Transgender and Alternative Gender Measurement on the 2018 General Social Survey

Tom W. Smith

Jaesok Son

NORC at the University of Chicago

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Increasingly in recent years both social scientists and public health researchers have become increasingly aware that gender is not a simple dichotomous variable and a fuller measurement needs more refined coding than a simple and restricted use of male/female or man/woman (Conron qt al., 2012; Herman, 2014; Meerwijk and Sevelius, 2017; Westbrook and Saperstein, 2015). Especially of interest is the coding of those who are transgendered and/or those having other alternative gender identifications (e.g. intersex, non-binary, genderqueer).

To examine this issue the 2018 General Social Survey (GSS) included items measuring transgender and alternative gender identity. Two questions about gender identity were added at the end of the GSS's standard self-administered questionnaire (SAQ) that asks about sexual behavior, drug use, and sexual orientation (see below):

The SAQ starts with the following:

> Now we would like you to complete a brief questionnaire on your own.
>
> Remember that all of your answers are completely confidential. They will not be associated with your name in any way, and will be published in summary form only. If there is a question that you don't want to answer, just press the F7 function key. When you've answered the last question, you'll see a screen that says 'Questionnaire Complete' and you can turn the computer back to me.
>
> Do you have any questions?

After a training session about how to use the laptop computer to answer questions, respondents were told the following:

> There is a great deal of concern today about the AIDS epidemic and how to deal with it. Because of the grave nature of this problem, we are going to ask you some personal questions and we need your frank and honest responses. Your answers are confidential and will be used only for statistical reports.

Respondents then answered the SAQ questions ending with the two new questions on gender identity.[1]

> What sex were you assigned at birth? (For example, on your birth certificate.) **SEXBIRTH**
>
> O Female
> O Male
> O Intersex
>
> What is your current gender? **SEXNOW**
>
> O Woman
> O Man

[1] For SAQ content see page 274-280 at http://gss.norc.org/Documents/quex/GSS2018%20Ballot%202%20-%20English.pdf

O Transgender
O A gender not listed here (please specify:_____)

A total of 1,409 respondents completed the SAQ on the 2018 GSS. Nine cases were identified as indicating transgender or other alternative gender designations:

1 case coded Intersex at birth

2 cases coded as Transgender now

1 case coded as "gender not listed here" now and then specified as "non-binary"

5 cases in which gender at birth did not match gender now (2 male to female switches and 3 female to male changes)

When weighted for sample design effects, this comes to 0.49% of cases being transgender/alternative gender.

This of course assumes that there is no measurement error and that all of the 9 transgender/alternative gender report and 1400 cisgender reports are accurate. But except for the one case in which "a gender not listed here" was selected on SEXNOW and the verbatim "non-binary" was then entered, all of the other 8 cases with various types of transgender or alternative gender designations could be the result of data-entry error. The most likely cause for such an error is random data-entry error when an adjoining category is clicked on inadvertently. (Data entry was made via the use of either a mouse or a trackpad. The laptops were equipped with both.) But other possible causes are limited literacy, other cognitive impairments (e.g. dyslexia), poor eyesight, dexterity limitations, unfamiliarity with the laptop, and mischievous intent. Miscodes could occur if the wrong gender was entered for SEXBIRTH or SEXNOW inadvertently changing male-male to male-female or female-male or female-female to female-male or male-female. Previous work on miscoding of the variable SEX on the GSS (Smith, 2005; 2009) has found essentially random coding/entry error in the 0.28-0.5% range.[2] The higher rate involved a disagreement between two panel waves. A misentry in either wave creates a discrepancy, so the level of up to 0.5% is very consistent with the 0.28% based on a single misentry possibility.

Given this previously documented error rate, of the 1,409 cases answering the gender identity questions, one would expect between 3.9 and 7 miscoded cases on SEXBIRTH or SEXNOW. If such an error rate occurred, it could account for many to almost all of the transgender or alternative gender cases.

While such essentially random miscodes could both change cases that were transgender/alternative gender into false cisgender cases or wrongly change cisgender cases into errant transgender/alternative gender cases, the latter is much more likely since all research indicates that the transgender/alternative gender population is less than 1% (Conron et al., 2012; Flores et al., 2016; Grant et al., 2015; Herman, Wilson, and Becker,2017; Meerwijk and Sevelius, 2017). Given this, random

[2] For consideration of miscodes and missing data on these measures see Bauer et al. (2017) and Grant et al. (2015).

miscodes would increase false transgender/alternative cases much more than it would reduce the true number of transgender/alternative gender cases.

Of the five gender switching cases, four had their gender designation on SEXNOW agree with the information from SEX (as coded by the interviewer), gender coding in the household enumeration form (HEF) (as indicated by the HEF informant), gender indications (e.g. gendered first names and gendered pronouns) in the HEF and records of calls, and gender Information from the sexual behavior items in the SAQ (e.g. if respondents indicated that they were heterosexual and had only female sexual partners, they are assumed to be male). For one case gender on SEXNOW disagreed with the gender consistently recorded in the HEF, the observation of interviewer (SEX), and according to other information that the respondent provided in the SAQ. That makes this gender switching case highly suspect. The other four cases that agreed on SEX and SEXNOW, but there is no possible check on the accuracy of the SEXBIRTH coding for these cases.

Some transgender/alternative gender cases might be hidden among item nonresponse. 8 people did not answer both SEXBIRTH and SEXNOW, 4 people did not answer SEXBIRTH, but answered SEXNOW, and 0 were missing on SEXNOW and had data on SEXBIRTH. Of the 8 cases missing on both, 7 had stopped answering SAQ questions well before the two gender identity questions appeared at the end of the SAQ. Thus, not answering the gender questions was part of a general high level of item-level non-response and not directly tied to the gender-identity items. Many of these respondents broke-off doing the SAQ and probably never even saw the gender-identity items. The 8th case generally answered the SAQ items, but then gave no answers for sexual orientation (the preceding question) and then the gender identity questions. This would be the most plausible case for someone not wishing to indicate a transgender/alternative gender identity. Of the 4 cases that answered SEXNOW, but didn't answer SEXBIRTH, 1 had declined to answer any of the SAQ questions except sexual orientation and SEXNOW and 3 did not answer sexual orientation nor most of the sexual behavior questions. Thus, the non-response to SEXBIRTH was part of a high level of item non-response to the whole SAQ. For them, answering SEXNOW was more atypical than skipping SEXBIRTH. Thus, while it is certainly possible that some of the 12 cases with totally or partially missing information on the gender identity items could have included hidden transgender/alternative gender cases, the pattern of item non-response does not strongly indicate that this occurred.

While the level of transgender/alternative gender adults in the United Sates is very consistent with the level of 0.3-0.6% reported on other surveys, it is also consistent with random coding/entry errors levels of 0.28-0.5% found on measures of SEX in prior GSS rounds. Of the 9 detected cases, one is highly suspect and another one is highly creditable since it is based to a verbatim response. The other 7 cases have nothing explicitly suspicious about them, but rely to a single data entry click and show a level that is consistent with that produced by known-levels of coding/entry error. To better delineate between these two possible explanations for the reported levels, the GSS is considering adding an item on the 2020 GSS that would verify the reports of gender switching (Bauer et al., 2017). For example, the Federal Interagency Working Group on Improving Measurement of Sexual Orientation and Gender Identity in Federal Surveys (Federal, 2019) proposes asking gender switchers a follow-up question "Just to confirm, your sex was recorded as {male/female} at birth and you now describe yourself as {male/female/transgender/none of these}. Is that correct?"

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