

Who answers “non-binary”? First insights into the responses to the new answer category on gender identity in German panel data

Extended abstract

Introduction

Quantitative surveys in Germany have begun to offer possibilities to measure gender identities beyond the binary concept as of 2019. We take advantage of a new large family-demographic panel study to investigate who reported a “non-binary” gender identity. We compare these respondents, on the one hand, to people who gave responses regarding their gender identity which deviate from the official population registers and to respondents who identify as either “female” or “male”, on the other hand.

Despite the changes in the official statistical practice, large data collections in the general population have been hesitant to acknowledge the existence of a third category since the number of people choosing that third option can be expected to be too low for any statistical analyses. Even releasing data-sets containing such information as scientific use files seemed problematic since this would severely increase the risk of respondents being identified. Only in recent years, a small number of large representative surveys has started introducing a third category for gender in their questionnaires, such as the General Social Survey (GSS) since 2018 or the Generations and Gender Survey (GGS) in its forthcoming wave. “FReDA – The German Family Demography Panel Study” has done the same when collecting its first data in Spring 2021. Despite more than 37,000 respondents in its recruitment wave, FReDA still has only 125 respondents reporting “non-binary” as their gender. Nevertheless, this number at least offers the chance for a very first rough and vague look at this group.

Our contributions are threefold: First, we describe how diversity in gender identity was measured in the FReDA survey and the patterns of response behavior. Second, we compare the response behavior of “non-binary” respondents to cases with contradictory information on gender. Third, we give a bivariate description of socio-demographic characteristics of persons of a “non-binary” gender identity. Our research endeavor is explorative in nature. After the presentation of our results, we will discuss implications for empirical analyses and further data collections.

Empirical material

“FReDA – The German Family Demography Panel Study” started in Germany in 2020. It integrates two large family-demographic studies; i.e., the German Generations and Gender Survey (GGS), which so far had been carried out in 2 waves between 2005 and 2010, and the pairfam panel, for which 14 waves were collected from 2008 to 2021. FReDA combines much of the two other panel studies. FReDA has drawn a sample in 2020, representative for the resident population of Germany, aged 18 to 49. The contact information for the gross sample has been provided by 310 local population registers in 258 German communities. The addresses came with information on gender (male/female), birth date and German nationality (yes/ no). The FReDA questionnaires nevertheless all include questions regarding gender, birth month and birth year, as well as nationality, mainly in order to confirm the correct identity of the respondent.

The FReDA data-collections started with a recruitment interview (“W1R”) of approximately 10 minutes in spring in 2021. Since then, the sample is re-interviewed twice every year, starting in summer 2021, with an interview length of approximately 25 minutes per data-collection on average. In the recruitment interview, 37.417 respondents participated of which 26.725 gave their panel consent, so that their name and address could be stored for re-contacting. In the regular interviews, carried out in summer 2021 (“W1A”) and in late autumn 2021 (“W1B”), the numbers of respondents were 22.485 and 20.270 respectively. Partly as a reaction to the Covid19 pandemic situation, FReDA exclusively relies on self-administered modes of data-collection, with web-surveys (CAWI) being the

main mode and mail-sent paper questionnaires being a backup alternative offered to those who do not fill out the web questionnaire within a given time. Each invitation letter to each single data-collection comes with an unconditional cash incentive of 5 Euro. The recruitment wave achieved a response rate of 38.3% according to AAPOR response rate standard 6 (AAPOR, 2016: 62).

The net sample of realized interviewees has biases which are known from other surveys and panels, in particular an over-representation of highly educated people as well as of people with German nationality. Probably due to its focus on topics in the context of family and personal relationships, FReDA also has slight over-representations of people who self-identified themselves as “women”, of persons who are married, who are living in two- or more-person-households (Lück et al. 2023).

