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TITLE The first Generations and Gender Survey in Finland :
data collection and data quality

YEAR 2024

DOI <https://doi.org/10.23979/fypr.142715>

VERSION Publisher's PDF

CITATION Hägglund, A., Sorsa, T., Berg, V., & Rotkirch, A. (2024).
The first Generations and Gender Survey in Finland:
data collection and data quality. *Finnish Yearbook of
Population Research*, 57, 107–126.
<https://doi.org/10.23979/fypr.142715>

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The first Generations and Gender Survey in Finland – data collection and data quality

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Abstract

The first Generations and Gender Survey in Finland was collected in 2021/2022 as a web-based survey. In addition to the standard GGS-questionnaire, the Finnish survey included two new modules: the Miller Instrument, which captures childbearing motivations, and Global uncertainties, which enquires about perceptions of future threats. To further advance research on family dynamics, data from GGS Finland is linked to administrative records. This allows researchers to explore employment and family trajectories until 2026. Analyses of core socio-demographic characteristics and well-established fertility indicators reveal that the sample, by and large, represents the target population.

Keywords: GGS Finland, data collection, data quality, family, fertility

1. Background

Family dynamics have changed profoundly over the past decades in Finland. Similar to the other Nordic countries, Finland has experienced a decline in the fertility rate since 2010, but this decline was steeper than in, for instance, Sweden or Denmark. Fertility has also remained at a lower level than in the other Nordic countries and childlessness is more common (Hellstrand et al., 2020, 2021). Also, partnership formation has shifted. Men and women in their reproductive age marry less often than in previous decades and cohabiting couples are somewhat more likely to separate (Hellstrand et al., 2022). The causes behind the shifting childbearing and partnership patterns are, however, not fully understood (Comolli et al., 2021). One reason is the lack of data capturing complexities in family dynamics. Exploring transformations in family formation in detail is crucial, not the least because research points to a persistent gap between the desired and the actual number of children (Rotkirch, 2020).

We need data focusing on individuals' past family histories, childbearing preferences, and attitudes towards future challenges and possibilities. To this end, Finland participated in the cross-nationally comparative Generations and Gender Survey (GGS) for the first time in 2021/22. The GGS is part of the research infrastructure 'Generations and Gender Programme' (GGP). The infrastructure provides internationally comparative data on developments in family and population dynamics mainly in European, but also in some non-European countries. The GGS is currently managed by the Netherlands Interdisciplinary Demographic Institute (NIDI). It was first collected in 2004, but is based on the Fertility and Family Survey (FFS) from the 1990s. In Finland, the Population Research Institute at the Family Federation of Finland (Väestöliitto) administered the survey, while Taloustutkimus Oy carried out the data collection.^{1,2}

The Finnish GGS is a web-based survey. It followed the second-round questionnaire developed by the GGP closely, but it also included several additional, country-specific questions.³ In line with the international survey, respondents were asked to provide information on fertility and partnership histories, childbearing intentions, working life and income, gender role attitudes, as well as various socio-economic characteristics. Specifically, the Finnish respondents answered nine modules: demographics (DEM), life histories (LHI), fertility (FER), household (HHDI), generations (GEN), wellbeing (WEL), work histories (WRK), income (INC), and attitudes (ATT).

To better understand recent fertility trends, the Finnish survey added several questions that were implemented in the other Nordic countries. First, similar to Norway and Denmark, GGS Finland utilised the 'Miller Instrument', which captures positive and neg-

1 GGS Finland is grateful to Svenska Kulturfonden, Alli Paasiven Säätiö, and Suomen Kulttuurirahasto for supporting the data collection financially.

2 Grönberg was involved in translating and editing the questionnaire. She also collaborated with the field agency. Miika Mäki was responsible for the register linkage.

3 see Generations and Gender Survey Baseline Questionnaire Version 3.1.1
https://www.ggp-i.org/wp-content/uploads/2022/07/BaselineQuestionnaire_3.1.1.pdf.

ative aspects of having (more) children (Miller, 1995).⁴ Second, the survey collected data on perceptions of future threats. Specifically, in the ‘Global uncertainties’ module’ respondents were asked whether they worry about broader national and global challenges, such as economic crises, climate change, or terrorism. The ‘Global uncertainties’ module was carried out in Norway and Sweden as well as in Croatia and Estonia. Like the other Nordic countries GGS Finland included questions on optimism, risk aversion, and social media use.

Finally, the Finnish survey added questions on mother tongue (Finnish, Swedish, Sami, or other language; see also section 2.1). In addition to respondents’ own mother tongue, GGS Finland asked about the language of parents, the (potential) partner, and the (potential) partner’s parents. It is worth noting that GGS Finland excluded parts of the standard questionnaire to avoid burdening the respondents further. The median duration for filling out the questionnaire was approximately 45 minutes.

A further promising feature of GGS Finland is that answers provided in the survey are linked to administrative records. These include socio-demographic characteristics, such as income, occupation, and household composition, but also information on further family members, such as parents, children, and spouses. The linkage to register data is administered by Statistics Finland together with the Population Research Institute (see also section 2.4). The Research Ethics Committee in the Humanities and Social and Behavioural Sciences at the University of Helsinki has reviewed GGS Finland and approved the data collection strategy (approval number 34/2021). The register linkage was approved by Statistics Finland’s ethical review board.

2. Survey design

2.1 Sampling design, techniques, and frame

The target population of the GGS Finland is all 18–54-year-old individuals who had a registered permanent address in Finland and did not have a non-disclosure for personal safety reasons. Participants were sampled by means of a single random draw from the Finnish population information system; a computerised national register covering all Finnish and foreign citizens residing in Finland. The sampling probabilities, however, varied across strata. Since the population information system includes age, gender, mother tongue, and region, GGS Finland was able to oversample certain groups, specifically Swedish speakers and individuals in their reproductive age.

