# Sexual Orientation Identity Mobility in the United Kingdom: A Research Note 

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## Data statement

The data used in this research were made available through the UK Data Archive. Special licence application is required to access the dataset containing sexual identity measures. The United Kingdom Household Longitudinal Study is an initiative funded by the ESRC and various Government Departments, with scientific leadership by the Institute for Social and Economic Research, University of Essex, and survey delivery by NatCen Social Research and Kantar Public. Neither the original collectors of the data nor the Archive bear any responsibility for the analyses or interpretations presented here.

## Ethics Statement

The secondary data analyzed here were collected under a protocol compliant with the Helsinki Declaration on human subjects testing, with full ethical approval at the institution of the original data collector (i.e., the University of Essex), and with informed consent from all participants. The anonymized dataset was then released through the UK Data Archive (UKDA). Because we conducted only analysis of a fully anonymized secondary dataset and we had agreed to the relevant conditions of confidentiality and terms of use set out by the UKDA, further ethical approval from the authors' institutions was not required.

## Conflict of interest

There is no conflict of interest to declare.

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#### Abstract

Sexual identity is fluid. But just how fluid is it? How does such fluidity vary across demographic groups? How do mainstream measures fare in capturing the fluidity? Analyzing data from the United Kingdom (UK) Household Longitudinal Study ( $N=22,673$ individuals, each observed twice), this research note provides new population-wide evidence of sexual identity mobility-change and continuity in individuals' sexual orientation identification-in the UK. Overall, $6.6 \%$ of the respondents changed their sexual identity reports between 2013 and 2019. Sexual identity mobility follows a convex pattern over the life course, with higher mobility rates at the two ends than in the middle of the age spectrum. Sexual identity mobility is more prevalent among women, ethnic minority individuals, and the less educated. Changes in people's self-reported sexual identity are closely associated with changes in their partnership status and partner's sex. However, inferring individuals' sexual identity from their partner's sex substantially underestimates the degree of sexual fluidity compared with people's self-reported sexual identity. Our new evidence encourages researchers and data collectors to fully examine sexual identity mobility and consider its implications for measuring sexual identity.


Keywords: Fluidity, measurement, partnership, sexual orientation identity.

## Introduction

In the past few decades, sexual (orientation) identity has been increasingly mainstreamed as a key characteristic in demographic research (e.g., Black et al. 2000; Chen and van Ours 2018; Gorman et al. 2015; Hsieh and Liu 2019; Liu and Reczek 2021). Efforts have been made to collect data on people's sexual identity, including surveys such as the National Longitudinal Study of Adolescent to Adult Health (Add Health) in the United States (US), the United Kingdom (UK) Household Longitudinal Survey, and the Household, Income and Labour Dynamics in Australia. While the 2021 UK Census collected data on sexual identity for the first time, the 2020 U.S. Census gave people the option to identify a relationship as same-sex. Sexual identity data have enriched a growing body of demographic research on health disparities (Gorman et al. 2015; Liu and Reczek 2021), employment inequalities (Denier and Waite 2019; Waite and Denier 2015), and family formation and well-being (Craig and Churchill 2021; Kolk and Andersson 2020). These studies have provided important insights that inform attendant public policies.

Sexual identity mobility, i.e., changes in individuals' sexual orientation identification, is not a new observation (Kinsey et al. 1948). Nevertheless, most research has collected and analyzed cross-sectional data that do not capture sexual identity mobility. A relatively small body of research on sexual identity mobility has drawn primarily on small samples and focused on particular life-course segments such as adolescence as a "prime stage" of sexual identity development (Rosario et al. 2008; Savin-Williams et al. 2012). For example, several studies used the Add Health data to examine U.S. adolescents' sexual fluidity on a scale ranging from $100 \%$ heterosexual, mostly heterosexual, bisexual, mostly homosexual, and 100\% homosexual (e.g., Savin-Williams et al. 2012; Savin-Williams and Ream 2007). Based on an online survey of 188 sexual minority young adults ages 18-26, Katz-Wise and Hyde (2015) found that around $48 \%$ of the women and $36 \%$ of the men reported sexual identity
fluidity. Fredriksen-Goldsen and Muraco's comprehensive review (2010) shows that research on adults' and particularly older people's sexual identity fluidity often draws on small convenience samples, thus reporting highly variable rates of sexual identity mobility. As such, we know relatively little about just how fluid sexual identity is in the general population and how the degree of fluidity varies across demographic groups. Moreover, as demographers explore different ways of measuring sexual identity, some directly asked people to identify their sexual orientation (e.g., 2021 UK Census), while others used less direct measures, such as the sex of one's partner, to infer individuals' sexual identity (e.g., 2020 U.S. Census). The different measures' ability to capture sexual identity mobility is yet to be assessed comparatively.