Measuring non-binary gender identities

While some other surveys, which target gender identity beyond the binary concept, applied a two-stage question, the procedure in the FReDA survey was slightly different. First, the information on the gender, as it is registered in official statistics, had already been provided by the local population registers during the sampling procedure, together with the contact information of the potential respondents. Second, FReDA implements one question in each data collection on gender, which can be compared to the information from the register.

As of 31 December 2018, people living in Germany can choose between “male”, “female”, and “non-binary” (in German: “divers”) or leave the information on gender blank (Federal Ministry of the Interior and Community 2018). Hence, the new gender categories had been in use in official statistics for about two years at the time when the first wave of FReDA was drawn. Theoretically, the information on gender of the FReDA sampling population could have contained cases of two new categories. First, the category “non-binary”, and, second, cases without information on gender (“none”). In practice, however, as far as the new third gender category “non-binary” in official statistics is concerned, no target person in the gross sample for FReDA had officially been registered as such; there are only six cases with missing information on gender, which may have been deleted by the target person or simply be unknown for technical reasons. This may indicate that changes in the official register to “non-binary” or “none” had hardly occurred in the first years of the new statistical recording practice.

The FReDA questionnaires in each part of the first wave include the question regarding the respondent’s gender, without emphasizing that it is the *current* gender that is of interest. It is worded “What is your gender?” and provides the three answer categories “male” (“männlich”), “female” (“weiblich”) and “non-binary, intersex” (“divers”) – corresponding to the practice in the official statistics. Multiple answers were not allowed; however, a small number of respondents participating in the paper version of the data collection nevertheless filled out more than one category. Respondents were able to skip the question without giving an answer; however, they were not able to report that their information on gender was deleted from the population register data. With the exception of the recruitment interview, the web questionnaires start by displaying the gender, as it has been stored after the previous panel wave, as preload information: “Please indicate whether the following information is correct. You are: ... Your year of birth is: ...”. Only if respondents answer “No, the responses must be corrected”, they are asked again regarding their gender, birth month and birth year, as they had been asked in the recruitment interview. Together with the question regarding the respondent’s birth month and birth year as well as German citizenship, the question regarding the gender is mainly used in FReDA as an indicator for assessing data-quality.

As in previous data collections, these items are supposed to indicate whether the target persons have filled in the questionnaires themselves: At least if more than one answer deviates from the population registers, this can be taken as a hint that a wrong person has participated in the interview. In the recruitment wave, the respective cases have been deleted from the scientific use file, if answers on gender, birth date as well as nationality differed from the population register information – this was the case with 36 interviews. If only one or two of these answers deviated from the register, the respective case was flagged.

As we know that the gender identity at present – i.e., in a survey interview – may not correspond, or may not correspond anymore, to the assigned gender at birth and/ or the officially registered gender, we used two information to categorize the FReDA respondents in gender, i.e., the information from the register and the information provided by the respondents in the recruitment interview. We chose the recruitment interview because it contains the largest-possible sample. We do not discard the cases which show a difference in their gender information between population register and FReDA survey, but keep them in the sample as comparisons groups. Accordingly, we took the following decisions to measure such diverse identities:

First, respondents who identified themselves in the survey as “non-binary” were grouped as such, independent of their gender at birth in the register data. A second group contains all other cases with contradictory information: If persons report a gender identity which does not correspond to the officially registered information, these were grouped as cases with “contradictory information”, leaving the question whether they need to be interpreted as a lack of data quality or (partly also) as transgender identities to our empirical investigations. We apply this category also for two other groups of information on gender identity: The official statistics allow for the possibility to not fill in the answer to the question on gender, while there is not specific option for “none”. Likewise, the FReDA questionnaire does not provide a category for “none”, but it was technically possible to omit the answer to the question on gender. Such a missing value is usually interpreted as an indicator of low data quality, and such cases are usually omitted from analyses. In our study, we subsume the category of “missing answers” in the “contradictory information” category. Moreover, we also group the cases with multiple answers into this category. In sum, this category can be perceived as a grey zone between reflecting other than “cis” or “non-binary” gender identities or cases of non-valid information. Finally, the respondents whose gender in the recruitment interview in the FReDA survey is either “male” or “female” and corresponds to the one in their birth certificate were categorized as “cis”.

