Current Question: 2015	<p>(R01_AM0021) The next question asks about your level of sexual attraction to BOTH males and females. Please consider the response choices carefully, as it is important that you understand them and are as honest as you can be in your answer.</p> <p>To whom have you felt sexually attracted, even if you did not take any action based on feeling attracted? Only to females, never to males Mostly to females, and at least once to a male About equally often to females and to males Mostly to males, and at least once to a female Only to males, never to females I have never felt sexually attracted to anyone at all Don't Know Refused</p>	ACASI	U.S. civilian, noninstitutionalized population aged 12 and older

Table III.b. Sexual Attraction			
Survey Name	Current Question	Mode	Population

c. Sexual Behavior

Four federal surveys currently include questions on sexual behavior: NHANES, NSFG, NIS and YRBSS. These questions have different phrasing and have different populations of interest. See Table III.c.

Table III.c Sexual Behavior			
Survey Name	Current Question	Mode	Population
NHANES (DHHS/CDC/NCHS) Years asked: 2001- Current	NHANES includes sexual behavior questions including age at first sexual intercourse, number of sexual partners, and history of sexually transmitted disease	ACASI	U.S. adult civilian, non-institutionalized population aged 18-59
NSFG (DHHS/CDC/NCHS) Years asked: 2002, 2006-2010, 2011- 2013	NSFG includes questions on a wider range of sexual activities—including oral and anal sex with opposite-sex partners and sexual contact with same-sex partners (See report for sexual behavior questions: http://www.cdc.gov/nchs/data/nhsr/nhsr036.pdf)	ACASI	U.S. adult civilian, non-institutionalized population aged 15-44
NIS (DOJ/BJS) Years asked: 2007, 2008-2009, 2011- 2012	[IF D3 “number of partners” NE 1 (no partners)] (D4) Before you entered this facility, had you had sex with men only, women only, or both men and women? Men only Women only Both men and women	ACASI, PAPI	Prison and jail inmates, age 18 or older (except in 2011-12, which included inmates 16 or older)
YRBSS (DHHS/CDC) Years asked: 2015	(Q67) During your life, with whom have you had sexual contact? I have never had sexual contact Females Males Females and males	School-based, self-administered PAPI	9 th – 12 th graders

d. Gender Identity

Six Federal surveys currently feature gender identity questions. PATH and BRFSS ask similar two-part questions. NATS and NCVS ask similar two-part questions: sex at birth and current gender. NCVS also includes a follow up question to confirm the questions were answered as intended. NIS and HCPS use a one question format, asking about gender and providing a response option for transgender in the question stem and among response options. See Table III.d. We note that the location of the NATS two-step gender identity measure (Demographics section) is different than the location of its sexual orientation questions (Closing section). To improve the response rates of this phone survey, NATS strategically placed the series of sexual orientation questions, which might be considered sensitive, in the Closing section.

Table III.d Gender Identity			
Survey Name	Current Question	Mode	Population
PATH (DHHS/NIH and DHHS/FDA) Years asked: 2013-present	<p>(R02_AM0061/R03_AM0061) 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. Do you consider yourself to be transgender?</p> Yes No Don't know Refused Not Sure	ACASI	U.S. civilian, noninstitutionalized population aged 14 and older
	<p>[If R answers yes to R02_AM0061/R03_AM0061]</p> <p>(R02_AM0062/R03_AM0062) Do you consider yourself to be male-to-female, female-to-male, or non-conforming?</p> Yes, Transgender, male to female Yes, Transgender, female to male Yes, Transgender, gender nonconforming No Not sure Don't know Refused Not Sure		
HCPS (DHHS/HRSA /BPHC) Year asked: 2014	<p>(INT3) What is your gender?</p> Male Female <p>[If age >13]:</p> Female to male transgender male/trans male/female to male	CAPI	All health center patients If respondent is less than 12 years old,