Against the above backdrop, this research note has three objectives. First, it provides new population-wide evidence of sexual identity mobility in the UK by analyzing rare national longitudinal data on individuals' self-reported sexual identity. Second, it compares the prevalence and patterns of sexual identity mobility as captured by self-reported sexual identity and one's partner's sex. Third, it examines how mobility in people's self-reported sexual identification varies with age, sex, ethnicity, education, and changes in partnership status. We conclude by discussing the implications of our findings for measuring sexual identity and demographic research.

## Methods

## Data and Sample

We analyzed data from the United Kingdom Household Longitudinal Survey (i.e., Understanding Society [USOC])—the only survey in the UK that repeatedly measures individuals' sexual identity. Initiated in 2009, USOC surveyed a nationally representative sample of over 50,000 individuals aged 16 and over from 30,000 households. They have been
re-interviewed each year since, with new sample members added to compensate for attrition (Buck and McFall 2011). USOC adopts a mixed-mode strategy, combining face-to-face interviews and self-completion modules. Sensitive questions, including those on sexual identity, are asked in a self-completion module to minimize social desirability bias. Only a representative subsample of respondents complete the self-completion module. We use the weights provided as part of USOC where appropriate.

We used data from waves 3 (2011-2013, " $T$ ") and 9 (2017-2019, " $T+1$ "), as USOC only collected information on sexual identity in odd but not even waves, and sexual identity information was only collected from respondents ages 16-21 but not the full sample in waves 5 and 7. We first restricted the sample to respondents who completed the self-completion module and were asked about their sexual identity. We then listwise deleted 268 personyears with missing values for sexual identity, 10 for age, and 110 for ethnicity. Given our focus on change and continuity in sexual identity, we further limited our sample to respondents who appeared in both waves 3 and 9. Our final analytical sample contains 22,673 respondents who were each observed twice. The average time between the two observations is 6.03 years $(S D=0.14)$. The relatively long interval not only allows us to capture, for example, adolescents' transition to adulthood (Savin-Williams et al. 2012), but also corresponds to major population auditing exercises such as the (mini-)Censuses with intervals ranging between 5 to 10 years. See Table A1 for step-by-step details of sample construction.

## Measures

Sexual identity mobility. The survey asked respondents to identify their sexual orientation using the same categories as those in the 2021 UK Census: "heterosexual or straight," "gay or lesbian," "bisexual," "other," and "prefer not to say." To measure individuals' sexual identity mobility, we first created a dummy variable to capture any
differences between one's sexual identity between $T$ and $T+1$. We then created another 10 dummy variables to capture individuals' transition out of and into self-identifying as heterosexual, gay or lesbian, bisexual, other, and prefer not to say, respectively. Despite debates regarding the presence of "mischievous" respondents and the implications of their "jokester" responses for measuring sexual attraction (Katz-Wise et al. 2015; Savin-Williams and Joyner 2014), USOC's robust quality control and the respondents' plausible reports for the other variables included in our analysis give us good reasons to believe the rate of "mischievous" respondents should be very low in our sample (Lynn and Knies 2016). Still, it is important to interpret the findings with a view to the "performative quality" of survey responses (Hu 2021): sexual identity mobility reflects meaningful change in one's selfperception and/or self-presentation - both of which are substantively relevant in informing population estimates and policy developments based on such estimates.

Partnership mobility. Based on whether a respondent had a cohabiting or nonresidential partner irrespective of marital status and the partner's sex, we captured one's partnership status using three categories: (1) no partner, (2) different-sex partner, and (3) same-sex partner. Despite the possibility of polyamory, no respondent has reported more than one partner. Then, comparing one's partnership status at $T$ and $T+1$, we created a series of dummy variables to capture individuals' transition out of and into the status of having no partner, a different-sex partner, and a same-sex partner, respectively.

Age group. To demarcate distinct life stages, we coded the respondents' age at $T$ (topcoded at the $99^{\text {th }}$ percentile; range: $16-87, M=47.94, S D=17.00$; weighted sample characteristics here and below) into six categories, following the UK Office for National Statistics classification: 16-24 (10.7\%), 25-34 (14.1\%), 35-44 (17.3\%), 45-54 (20.8\%), 5564 (18.6\%), and 65 and above ( $18.5 \%$ ). These age groups roughly correspond to meaningful
life-course milestones that demarcate distinct stages of individuals' sexual identity development (Bishop et al., 2020).

Sex. We used a dummy variable to distinguish between women and men (46.6\%). No respondent had changed their sex between the waves. The survey did not collect information on respondents' gender identification nor provide options outside a male-female sex binary.