A crucial question in our study is how reliable the answers regarding “non-binary” gender are. Since, all respondents are registered either as female or as male in the population register, “non-binary” is always an information contradicting the register. There is a chance that not the target person has answered the survey, or that two persons may have filled in the questionnaire together. There is also a chance that respondents accidentally checked the wrong box, or some may just intentionally “try out” different answers. To check for data reliability, we compare the information on gender identity as created from the recruitment wave and the population register to further information on gender in the subsequent two sub-waves, to other information provided from the official statistics as well as for interview characteristics.

Analytical strategy

First, we look at the response behavior in and across all three released data-sets of the panel: Respondents may differ in their answers regarding their gender identity between various interviews. In FReDA, we so far have access to data from three interviews, all collected in 2021. There is a small chance that a respondent has some kind of “fluid” gender identity or is being in the process of acknowledging a different gender identity over the course of the year 2021, which would correspond to the definition of a “trans-gender” identity. However, we consider this scenario not very likely because the time span between the three interviews is rather short, i.e., it is about half a year between the first interview (recruitment wave “W1R”) and the third interview (subwave “W1B”). Hence, we do not consider the gender information in the consecutive data collections W1A or W1B for our main categorization of gender identities.

Second, we compare the answers on gender to other socio-demographic variables derived from the register data. These are “year of birth”, “month of birth” and “nationality”. A flag variable (“flag30”), provided by GESIS, indicates which cases deviate in their answers regarding gender, age, or nationality. If also the birth date or the information regarding a German nationality deviate from the information in the register, we assume that the deviating gender information is rather a problem of

data reliability. Moreover, we look at interview characteristics. These are particularly fast interviews or a large share of item non-responses. In addition, we look at whether the participants in the recruitment wave (W1R) gave their consent to get re-interviewed and their non-participation in the following interviews (W1A and W1B) which may be indicative of drop-out rates. Non-consent as well as non-participation are, of course, legitimate for each single respondent; however, a higher ratio among a certain group of respondents (e.g. those reporting to be “non-binary”) may also indicate a lack of motivation and of accuracy of responses. If these items raise serious doubts regarding the accuracy of the respondent’s answers, we consider these cases also to be of lower reliability. Third, we give a bivariate socio-demographic description of “non-binary” respondents.

Results

Frequencies: Table 1 shows the distribution of the answers to the question on gender identity by the respondents in the three interviews of the survey, compared to the gender recorded in the register data, which were used to draw the sample for the FReDA survey. We see: 125 individuals chose the “non-binary” category in the question on gender in the recruitment wave. This corresponds to 0.3% of the whole sample. By their gender according to official statistics, the “non-binary” reporting respondents were to almost similar shares previously categorized as “male” or “female”.

Comparing the gender according to register data and the self-identification, 221 respondents declared themselves as “male” and were registered as “female” (corresponding to 1.3% of all respondents who chose “male”), and 529 respondents who were registered as “male” chose the “female” answer category (corresponding to 2.6% of the “males” in the R wave). In addition, there were 128 respondents who did not answer the question on gender, and 38 cases gave multiple answers. Very few cases did not have an information on gender in the register data (6). 922 cases provided contradictory information on identity (2.4% of the whole sample in the recruitment interview W1R).