Table III.d Gender Identity			
Survey Name	Current Question	Mode	Population
	<p>Male to female transgender female/trans woman/male to female Gender queer OTHER, specify</p> <p>(INT3_SPEC) We have entered your gender as [INT3 RESPONSE: Genderqueer OR INT3_OTH RESPONSE: FILL]. In this interview, questions will appear based on gender. For example, we only ask questions about mammograms to females of a specific age. Since this is a research study collecting medical-related data, could you tell us your biological sex at birth?</p> <p>Male Female</p>		parent/guardian response
<p>NATS (DHHS/CDC)</p> <p>Years asked: 2012-2014</p>	<p>90. What sex were you at birth? Male Female</p> <p>91. Do you currently consider yourself to be: Male Female</p>	CATI	U.S. adult civilian, noninstitutionalized population aged 18 and older
<p>NIS (DOJ/BJS)</p> <p>Years asked: 2007, 2008-2009, 2011-2012</p>	<p>(D2) Are you male, female, or transgender? Male Female Transgender</p>	ACASI, PAPI	Prison and jail inmates, age 18 or older (except in 2011-12, which included inmates 16 or older)
<p>NCVS (DOJ/ BJS)</p> <p>Years asked: July 2016-present</p>	<p>What sex were you assigned at birth, on your original birth certificate? Male Female (Refused) (Don't know)</p> <p>Do you currently describe yourself as male, female or transgender?</p>	Interviewer administered, CAPI, in-person and telephone	U.S. adult civilian, noninstitutionalized population aged 16 and older

Table III.d Gender Identity

Survey Name	Current Question	Mode	Population
	Male Female Transgender None of these Just to confirm, you were assigned {FILL} at birth and now describe yourself as {FILL}. Is that correct? Yes No (Refused) (Don't know)	interviewing	
BRFSS (DHHS/CDC) Years asked: 2014	(583) Do you consider yourself to be transgender? If yes, ask “Do you consider yourself to be 1. Male-to-female, 2. Female-to-male, or 3. Gender nonconforming?” 1. Yes, Transgender, male-to-female 2. Yes, Transgender, female to male 3. Yes, Transgender, gender nonconforming	CATI (Optional module)	U.S. adult civilian, noninstitutionalized population aged 18 and older

e. Household Relationships

A previous working paper, [Improved Measurement of Household Relationships in Federal Surveys](#), focused on the measurement of same-sex co-residential relationships ([MRFHS, 2014](#)). Although not the main focus of the current working paper, below we provide a brief summary of Federal measurement of same sex households since 2010.

The 2010 Census was the first decennial census to provide estimates of same-sex married couples (Lofquist et al., 2012). Although estimates of same sex-couples were produced by researchers from earlier censuses, such estimates were subject to misreporting as well as the statistical challenges of obtaining estimates of a small group, such as the SGM population, because of a low rate of random error in a large group (Lewis et al., 2015; [Black et al., 2007](#)).

Of the 56 million different-sex married couple households reported in 2010, a small proportion of respondents mismarked their responses and indicated being same-sex married couples. When 2010 Census data were compared to the 2010 ACS, the number of same-sex couple households in the Census was 52 percent higher than the ACS estimate (O’Connell and Feliz, 2011). Investigation of this discrepancy found data capture errors in the sex item on the Census form that inflated the census counts of the numbers of same-sex spousal households. Although these cases represented a relatively small percentage of all households, the resulting error was still large enough to create a significant error in the estimate of same-sex married couple households.

After conducting focus groups and cognitive testing, the Census Bureau developed a revised relationship question. The revision sought to incorporate several goals—to list same-sex married couples specifically,

to treat unmarried partners and spouses equivalently, and to minimize the identified statistical error. To address the statistical error specifically, the revised relationship question includes an automated check in electronic modes of data collection to help respondents accurately report their household characteristics. The automated check pops up if respondents report sex values for spouses or unmarried partner couples that do not agree with the specific relationship category they chose.

The revised question and electronic checks were tested in the 2013 American Housing Survey (AHS), the 2014 and 2015 Census Tests, and the 2015 National Content Test. In addition, the Census Bureau is testing this question on the 2016 Census Test and 2016 American Community Survey (ACS) Content Test. This revised question has now been implemented in the AHS and the Survey of Income and Program Participation (SIPP).

Beginning in May 2015, the revised question was implemented in the Current Population Survey (CPS) for incoming rotation groups, so that by the time of the 2017 Annual Social and Economic Supplement, all cases will receive the revised question. ACS implementation is planned for 2019, after the content testing cycle is completed, and the Census Bureau plans to continue to test and work toward inclusion of the revised question in the 2020 Census.

f. Administrative Records and Program Data

Administrative records – Fielding a probability survey to obtain gender identity may not be feasible or affordable. A variety of administrative databases have been used to study alternative ways to identify some of the transgender population and to evaluate disparities and health concerns, when direct measurement of the SGM population is not possible.

