

Heterogeneity in Criminal Violent Victimization within the LGBT Population

SUPPLEMENTAL TEXT

IMPROVING THE MEASUREMENT OF SEX, SEXUAL ORIENTATION, AND GENDER IDENTITY IN THE NCVS

The laudable addition of the sexual orientation and gender identity (SOGI) instrument to the NCVS in 2016 has facilitated research on criminal victimization among LGBT individuals. The instrument was implemented building on existing measures (Beatty & Snell, 2021; Conron et al., 2014; Martinez et al., 2017) and after undergoing cognitive pretesting (albeit with a sample of 60 persons and no transgender respondents) (Martinez et al., 2017). As new measures are implemented and inevitable challenges are encountered, it is important to take stock and evaluate whether instruments capture what we want them to capture in the most precise, inclusive, and effective way. Understanding disparities in victimization based on sex, sexual orientation, and gender identity is crucial, but robust and reliable data on these differences requires accurate measures (Bates et al., 2022; Sullivan, 2020; 2023a). Although a good start, our work with the NCVS SOGI instrument made apparent that these measures are non-inclusive, non-exhaustive, and confusing, underscoring the need for further refinement.

In this supplemental section, we discuss limitations to and offer suggestions for refining the SOGI instrument in a manner that expands on the discussion in the main text. Our recommendations are consistent with several guiding principles of data collection, including those outlined in a recent National Academy of Sciences report on the measurement of sex, gender identity, and sexual orientation (Bates et al., 2022). These include: “People deserve to count and be counted (inclusiveness)” and “Use precise terminology that reflects the constructs of interest (precision)” (p. 6). Moreover, our recommendations are rooted in “the basic principle of questionnaire design that a question should not be open to widely different interpretations by different respondents” and that “good questionnaire design takes its lead from common parlance rather than assuming knowledge of technical or disciplinary usage” (Sullivan 2003a, p. 8). Our suggestions are also grounded in the widely accepted view that sex and gender/gender identity are distinct concepts/individual characteristics and should not be conflated (e.g., Bates et al., 2022; Sullivan 2003a). Finally, we are cognizant of the potential disruptiveness of measurement changes to the NCVS given pooling across waves and comparisons across time. Importantly, our recommended measurement approach is compatible with the existing SOGI instrument, with enhanced specificity and inclusivity. With this orienting backdrop we now turn to existing measures, their issues, and our recommendations.

Sexual Orientation Measure

Existing Measure and Backdrop. Typically, sexual orientation is described as having three interrelated components: sexual attraction (same-sex, opposite-sex, both sexes), sexual behavior, and sexual identity (see, e.g., Bailey et al., 2016). The sexual orientation question used in the NCVS was adopted from the National Health Interview Survey (NHIS) and is designed to measure *sexual identity*, “which is how an individual self-identifies as lesbian, gay, bisexual, or straight” (Martinez et al., 2017, p.4; Truman et al., 2019).¹ As noted, sexual orientation is currently measured in the NCVS with the question (V3084): “Which of the following represents how you think of yourself?” Response options include: “Lesbian or gay”; “Straight, that is, not lesbian or gay”; “Bisexual”; “Something else”; and “I don’t know the answer”, with the usual option of “Refused [to answer]”. This measure is recommended for use by Bates et al. (2022) in their recent NAS report, with the addition of a response category “Two-Spirit” that would only be included for those with AIAN [American Indian/Alaska Native] racial identities.

¹ Whether internal, unobservable sexual identity is the component of sexual orientation that should be the focus of surveys like the NCVS, rather than or along with sexual behavior, is an important question that has not been sufficiently addressed. We do not address this issue here.