Sex according to register data	"Non-binary"		"Male"		"Female"		No answer		Multiple answers		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
recruitment wave (W1R)												
Male	60	48,0	16716	98,7	529	2,6	58	45,3	15	39,5	17378	46,0
Female	65	52,0	221	1,3	20020	97,4	70	54,7	23	60,5	20399	54,0
none (mv)	0	0,0	4	0,0	2	0,0	0	0,0	0	0,0	6	0,0
Total	125		16941		20551		128		38		37783	
summer 2021 (W1A)												
Male	16	29,6	9800	99,4	199	1,6	7	25,0	0		10022	45,0
Female	38	70,4	57	0,6	12140	98,4	21	75,0	0		12256	55,0
none (mv)	0	0,0	1	0,0	2	0,0	0	0,0	0		3	0,0
Total	54		9858		12341		28		0		22281	
late 2021 (W1B)												
Male	17	34,7	9011	99,5	168	1,5	0		0		9196	44,9
Female	32	65,3	45	0,5	11221	98,5	0		0		11298	55,1
none (mv)	0	0,0	1	0,0	2	0,0	0		0		3	0,0
Total	49		9057		11391		0		0		20497	
Our categorization in recruitment wave (W1R)												
	"Non-binary"		"contradictory info"		"male/ female"							
	N	%	N	%	N	%						
	125	0,3	922	2,4	36736	97,2					37783	

Calculations based on FReDA, wave 1 (2021). N=37783

Interview participation: The participants were asked whether they would be willing to participate in the following interview waves. The shares of respondents with a self-declared “non-binary” gender identity (62%) and of “contradictory information” regarding their gender identities (50%) who gave consent to further interviewing was significantly lower than among the “cis” respondents (71%). The share of respondents who did not answer at all the question on further participation was higher among cases grouped as “non-binary” and contradictory cases than others. Looking at the participation in the following two interviews, we found that the actual participation decreased –

naturally – further than the rate of consent to be re-interviewed, but more so among respondents with diverse identities or contradictory information.

Consistency: We also take a look into the consistency in the answers on gender identity across three waves of the survey. We only can compare the answers of those who participated also in the subwaves A and/ or B to their answers in the recruitment wave. Among the “non-binary” respondents from wave W1R, 56 participated in subwave W1A and 49 in subwave W1B. Among these again, 6 respondents (11%) in W1A and 7 persons (14%) in W1B reported a different gender than in the recruitment interview. Among the 922 “contradictory” cases in the recruitment wave, 353 participated in subwave W1A and 322 in subwave W1B. Among these, 121 (34%) in W1A and 137 (43%) reported a different gender. Note that the share of changes, or corrections, across the three interviews was below 0.3% among the “cis” respondents.

Interviews characteristics: We explore the question whether the interview characteristics of “non-binary” respondents and “contradictory” cases differ from those of “binary” in the recruitment interview. We generally observe a higher ratio of web-based questionnaires. “Non-binary” persons were slightly more likely to use the web-based questionnaire and less so the paper version. We also looked into the lengths of the interviews. Whereas the percentages of incomplete interview – i.e., only 50 to 80% of the questions were answered – and of peculiarly short interviews – who often had answered a rather low share of the questions – was about 1% or lower among “cis” respondents, these shares were up to 4% among respondents with a “non-binary” gender identity and to almost 8% among the “contradictory” cases.

Socio-demographic characteristics: Table 2 gives an overview about the characteristics of the response behaviour by gender identity. Respondents with a “non-binary” identity were younger and lived more often in urban regions than the cis respondents.

Gender identity in W1R	"Non-binary"		Contradictory cases		"male"/"female"	
	N	%	N	%	N	%
<i>Age***</i>						
18-29	31	57,4	51	21,3	7684	34,3
30-50	23	42,6	174	72,8	14657	65,4
mv	0	0,0	14	5,9	77	0,3
<i>Foreignborn***</i>						
No	47	87,0	191	79,9	20129	89,8
Yes	7	13,0	33	13,8	2167	9,7
mv	0	0,0	15	6,3	122	0,5
<i>Type of region°</i>						
City	31	57,4	95	39,7	9066	40,4
Urban/ town	14	25,9	83	34,7	8304	37,0
Rural	9	16,7	61	25,5	5048	22,5
<i>Region of living**</i>						
East Germany	16	29,6	44	18,4	3286	14,7
West Germany	38	70,4	195	81,6	19132	85,3
<i>Calculations based on FReDA, wave 1 (2021). N=37783</i>						