



England's GP Patient Survey Provides Unreliable Data on Transgender Adults

Michael Biggs¹

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Two recent articles analyze the health of transgender people in England using the GP Patient Survey (Saunders et al., 2023; Watkinson et al., 2024). This annual survey samples hundreds of thousands of adults—aged 16 years and over—who are registered with a General Practitioner. Registration enables access to free primary health care provided by the National Health Service and is available to all residents, including illegal immigrants. Therefore, the GP Patient Survey is close to a sample of the adult population. From its inception in 2007, the survey had asked “Are you male or female?” This question on sex was replaced in 2021 by two questions on gender. The first is “Which of the following best describes you?” This is followed by “Is your gender identity the same as the sex you were registered at birth?” Table 1 shows the distribution of answers in the 2021 survey. Both questions originated with transgender campaigning organizations. The first was adapted from the Scottish Transgender Alliance (McNeil et al., 2012). The second question was taken from the 2021 Census of England and Wales, which in turn had derived it from a question invented by Press for Change (2007).

Saunders et al. (2023) used the 2021 GP Patient Survey to analyze the health of more than 6,000 “trans and non-binary” respondents. This subsample (the bold figures in Table 1) was defined as those who either chose non-binary or prefer to self-describe for the first question or stated that their gender identity was not the same as their natal sex in the second question. This trans and non-binary subsample comprised 0.9% of the total, a remarkably high proportion.¹ By my calculation, 42% of the respondents in this subsample answered the first gender question with non-binary or prefer to self-describe (GP Patient Survey, 2024). They certainly belong in the subsample. The remainder of the subsample,

however, answered the first question with either female or male (or prefer not to say) and were classified as transgender only because they answered the second question in the negative. I will argue below that many of them have been erroneously classified as transgender because they misunderstood the second question. Watkinson et al. (2024) combined the 2021 and 2022 surveys to analyze the mental health of 15 subsamples defined by every permutation of answers to the two gender questions. One group consisted of respondents who described themselves as non-binary while also—paradoxically—affirming that their gender identity matched their birth sex. This group was not small, numbering over 1,300 respondents altogether in 2021 and 2022.

The questions introduced in 2021 have two major problems. Most obviously, they do not elicit information on the respondent's sex. Although it may be inferred for some combinations of answers, sex is unknown for respondents who chose non-binary or prefer to self-describe. Therefore, the multivariate analyses of Saunders et al. (2023) and Watkinson et al. (2024) could not include sex as a covariate. This meant ignoring the pervasive differences between males and females in physical and mental health outcomes (Sullivan et al., 2023).

Less obviously, the second gender question—“Is your gender identity the same as the sex you were registered at birth?”—is liable to elicit a negative answer from respondents who do not understand the question, and these erroneous responses will inflate the numbers classified as transgender (Biggs, 2024). When a variant of the question (“... same as the gender you were assigned at birth?”) was tested on a transgender focus group, they “accepted that non-trans people would not understand the question, especially if first language [sic] was not English” (Balarajan et al., 2011, pp. 60–61). Predictably, this question led to numerous implausible results in the 2021 Census. Adults who did not speak

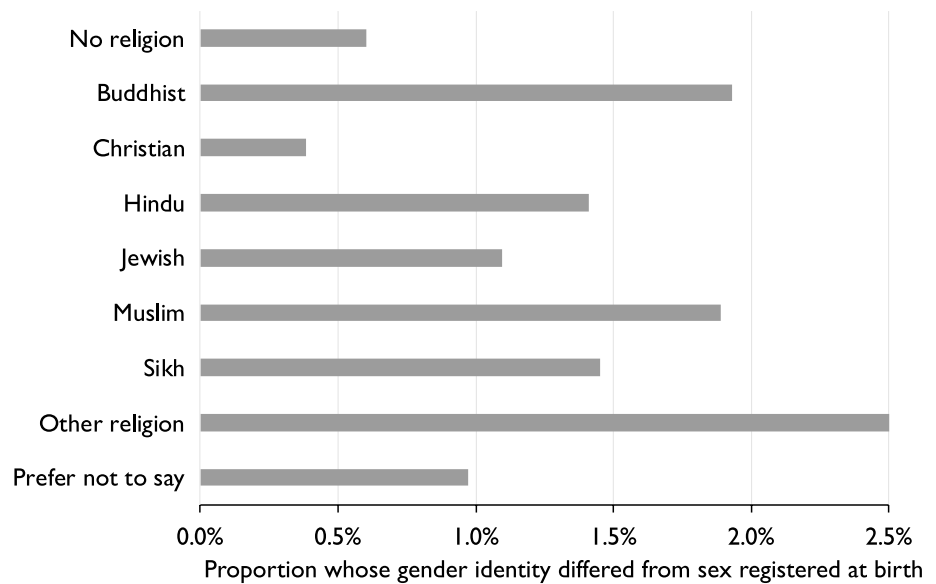
✉ Michael Biggs
michael.biggs@sociology.ox.ac.uk

¹ Department of Sociology and St. Cross College, University of Oxford, 42 Park End Street, Oxford OX1 1JD, UK

¹ This is significantly higher than the proportion of 0.55% calculated by the Office for National Statistics (2023b) from the 2021 Census of England—which I have argued is inflated by false positives (Biggs, 2024).