In Fall of 2015, the Center for Survey Measurement (CSM) at the US Census Bureau conducted cognitive (pre)testing of proposed NCVS measurement changes, including the SOGI measures (Martinez et al., 2017). The stated aim of the cognitive pretesting was conducted to test the “redesign of the 2016 National Crime Victimization Survey’s Supplemental Victimization Survey (NCVS SVS) … used to collect data on stalking victimization” (p.2). “Recruitment efforts concentrated on finding some individuals who had experienced stalking within the past three years” with a diverse population. In our reading, there was no specific emphasis on recruiting LGBT individuals (p. 5), and the cognitive pretesting was designed primarily to test the new stalking questions, not the SOGI instrument (see Martinez et al., 2017). Pretesting results indicated that most respondents were able to easily answer the SOGI questions (Martinez et al., 2017). Follow-up questions were given to the two respondents who answered “Something else” to the question about sexual orientation; one of these said the something else was “heterosexual”; the other said they had a “fluid sexuality”. A follow-up question designed to be administered to those who answered “Don’t know” was not asked to any respondents because none answered as such. Martinez et al. (2017) suggested dropping both follow-up questions largely due to the paucity of respondents who would be asked these questions. These questions were subsequently dropped from the NCVS survey protocol.

Subsequent testing of the SOGI instrument was conducted after the initial administration of the SOGI questions with ~900 NCVS interviewers in August and September 2016 (see Truman et al., 2019). This work uncovered that a non-trivial percentage of interviewers – roughly 9% – reported that at least some respondents “had difficulty answering” the sexual orientation question (Truman et al., 2019, p.842). Additionally, some interviewers perceived that some respondents felt their identity was not captured in the response categories. This violates basic principles of good questionnaire design, such as: “Everyone should be able to see themselves, and their identities, represented in surveys and other data collection instruments” (Bates et al., 2022, p.6). Fortunately, we believe these deficits are addressable, but first we highlight these deficits more explicitly.

First, the response options are unnecessarily narrow and non-inclusive (see also, Morgan et al., 2020; Ridolfo et al., 2012). For example, there is no response option for those who identify as asexual or pansexual. Individuals who identify as such may have trouble answering and opt to select “Something else”. They might also select “I don’t know the answer” and be lumped in with people who are questioning or uncertain about their sexuality. In the pooled 2017 to 2019.5 data, more than 700 (.28%) respondents chose “Something else” and ~1200 respondents (.48%) chose “I don’t know the answer”. Although only a small percentage of the total sample—roughly three-fourths of one percent—combined, this group accounts for about one out of every four respondents (~25%) who responded as something other than “Straight that is not lesbian or gay” or “Refused”. Ultimately, the use of limited response options combines heterogeneous groups, wastes analytic information, and, in some cases, results in the undesirable exclusion of respondents from analyses (e.g., Truman & Morgan, 2022) because they do not see themselves in the response options. What is more, research suggests that limited response options in SOGI instruments can substantively influence findings. For example, West and McCabe (2021) found that minor differences in response options about sexual orientation significantly influenced findings about the link between sexual orientation and substance use.

Recent years have seen an expansion of labels around sexuality. These new labels and identities capture or reflect variation in sexuality beyond that of tradition conceptions of sexual orientation as the sex or gender of the persons to whom one is attracted (e.g., Bates et al., 2022; Jones, 2021; Stock, 2019). Some labels reflect the circumstances under which a person feels sexual attraction. For example, the newer identity label demisexual refers to those who only experiences sexual attractions after developing an emotional connection. The label aromantic is used by those who identify as lacking romantic attraction to others, and romantic attraction can vary independently of sexual attraction. These identity labels capture dimensions of sexuality (or romantic attraction) that are distinct from sexual orientation as

traditionally defined; thus, demisexual and aromantic people can be heterosexual, bisexual or pansexual, gay or lesbian, or asexual. The sexual orientation in the NCVS is concerned with sexual orientation as defined by the sex/gender of the persons to whom one identifies as being sexually attracted. Given this, the question should specify the dimension of sexuality or sexual orientation that is of interest, so that people who may, for example, identify primarily or more specifically as demisexual but are bisexual in sexual orientation do not select “None of the above” and get excluded from the research.

Additionally, as others have noted, the response option “Straight, that is not lesbian or gay” is misleading. A bisexual or pansexual is not straight, but they are also not lesbian or gay”. This response option should be clarified, given some evidence it has caused confusion (Truman et al., 2019) or misclassification, disproportionately among certain population subgroups (e.g., Latinos/Hispanics or individuals of lower SES) (e.g., Ridolfo et al., 2012).