Ethnicity. Ethnicity and associated cultural traditions play a powerful role in shaping people's sexual identification (Nagel 2000). Ethnicity is captured across all waves of USOC, based on which we created a dummy variable to distinguish between white (British, Irish, and other white) and non-white ethnic minority (6.7\%) respondents. Although racial and ethnic fluidity has been documented in some research (e.g., Saperstein and Gullickson 2013), our further check showed that no respondent changed their white vs. non-white ethnic identification across the survey waves included in our analysis.

Education. Education, particularly at the tertiary level, plays a crucial role in shaping people's sex ideology (Savin-Williams et al. 2012). We measured whether a respondent had a higher education degree at $T$ and $T+1$ using three categories: (1) consistently no (59.9\%), (2) consistently yes (34.9\%), and (3) newly obtained a degree (5.2\%).

Our covariates cover key demographic traits often collected and analyzed alongside sexual identity in major data initiatives such as the Census. We did not control for other socio-demographic characteristics because, firstly, the cell sizes for non-heterosexual identities are small and including further covariates would quickly result in underpowered analyses. Secondly, time-sensitive measures such as religious affiliation were only measured for the first observation of each respondent in USOC. We do not consider it appropriate to treat and include such measures as time-invariant: for example, with rapid secularization in the past decade, the proportion of people reporting "no religion" in England and Wales increased from $25.2 \%$ to $37.2 \%$ between 2011 and 2021 (Office for National Statistics 2022).

Additionally, including a dummy variable distinguishing whether a respondent had a religious affiliation does not change the substantive results for the other variables, and the religion variable, when treated as time-invariant, is largely not associated with sexual identity mobility (Table A4).

## Analysis

We first conducted descriptive analyses to compare the prevalence and patterns of sexual identity mobility and partnership mobility between $T$ and $T+1$. Then, we fitted a logit model to estimate how the overall rate of sexual identity mobility varies with individuals' demographic traits and changing partnership status. Given the relatively low rate of changes in sexual identity between $T$ and $T+$ 1, we used the Firth logit specification to minimize estimation bias. Finally, we fitted a series of Firth logit models to predict mobility out of and into each of the five self-reported sexual identity categories between $T$ and $T+1$. Although partnership transitions may vary with and thus mediate the effects of the other covariates, our supplementary tests showed that excluding the partnership mobility measures did not substantively change the estimates for the other predictors (Table A2).

## Results

## Sexual Identity Mobility and Partnership Mobility: Comparing Two Measures

Table 1 describes the patterns of sexual identity mobility in the UK. In columns $1-5$, row percentages are reported for the mobility table, and the last two columns report the percentages of all respondents moving out of and into each sexual identity category. Overall, $6.6 \%$ of the respondents changed their sexual identities over a six-year period.
[Insert Table 1 Here]

The rate of sexual identity mobility is low among those who self-identified as heterosexual at $T$, as only $3.3 \%$ changed their identity at $T+1: 0.2 \%$ into gay/lesbian, $0.8 \%$ into bisexual, $0.6 \%$ into other identities, and $1.7 \%$ into "prefer not to say." Most people who identified as gay/lesbian previously retained their identity ( $83.9 \%$ ), with another $8.6 \%, 2.1 \%$, and $1.9 \%$ moving into heterosexual, bisexual, and other identities, respectively. By contrast, sexual identity mobility was more prevalent among those who self-identified as bisexual, had other identities, and preferred not to disclose their identity. In line with prior evidence on bisexual fluidity (Diamond 2008), 56.8\% of those who self-identified as bisexual at $T$ changed their identity at $T+1$, with the majority ( $44.0 \%$ ) moving into a heterosexual identity. The mobility rate was highest among those with other identities at $T$ (85.4\%)$69.6 \%$ changed to identify as heterosexual, $4.2 \%$ as gay/lesbian, $1.4 \%$ as bisexual, and $10.3 \%$ as "prefer not to say." Finally, among those with a preference for non-disclosure at $T$, only $27.1 \%$ retained their preference and $62.2 \%$ changed into a heterosexual identity at $T+1$.

## [Insert Table 2 Here]

Table 2 describes change and continuity in people's partnership status. Overall, the sex of one's partner changed between $T$ and $T+1$ for as few as $0.1 \%$ of respondents. Compared with the results from Table 1 (6.6\%), therefore, research inferring individuals' sexual identity from their partners' sex would have substantially underestimated the rate of sexual identity mobility. This is partly because the measure is unable to go beyond the heterosexual-homosexual binary and capture bisexual and other sexual identities (Table A3). Specifically, $22.7 \%$ and $0.9 \%$ of those who had no partner moved into a different-sex and same-sex relationship, respectively. Among those with a different-sex partner, only $0.1 \%$ switched into a same-sex relationship, while $5.7 \%$ of those with a same-sex partner switched into a different-sex relationship.

