



Fertility Research Data in Practice

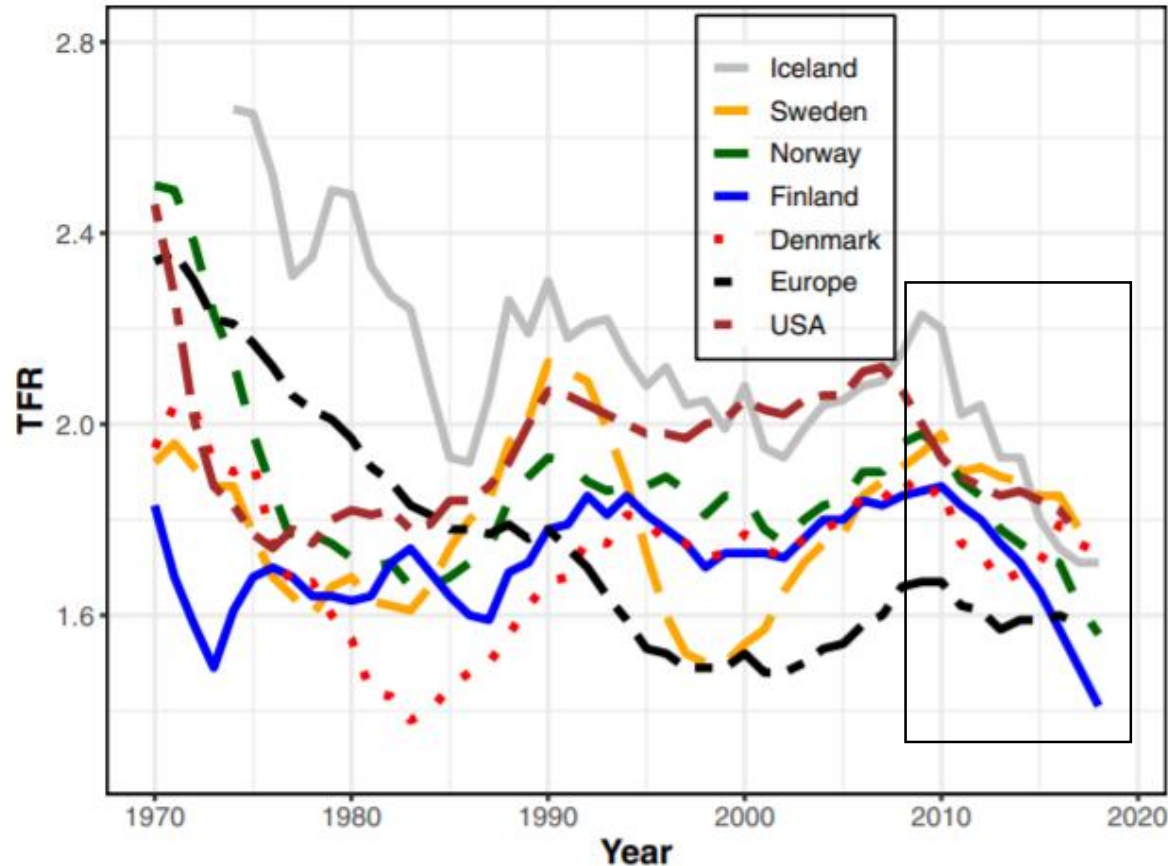
Julia Hellstrand

Discussion Series: Human Research Data in Practice on 23rd November 2021

Outline of the presentation

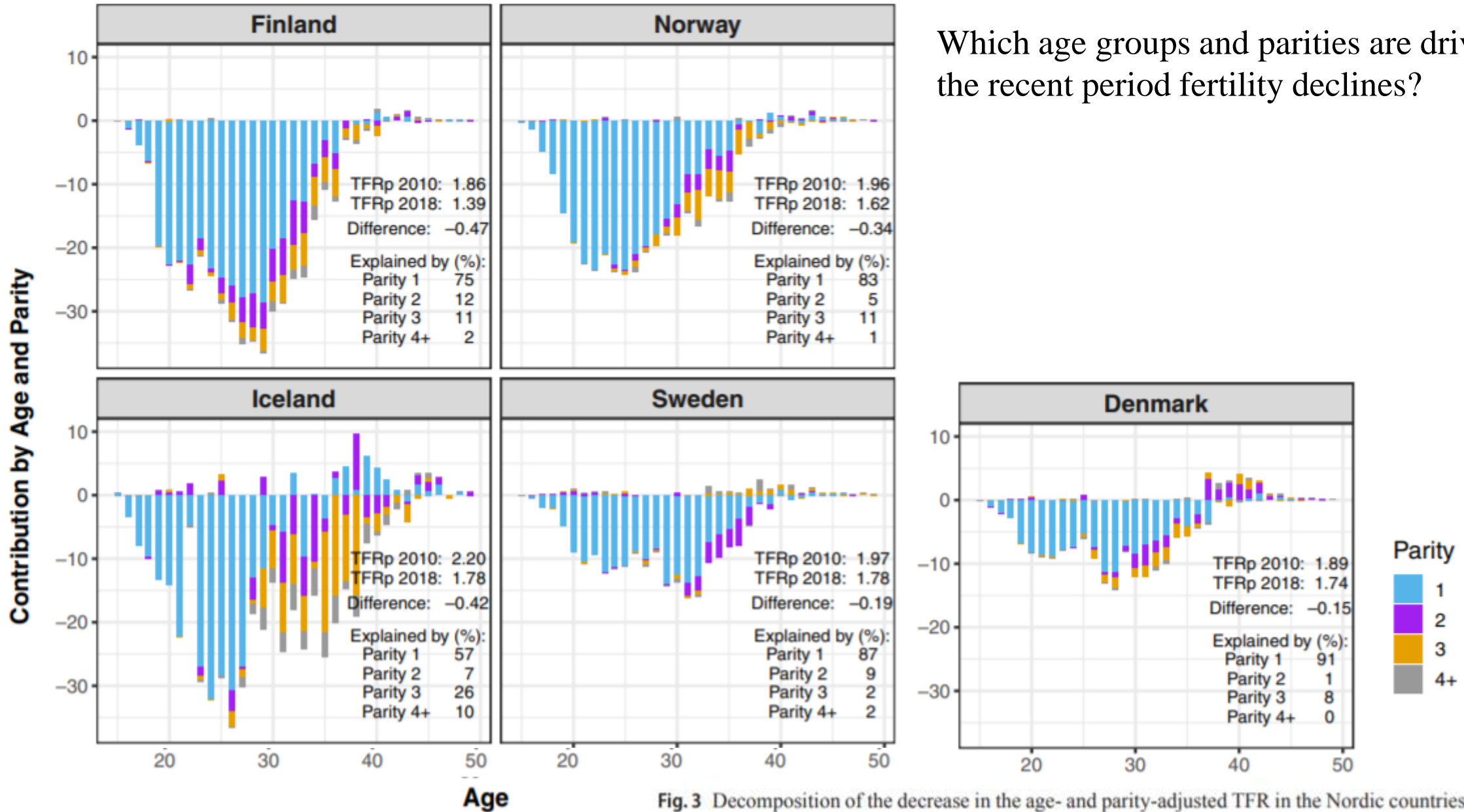
- Not Just Later, but Fewer: Novel Trends in Cohort Fertility in the Nordic Countries. *Julia Hellstrand, Jessica Nisén, Vitor Miranda, Peter Fallesen, Lars Dommermuth, Mikko Myrskylä.*
<https://doi.org/10.1215/00703370-9373618>
- The Human Fertility Database <https://www.humanfertility.org/cgi-bin/main.php>
- Finnish register individual-level data