Recommendations. Given the foregoing challenges discussed, we propose revising the sexual orientation question as follows: “Which of the following *best* describes how you identify your sexual orientation based on the sex or gender of the persons to whom you are sexually attracted?” We also propose expanding the response options to be more exhaustive/inclusive as follows: “Lesbian or gay”; “Straight or heterosexual, meaning attracted to the other sex only”; “Bisexual or pansexual²”; “Asexual”; “Questioning or I’m not sure yet”; “Something else”; “Refuse”. For those who initially respond, “Something else”, we would encourage consideration of a follow-up question that asks them *to pick a best fit category*. For example: “Our aims in this study are to group categories of people who share similar experiences based on different characteristics. Can you pick a best-fit group, and then I can record the specific identity that better describes you?” (using an open-ended follow-up question).

Additionally, given that identities, *per se*, are not visible to others, we more tentatively propose for consideration the addition of another question given that sexual orientation identity is typically unobservable. This question might be worded as follows: “Are you out or open with your sexual orientation? That is, do others in your day-to-day life, such as at school or work, in your neighborhood or community, know your sexual orientation?” Response categories include: “Yes”, “Somewhat”, “No”; “I’m not sure”. This information will allow researchers to ascertain whether this sexual orientation is known (or believed to be known) to others, and, thus, potentially serve as a source of disparate treatment for sexual orientation minorities, including criminal victimization.

The costs of these changes are minimal. First, and perhaps most importantly, individuals could still be regrouped into the original classifications based on their responses for pooled analyses across years, which is particularly important in these early years while the LGBT subgroups remain relatively small. Second, the gains from the addition of a few more response categories easily outweigh the costs in terms of time and effort to gain more precise information, in our view. Third, the addition of a new question about whether one’s minority sexual orientation is known is short and straightforward. The follow-up question for those who originally responded with “Something else” to the sexual orientation and the recording of their specific identity will take more effort; however, we believe the advantages of being inclusive while also not having people relegate themselves to a heterogenous “other” (something else) category that is often difficult to analyze is worth this effort (see Bates et al., 2022). Plus, this follow-up question will only be asked to a small proportion of respondents (<2% based on existing data).

Gender Identity and Sex Measures

Existing Measure and Backdrop. The NCVS’s gender identity instrument is “used to classify people as transgender (gender identity is different from their sex at birth) or cisgender (gender identity is the same

² Alternatively, bisexual and pansexual might be disaggregated, and researchers may combine them or not based on research questions.

as their sex at birth” (Truman & Morgan, 2022). Laudably, the NCVS was the first national household-based survey to include a gender identity measure (Truman et al. 2019). The NCVS employs a two-stage question adopted from the California Health Inventory Study (CHIS, 2018) following recommendations from the Gender Identity in U.S. Surveillance Group (GenIUSS Group, 2014). Although a recent National Academy of Sciences report reiterated support for the ‘two-stage’ measure (Bates et al., 2022), we believe this instrument leaves much to be desired in terms of accuracy, precision, and inclusivity.

In the first stage, individuals are asked: “What sex were you assigned at birth, on your original birth certificate”, with response options including: “Male”, “Female”, “Refused”, and “Don’t know”. This is followed by a question: “Do you currently describe yourself as male, female or transgender?”. Response options are: “Male”, “Female”, “Transgender”, “Don’t know”, or “None of these”.³ For individuals who respond with a sex/gender mismatch or with “Transgender” to the second question, the NCVS includes a confirmation question to confirm the responses as follows: “Just to confirm, you were assigned [male/female] at birth and now [describe yourself as male/female/transgender]. Is that correct? Response options include: “Yes, correct” (83%), “No, not correct” (9%), “Refused” (5.5%), “Don’t know” (2.5%) (Truman & Morgan, 2022).