Social Security Administration (SSA) records have been used to identify individuals likely to be transgender by examining name and sex-coding changes ([Cerf Harris, 2015](#)). These individuals were more likely to change their names than their sex-coding although some individuals changed both items. SSA records were linked to Census records and found that transgender individuals identified in the SSA files were more likely than non-transgender individuals to leave the Census question on sex blank or to check both “M” and “F” ([Cerf Harris, 2015](#)).

Medicare claims records can be used to identify transgender Medicare beneficiaries (Haffer, 2015). Diagnosis, procedure, prescription drug, and billing codes were used to identify beneficiaries who sought transgender-related services. This research was able to use other claims information to validate the classification of transgender in 87 percent of cases (Haffer, 2015).

Veterans Health Administration data were used to examine health issues among veterans with gender identity disorder (GID). Such veterans were identified from claims data using the GID diagnosis codes and older related codes such as transsexualism (Blosnich et al., 2013; Kauth et al., 2014). The GID identification could not be independently confirmed and is subject to misclassification bias from erroneous diagnosis codes in the patient claims files. In addition, using GID diagnosis codes to identify transgender status may miss veterans who self-identify as transgender but do not have a clinical diagnosis of GID, or may have included veterans with GID who do not self-identify as transgender (Blosnich et al., 2013; Kauth et al., 2014).

Although these studies demonstrate that identification of some of the transgender population is possible using administrative records, such an approach is not currently being routinely used in part due to the difficulty in generalizing the results to the entire transgender population. In particular, individuals

who have not yet begun any transgender medical services or who have already fully transitioned may not be identified with these methods.

Program Data - Program data differs from the types of Federal survey and administrative data mentioned here but may provide a source of data on SGM. For example, the Uniform Data System (UDS) is a core system of information appropriate for reviewing the operation and performance of health centers. UDS is a reporting requirement for Health Resources and Services Administration (HRSA) grantees, including community health centers, migrant health centers, health care for the homeless grantees, and public housing primary care grantees. The data are used to improve health center performance and operation and to identify trends over time. UDS data are compared with national data to review differences between the U.S population at large and those individuals and families who rely on the health care safety net for primary care. Beginning in 2017, health centers will be asked to report patient's sex at birth as well as sexual orientation and gender identity information about the population served (see: 2016 Uniform Data System (UDS) Changes, <http://www.bphc.hrsa.gov/datareporting/reporting/index.html>). Similar data are collected by grantees of social service programs funded by the Administration for Community Living's (ACL) Aging and Disability Networks.

IV. Choosing a Measure

This section reviews and identifies issues for Federal agencies to consider when choosing SOGI questions for inclusion in Federal surveys and administrative databases. These issues will be explored in more detail in the forthcoming evaluations working paper. The term SOGI is used broadly to include the concepts covered in section II. More specific terms are discussed where necessary. Factors to consider when incorporating SOGI questions in data collection efforts include the selection of concept(s) related to the survey's purpose, pre-survey considerations and context, changes in the methods or administration of the survey, and post-survey analysis.

a. Selecting the Concept

Before incorporating SOGI questions in surveys or administrative databases, Federal agencies need to consider the purpose and objectives of the survey or database and the reason to add SOGI questions. Several of the SOGI questions discussed in the Current Measures section have undergone extensive testing and validation ([Dahlhamer et al., 2014](#); Lombardi and Banik, 2016). Some surveys, like the NSFG, include a variety of concepts including sexual orientation, sexual behavior, and sexual attraction ([Chandra, et al., 2011](#)). If an agency chooses to develop a new question, it should be validated with qualitative techniques like cognitive testing, pre-testing, and split samples ([OMB, 2016](#)). Even if a validated SOGI question is used, additional testing during the design phase may be needed to evaluate how the question performs in a new setting with a different audience.