Background: Strong and unexpected fertility decline in the 2010s



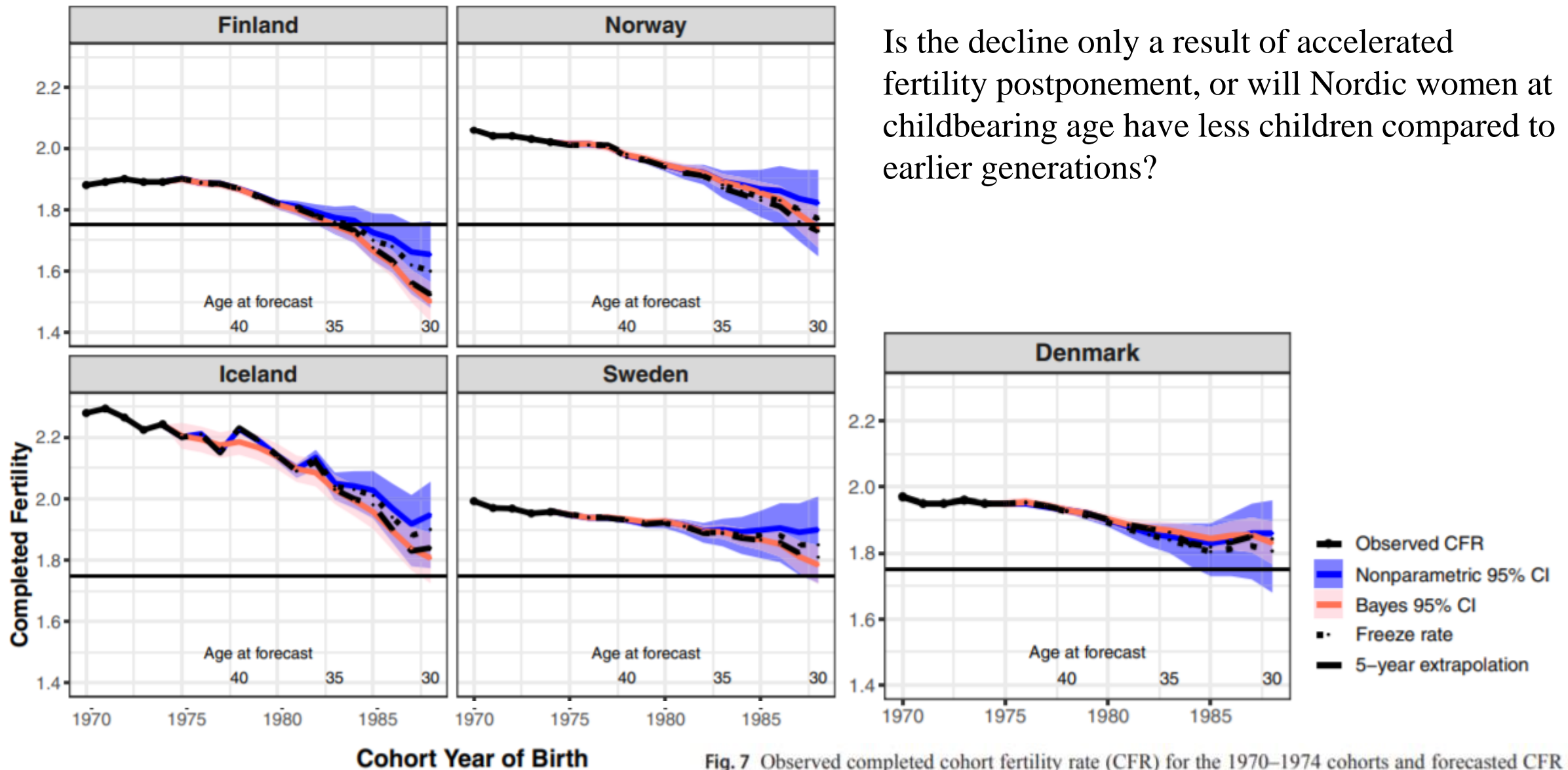
Total fertility rate (TFR) =
The average number of children who would be born alive to a woman during her lifetime, if the age-specific fertility rates of a given year remained constant during her childbearing years. It is computed as the sum of fertility rates by age across all childbearing ages in a given year. (Human Fertility Database, 2021)

Fig. 1 Total fertility rate (TFR) in the Nordic countries and average TFR among European countries in 1970–2018. European countries include Austria, Belgium, Bulgaria, Czech Republic, Denmark, Estonia, Finland, France, Greece, Hungary, Iceland, Ireland, Italy, Lithuania, Luxembourg, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, and the United Kingdom. Sources: Eurostat (2019), Nordic Statistical Bureaus (2020), and the Human Fertility Database (2020).



Which age groups and parities are driving the recent period fertility declines?

Fig. 3 Decomposition of the decrease in the age- and parity-adjusted TFR in the Nordic countries in 2010–2018 by age and parity. Sources: Authors’ calculations based on Nordic Statistical Bureaus (2020) and the Human Fertility Database (2020).



Is the decline only a result of accelerated fertility postponement, or will Nordic women at childbearing age have less children compared to earlier generations?

Fig. 7 Observed completed cohort fertility rate (CFR) for the 1970–1974 cohorts and forecasted CFR for the 1975–1988 cohorts in the Nordic countries. The unbroken black line indicates the threshold for very low fertility, at 1.75. CI=confidence interval. Sources: Authors' calculations based on Nordic Statistical Bureaus (2020) and the Human Fertility Database (2020).



The Human Fertility Database

Follow @HFDatabase

In response to the high interest and importance of research on the impact of the COVID-19 pandemic on the fertility trends, the HFD team introduced a new data resource: **Short-Term Fertility Fluctuations (STFF)** data series. The STFF series provides up-to-date data on monthly birth counts for selected countries and can be accessed [here](#).