As noted, following prior studies, we classified respondents as transgender if they identify as transgender or if their response to the sex at birth question differs from “how they currently describe themselves”, unless they reported “None of these” (in which case they were excluded) (e.g., Flores et al. 2020, 2021). This measure has several weaknesses, which we discuss next. Notably, this two-stage measure was also cognitively pretested before being implemented in the NCVS, but none of the respondents in pretesting identified as transgender or reported a sex-gender identity mismatch (Martinez et al., 2017). In the aforementioned study of interviewer experiences with the SOGI instrument, Truman et al. (2019) found that roughly 4% of NCVS interviewers reported that respondents “had difficulty answering the gender identity questions,” and 39% of interviewers “reported at least one respondent having a negative reaction” to the questions (p. 842). This suggests the need for continued efforts at improvement (Bates et al., 2022) given several limitations, which we discuss next.

First, the language used in these questions is confusing. Specifically, sex terms (male, female) are used as response categories for both the sex and gender identity questions.⁴ Although sometimes used interchangeably, sex and gender/gender identity are distinct concepts (Bates et al., 2022; Sullivan et al., 2023a). Sex is widely understood to refer to the human classification as male or female, an innate characteristic determined by genetic factors. Whereas “gender is a social construction whereby a society or culture assigns certain tendencies or behaviors to the concepts of masculinity and femininity. Terms such as ‘transgender,’ ‘non-binary,’ and ‘gender nonconforming’ all refer to gender [identity], not sex” (US Census Bureau, 2021).⁵ Conflating these terms could impede accurate measurement by promoting misunderstanding or non-response (also Sullivan, 2023). Indeed, one evaluation of the two-stage SOGI measure, which contained eight transgender respondents, noted that some respondents had difficulty with or were dissatisfied with response options given that “male and female were biological concepts of sex

³ Curiously, although respondents are given the option to “Refuse” to answer the question for sexual orientation and the question about their sex at birth, they are not given the option to refuse the question on gender identity.

⁴ Reflecting this confusion, the variable label for the measure of biological sex (at birth) (V3085) is “gender identity at birth,” which is conceptually incoherent.

⁵ Some studies/reports have cited the Martinez et al. (2017) study in support of the claim that “Sex labels such as male or female are preferred over gender labels such as man or woman” (e.g., Morgan et al., 2020, p.12). However, the Martinez et al. (2017) cognitive pretesting study was conducted with a small sample that did not include any transgender respondents, and, no less important, most respondents were agnostic on the issue.

and not exclusive from gender identities” (Ellis et al., 2018, p. 28). It is, of course, a basic principle of good survey design to use clear terminology and use it consistently (Sullivan et al., 2023a).

These terminological challenges are further exacerbated by the fact that the two-stage question does not specifically ask about ‘gender identity’ or being transgender, but instead ‘how you currently describe yourself’. Given the goal of identifying transgender respondents, asking individuals how they “describe themselves” without specifying gender or gender identity is unnecessarily vague. So too is the phrasing “describe oneself” instead of self-identify. How we describe ourselves can vary across audiences (e.g., to family, to colleagues, to romantic partners, to best friends, to self, to random interviewers on the phone, etc.).

An additional challenge arises due to the sex question’s asking about one’s sex “assigned at birth”; this wording acknowledges the fact that some individuals with differences in sexual development (DSD; sometimes called ‘intersex’) conditions can have their sex misidentified at birth and recorded on their birth certificate.⁶ Importantly, having a DSD condition is *not the same thing* as being transgender, and the stated goal of this two-step question is to identify transgender respondents. However, by using the “assigned” language on birth certificates, this measure would *wrongly* classify people with DSD conditions who were *misassigned* their sex at birth as being transgender. Again, the purpose of this question is to measure *biological sex* to identify people who are *transgender*, not people who have a DSD condition. To be sure, sex misassignment at birth due to DSD conditions is increasingly rare; thus, this issue will only affect a minuscule proportion of respondents. However, given that the transgender population is also small, these classification issues are important. As Scout and Gates (2014) noted: “Even small errors in the general population that lead to misclassification of some respondents as [transgender] can result in samples that include a large portion of respondents who are not actually transgender... (i.e., ‘false positives’).” For these reasons, we recommend the removal of the “assigned at birth, on your original birth certificate” language, which should eliminate the need for an “I don’t know” response category.