Table 1 depicts socio-demographic characteristics of the population and the gross sample, i.e., those invited to participate, and highlights differences resulting from the sampling strategy. First, previous research has pointed to differences in family dynamics

4 It is worth noting that GGS Finland did not add the full Miller item battery, but a selected number of statements.

across language groups in Finland. For instance, fertility is higher in the Swedish speaking than the overall Finnish population (Rotkirch et al., 2018) and unions are more stable among Swedish speakers (Saarela & Finnäs, 2014). Thus, to allow researchers to explore differences between the two largest language groups in Finland, Swedish speakers amounted to ca 21% of the sampled individuals, although they constitute approximately 4.3% of the target population (in year 2021). The Swedish speaking population was stratified by region (excluding the Åland islands), ensuring that each area is represented sufficiently. Second, individuals exceeding the fertile age – that is those aged 45–54-years – were represented to a smaller extent in the gross sample than in the full population. Specifically, this age group amounted to 26% of all 18–54-year-old Finnish residents but were included in the net sample as a 13% share. The Finnish GGS team oversampled individuals in reproductive age to ensure that the sample entails enough individuals for whom childbearing is more likely. From the total pool of 2 499 352 individuals stemming from the 18–54-year-old Finnish population (excluding the Åland islands), a sample of 19 600 individuals were drawn based on these criteria.

2.2 Field work

GGs Finland is a web-based survey, collected between October 2021 and April 2022. Respondents were invited through a postal letter, as the population information system entails postal addresses, but not telephone numbers or emails. The invitation letter informed the sampled individuals about the scope and estimated length of the questionnaire (45 minutes). It also noted that answers in the survey will be linked to administrative records and provided further details on this linkage (see also section 2.4). Respondents could access the online questionnaire through a QR code or by typing a link into a browser. The English questionnaire was translated into Finnish and Swedish by the Finnish GGS team. The questionnaire could be filled out on a smartphone, tablet, or computer, with the vast majority of respondents using a smartphone. Given the importance of incentives for the response rate (see e.g., Coryn et al., 2020; Bonke & Fallesen, 2010; Witte et al., 2023), respondents could sign up for a lottery and win one of five gift cards, each worth 100 euros.

In addition to the invitation letter, sampled individuals received both postal reminders and telephone calls from the fieldwork agency. These contact attempts aimed to motivate potential participants by emphasising their unique contribution and the societal importance of the survey. Altogether GGS Finland contacted the sampled individuals between 3 and 7 times. The number of contact attempts varied, as the fieldwork agency was not able to retrieve telephone numbers for all members of the gross sample.

Contact attempts followed a protocol that was developed prior to the field work phase. First, approximately three weeks after the initial invitation letter, all individuals who had not responded or completed the questionnaire received a reminder by post. Two weeks after this first reminder, in November 2021, the fieldwork agency phoned all non-respondents and those with incomplete interviews. Based on name and address information the

fieldwork agency was able to identify telephone numbers for approximately 1/3 of these individuals (altogether for 5485). The remaining 2/3, for whom a telephone number could not be retrieved, received a second reminder by post.

An experienced interviewer called all individuals with an identifiable telephone number, explaining why participation is important. The interviewer then sent participants a link to the questionnaire by SMS or email. The fieldwork agency called sampled individuals altogether three times; the final round of calls took place in January 2022. Overall, this strategy was less efficient than anticipated. First, the share of sampled individuals with an identifiable telephone number was smaller than expected. Second, half of these individuals did not answer the phone, while another 1/3 told the fieldwork agency that they were not interested in filling out the questionnaire. Only ca. 10% of those with an identifiable telephone number agreed to participate and received a link to the survey. In February 2022, this group was reminded twice by emails or SMS to fill out the questionnaire.

2.3 Response rates and non-response

Of the 19 6000 sampled individuals, 3620 participated in the survey. The vast majority of these, 3384 individuals, completed the questionnaire section focusing on partnership and childbearing histories (section “Life histories (LHI)”). It is worth noting that individuals dropping out before completing the LHI are excluded from the GGS data release; only those answering the retrospective set of questions are part of the scientific use file (SUF). In the remaining parts of this document, we refer to this group as “at least partially completed interviews”. Finally, 3074 respondents proceeded to the last question of the survey (“completed interviews”). Taken together, this means that the overall response rate amounts to 18.5% (3620/19600), while the response rate defined as at least partially completed interviews is 17.3% (3384/19600), and as fully completed 15.7% (3074/19600).

While comparable to that of Denmark, Germany, and the United Kingdom (Gauthier et al., 2023), the response rate of GGS Finland is lower than originally anticipated. Non-response in the Finnish survey foremost reflects the fact that sampled individuals did not access the online questionnaire at all. Only a moderate share started the survey but did not finish it: Among those who agreed to answer, the vast majority (85%) also completed the questionnaire. Among the 15980 sampled individuals who did not participate, a small share (2% or 247 individuals) requested that all their information would be removed. A further 75 individuals could not be connected to the administrative records of Statistics Finland.⁵

The low response rate is likely to reflect overall trends, such as a declining participation in scientific surveys. Additionally, the then ongoing COVID pandemic coupled with

5 It is worth noting that the subsequent section, which documents the response rate by socio-demographic characteristics, excludes those who refused participation or for whom a match to administrative records could not be established. Thus, the denominator is 19278 rather than 19600.

an increase in survey research was likely to exhaust potential respondents. It also seems plausible that the length of the questionnaire, explicitly mentioned in the invitation letter, affected response rates negatively. Finally, according to interviewers of the fieldwork agency, some potential respondents felt the topics did not concern them.

2.4 Patterns in response rates

Survey data does not represent the target population if participation is selective. Figure 1 (see also Table 2) displays the response rate by socio-demographic characteristics. The reported response rates are based on respondents who have answered at least the ‘Life histories’ section (‘partially completed’ and ‘completed’ interviews). The gross sample, in turn, excludes the 322 individuals who either explicitly required all information to be removed or who could not be linked to register data (see also note 2 in Table 1). Differences in response rates by socio-demographic characteristics follow the same patterns if we limit the sample to those who completed the final question (complete interviews). Figure 1a-h point to some variation in participation across groups. This variation is in line with patterns documented in several social science surveys (see e.g., Hämäläinen et al., 2021). Most importantly, the response rate is higher among women (21.3%) than among men (14.0%) (see Figure 1a). While differences between Finnish and Swedish speakers are negligible (see Figure 1c), those speaking another language were substantially less likely to participate in the survey (8%). This is not surprising, given that the questionnaire was available only in Finnish and Swedish.