Cognitive testing is used to ensure data validity and to test question validity, how respondents understand the question and whether it measures what is intended (OMB, forthcoming). Although it is impossible for a cognitive testing study to include all social and demographic groups represented in each survey, having a variety of groups represented is preferred. Previous cognitive testing of SOGI questions found that in some cases the non-SOGI population misinterpreted the question and response categories ([Miller and Ryan, 2011](#); Ridolfo et al., 2012). Therefore, it is important that question validation efforts include both the SOGI and non-SOGI groups.

Some early efforts to measure SOGI included a question or series of questions intended to measure both sexual orientation and gender identity. For example, a sexual orientation question with a 'something

else' response category led to a question on gender identification. Attempts to measure both sexual orientation and gender identity with one question or a series of questions tend to conflate the concepts and reduce resulting information quality. These two concepts are distinct and should be measured by separate questions. In some cases, agencies may choose to measure only one of these concepts, depending on the goals of the survey and feasibility of measurement (Westbrook and Saperstein, 2015).

b. Considerations and Context

Additional considerations when incorporating SOGI questions include the context and characteristics of the respondent population.

Age – Teenagers may be in the midst of developing their sexual orientation, experiencing sexual attraction, and beginning to engage in sexual behavior, and therefore they may be unsure of how to respond to SOGI questions (IOM, 2011; Chandra et al., 2011; SMART, 2009; Saewyc et al., 2004). Adolescents may use different terms for SOGI concepts than adults use; therefore, questions developed and validated for adults should be reevaluated before being applied to adolescent populations. SOGI-related bullying, including the use of the terms “lesbian” and “gay” as slurs, is more common during adolescence. Such harassment may cause some teenagers to be reluctant to identify themselves with those terms and emphasizes the importance that respondents are confident that their responses are private, anonymous, and confidential (Saewyc et al., 2004; SMART, 2009).

Some surveys, such as NSFG, developed SOGI questions for young and middle-aged adults. These questions may not be suitable for other age groups (SMART, 2009). There has not been much research focused on measuring SOGI among older adults. Older adults may have a different understanding of the meaning of SOGI terms than younger adults, leading to more missing responses or misidentification (IOM, 2011; SMART, 2009). The Medicare Current Beneficiary Survey (MCBS) evaluated issues with adding SOGI questions (Reed-Gillette, 2015). One concern was the generational differences in terminology and self-identification; therefore, MCBS used cognitive testing to evaluate the appropriateness of SOGI questions.

Cultural or racial/ethnic considerations – SOGI questions should be culturally appropriate and compatible with the respondent's understanding of the concept that is being measured (SMART, 2009; Ridolfo et al., 2012). Differences in SOGI concepts across racial and ethnic groups may affect the robustness of the questions. To improve SOGI measurement within racial and ethnic minority groups, additional response terms commonly used by these groups should be added (SMART, 2009). For example, some American Indian individuals may identify themselves as “two-spirit” rather than “gay” or “bisexual” as a way to reconnect with tribal customs and avoid using terms imposed on them (Simoni et al., 2006). However, including specific cultural terms in probability surveys of the U.S. population might be difficult due to the diversity of cultural and racial and ethnic groups.

Geography – There is some evidence that reported prevalence of SOGI populations is lower in Midwestern states and nonmetropolitan areas (IOM, 2011). There may also be regional differences in interviewers' and respondents' comfort with SOGI questions.

Language – Careful attention must be paid to the translation of SOGI questions because other languages may not have terms for the SOGI concepts or only have terms that are offensive. For example, Spanish does not have a comparable word for 'straight' (Miller and Ryan, 2011). In addition, nonresponse rates to the SOGI questions have been found to be higher among respondents to the Spanish-language surveys. In the course of the development of a SO question for NHIS, the NCHS Questionnaire Design

Research Laboratory conducted cognitive interviews to assess several versions of the SO question, including the questions from the 2002 and 2006 NSFG. Some Spanish-language speakers reported confusion with the response category wording. While the inclusion of the term 'heterosexual' on the English-language version of the survey was found to cause confusion among some respondents, the absence of this term in the Spanish-language survey caused confusion because the term 'gay' does not have a direct translation in Spanish. Therefore the decision was made to use different wording in the Spanish-language response categories. In particular, the response category 'Heterosexual, o sea no gay' ['Heterosexual, that is, not gay'] was used instead of 'Straight, that is, not gay' which is used for the English-language question. This change is believed to have reduced confusion and misclassification and improved measurement of sexual orientation ([Miller and Ryan, 2011](#); Ridolfo et al., 2012).