## Demographic Variations in Sexual Identity Mobility

Table 3 presents the predicted probabilities (in percentages) from Firth logit models estimating demographic variations in sexual identity mobility. The asterisks indicate levels of statistical significance for differences from the reference category. Model 1 predicts overall sexual identity mobility between $T$ and $T+$, and Models 2-6 unpack Model 1 by predicting mobility out of and into each of the five sexual identity categories.

## [Insert Table 3 Here]

In Model 1, the rate of sexual identity mobility follows a convex pattern over the life course: it is higher among young people aged 16-24 (predicted mobility rate: 7.9\%) and older adults aged 65 and over (7.4\%), compared with those aged 25-64 (5.0-6.2\%). Models 2B and 6A show that the relatively high mobility rate among older adults is largely driven by their heightened likelihood of moving into a heterosexual identity and forgoing an unwillingness to disclose their sexual identity. As older people grow increasingly dependent on others and their autonomy power decreases, they may become more likely to yield to hegemonic heterosexual norms (Fredriksen-Goldsen and Muraco 2010). It is also possible that some older respondents developed a better understanding of the survey question when asked about their sexual identity for a second time (Fredriksen-Goldsen and Kim 2015).

Sexual identity mobility is $10.3 \%$ less likely among men (5.7\%) than women (6.3\%). However, the sex differences vary across specific identity categories. Compared with women, men are $15.1 \%((3.05 \%-2.59 \%) / 3.05 \%)$ less likely to relinquish their heterosexual identity but are over twice ( $0.42 \% / 0.20 \%$ ) more likely to change to identify as gay.

Compared with white people (5.0\%), sexual identity mobility is over 3 times more likely among non-white ethnics (15.5\%). This ethnic difference is observed across the board for moving out of and into heterosexual, bisexual, and other sexual identities, and for
adopting and forgoing the preference for non-disclosure. The only exception is the transition into and out of gay/lesbian identities (Model 3), where no ethnic difference is observed.

Compared with those without a higher education degree (7.3\%), consistent degree holders (4.5\%) and those who newly obtained a degree between $T$ and $T+1$ (4.7\%) were $38.8 \%((7.30 \%-4.47 \%) / 7.30 \%)$ and $35.1 \%((7.30 \%-4.74 \%) / 7.30 \%)$ less likely to experience sexual identity mobility. The negative association between education and sexual identity mobility is observed for moving into and out of heterosexual identity, moving out of other sexual identities, and moving into and out of non-disclosure, but not for moving into and out of gay/lesbian and bisexual identities. In fact, compared with individuals consistently without a degree ( $0.2 \%$ ), those who obtained a degree between $T$ and $T+1(0.6 \%)$ are over twice more likely to adopt gay/lesbian identities.

Sexual identity mobility is closely associated with partnership changes. People who moved into and out of a same-sex relationship are about 7 times ( $43.3 \%$ vs. $5.9 \%$ ) and 4 times ( $23.2 \%$ vs. $6.0 \%$ ) more likely to change their sexual identity, respectively, than those who have not experienced such relationship changes. Exiting a different-sex relationship is associated with an increased likelihood of relinquishing a heterosexual identity. By contrast, compared with people who never had a same-sex partner, those who previously and currently have a same-sex partner are more likely to both move into and out of gay/lesbian and bisexual identities. Notably, people who newly formed a same-sex relationship (vs. who did not) are much more likely to adopt (17.4\%) than relinquish (2.1\%) gay/lesbian identities (difference: $\left.\$^{2}=5.27, p<0.05\right)$ and are more likely to forgo (10.4\%) than adopt (0.8\%) a preference for not disclosing their sexual identity $\left(\$^{2}=12.40, p<0.001\right)$.

## Discussion

We provided new population-wide evidence of the prevalence and patterns of sexual identity mobility and their demographic variations in the UK. Over a six-year period, a significant minority of people ( $6.6 \%$ ) changed their sexual identity reports. While the rate of sexual identity mobility captured by self-reported sexual identity is relatively low among those who previously identified as heterosexual (3.3\%), it is higher among those who self-identified as gay/lesbian (16.1\%) and particularly high among those with bisexual (56.8\%) and other sexual identities (85.4\%). Our evidence complicates efforts, such as an increasing range of surveys and the latest Censuses in the U.S. and the UK, at establishing the prevalence of different sexual identities in the population. It encourages scholars to more fully incorporate sexual identity as a time-varying rather than static characteristic in demographic research. While policies addressing socioeconomic and health inequalities experienced by sexual minority individuals are welcome (Liu and Reczek 2021; Waite and Denier 2015), such policies need to account for the fact that their target populations are very much in flux.