Particularly important, the restricted response options are non-inclusive/exhaustive and result in loss of information. The range of gender identities has expanded in recent years, especially non-binary or agender identities, which are not included (see Bates et al. 2022 for a review). Empirical evaluations of this measure have noted that “some respondents did not see themselves in the response categories offered” (Ellis et al., 2018; p.28). Indeed, the proportion of NCVS respondents who identify as transgender or are classified as such by the sex-gender mismatch question is roughly equal to the proportion of individuals who answer, “None of these”. In all years, the proportion of individuals classified as transgender by the two-stage question is less than the proportion who answer with “None of these” or “Don’t know”. Respondents who fall in these residual categories are likely to be a heterogenous group of individuals who identify as another gender identity (e.g., non-binary or agender) and are part of the transgender population on most conceptualizations as well as respondents who respond in this way due to being “generally offended and not wanting to answer the gender identity question” (Truman et al., 2019, p.844; also, Ellis et al. 2018; Morgan et al., 2020). Since the goal is capturing individuals who are transgender under an inclusive definition, these response categories are inadequate. As West and McCabe (2021) articulated:

⁶ For example, genetic males with the rare genetic condition 5-alpha reductase deficiency (5-ARD) are born with external genitalia that may appear female or ambiguous due to a genetic mutation in the *SRD5A2* gene, which is involved in male sexual development (Chan et al., 2013). This mutation prevents steroid 5-alpha reductase 2 from effectively converting testosterone to DHT, which interferes with the typical formation of external genitalia before birth. Individuals with 5-ARD may be assigned female at birth but may identify as or become recognized as male at or after puberty. The point is that having a DSD condition could produce a mismatch between recorded sex at birth and actual sex; however, having a DSD condition is distinct from being transgender.

Researchers may avoid providing additional response options or including a something else category because including them can make a dataset more challenging to manage and/or analyze. However, they do so to the detriment of understanding more clearly the actual relationships between these identity groups (of individuals who actually identify with these labels) and their outcomes of interest. Inaccurate estimation of differences in outcomes between these identity subgroups could have wide-ranging implications for public health, including the accurate identification of high- and low-risk subgroups, the development of interventions, and the shaping of policies and laws (p.348).

We would also note that this two-stage measure is also problematic as it is used to classify individuals as transgender who do not identify (or ‘self-describe’) as such (and may instead have a reported ‘sex assigned at birth’ – ‘how you currently think of yourself’ mismatch due to a DSD condition). This departure from self-identification is at odds with how other sociodemographic variables are measured, and we have not seen a justification for such a unique measure.

A final limitation with the measurement of sex and gender identity in the NCVS relates to the measure of the “sex” variable typically used in NCVS research (V3018). The BJS recommended variable for ‘sex’ is in the household respondent survey. However, it is unclear whether the household respondent reports sex or gender identity. This can pose an issue for analyses, given, as noted, some respondents, disproportionately those who identify as transgender (~19%), refuse to answer the biological sex question. For example, take a respondent whose household respondent identified them as female, who refused the sex at birth question, and answered ‘transgender’ for the gender identity question. We have no way of knowing whether this respondent is a trans-identified male (sex: male, gender identity: (trans)woman, non-binary, agender) or a trans-identified female (sex: female, gender identity: (trans)man, non-binary, genderqueer, etc.) because the current survey instrument does not provide sufficient information for this classification. This precludes our ability to ask important questions about the nuanced experience of the range of social groups under the transgender umbrella, potentially relevant to differences violent victimization (see discussion in the main text).

Given these limitations, we offer several suggestions to improve the measurement of gender identity/transgender status and sex. Following others, we believe that it is necessary to measure both sex and gender identity (e.g., Sullivan 2023a). Some suggest that we should avoid measuring sex except in limited cases “where information about sex traits is relevant” (e.g., Bates et al., 2022, p.8).⁷ Whether or not one agrees with that position, we argue that for violent victimization outcomes, which includes rape and other sexual assaults, sex and ‘sex traits’ are indeed relevant. However, we wish to reiterate that our aim is to stimulate a discussion around revising these measures, and we offer these recommendations as a starting point.