Response categories – The use of nonresponse categories (Don't Know/Refused/Other/Something else) may reduce the number of SOGI respondents who identify themselves as such, without yielding usable data ([SMART, 2009](#); Ridolfo et al., 2012; [NCHS, 2014](#); [Chandra et al., 2011](#); [Ward et al., 2014](#)). These response categories may be especially problematic for SOGI questions because there are many different terms for these concepts. These categories may also indicate confusion with the question or response category wording, rather than the SOGI status of respondents ([SMART, 2009](#)). In the case of adolescents, who may not yet be sure of their SOGI status, 'Don't know' or similar categories may be more fitting, although the response category 'I am not sure yet' is more informative ([SMART, 2009](#)). In addition to nonresponse categories, survey specialists should be cautious about the order of the response categories. For example, the NSDUH uses the same sexual orientation question and response categories as the NHIS, but the response categories are presented in a different order. This difference may affect responses, response rates, and the comparability between estimates from the two surveys.

Terminology – Non-SGM respondents may be confused by technical terms such as 'heterosexual' and 'bisexual' and either misidentify themselves or select a nonresponse category. For example, in the 2002 NSFG, 6.2 percent of respondents selected 'something else', 'don't know', or 'refused'. When the sexual orientation question added common terms to the response categories ('heterosexual or straight', 'homosexual or gay') in the 2006-2008 NSFG, the percentage selecting these nonresponse categories fell to 1.6 percent. The selection of these nonresponse categories was higher among respondents with lower educational attainment ([Miller and Ryan, 2011](#)). In addition to higher missing response rates with the technical terms, it is not possible to know the extent of misclassification due to confusion over the terms.

Incarcerated populations – Surveying the incarcerated population can be challenging. The incarcerated SGM population is at higher risk for victimization than the non-SGM population ([Beck et al., 2013](#)), making identification of the SOGI population to evaluate victimization rates and other factors vital. However, the higher victimization rates that the SGM incarcerated population experiences, both from other inmates and from the prison staff, may make members of the SGM population especially reluctant to reveal their sexual orientation or gender identity.

Other factors that influence the identification of the incarcerated SOGI population include their lower educational attainment and higher rates of illiteracy. The incarcerated population has poorer reading, writing, and oral communication skills than the general population, dimensions which must be considered when drafting SOGI-related questions ([Haigler et al., 1994](#); [Spangenberg, 2004](#); [Harlow, 2003](#)). The Bureau of Justice Statistics' National Inmate Survey (NIS) found a higher prevalence of gay/lesbian/bisexual persons among the incarcerated population ([Beck et al., 2013](#)). However, blacks and Hispanics are disproportionately represented in prison and jail populations; therefore, findings

about the incarcerated SGM population are not generalizable to the U.S. noninstitutionalized population.

c. Methods Considerations

Mode of interview – Agencies interested in capturing SOGI data may consider changing the mode of administration used for data collection efforts for SOGI-related items. ACASI (audio computer-assisted self-interviewing) allows respondent to hear questions through headphones or read them from laptop screens and enter answers directly into a computer. ACASI is considered the preferred mode of administration for questions which may be considered sensitive and/or personal. The Bureau of Justice Statistics uses ACASI for the SOGI questions in its surveys of the incarcerated population to afford more privacy. NSFG has used ACASI for sensitive questions about sexual behavior and activity; the SO question was incorporated into the ACASI portion of the survey ([Chandra et al., 2011](#)). NHIS tested the use of ACASI for the collection of SO data, compared to CAPI (computer-assisted personal interviewing) and found similar results ([Dahlhamer et al., 2014](#)). There were no significant differences in the percentage of adults identifying as gay/lesbian or bisexual (ACASI = 2.2 percent, CAPI = 2.4 percent) by mode; item nonresponse to the sexual orientation question also did not differ significantly by mode (ACASI = 2.7 percent, CAPI = 2.3 percent). Therefore, NHIS has chosen not to add an ACASI component to its survey and instead will continue to ask the SO question using CAPI ([Dahlhamer et al., 2014](#)).