Our findings also reveal demographic variations in sexual identity mobility. The result of a convex pattern of sexual identity mobility across age groups calls into question the linear assumption that sexual identity "stabilizes" over the life course. This implicit assumption has given rise to much research focusing on adolescence as a critical stage of sexual identity development (Katz-Wise and Hyde 2015; Savin-Williams and Ream 2007). Rather, our findings suggest that changes in sexual identity reports represent an equally worthy research topic among the elderly and indeed across the full lifespan. We also found that sexual identities are more fluid among women, ethnic minority individuals, and the less educated. While it is beyond our scope here to explain these demographic variations, these findings do suggest that sexual identity is particularly fluid and thus more elusive to measure in some population segments than others. Moreover, sexual identity measures capture both how
individuals understand their sexual orientation and how they would like to present themselves to the public (Katz-Wise et al. 2015; Savin-Williams and Joyner 2014). Although we are not able to disentangle these two latent dimensions, our study builds on the premise that sexual identity measures are substantively important in informing population estimates and policies.

Equally importantly, we demonstrated how different measures of sexual identity affect our understanding of the prevalence and patterns of sexual fluidity. It is not uncommon that demographers infer sexual identity from one's partner's sex (Denier and Waite 2019). Our findings suggest that despite a close association between sexual identity mobility and partnership (sex) mobility, indirectly measuring one's sexual identity using their partner's sex would substantially underestimate the prevalence of sexual identity fluidity (as in the 2020 U.S. Census), compared with using one's self-reported sexual identity (as in the 2021 UK Census). Such indirect inference further masks fluidity by failing to allow for bisexual identities at all - forcing people into dichotomous homosexual and heterosexual orientations. Given the prevalence of bisexuality in the population and elevated identity fluidity for this group, inferring sexual orientation from partnership status may create unstable estimates of sexual minority populations.

The limitations of this research suggest a few important directions for future research. Sexual orientation is a multidimensional construct (Diamond 2008). We focused only on sexual orientation identity, but future research could also consider longitudinal changes in sexual attraction, behavior, and attitudes in the general population (Mishel 2009; England et al. 2016). Our two-wave analysis with a pre-determined time lag means that we have not been able to ascertain the nuanced temporal dynamics of sexual identity mobility, such as how often it takes place. Despite these limitations, our evidence emphasizes the need to more fully consider sexual fluidity as we mainstream sexual identity into data collection, demographic research, and policy-making.

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Table 1 Patterns of sexual identity mobility

| Sexual identity at $T(N ; \%$ respondents) | Sexual identity at $T+1$ ( $N$; \% respondents) |  |  |  |  | $\%$ all $\%$ all <br> respondents respondents <br> moved out of moved into <br> category from $T$ category from $T$ <br> to $T+1$ to $T+1$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\Delta$ Heterosexual (21,443; 94.0\%) | $\begin{gathered} \Delta \text { Gay or } \\ \text { lesbian } \\ (305 ; 1.4 \%) \end{gathered}$ | $\Delta$ Bisexual (243;1.3\%) | $\Delta$ Other (118; 0.8\%) | $\Delta$ Prefer not to say (574; 2.5\%) |  |  |
| Heterosexual (21,338; 94.2\%) $\Delta$ | 96.7 | 0.2 | 0.8 | 0.6 | 1.7 | 3.1 | 2.8 |
| Gay or lesbian (278; 1.3\%) $\Delta$ | 8.6 | 83.9 | 2.1 | 1.9 | 3.6 | 0.2 | 0.4 |
| Bisexual (212; 1.1\%) $\Delta$ | 44.0 | 5.4 | 43.2 | 2.4 | 5.1 | 0.5 | 0.9 |
| Other (190; 0.8\%) $\Delta$ | 69.6 | 4.2 | 1.4 | 14.6 | 10.3 | 0.7 | 0.7 |
| Prefer not to say ( $605 ; 2.6 \%$ ) $\Delta$ | 62.2 | 3.9 | 3.2 | 3.6 | 27.1 | 2.0 | 1.8 |

Note: $N=22,673$ respondents, each observed twice. $T=$ Wave 3 (2011-2013). $T+1=$ Wave 9 (2017-2019). Row percentages are reported in the crosstabulation of mobility patterns (i.e., columns $1-5$ ), which may not add up to $100 \%$ due to rounding. Weighted statistics with unweighted sample sizes.

Table 2 Patterns of partnership mobility

|  | Partnership status at $T+1(N, \%$ |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
|  | respondents) |  |  |  |  |  |

Note: $N=22,673$ respondents, each observed twice. $T=$ Wave 3 (2011-2013). $T+1=$ Wave 9 (2017-2019).
Row percentages are reported in the cross-tabulation of mobility patterns (i.e., columns $1-3$ ), which may not add up to $100 \%$ due to rounding. Weighted statistics with unweighted sample sizes.