Recommendations. First, we suggest the household respondent be asked about both the sex and gender identity/status of household members, i.e., whether a household member expresses, lives, or presents themselves as man/boy, girl/woman, non-binary/genderqueer/agender, or something else. This question, which might be called *gender status*,⁸ could be worded as follows: “Which of the following best

⁷ This position which prioritizes gender identity over sex and minimizes the relevance of sex appears to be rooted in a definition of sex as “sex traits” rather than as an individual’s sex, *per se* (see, e.g., Thornton et al., 2022; Bates et al. 2022). For a clear discussion of the view that biological sex is not the same thing as sex traits (see, Hilton et al., 2021; Hilton & Wright, 2023).

⁸ The term status is proposed in recognition of the fact that “statuses can change over time and people’s gender identities can and do shift across the life course” (Reisner et al., 2014).

describes [respondent]?". Response categories might include: "Man, including trans-men"; "Woman, including trans-woman"; "Non-binary, genderqueer, agender, gender fluid, Two-Spirit"; "Not sure"; "Something else". With this question, we would not only get more precise and consistent information—i.e., all respondents reporting gender status rather than a mix of gender identity and sex—but also we would have the added benefit of capturing how other people in the respondents' lives classify them. This question would be followed with a question about the respondents "sex at birth" with response categories: "Male", "Female", or "I don't know".

The two-stage measure of gender identity would be replaced with distinct measures of sex and gender identity. First, respondents could be asked: "*What is your biological sex, as the sex that you were born?*". Response categories include "Male" or "Female". Although some may suggest the inclusion of an "intersex" category, following others, we do not suggest this for several reasons (e.g., Sullivan, 2020, 2023). First, 'intersex' is not included as an option on birth certificates, as having a DSD condition⁹ is not a third sex.¹⁰ Additionally, in recent years intersex has become used as an identity among people who do not have DSD conditions (Conron et al., 2014), and this is a measure of biological sex not self-identification.

Given the goal of identifying those who are transgender—defined as those who adopt a gender identity or expression that does not match their sex (see Truman et al., 2019)—we suggest revising the gender identity question as follows: "*Which of the following best describes your gender identity?*" Response categories include: "Transgender or gender minority" and "Cisgender or not transgender". Those who respond "Transgender or gender minority" are then asked two follow-up questions. First, "Which of the following *best* characterizes your gender identity?": "Woman, Trans-woman, Trans-feminine, or Transsexual male-to-female"; "Man, Trans-man, Trans-masculine or Transsexual female-to-male"; "Non-binary, Genderqueer, Agender, Gender fluid, Two-Spirit"; or "Something else". As with sexual orientation, something else response would be followed up with encouragement to identify a best-fit category along with an open-ended question where respondents could state the identity not mentioned. Finally, those who indicate that that are "Transgender" might be asked whether others know that they are transgender. "Do others in your day-to-day life, such as at school or work, in your neighborhood or community, know you are transgender or a gender minority?" Response categories include: "Yes", "Somewhat", "No"; "I'm not sure".

We previously noted that the current NCVS SOGI instrument includes the option to refuse the question about one's sex at birth but does not offer the option to refuse the question about one's current gender identity. We are perplexed by this difference, which is not justified. Insofar as one is given the option to refuse the sex at birth question, then one should be given the option to refuse the gender identity question. In general, we believe that offering the option to refuse to answer any question is appropriate.

⁹ More than 15 years ago, a group convened at the "International Consensus Conference on Intersex" in Chicago to replace "particularly controversial terms" including "intersex, pseudohermaphroditism, hermaphroditism, sex reversal, and gender-based diagnostic labels," which were criticized for being stigmatizing and imprecise (Dreger et al., 2005; Houk et al., 2005). The group proposed the umbrella term Disorders of Sex Development and its acronym DSD as a term for "congenital conditions in which the development of chromosomal, gonadal, or anatomical sex is atypical" (Hughes et al., 2006). The new terminology has also been criticized as stigmatizing; one approach has been to use DSD as an acronym for Differences/Divergences/Diverse Sex Development (see Bennecke et al., 2021)

¹⁰ A minuscule portion of DSD conditions involves sex chimerism with both male/female sex tissues (sometimes called "true hermaphroditism" with ovarian and testicular tissue). Notably, individuals with sex-discordant chimerism "can have a normal male or female phenotype" and are often "discovered accidentally, for example, during a routine blood test" (Madan, 2020, p.1). Notably, "relatively few chimeras have been reported in almost 70 years since the first discovery," making such cases far too low in prevalence to be amenable for analyses or measurement in a general population survey like the NCVS, in any case (Madan, 2020, p.6).