Placement of the question – The location of SOGI questions may affect responses and therefore should be carefully considered and evaluated in the design phase of any survey. SOGI questions are considered sensitive and generally items that are sensitive should not be included in the beginning or end of a survey. If SOGI questions are going to be asked using a certain mode (such as ACASI) in a multi-mode survey, then they will be placed in that section of the questionnaire. In some surveys, SOGI questions may be considered demographic indicators and therefore are included amidst other demographic questions ([Ward et al., 2014](#)). SOGI questions should not be placed near questions on abuse to avoid implying a connection between these concepts ([SMART, 2009](#)).

Proxy measurement – Many surveys ask one person to provide basic demographic information for other members of the household. This approach is commonly used to reduce respondent burden and cost of surveys. However, agreement between proxy and self-report varies based on the indicator and relationship between the proxy and individual (Kojetin and Mullin, 1995). In the case of a sensitive topic such as SOGI, using a proxy is of concern because of both data quality and privacy protection. Surveys in New Zealand and the United Kingdom do not permit proxy reporting for SOGI items because of concerns about accuracy and confidentiality (Joloza et al., 2010). Due to similar concerns, some surveys do not ask SOGI questions of a respondent receiving assistance from a family member acting as an interpreter. The Bureau of Labor Statistics has begun work to evaluate proxy response on the CPS (See Pascale, 2016). Census is sponsoring the 2016 JPSM Practicum, which will be testing proxy response in an internet survey (Bates and Ortman, 2016). Surveys with both proxy and self-report portions may choose to place SOGI questions in the self-reported portion to avoid proxy responses.

Some surveys may have the interviewer enter responses based on observation for items, such as sex, that are considered obvious. This indirect assessment may result in errors, especially in the case of gender identity (Westbrook and Saperstein, 2015).

Sample size – Because of the small size of SGM populations, it is labor-intensive and costly to recruit a large enough sample in general population surveys for meaningful analysis of these populations and their subgroups ([IOM, 2011](#); [Devers et al., 2013](#)). SOGI questions may not be feasible in all Federal

surveys, particularly smaller ones. Surveys generally have established rules about estimate reliability and population thresholds to release the data. For example, ACS releases 1-year estimates for groups of 65,000 or more, 3-year estimates for groups of 20,000 or more, and 5-year estimates for groups less than 20,000 ([Census, 2014](#)).

Small errors among very large populations lead to big errors among small populations. As noted in section III.e. Household Relationships, even a very small percentage of false positive errors can have a significant impact on the overall estimate of same-sex couples. An estimated 28 percent of all same-sex couple households in 2010 Census tabulations were likely to be different-sex couple households (O’Connell and Feliz, 2011).

d. Post-Survey Analysis

Cross-survey comparisons – Post-survey analysis includes comparing estimates to the findings from other analyses and previous rounds of the survey of interest ([OMB, 2016](#); [Chandra et al., 2011](#)). In addition to comparing overall estimates, estimates by subgroups (such as gender, age, education level) can help evaluate if the estimates are biased. Table IV.A presents a variety of national probability estimates of the LGB population.

Table IV.a. Prevalence of Sexual Orientation among Adults in Selected National Federal Surveys

Survey	Age	Data Collection Year	Percent gay or lesbian	Percent bisexual	Percent gay (men)	Percent lesbian (women)
National Health Interview Survey	18 and over	2013	1.6	0.7	1.8	1.4
National Survey on Drug Use and Health	18-44	2013	1.9	3.4	1.9	1.9
National Adult Tobacco Survey	18 and over	2012-2013	2.0	1.7	2.7	1.3
National Health and Nutrition Examination Survey	18-59	2009-2012	1.8	2.6	2.3	1.3
National Survey of Family Growth	18-44	2006-2010	1.5	2.6	1.8	1.2

There are few national estimates of the prevalence of the transgender population. Several published estimates are from convenience samples and therefore are not generalizable to the U.S. population (Conron et al., 2012). Some earlier efforts to measure the transgender population in probability samples conflated sexual orientation and gender identity in one question with a ‘something else’ response category to the sexual orientation question which led to a question on transgender ([Dahlhamer et al., 2014](#)). Other probability surveys, like NATS, do not yield reliable estimates of the transgender population due to the small size of this population. The 2007-2009 Massachusetts Behavioral Risk Factor Surveillance System (MA-BRFSS) asked adults aged 18-64 if they were transgender and estimated that 0.5 percent of the noninstitutionalized Massachusetts adult population was transgender (Conron et al., 2012). One review which evaluated a variety of sub-national survey estimates of the transgender population, including the MA-BRFSS and the California Health Interview Survey, concluded that the U.S. transgender population was approximately 0.3 percent ([Gates, 2011](#)).