The Human Fertility Database (HFD) is a joint project of the [Max Planck Institute for Demographic Research](#) (MPIDR) in Rostock, Germany and the [Vienna Institute of Demography](#) (VID) in Vienna, Austria, based at MPIDR. We seek to provide free and user-friendly access to detailed and high-quality data on period and cohort fertility and thus to facilitate research on changes and inter-country differences in fertility in the past and in the modern era. The HFD is entirely based on official vital statistics and places a great emphasis on data checking and documentation and on warranting data comparability across time and countries by means of uniform methodology. [Read more](#)

The MPIDR and the VID also collaborate on the Human Fertility Collection (www.fertilitydata.org), which is supplementing the HFD. The HFC incorporates a variety of valuable fertility data from diverse, not necessarily official, data sources. The major responsibility for the quality of data entering the HFC rests with data producers/providers. Therefore, HFC data, unlike those in the HFD, might be of lower quality.

For users who seek fast access to the most commonly used summary indicators of period and cohort fertility, we provide excel tables comprising the following indicators for all the HFD countries:

HFD summary indicators					
Total fertility rate	Tempo-adjusted TFR	Mean age at birth	Mean age at first birth	Completed cohort fertility	Cohort parity

PERIOD TOTAL FERTILITY RATES. Last modified 13/10/2021										
COUNTRY	Austria	Belarus	Bulgaria	Canada	Croatia	Czechia	Denmark	Estonia	Finland	France
PERIOD	AUT	BLR	BGR	CAN	HRV	CZE	DNK	EST	FIN	FRATNP
1960	2,70	0,00	2,31	3,91		2,12	2,57	1,98	2,72	2,74
1961	2,79	0,00	2,29	3,85		2,14	2,55	1,98	2,72	2,83
1962	2,80	0,00	2,24	3,77		2,15	2,55	1,97	2,68	2,80
1963	2,82	0,00	2,21	3,68		2,35	2,64	1,91	2,69	2,90
1964	2,80	2,28	2,18	3,51		2,38	2,60	1,97	2,60	2,92
1965	2,70	2,24	2,09	3,15		2,21	2,61	1,92	2,48	2,85
1966	2,66	2,31	2,03	2,82		2,04	2,62	1,90	2,41	2,80
1967	2,62	2,29	2,02	2,60		1,93	2,35	1,91	2,32	2,67
1968	2,59	2,32	2,27	2,46		1,86	2,12	2,03	2,14	2,59
1969	2,49	2,29	2,27	2,40		1,89	2,00	2,13	1,93	2,53
...										
2010	1,44	1,50		1,64	1,55	1,52	1,87	1,72	1,87	2,02
2011	1,43	1,52		1,62	1,48	1,43	1,75	1,61	1,83	2,00
2012	1,44	1,62		1,62	1,51	1,45	1,73	1,56	1,80	1,99
2013	1,44	1,67		1,60	1,46	1,46	1,67	1,52	1,75	1,97
2014	1,46	1,70		1,61	1,46	1,53	1,69	1,54	1,71	1,98
2015	1,49	1,73		1,60	1,40	1,57	1,71	1,58	1,65	1,93
2016	1,53	1,73		1,59	1,43	1,63	1,79	1,61	1,57	1,89
2017	1,52	1,54		1,54	1,42	1,69	1,75	1,59	1,49	1,86
2018	1,48	1,45		1,50	1,47	1,71	1,73	1,67	1,41	1,84
2019	1,46				1,47	1,71	1,70	1,66	1,35	
2020							1,68			
Change	0,02	-0,05		-0,13	-0,08	0,19	-0,20	-0,06	-0,52	-0,18
Change (%)	1,2	-3,1		-8,2	-5,2	12,7	-10,4	-3,5	-28,0	-8,7

We seek to provide open, international access to these data. At present, the database contains detailed period and cohort fertility data for the following countries:

Detailed data by country				
Austria	Denmark	Italy	Republic of Korea	Taiwan
Belarus	Estonia	Japan	Russia	Ukraine
Bulgaria	Finland	Lithuania	Slovakia	⊕ U.K.
Canada	France	Netherlands	Slovenia	U.S.A
Chile	⊕ Germany	Norway	Spain	
Croatia	Hungary	Poland	Sweden	
Czechia	Iceland	Portugal	Switzerland	

The HFD will be continually updated and more countries will be added with time. Below we present countries which are on our "coming next" list. For these countries we provide only age-specific fertility rates based on the original official data. Please be aware that these data have not been fully processed, checked, and corrected and may not be free of mistakes and biases.