As with sexual orientation, we believe the costs to implement these changes to the measurement of gender identity/transgender status and sex are minimal and, in our view, far outweighed by the benefits. The addition of a few more response categories requires only a minimal increase in effort, especially given the relative scarcity of individuals who will be asked this question. This effort is offset by the clarity gained and the ability to avoid several undesirable and unnecessary features of the current measurement, particularly, classifying individuals as ‘transgender’ those who do not identify as transgender and report a sex-assigned-at-birth—gender identity mismatch. These changes would also allow us to identify and compare the experiences of transwomen, transmen, and people with other transgender identities rather than lumping them into a heterogenous “transgender category”. With these changes, we believe the measurement of sexual orientation and gender identity in the NCVS would be enhanced in numerous ways and with it our understanding of heterogeneity in victimization within the LGBT population, which has relevance for science and society.

Conclusion

Sex, sexual orientation, and gender identity are important characteristics related to criminal victimization and a variety of social and health outcomes. Fortunately, these characteristics are now being routinely incorporated into population surveys, allowing us to gain more insight into the unique experiences and challenges among the LGBT population. Unfortunately, however, currently recommended and widely used SOGI instruments are deficient in numerous ways. In particular, the questions are unnecessarily vague, and response options are non-inclusive and use confusing terminology. Consequently, these measures do not allow for sensitivity or specificity in identifying individuals with shared characteristics to identify patterns of exposures and responses. We concur with those who recognize the need to improve these measures, and we offer unique suggestions to improve measurement based upon the widely shared principles, recognizing the need for precision and accuracy in survey measurement and the use of plain language so that respondents can understand. We can and should improve these measures because: “Better measurement of sex, gender identity, and sexual orientation will also improve the ability to identify sexual and gender minority populations and understand the challenges they face” (Bates et al., 2022, p.1).

References

Bailey, J. M., Vasey, P. L., Diamond, L. M., Breedlove, S. M., Vilain, E., & Epprecht, M. (2016). Sexual orientation, controversy, and science. *Psychological Science in the Public Interest*, 17(2), 45-101.

Bates, et al. and National Academies of Sciences, Engineering, and Medicine. (2022). *Measuring sex, gender identity, and sexual orientation*.

Beatty, L. G., & Snell, T. L. (2021). Profile of prison inmates, 2016. *Bureau of Justice Statistics, December*.

Bennecke, E., Köhler, B., Röhle, R., Thyen, U., Gehrmann, K., Lee, P., . . . Wiesemann, C. (2021). Disorders or differences of sex development? Views of affected individuals on DSD terminology. *The Journal of Sex Research*, 58(4), 522-531.

Chan, A. O. K., But, B. W. M., Lee, C. Y., Lam, Y. Y., Ng, K. L., Tung, J. Y. L., . . . Lam, A. L. N. (2013). Diagnosis of 5 α -reductase 2 deficiency: is measurement of dihydrotestosterone essential? *Clinical Chemistry*, 59(5), 798-806.

CHIS (California Health Interview Survey). (2018). *CHIS (California Health Interview Survey)*. Retrieved from Los Angeles: <http://healthpolicy.ucla.edu/chis/design/Pages/questionnairesEnglish.aspx>

Conron, K., Lombardi, E., & Reisner, S. (2014). Identifying transgender and other gender minority respondents on population-based surveys: Approaches. *Best Practices for Asking Questions to Identify Transgender and Other Gender Minority Respondents on Population-Based Surveys*. Los Angeles, CA2014, 9-18.