Figure 1e and 1f document that higher socio-economic groups participated more actively than lower. Specifically, the response rate is higher among tertiary educated individuals: some 29.6% of all sampled individuals with a higher tertiary degree participated in the survey. Conversely, the response rate is only 10.5 % among those without an upper secondary degree (or missing information on education). Employees (18.3%) and students (20.7 %) were more likely to answer the questionnaire than unemployed individuals (12.4%) or those with an unknown employment status (11.6%).

The response rate varies somewhat by other socio-demographic characteristics, but these differences are less pronounced than those detected by gender, language, educational level, and main activity. For instance, participation in GGS Finland increases slightly by age, as a comparison between the youngest (18–24 years, response rate 16.9%) and the oldest age groups (45–54 years, response rate 19.2%) reveals (Figure 1b). Regional variation is negligible, although those living in the Helsinki–Uusimaa area answered somewhat more actively than those in other regions (18.2% compared to, for instance, 17.2% in Northern and Eastern (N-E) Finland). Finally, married individuals exhibit higher participation rates (19.3%) than unmarried (16.7%) or divorced/widowed (16.5%), while parents are somewhat less likely to answer than childless individuals (16.6 % compared to 18.4%). Those with three or more children are the least likely to participate in the survey (15.6%) (see Table 2, appendix). Overall, however, differences in response rates by marital status, parenthood, and parity are small.

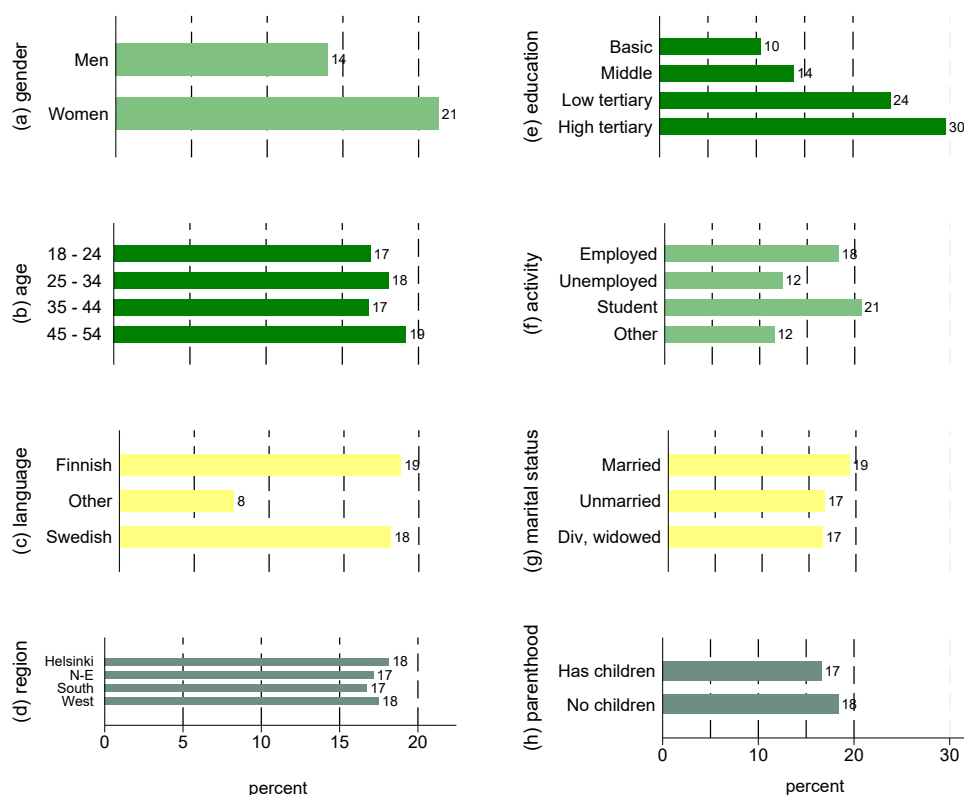


Figure 1 Response rate (in %) by socio-demographic characteristics.

Notes: The distributions are calculated by using administrative records obtained from Statistics Finland (2023a) and are based on the situation at the end of year 2021 (FOLK modules). For Figure 1c, the category “married” also includes those in registered partnerships. The category N-E (Figure 1d) refers to Northern and Eastern Finland. For Figure 1e, the category “Basic” also captures those whose degree cannot be identified (missing information). The response category “student” (Figure 1f) includes those in military or community service, while the group “other” entails missing observations.

2.5 Register data linkages and access to register data

Since the Finnish sample was drawn from the population information system, GGS respondents can be linked to their administrative records. The European General Data Protection Regulation and Finnish legislation allow scientific research to link survey data to register data without explicitly asking respondents to consent. Respondents, however, need to be informed that answers in the questionnaire will be amended with administrative records, specifying the type of information (i.e., a list of variables), and the time period. Record linkage was performed by Statistics Finland. The administrative data span the time period 1987–2026. The linked data set includes, for example, information on employment, unemployment, and income. Individuals can also be linked to further fam-

ily members, such as parents, spouses, and children. Thus, researchers are able to follow changes in respondents' circumstances after the survey, specifically until the end of 2026.

The linked GGS data is stored at a protected server of Statistics Finland and can be accessed through a remote desktop. The Population Research Institute and Statistics Finland review applications wishing to analyse this data. The Population Research Institute and Statistics Finland do not cover the costs for accessing this linked dataset. Researchers interested in using the linked dataset should contact the Population Research Institute at the Family Federation of Finland (Väestöliitto).