Table 3 Predicted probabilities (shown in \%) from Firth logit models estimating demographic variations in sexual identity mobility


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|  | (0.70) | (0.44) | (0.58) | (0.10) | (0.07) | (0.23) | (0.23) | (0.28) | (0.21) | (0.45) | (0.33) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Exit different-sex partnership |  |  |  |  |  |  |  |  |  |  |  |
| No (ref.) | 6.01 | 2.58 | 2.86 | 0.19 | 0.30 | 0.55 | 0.67 | 0.79 | 0.48 | 2.00 | 1.81 |
|  | (0.16) | (0.11) | (0.11) | (0.03) | (0.04) | (0.05) | (0.06) | (0.06) | (0.05) | (0.10) | (0.09) |
| Yes | 6.52 | 3.57* | 2.76 | 0.04 | 0.31 | 0.36 | 0.82 | 0.80 | 0.42 | 1.90 | 2.49 |
|  | (0.61) | (0.46) | (0.41) | (0.06) | (0.12) | (0.16) | (0.23) | (0.23) | (0.17) | (0.34) | (0.40) |
| Enter same-sex partnership |  |  |  |  |  |  |  |  |  |  |  |
| No (ref.) | 5.93 | 2.58 | 2.86 | 0.18 | 0.21 | 0.53 | 0.65 | 0.79 | 0.47 | 1.98 | 1.86 |
|  | (0.16) | (0.10) | (0.11) | (0.03) | (0.03) | (0.05) | (0.05) | (0.06) | (0.05) | (0.09) | (0.09) |
| Yes | 43.25*** | 25.06 *** | 0.97 | 2.14** | 17.42*** | 4.15*** | $6.23 * * *$ | 2.81 | 2.01 | 10.41 *** | 0.82 |
|  | (6.02) | (5.13) | (1.35) | (1.71) | (4.32) | (2.22) | (2.28) | (2.25) | (1.65) | (4.06) | (1.16) |
| Exit same-sex partnership |  |  |  |  |  |  |  |  |  |  |  |
| No (ref.) | 6.00 | 2.65 | 2.84 | 0.16 | 0.28 | 0.53 | 0.67 | 0.78 | 0.47 | 1.98 | 1.84 |
|  | (0.16) | (0.11) | (0.11) | (0.03) | (0.03) | (0.05) | (0.05) | (0.06) | (0.05) | (0.09) | (0.09) |
| Yes | 23.19*** | 2.46 | 5.49 | 8.40*** | $6.04 * * *$ | 3.51** | 2.08 | 3.83* | 2.33 | 7.84** | 11.61 *** |
|  | (5.18) | (1.96) | (2.84) | (3.43) | (3.02) | (2.17) | (1.65) | (2.37) | (1.88) | (3.50) | (4.18) |
| Bayesian-information-criterion | 9,895 | 5,392 | 5,616 | 599 | 740 | 1,519 | 1,764 | 2,046 | 1,385 | 4,242 | 4,089 |

Note: Predicted probabilities (in \%) with standard errors in parentheses. Asterisks indicate levels of statistical significance for differences from the reference category. Intercept was estimated in all models but omitted from the table. $N=22,673$ respondents. Ref. $=$ reference category. $T=$ Wave 3 (2011-2013). $T+1=$ Wave 9 (2017-2019). ${ }^{*} p<0.05,{ }^{* *} p<0.01,{ }^{* * *} p<0.001$ (two-tailed).

## Online Appendix

for

## Sexual Orientation Identity Mobility in the United Kingdom: A Research Note

Table A1. Steps of analytical sample construction.
Table A2. Predicted probabilities (shown in \%) from Firth logit models estimating demographic variations in sexual identity mobility, including demographic characteristics but not partnership mobility as predictors.

Table A3. Cross-tabulation between sexual identity and partnership status.
Table A4. Predicted probabilities (shown in \%) from Firth logit models predicting sexual identity mobility, including religion as a time-invariant measure.

Table A5. Predicted probabilities (shown in \%) from Firth logit models estimating demographic variations in partnership mobility.