Preliminary release				
Greece	Ireland	Israel	Latvia	Luxembourg

For more information, please begin by reading an [overview](#) of the database. If you have comments or questions, or trouble gaining access to the data, please contact us at info@humanfertility.org.




















Finland

You are logged in as Julia Hellstrand

[Summary Indicators](#)
[Age-Specific Data](#)
[Fertility Tables](#)
[Input Data](#)

[Background and Documentation](#)

Birth counts, population exposures, and rates: period

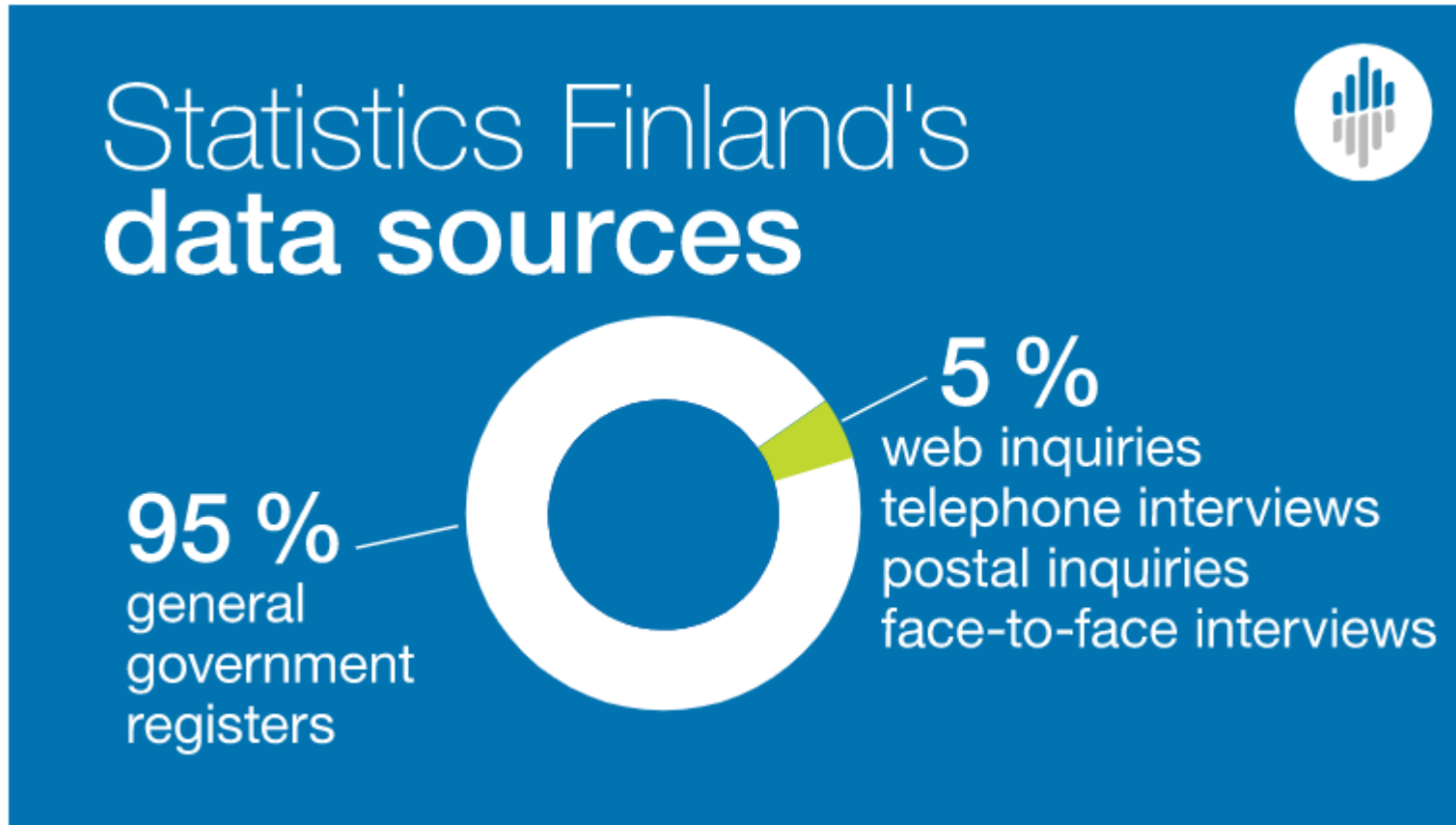
	All birth orders combined			By birth order		
	year, age, cohort	year, age	year, cohort	year, age, cohort	year, age	year, cohort
Birth counts	 1939-2019	 1939-2019	 1939-2019	 1982-2019	 1982-2019	 1982-2019
Female population exposure	 1939-2019	 1939-2019	 1939-2019	-	-	-
Age-specific fertility rates	 1939-2019	 1939-2019	 1939-2019	 1982-2019	 1982-2019	 1982-2019
Cumulative fertility rates	-	 1939-2019	 1939-2019	-	 1982-2019	 1982-2019