2.6 Weights

The survey data, which is available through the GGP website, includes weights based on GGP procedures. The Finnish GGS team also calculated weights that are available in the register-linked dataset. In a first step, this weight corrects for bias caused by sampling design using cell-based weighting. In a second step, the weight corrects for non-response biases by age, gender, region of residence, number of children, and education, using inverse probability weighting. Further details are available upon request (but also see attachment 1 in Sorsa et al., 2023).

3. Representativeness

3.1 Socio-demographic characteristics

We first explore the quality of the Finnish GGS data by describing how well the sample represents the population in relation to core demographic, socio-economic, and family characteristics. Figures 2 and 3 compare distributions in the Finnish GGS data to administrative data. The figures distinguish between the target population (FIN population), all respondents (FIN-GGS all, N: 3384), those who completed the questionnaire (FIN-GGS complete, N: 3074), and those who responded only partially (FIN-GGS partial, N: 310). The last group refers to individuals who answered at least the life course section but did not continue to the final question of the survey. Overall, the sample represents the population but some differences, typical for survey data, are visible also in GGS Finland. The most substantial issues relate to gender, language, and educational background.

First, women are overrepresented in GGS Finland, particularly among those who completed the questionnaire. Approximately 60 % of all completed responses are women although they constitute 49% of the target population (see Figure 2a). The gender composition is more balanced among partially completed responses (52% women), but this is a small group.

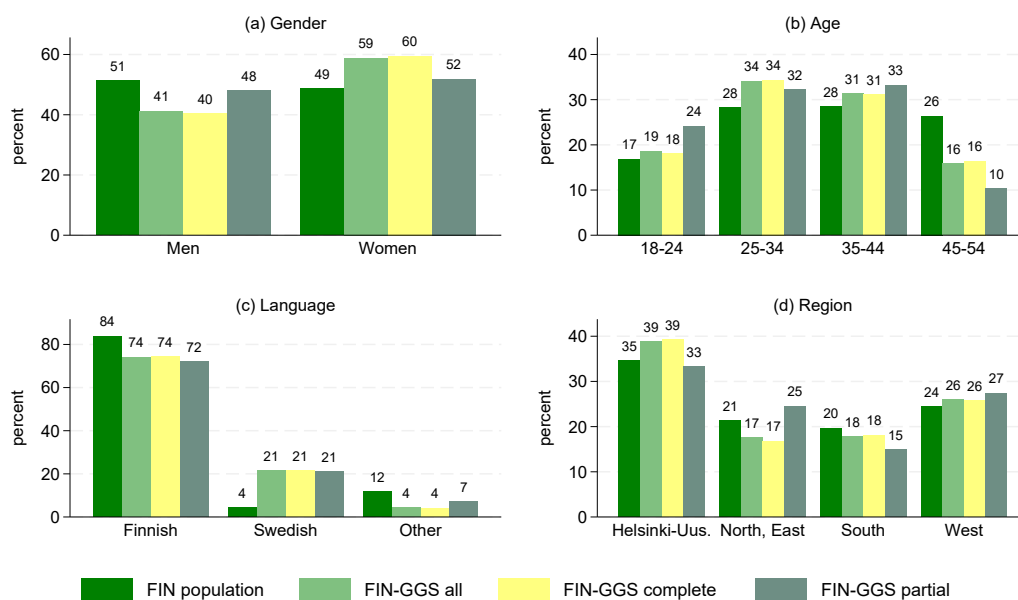


Figure 2 *The population and the Finnish GGS sample by core demographic characteristics (in %)*

Notes: The target population refers to all 18–54-year-olds residing in Finland, but excludes the Åland islands. All distributions (including those for the GGS sample) are calculated by using administrative records obtained from Statistics Finland (2023a) (FOLK modules) and are based on the situation at the end of year 2021.

Figure 2b and 2c point to differences between the target population and GGS Finland in the age and language distributions. These differences partly reflect sampling design. First, Finnish GGS respondents are somewhat younger than individuals in the population, but differences are mild. For instance, while 28% of the target population is between 25 and 34 years the corresponding figure in GGS Finland is 34%. Conversely, 16% of all respondents are between 45 and 54 years old compared to 26% in the population. This pattern is, as such, not surprising, as individuals exceeding their reproductive age were represented to a smaller extent by design.

Second, GGS Finland is skewed in terms of language: 21% of the respondents speak Swedish as mother tongue compared to 4% of the target population, similarly a feature of the sampling design. The lower response rates among those speaking another language are also visible in the sample: only 4% of all GGS Finland respondents do not speak Finnish or Swedish as mother tongue compared to 12% in the population. In contrast, different regions are almost proportionally represented in the sample except for Helsinki-Uusimaa, where 39% of the sample lives compared to 35% in the target population (see Figure 2d).

Figure 3a-d depicts the target population and GGS Finland by socio-economic and family characteristics. One of the largest differences relates to education: the educational level among GGS respondents is higher than that of the target population. This pattern

is less pronounced among those who only partially answered the questionnaire, but this group is small. Specifically, individuals without an upper secondary degree are under-represented among all respondents (11% compared to 19% in the population), whereas tertiary educated individuals are overrepresented (52% in the sample compared to 35% in the population). In contrast, a similar type of selectivity is not visible in the current employment status. Most respondents are employed (some 72% of the sample compared to 69% in the total population). Although students are overrepresented (16% of all respondents and 12% in the population) and unemployed individuals underrepresented (7% compared to 10%), these differences are small.