Table A1. Steps of analytical sample construction.

| Step | Sample elimination | Remaining sample (person-year) |
| :--- | :--- | :--- |
| 0 | Survey waves 3 and 9 | $N=85,747$ ( $\Delta$ original sample) |
| 1 | Delete 4,926 proxy person-years | $N=80,821$ |
| 2 | Delete 6,696 respondents who did not participate in the self- <br> completion module and report their sexual identity | $N=74,125$ |
| 3 | Delete 268 person-years with missing (84), refusal (92) or <br> don't know (61) reports for sexual identity | $N=73,857$ |
| 4 | Delete the 10 person-years with missing age information | $N=73,847$ |
| 5 | Delete the 110 person-years with missing ethnicity <br> information | $N=73,737$ |
| 6 | Limit sample to respondents who participated in both waves <br> 3 and 9 | $N=45,346$ (i.e., 22,673 respondents, each |
| observed twice $\Delta$ final analytical sample) |  |  |

Note: For time-invariant variables, valid information from other waves for the same respondents was used to impute missing values.

Table A2. Predicted probabilities (shown in \%) from Firth logit models estimating demographic variations in sexual identity mobility, including demographic characteristics but not partnership mobility as predictors.


Note: Predicted probabilities (in \%) with standard errors in parentheses. Asterisks indicate levels of statistical significance for differences from the reference category. Intercept was estimated in all models but omitted from the table. $N=22,673$ respondents. Ref. = reference category. $T=$ Wave 3 (2011-2013). $T+1=$ Wave 9 (2017-2019).

* $p<0.05,{ }^{* *} p<0.01,{ }^{* * *} p<0.001$ (two-tailed).

Table A3. Cross-tabulation between sexual identity and partnership status.

| Wave/partnership status | Heterosexual | Gay/lesbian | Bisexual | Other identities | Prefer not to say |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Waves 3 \& $9(N=45,346$ person-years) |  |  |  |  |  |
| No partner | 10,254 | 222 | 136 | 108 | 464 |
| Different-sex partner | 32,541 | 11 | 274 | 197 | 700 |
| Same-sex partner | 26 | 350 | 45 | 3 | 15 |
| Wave 3 ( $N=22,673$ persons) |  |  |  |  |  |
| No partner | 4,979 | 106 | 66 | 62 | 239 |
| Different-sex partner | 16,389 | 8 | 124 | 126 | 355 |
| Same-sex partner | 20 | 164 | 22 | 2 | 11 |
| Wave 9 ( $N=\mathbf{2 2 , 6 7 3}$ persons) |  |  |  |  |  |
| No partner | 5,275 | 116 | 70 | 46 | 225 |
| Different-sex partner | 16,152 | 3 | 150 | 71 | 345 |
| Same-sex partner | 6 | 186 | 23 | 1 | 4 |

Note: Unweighted cell and sample sizes.

Table A4. Predicted probabilities (shown in \%) from Firth logit models estimating demographic variations in sexual identity mobility, including religion as a time-invariant measure.


|  | (0.69) | (0.44) | (0.58) | (0.10) | (0.07) | (0.23) | (0.23) | (0.28) | (0.21) | (0.45) | (0.33) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Exit different-sex partnership |  |  |  |  |  |  |  |  |  |  |  |
| No (ref.) | 6.02 | 2.58 | 2.86 | 0.20 | 0.30 | 0.56 | 0.67 | 0.79 | 0.48 | 2.01 | 1.82 |
|  | (0.16) | (0.11) | (0.11) | (0.03) | (0.04) | (0.05) | (0.06) | (0.06) | (0.05) | (0.10) | (0.09) |
| Yes | 6.51 | 3.57* | 2.76 | 0.04 | 0.31 | 0.36 | 0.81 | 0.81 | 0.42 | 1.90 | 2.50 |
|  | (0.61) | (0.46) | (0.41) | (0.06) | (0.12) | (0.16) | (0.22) | (0.23) | (0.17) | (0.34) | (0.40) |
| Enter same-sex partnership |  |  |  |  |  |  |  |  |  |  |  |
| No (ref.) | 5.94 | 2.58 | 2.86 | 0.18 | 0.21 | 0.53 | 0.65 | 0.79 | 0.47 | 1.98 | 1.87 |
|  | (0.16) | (0.11) | (0.11) | (0.03) | (0.03) | (0.05) | (0.05) | (0.06) | (0.05) | (0.09) | (0.09) |
| Yes | 42.97*** | 24.91 *** | 0.95 | 2.03** | $17.53 * * *$ | 3.96*** | 5.95*** | 2.84 | 1.99 | 10.28*** | 0.82 |
|  | (6.01) | (5.11) | (1.33) | (1.64) | (4.36) | (2.12) | (2.19) | (2.27) | (1.64) | (4.02) | (1.16) |
| Exit same-sex partnership |  |  |  |  |  |  |  |  |  |  |  |
| No (ref.) | 6.00 | 2.66 | 2.85 | 0.16 | 0.29 | 0.53 | 0.68 | 0.79 | 0.47 | 1.98 | 1.84 |
|  | (0.16) | (0.11) | (0.11) | (0.03) | (0.03) | (0.05) | (0.05) | (0.06) | (0.05) | (0.09) | (0.09) |
| Yes | 23.10 *** | 2.46 | 5.48 | 8.34*** | $6.07 * * *$ | 3.46** | 2.05 | 3.85* | 2.33 | 7.82** | 11.64*** |
|  | (5.16) | (1.96) | (2.83) | (3.40) | (3.03) | (2.14) | (1.63) | (2.38) | (1.88) | (3.49) | (4.19) |
| Religious affiliation |  |  |  |  |  |  |  |  |  |  |  |
| No (ref.) | 6.38 | 2.74 | 3.05 | 0.23 | 0.29 | 0.66 | 0.83 | 0.74 | 0.50 | 2.13 | 1.82 |
|  | (0.28) | (0.18) | (0.20) | (0.05) | (0.05) | (0.09) | (0.10) | (0.10) | (0.08) | (0.18) | (0.16) |
| Yes | 5.86 | 2.60 | 2.75 | 0.15 | 0.31 | 0.46 | 0.55* | 0.83 | 0.46 | 1.93 | 1.89 |
|  | (0.20) | (0.14) | (0.14) | (0.04) | (0.05) | (0.06) | (0.07) | (0.08) | (0.06) | (0.11) | (0.12) |