Table 1 Distribution of answers to the two gender questions. Bold figures indicate “trans and non-binary” sample defined by Saunders et al. (2023). GP Patient Survey of England, 2021. *N*=833,150, weighted

		Is your gender identity the same as the sex you were registered at birth?			
		Yes (%)	No (%)	Prefer not to say (%)	Total (%)
Which of the following best describes you?	Male	47.44	0.28	0.23	47.96
	Female	50.81	0.20	0.20	51.21
	Non-binary	0.07	0.10	0.04	0.21
	Prefer to self-describe	0.07	0.02	0.06	0.14
	Prefer not to say	0.18	0.02	0.27	0.47
	Total	98.58	0.62	0.81	100.00

Fig. 1 Proportion stating that their gender identity differed from their natal sex, by religion. Denominator includes those who preferred not to answer. GP Patient Survey of England, 2021. *N*=830,883, weighted

English well, for example, were five times more likely to give a negative answer—and thus be classified as transgender—than those who spoke English as their main language (Biggs, 2024). The GP Patient Survey has no question on language. It does, however, ask about ethnicity and religion, which yielded implausible results in the 2021 Census.

On ethnicity, Saunders et al. (2023) reported that trans and non-binary patients “were more likely to be from Asian, black, mixed or other ethnic groups.” According to their table, blacks were over four times and Asians over three times more likely to be trans or non-binary than were whites (Saunders et al., 2023, Table 1). The results for these two ethnic groups contradict the online National LGBT Survey conducted in 2017, which garnered responses from 14,320 trans and non-binary (including genderqueer, agender, and gender fluid) adults, aged 16 years and over. Blacks and Asians were significantly underrepresented; only 1.6% were Asian, for example, whereas Asians comprise 8.7% of the population aged 16 and over in England and Wales (Office for National

Statistics, 2023a; UK Government Equalities Office, 2018: Annex 3, Q146).² Blacks and Asians were likewise underrepresented in referrals to gender clinics for children and for adults (Manjra et al., 2022; NHS England, 2017). The anomalous results in the GP Patient Survey went unremarked by Saunders et al. (2023). According to Watkinson et al. (2024), “small group sizes prevented investigation of intersecting factors such as ethnicity.” This is surprising given that two of their transgender subsamples each comprised over 2,000 respondents.

Neither Saunders et al. (2023) nor Watkinson et al. (2024) provided information on religion. This can be obtained from the survey website (GP Patient Survey, 2024). Figure 1 shows the apparent transgender proportion—respondents who answered that their gender identity differed from their sex at

² The National LGBT Survey covered the entire United Kingdom, but 86% of respondents lived in England.

birth—in each category of religion in 2021 (the denominator includes respondents who preferred not to answer this gender question). Out of 47,717 Muslim patients, 1.9% had a gender identity that differed from their natal sex (95% confidence interval: 1.8–2.0%).³ If the survey is believed, Muslims were three times as likely to be transgender than were adults who have no religion. Out of all transgender patients, only 33% had no religion. This pattern again contradicts other evidence. Of the trans and non-binary respondents to the National LGBT Survey, 68% had no religion (UK Government Equalities Office, 2018: Annex 3, Q147). Likewise, the overwhelming majority of patients referred to gender clinics had no religion (Manjra et al., 2022; NHS England, 2017). The GP Patient Survey's finding that 1 in 53 Muslims in England is transgender is simply not credible. The obvious explanation is that an appreciable number of Muslims lacked the English proficiency to decipher the convoluted question asking whether their gender identity matched their sex at birth, and erroneously answered in the negative.⁴

In conclusion, the GP Patient survey does not provide reliable data on the transgender population, except for respondents who explicitly identified as non-binary or preferred to self-describe. Saunders et al. (2023) and Watkinson et al. (2024) must explain why they believe that their identification of other transgender patients has sufficient validity to warrant their findings. They need to explain why the GP Patient Survey's results for ethnicity and religion contradict what is known from a large online survey and from clinical referrals. Furthermore, the Office for National Statistics (2023c) should not justify the implausible results from its 2021 Census by citing the implausible results from the GP Patient Survey.

Most importantly, the GP Patient Survey needs to replace these two gender questions with properly validated questions. Widely used in social and medical research is the two-step method (GenIUSS Group, 2014; Reisner et al., 2014; Tate et al., 2013). First is a question on sex, phrased in the past tense (“on your original birth certificate”), with the answer restricted to either female or male. Next is a question on current gender, with the respondent choosing either female, male, non-binary, or a free-text field. If gender does not match sex, that implies a transgender identity. Alternatively, the second question could be substituted by a more direct question. The annual Behavioral Risk Factor Surveillance System in the United States, for example, asks “Do you

consider yourself to be transgender?” (Baker, 2019). Affirmative responses could include trans woman, trans man, non-binary, and a free-text field. Reliable data are required for statistical inference.

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Conflict of interest The author is a trustee of Sex Matters.

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³ This fraction is not an artifact of survey weights, because the unweighted proportion is almost identical: 2.0% (826 out of 40,803).

⁴ Although the 2021 Census did not tabulate language proficiency by religion, the ecological association can be calculated across 6,856 geographical units (“middle-layer super output areas”) in England, each comprising 5,000–15,000 adults. The proportion of residents who spoke English not well or not at all was highly correlated with the proportion of Muslims ($r=0.81$).

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