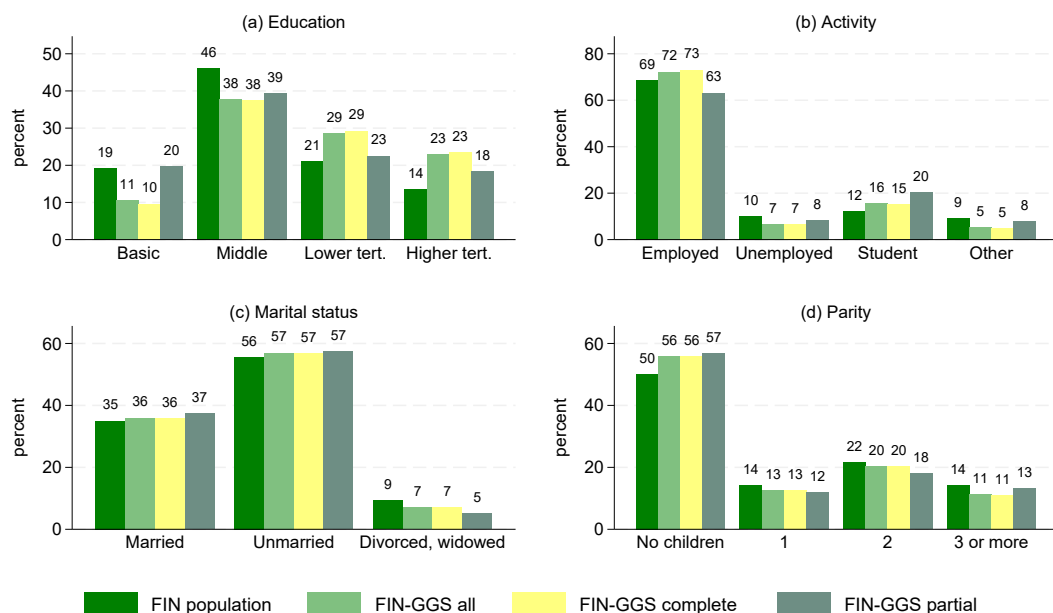


Figure 3 The population and the Finnish GGS sample by socio-economic and family characteristics (in %)

Notes: The target population refers to all 18–54-year-olds residing in Finland, but excludes the Åland islands. All distributions (including those for the GGS sample) are calculated by using administrative records obtained from Statistics Finland (2023a) (FOLK modules) and are based on the situation at the end of year 2021. In Figure 3a (education), the category “Basic” also captures those whose degree cannot be identified (missing information). The response category “student” (Figure 3b) includes those in military or community service, while the group “other” entails missing observations. For Figure 3c, the category “married” also includes those in registered partnerships.

The distribution of family characteristics differs only moderately between the sample and the total population. For instance, 36% of all respondents are married compared to 35% of the population. Childless individuals, in turn, are slightly overrepresented in GGS Finland (56% compared to 50% in the population), but this is likely a consequence of disproportionately sampling younger individuals (compare columns target population and gross sample in Table 1 in the appendix).

3.2 Fertility indicators

Next, we display a set of well-established fertility indicators, analysing how reliably GGS Finland captures childbearing patterns. It is worth noting that respondents who did not provide information on their parental status (that is, those with a missing value in the variable ‘number of children’) are interpreted as childless. Comparisons with administrative records reveal that this coding decision is accurate for 99% of the cases. First, Figure 4 depicts the age-specific fertility rate in 2017–2021. This rate is calculated by dividing the number of births over 2017–2021 to women per age group with the number of similarly aged women in the same years together. Given the low number of births in the sample in single years, we pool together the most recent years to ensure reliable estimates. As Figure 4 shows, the fertility rate in the Finnish GGS data reflects patterns in the full population: it is the highest for those aged 30–34, and lower in both younger and older age groups. Compared to the target population, the fertility rate is somewhat higher among 35–39-year-olds and lower among those below the age of 30; a pattern likely to reflect the larger share of highly educated in the sample. Nonetheless, in the age group 30–34, where most births occur, the fertility rates in GGS Finland and the population are almost identical.

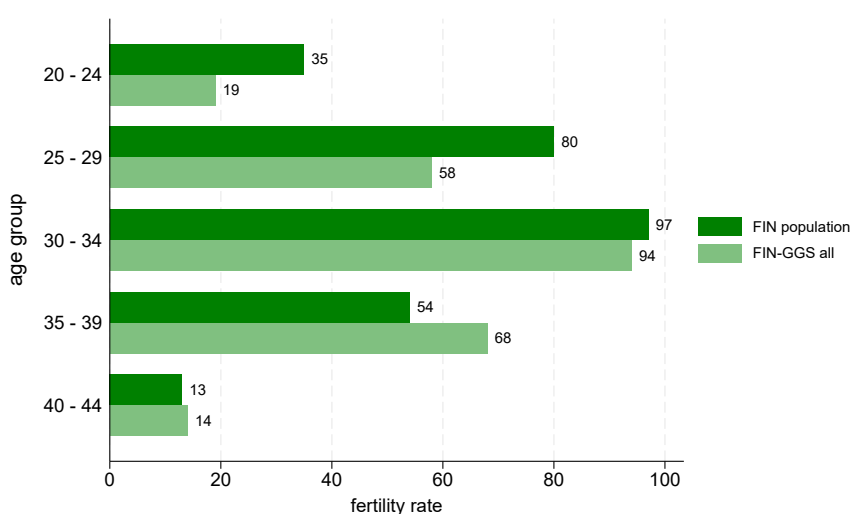


Figure 4 *The age-specific fertility rate for women (births / 1000 women) over 2017–2021 – comparing GGS Finland with administrative data*

Notes: The target population refers to all 20–44-year-old women residing in Finland. Information on the population is based on administrative records of Statistics Finland (2023 b, c), while estimates for GGS Finland utilize answers in the survey. The age-specific fertility rate is calculated as a weighted average over the years.

Figures 5–7 display for women (*left*) and men (*right*) born between 1967 and 1980 the completed cohort fertility (CFR) at age 40, childlessness at age 40, and the mean age at first, second, and third birth. As the number of observations for single cohorts in GGS Finland is limited, birth cohorts are pooled together.

Estimates for the completed cohort fertility at age 40 in GGS Finland are similar to the population (see Figure 5a and b). Differences between the sample and the population are modest – 0.2 at the most – and do not appear to be systematic, at least for men. Correspondingly, Figure 6a–b show that GGS Finland both under- and overestimates the share of childless individuals at age 40 compared to the target population. Yet, among the pooled birth cohorts, deviations from the population are not substantial and do not seem to vary systematically by birth cohort or gender. Finally, as Figure 7a–d show, the mean age at the birth of the first and second child in GGS Finland corresponds almost perfectly to the target population for both men and women. Deviations from the population mean are larger for the third child (Figure 7e–f), particularly among men. Except for men born between 1970–1973, also these differences are modest and do not exceed 2 years.