Item non-response – The proportion of respondents who did not know the answer or refused to answer should be evaluated and compared to other questions (OMB, forthcoming; [Dahlhamer et al., 2014](#); NRC,

2013). High nonresponse levels (that is, higher than other sensitive questions) may indicate respondent confusion about the meaning of the question. Variation in nonresponse by other characteristics (such as education level) may indicate bias. Most surveys incorporating SOGI items have not found higher nonresponse rates than other 'sensitive' questions, such as personal or household income ([Dahlhamer et al., 2014](#); Joloza et al., 2010). In addition to examining item non-response rates, evaluation of longer response times to SOGI questions may reveal respondent confusion or uncertainty. Longer response times or pauses are evaluated during qualitative testing prior to fielding the survey but also can reveal issues post survey.

Unit nonresponse – Not all potential respondents will participate in a given survey. Low response rates are of concern, especially if the nonrespondents differ in their characteristics, because the findings may no longer be representative of the target population. If unit response rates indicate potential bias, nonresponse bias analyses should be conducted and weighting adjustments and other techniques used as needed ([OMB, 2016](#); [NRC, 2013](#)).

Data checks – Comparing responses for consistency can identify errors. For example, marital status and the sex of the couple could be compared to sexual orientation responses for consistency. Same-sex couples would be likely to identify as gay, lesbian, or bisexual on sexual orientation questions. If not, then additional investigation to check whether there are response errors should be undertaken. When feasible, surveys should incorporate data checks into the interview process to capture and correct data errors at the time of collection (O'Connell and Feliz, 2011).

V. Conclusion

Federal agencies have expressed interest and enthusiasm for improving the measurement of sexual orientation and gender identity (SOGI). The U.S. Federal Government is interested in better understanding the sexual and gender minority community in order to better serve their needs. This cannot be accomplished without better data on the population. This working paper describes the key concepts, current data measures being utilized, as well as important considerations when choosing a measure for inclusion in a survey. A forthcoming working paper will describe what is known about the reliability and validity of the currently available measures and highlight the methodological questions that remain to be answered.

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Appendix A: Acronyms

Acronym	Term
ACL	Administration for Community Living
ACS	American Community Survey
AHS	American Housing Survey
ACASI	Audio computer-assisted self-interviewing
BRFSS	Behavioral Risk Factor Surveillance System
BJS	Bureau of Justice Statistics
BLS	Bureau of Labor Statistics
BPHC	Bureau of Primary Health Care
CHIS	California Health Interview Survey
CBHSQ	Center for Behavioral Health Statistics and Quality
CDC	Centers for Disease Control and Prevention
CAPI	Computer-assisted personal interview
CATI	Computer-assisted telephone interview
CPS	Current Population Survey
DHHS	Department of Health and Human Services
DOJ	Department of Justice
FDA	Food and Drug Administration
GI	Gender identity
GID	Gender identity disorder
HCPS	Health Center Patient Survey
HRSA	Health Resources and Services Administration
JPSM	Joint Program in Survey Methodology
LGB	Lesbian, gay, bisexual
LGBT	Lesbian, gay, bisexual, and transgender
MCBS	Medicare Current Beneficiary Survey
NATS	National Adult Tobacco Survey
NCHS	National Center for Health Statistics
NHANES	National Health and Nutrition Examination Survey
NHIS	National Health Interview Survey
NIS	National Inmate Survey
NIH	National Institutes of Health
NSFG	National Survey of Family Growth
NSOAAP	National Survey of Older Americans Act Participants
NSDUH	National Survey on Drug Use and Health
OMB	Office of Management and Budget
PAPI	Paper and pencil interview
PATH	Population Assessment of Tobacco and Health
SGM	Sexual and gender minority
SO	Sexual orientation
SOGI	Sexual orientation and gender identity
SSA	Social Security Administration
SAMHSA	Substance Abuse and Mental Health Services Administration
SIPP	Survey of Income and Program Participation

UDS	Uniform Data System
YRBSS	Youth Risk Behavior Surveillance System