Note: Predicted probabilities (in \%) with standard errors in parentheses. Asterisks indicate levels of statistical significance for differences from the reference category. Intercept was estimated in all models but omitted from the table. $N=22,649$ respondents. Ref. $=$ reference category. $T=$ Wave 3 (2011-2013). $T+1=$ Wave $9(2017-2019)$ * $p<0.05,{ }^{* *} p<0.01,{ }^{* * *} p<0.001$ (two-tailed).

Table A5. Predicted probabilities (shown in \%) from Firth logit models estimating demographic variations in partnership mobility.

| Predictor | Different-sex partnership |  | Same-sex partnership |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Move out | Move into | Move out | Move into |
| Age group at $T$ |  |  |  |  |
| 16-24 (ref.) | 10.72 | 21.66 | 0.38 | 1.54 |
|  | (0.75) | (1.02) | (0.14) | (0.33) |
| 25-34 | 6.44*** | 7.35*** | 0.44 | 0.53** |
|  | (0.44) | (0.46) | (0.12) | (0.13) |
| 35-44 | 5.87*** | 3.79*** | 0.35 | 0.24*** |
|  | (0.36) | (0.29) | (0.09) | (0.07) |
| 45-54 | 5.35*** | 3.58*** | 0.30 | 0.10*** |
|  | (0.33) | (0.27) | (0.08) | (0.05) |
| 55-64 | 4.91*** | 1.85*** | 0.26 | 0.01*** |
|  | (0.33) | (0.21) | (0.08) | (0.02) |
| 65+ | 8.44** | 1.37*** | 0.12 | 0.10*** |
|  | (0.44) | (0.19) | (0.06) | (0.05) |
| Sex |  |  |  |  |
| Women (ref.) | 7.77 | 5.22 | 0.31 | 0.23 |
|  | (0.23) | (0.19) | (0.05) | (0.04) |
| Men | 4.98*** | 5.49 | 0.28 | 0.40* |
|  | (0.22) | (0.22) | (0.06) | (0.07) |
| Ethnicity |  |  |  |  |
| White (ref.) | 6.54 | 5.29 | 0.31 | 0.31 |
|  | (0.17) | (0.15) | (0.04) | (0.04) |
| Non-white | 6.91 | 5.57 | 0.22 | 0.28 |
|  | (0.54) | (0.40) | (0.09) | (0.09) |
| Higher education degree |  |  |  |  |
| Consistently no from $T$ to $T+1$ (ref.) | 7.43 | 5.27 | 0.30 | 0.23 |
|  | (0.23) | (0.20) | (0.05) | (0.05) |
| Consistently yes from $T$ to $T+1$ | 5.38*** | 4.72 | 0.26 | 0.40 |
|  | (0.25) | (0.24) | (0.05) | (0.08) |
| Newly obtained from $T$ to $T+1$ | 5.73* | 7.48*** | 0.58 | 0.35 |
|  | (0.70) | (0.57) | (0.27) | (0.11) |

Note: Predicted probabilities (in \%) with standard errors in parentheses. Asterisks indicate levels of statistical significance for differences from the reference category. Intercept was estimated in all models but omitted from the table. $N=22,673$ respondents. Ref. $=$ reference category. $T=$ Wave 3 (2011-2013). $T+1=$ Wave 9 (2017-2019). * $p<0.05,{ }^{* *} p<0.01, * * * p<0.001$ (two-tailed).