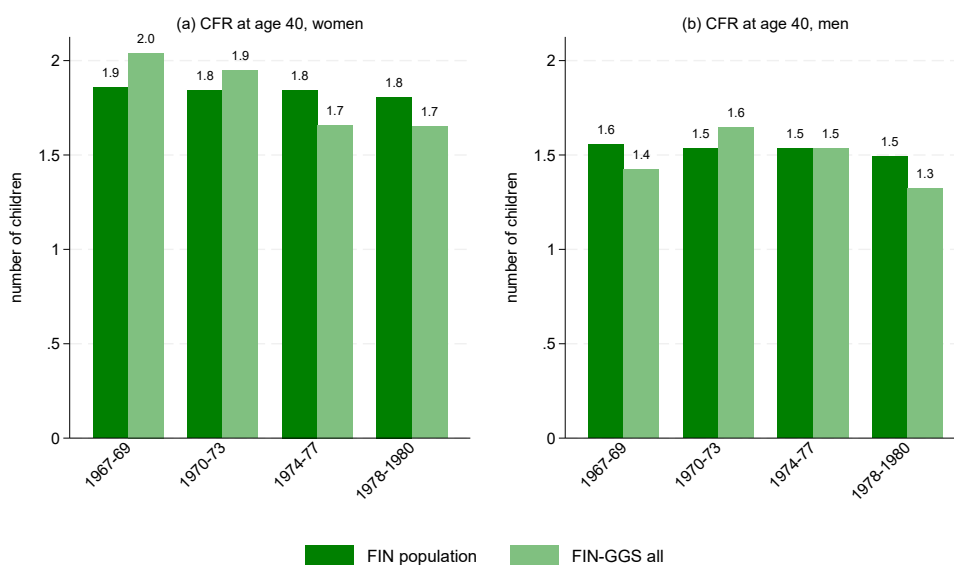


Figure 5 Completed cohort fertility at age 40 by gender – comparing GGS Finland with administrative data

Notes: The target population refers to men and women (birth cohorts 1967–1980) residing in Finland. Information on the population is based on administrative records of Statistics Finland (2023a) (FOLK modules), while estimates for GGS Finland utilize answers in the survey. Missing responses in the variable ‘number of children’ in GGS Finland are coded as childless, as this decision corresponds to information in administrative records.

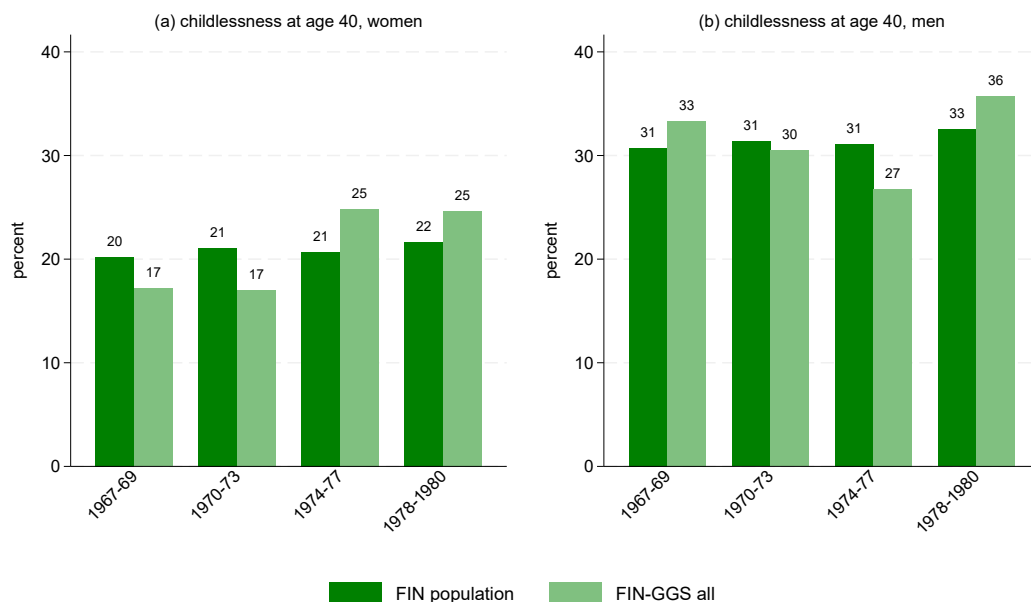


Figure 6 *Proportion of childless individuals at age 40 by cohort and gender – comparing GGS Finland with administrative data*

Notes: The target population refers to men and women (birth cohorts 1967–1980) residing in Finland. Information on the population is based on administrative records of Statistics Finland (2023a) (FOLK modules), while estimates for GGS Finland utilize answers in the survey. Missing responses in the variable ‘number of children’ in GGS Finland are coded as childless, as this decision corresponds to information in administrative records.

Taken together, GGS Finland represents the population well. Family characteristics and fertility, which are at the core of the GGS, are similar in the sample and the population. The most notable exceptions relate to the overrepresentation of women and highly educated individuals and the underrepresentation of those speaking another language than Finnish and Swedish. These patterns, however, are typical in survey data. It is also worth noting that the decision to oversample individuals in reproductive age means that the number of observations in single older birth cohorts are small. Nonetheless, the completed cohort fertility rate and childlessness at age 40, estimated for pooled birth cohorts, show a relatively high correspondence between GGS Finland and the population. Still, we highly recommend utilising GGP’s weights or weights provided by the Finnish GGS team to adjust estimates and mitigate potential bias, which stems from sampling design and non-response. The Finnish GGS team also encourages researchers to use control variables and perform sensitivity analyses to ensure findings are not driven by response bias.