Birth counts, population exposures, and rates: cohort

	All birth orders combined	By birth order
Birth counts	 1884-2006	 1927-2006
Female population exposure	 1884-2006	-
Age-specific fertility rates	 1884-2006	 1927-2006
Cumulative fertility rates	 1924-2006	 1967-2006

[Data sources](#)

Finnish individual-level register data



personal relationships and address details



Finnish individual-level register data

Statistics Finland's data sources

95 %
general
government
registers



5 %
web inquiries
telephone interviews
postal inquiries
face-to-face interviews

Is the recent decline in first births related to changes in partnering patterns?

Is the fertility decline more pronounced in some educational fields?



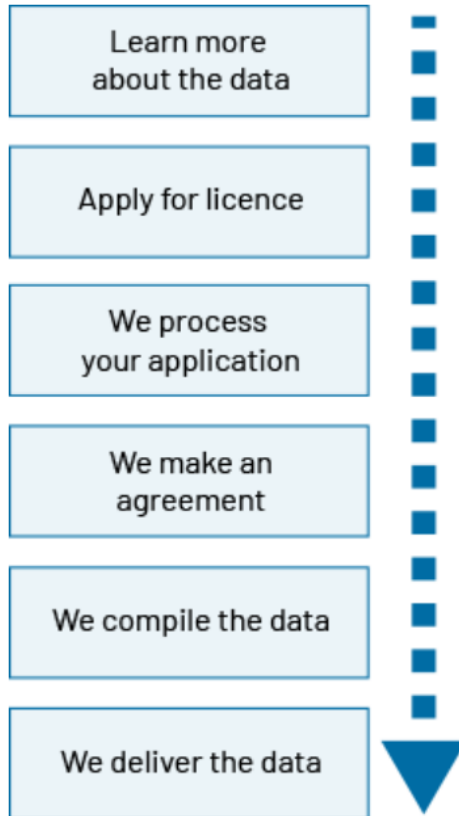
DIGITAL AND
POPULATION DATA
SERVICES AGENCY

personal relationships and
address details



OPETUSHALLITUS
UTBILDNINGSSTYRELSEN
education information

Application process for data



Statistics Finland Taika - research data catalogue

Data name	Description	Reference period	Number of variables	Number of observations	Select
FOLK Basic data	The FOLK module for basic data contains individual-level data from the statistics on the structure of the population, the employment stat...	01.01.1987 - 31.12.2020	61		<input type="checkbox"/>
FOLK child – parents	FOLK child - parents module contains personal data of the biological parents for children whose parents are known. In this data set the c...	01.01.1970 - 31.12.2020	8		<input type="checkbox"/>
FOLK Income	The FOLK Income data module contains data on population living permanently in Finland on the last day of each statistical year. The modul...	01.01.1987 - 31.12.2019	32		<input type="checkbox"/>



Thank you!



julia.hellstrand@helsinki.fi

hellstrand@demogr.mpg.de



@HellstrandJulia

Sources:

- Hellstrand, J., Nisén, J., Miranda, V., Fallesen, P., Dommermuth, L., & Myrskylä, M.; Not Just Later, but Fewer: Novel Trends in Cohort Fertility in the Nordic Countries. *Demography* 1 August 2021; 58 (4): 1373–1399. doi: <https://doi.org/10.1215/00703370-9373618>
- Human Fertility Database. (2021). Rostock, Germany: Max Planck Institute for Demographic Research; Vienna, Austria: Vienna Institute of Demography. Retrieved from www.humanfertility.org
- Statistics Finland (2021)
 - https://www.stat.fi/tup/mikroaineistot/etakaytto_en.html
 - <https://taika.stat.fi/en/>
- Suomi (2021) <https://www.suomi.fi/your-data>