Dreger, A. D., Chase, C., Sousa, A., Gruppuso, P. A., & Frader, J. (2005). Changing the nomenclature/taxonomy for intersex: A scientific and clinical rationale. *Journal of Pediatric Endocrinology and Metabolism*, 18(8), 729-734.

Ellis, R., Virgile, M., Holzberg, J., Nelson, D. V., Edgar, J., Phipps, P., & Kaplan, R. (2018). *Assessing the feasibility of asking about sexual orientation and gender identity in the current population survey: Results from cognitive interviews*. Retrieved from <http://www.census.gov/content/dam/Census/library/working-papers/2018/adrm/rsm2018-06.pdf>

GenIUSS Group. (2014). *Best Practices for Asking Questions to Identify Transgender and Other Gender Minority Respondents on Population-Based Surveys*. Retrieved from Los Angeles: <https://williamsinstitute.law.ucla.edu/wp-content/uploads/geniuss-report-sep-2014.pdf>

Hilton, E., Thompson, P., Wright, C., & Curtis, D. (2021). The reality of sex. *Irish Journal of Medical Science* (1971-), 190(4), 1647-1647.

Hilton, E., & Wright, C. (2023). Two Sexes. In *Sex and Gender* (pp. 16-34): Routledge.

Houk, C. P., Lee, P. A., & Rapaport, R. (2005). Intersex classification scheme: A response to the call for a change. *Journal of Pediatric Endocrinology and Metabolism*, 18(8), 735-738.

Hughes, I. A., Houk, C., Ahmed, S. F., Lee, P. A., & Society, L. W. P. E. (2006). Consensus statement on management of intersex disorders. *Journal of pediatric urology*, 2(3), 148-162.

Jones, J. M. (2021). LGBT identification rises to 5.6% in the latest U.S. estimate. *Gallup*. Retrieved from <https://news.gallup.com/poll/329708/lgbt-identification-rises-latest-estimate.aspx>

Madan, K. (2020). Natural human chimeras: A review. *European Journal of Medical Genetics*, 63(9), 103971.

Martinez, M., Henderson, A., Luck, J., & Davis, M. C. (2017). Cognitive pretesting of the national crime victimization survey supplemental victimization survey. *Survey Methodology*, 03.

Morgan, R. E., Dragon, C., Daus, G., Holzberg, J., Kaplan, R., Menne, H., & Spiegelman, M. (2020). Updates on terminology of sexual orientation and gender identity survey measures (fcsm 20-03). *Federal Committee on Statistical Methodology*.

Reisner, S. L., Conron, K. J., Tardiff, L. A., Jarvi, S., Gordon, A. R., & Austin, S. B. (2014). Monitoring the health of transgender and other gender minority populations: validity of natal sex and gender identity survey items in a US national cohort of young adults. *BMC public health*, 14(1), 1-10.

Ridolfo, H., Miller, K., & Maitland, A. (2012). Measuring sexual identity using survey questionnaires: How valid are our measures? *Sexuality Research and Social Policy*, 9, 113-124.

Sullivan, A. (2020). Sex and the census: why surveys should not conflate sex and gender identity. *International Journal of Social Research Methodology*, 23(5), 517-524.

Sullivan, A. (2023). A big ask: Sex and data collection. *Significance*, 20(1), 06-09.

Thornton, S., Roy, D., Parry, S., LaLonde, D., Martinez, W., Ellis, R., & Corliss, D. (2021). Best Practices for Collecting Gender and Sex Data. *arXiv preprint arXiv:2103.09647*.

Truman, J. L., & Morgan, R. E. (2022). *Violent Victimization by Sexual Orientation and Gender Identity, 2017-2020*: US Department of Justice, Office of Justice Programs, Bureau of Justice

Truman, J. L., Morgan, R. E., Gilbert, T., & Vaghela, P. (2019). Measuring sexual orientation and gender identity in the National Crime Victimization Survey. *Journal of Official Statistics*, 35(4), 835-858.

West, B. T., & McCabe, S. E. (2021). Choices matter: How response options for survey questions about sexual identity affect population estimates of its association with alcohol, tobacco, and other drug use. *Field methods*, 33(4), 335-354.