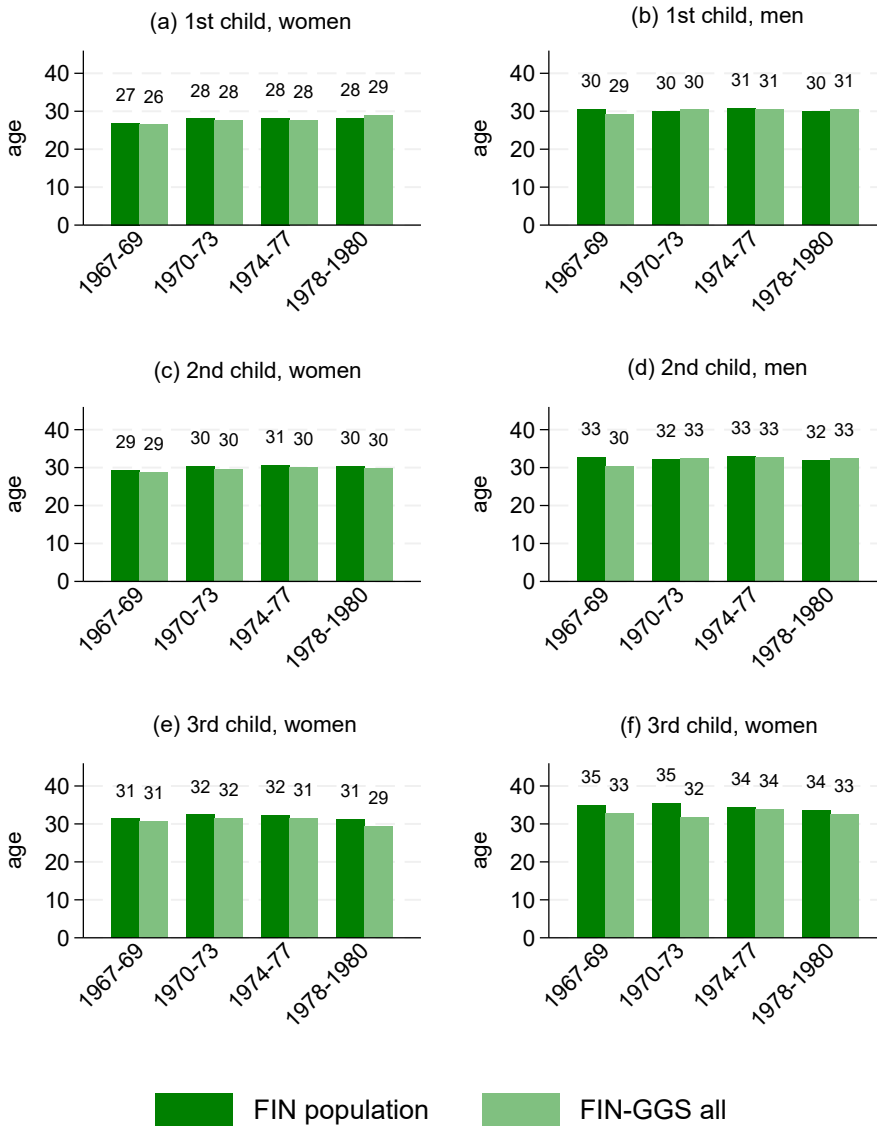


Figure 7 Age at birth of the first, second, and third child by gender – comparing GGS Finland with administrative data

Notes: The target population refers to men and women residing in Finland, but excludes the Åland islands. As the Finnish GGS team did not have access to information on children’s year of birth for the full population, only for the gross sample (i.e., for 19600 individuals, see also Table1), the population estimates refer to this latter group. Information on the population is based on tailored administrative records of Statistics Finland, while estimates for GGS Finland utilize answers in the survey.

4. Conclusions

To understand the substantial transformations in family dynamics in the past decades, researchers and policy makers need high-quality data that capture a wide range of possible explanations. The first GGS in Finland, which was collected in 2021/2022 as a web-based survey, caters this need. First, by collecting cross-nationally comparative data on relationship and childbearing histories, employment patterns, gender-role attitudes, and fertility intentions the scope of GGS goes far beyond that of register data, and allows researchers to compare Finland with a wide range of countries. Second, similar to the other Nordic countries, the Finnish survey included questions on childbearing motivations (Miller instrument) and concerns about different societal threats (Global Uncertainty). This allows researchers to explore childbearing preferences and perceptions of uncertainty to a greater extent. Finally, the linkage of survey data to longitudinal, administrative records in the time frame 1987–2026 provides a unique opportunity to view past and future family and employment trajectories. This is certainly a strong contribution to the otherwise cross-sectional Finnish GGS data.

The Finnish GGS is based on data on 3384 individuals in the age range 18–54, residing in Finland. The vast majority of these, 3074, completed the questionnaire. Although the response rate amounts to approximately 17.3% for all respondents – and 15.7% for complete questionnaires – analyses of core socio-demographic and family characteristics as well as a set of well-established fertility indicators revealed that the respondents, by and large, represent the target population. The most substantial challenges in the GGS Finland data relate to the overrepresentation of women and tertiary educated and the underrepresentation of individuals speaking another language than Finnish and Swedish. For other characteristics and indicators, such as employment, marital status, the age-specific fertility rate, or the mean age at first birth, the distributions among the GGS respondents largely comply with ones in the target population. Nonetheless, we encourage researchers to use individual-level population weights, include control variables, and perform sensitivity analyses.

Funding

The study is part of NetResilience consortium funded by the Strategic Research Council within the Academy of Finland (grant number 345184 and 345183). Work was also funded by the Academy of Finland grant 350480.

GGS Finland data collection was supported financially by Svenska Kulturfonden, Alli Paasiven Säätiö, and Suomen Kulttuurirahasto

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Table 1 *The Finnish population, GGS Finland invites, and the response rate by socio-demographic characteristics (in %).*

	Finnish population (A) ¹	GGS Finland invites (B) ²	Difference (B-A)	Response rate ³
CORE DEMOGRAPHIC CHARACTERISTICS				
Gender				
Men	51.38	51.57	0.19	14.0
Women	48.62	48.43	-0.19	21.3
Age				
18-24	16.90	19.38	2.48	16.9
25-29	13.91	16.38	2.47	18.3
30-34	14.39	16.82	2.44	17.8
35-39	14.51	17.05	2.54	16.9
40-44	13.94	15.83	1.89	16.6
45-49	12.94	7.06	-5.88	18.1
50-54	13.41	7.48	-5.93	20.2
Language				
Finnish	83.81	69.14	-14.68	18.8
Swedish	4.29	20.71	16.42	18.2
Other	11.90	10.15	-1.74	7.7
Geographical region				
Western Finland	24.47	25.97	1.50	17.5
Helsinki-Uusimaa	34.57	37.44	2.87	18.2
Southern Finland	19.66	18.70	-0.96	16.8
Northern and Eastern Finland	21.30	17.89	-3.41	17.2
EDUCATION LEVEL AND FAMILY DEMOGRAPHICS				
Educational level				
Basic or unknown	19.30	17.73	-1.57	10.5
Middle	46.08	47.56	1.48	13.9
Lower tertiary	21.05	21.09	0.04	23.9
Higher tertiary	13.57	13.62	0.05	29.6
Activity status				
Employed	68.59	69.15	0.56	18.3
Unemployed	10.17	9.49	-0.68	12.4
Student, conscript, community service	12.05	13.37	1.31	20.7
Other or unknown	9.19	7.99	-1.20	11.6

Marital status				
Married, registered partnership	35.04	32.70	-2.34	19.3
Unmarried	55.62	59.85	4.23	16.7
Divorced, widowed	9.34	7.45	-1.89	16.5
Transition to parenthood				
No children	50.08	53.54	3.45	18.4
Has children	49.92	46.46	-3.45	16.6
Parity				
No children	50.08	53.54	3.45	18.4
1	14.20	13.56	-0.64	16.3
2	21.53	20.29	-1.23	17.5
3 or more	14.19	12.61	-1.58	15.6
N	2499352	19 278		

Notes: 1 The Finnish population is based on all 18–54 residing in Finland, but excludes the Åland islands.

2. While GGS Finland invited 19 600 individuals to participate in the survey, 247 individuals refused participation and record linkage; 75 could not be linked to register data. The characteristics displayed in Table 1 are based on administrative records.

3. The response rate for each category is calculated as follows: (partial + completed interviews)/invited individuals who could be linked to administrative records.

Table 2 *The Finnish population, GGS respondents, and the response rate by socio-demographic characteristics (in %).*

		FIN pop- ulation (A)	GGS all (B)	GGS com- plete (C)	GGS partial (D)	Differ- ence (B-A)	Differ- ence (C-A)	Differ- ence (D-A)
CORE DEMOGRAPHIC CHARACTERISTICS								
Gender	Men	51.38	41.16	40.47	48.06	-10.22	-10.91	-3.31
	Women	48.62	58.84	59.53	51.94	10.22	10.91	3.31
Age	18-24	16.90	18.62	18.05	24.19	1.71	1.15	7.29
	25-29	13.91	17.11	17.24	15.81	3.20	3.33	1.90
	30-34	14.39	17.02	17.08	16.45	2.64	2.69	2.07
	35-39	14.51	16.43	16.20	18.71	1.92	1.69	4.20
	40-44	13.94	14.92	14.96	14.52	0.98	1.02	0.58
	45-49	12.94	7.27	7.58	4.19	-5.67	-5.36	-8.75
	50-54	13.41	8.63	8.88	6.13	-4.78	-4.53	-7.28
Language	Finnish	83.81	74.14	74.37	71.94	-9.67	-9.45	-11.88
	Swedish	4.29	21.42	21.47	20.97	17.13	17.18	16.67
	Other	11.90	4.43	4.16	7.10	-7.46	-7.73	-4.80
Region	Western Finland	24.47	25.92	25.76	27.42	1.45	1.30	2.95
	Helsinki-Uusimaa	34.57	38.74	39.30	33.23	4.17	4.73	-1.34
	Southern Finland	19.66	17.85	18.15	14.84	-1.81	-1.51	-4.82
	Northern and Eastern Finland	21.30	17.49	16.79	24.52	-3.81	-4.51	3.22
EDUCATION LEVEL AND FAMILY DEMOGRAPHICS								
Education level	Basic or unknown	19.30	10.58	9.66	19.68	-8.73	-9.64	0.37
	Middle	46.08	37.74	37.57	39.35	-8.35	-8.51	-6.73
	Lower tertiary	21.05	28.69	29.31	22.58	7.65	8.26	1.53
	Higher tertiary	13.57	22.99	23.45	18.39	9.42	9.89	4.82
Main activity	Employed	68.59	72.25	73.16	63.23	3.67	4.58	-5.36
	Unemployed	10.17	6.71	6.54	8.39	-3.46	-3.63	-1.79
	Student, conscript, community service	12.05	15.78	15.32	20.32	3.73	3.27	8.27
	Other or unknown	9.19	5.26	4.98	8.06	-3.93	-4.21	-1.12
Marital status	Married, registered partnership	35.04	36.02	35.88	37.42	0.99	0.84	2.38
	Unmarried	55.62	56.97	56.93	57.42	1.35	1.31	1.80
	Divorced, widowed	9.34	7.00	7.19	5.16	-2.34	-2.15	-4.18
Transition to parenthood	No children	50.08	56.00	55.92	56.77	5.91	5.84	6.69
	Has children	49.92	44.00	44.08	43.23	-5.91	-5.84	-6.69
Parity	No children	50.08	56.00	55.92	56.77	5.91	5.84	6.69
	1	14.20	12.56	12.62	11.94	-1.64	-1.58	-2.26
	2	21.53	20.24	20.46	18.06	-1.29	-1.07	-3.46
	3 or more	14.19	11.20	11.00	13.23	-2.99	-3.19	-0.96

Notes: 1 The Finnish population is based on all 18–54 residing in Finland, but excludes the Åland islands. The characteristics displayed in Table 2 are based on administrative records.