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DOES UNCERTAINTY AFFECT FERTILITY INTENTIONS IN ESTONIA,
SWEDEN AND FINLAND?

Master Thesis

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I have written this Master's Thesis independently. Any ideas or data taken from other authors or other sources have been fully referenced.

Abstract

This study examines the association between economic uncertainty and fertility intentions in Estonia, Finland, and Sweden using the second wave of the Generations and Gender Survey (GGS, 2021). Respectively, 4,073, 2,010 and 3,755 observations aged 18–40 are analysed using logistic regression models with average marginal effects, incorporating employment status, perceived financial wellbeing, objective household income, and subjective worry about the future economy as key predictors. The results show that employment stability and perceived financial wellbeing are consistently and positively associated with fertility intentions across all three countries. Objective income effects reach statistical significance only in Finland, and worry about the future economy is uniformly non-significant across all countries and model specifications. Cross-national differences in the subjective income gradient are consistent with variation in welfare state generosity. Additionally, exploratory analyses reveal that worry about overpopulation in Finland and military conflict in Sweden are negatively associated with fertility intentions, suggesting that ecological and geopolitical concerns are emerging as relevant factors in reproductive decision-making.

1. Introduction

Economic uncertainty constitutes a central element in understanding contemporary fertility behaviour and can be observed at both macro and micro levels. At the macro level, economic uncertainty is often associated with periods of economic crisis, labour market volatility, and broader economic instability. Such conditions can lead individuals to postpone major life decisions, including family formation, due to concerns about future financial security (Mills et al., 2011). However, recent fertility declines in developed countries cannot be explained solely by traditional economic indicators such as unemployment or income fluctuations. Increasingly, researchers emphasize the role of subjective perceptions of economic uncertainty - that is, internal, cognitive assessments of one's economic situation that are shaped by individual interpretation and may diverge from externally measured, objective indicators, which may influence fertility decisions even when objective economic conditions appear relatively stable (Vignoli et al., 2020; Comolli & Andersson, 2021; Lindström, 2025).

These findings suggest that individuals' expectations about the future and their perceived ability to cope with potential economic risks play an important role in shaping reproductive intentions. This demographic shift poses challenges for economic growth, as it can lead to labor shortages, increased pressure on pension and healthcare systems, and reduced productivity. The more the number of older workers increases, and labour force attendance falls at prime working age, aggregate labour productivity and fiscal pressure on pension and healthcare systems amplify (Cylus & Al Tayara, 2021). Furthermore, country like Italy is already grappling with the economic and social consequences of ageing populations. At the same time, declining fertility reflects broader changes in individual priorities and life choices, such as the pursuit of higher education, career advancement, and personal fulfillment, which often delay or reduce childbearing (Fahlén & Oláh, 2018).

A further dimension to consider is that sensitivity to economic uncertainty may not be uniform across national contexts but may instead be shaped by culturally embedded orientations toward ambiguity. Hofstede's Uncertainty Avoidance Index (UAI) provides a widely used macro-level framework for capturing this variation, measuring the degree to which members of a society feel uncomfortable with uncertainty and ambiguity (Hofstede, 1980; Hofstede, 2001). Estonia and Finland

score comparably high on the UAI, at 60 and 59 respectively, while Sweden scores markedly lower at 29, indicating substantially greater societal comfort with uncertain conditions. These differences suggest that Estonian and Finnish populations may, on aggregate, respond more strongly to perceived economic uncertainty when making fertility decisions, whereas Swedish respondents may exhibit greater resilience to similar levels of perceived uncertainty. The cross-national variation observed in the present study may therefore partly reflect culturally conditioned differences in uncertainty tolerance rather than differences in economic conditions alone. It should be noted, however, that UAI operates as a macro-level cultural predictor and is not measured at the individual level in this study.

While cultural context may account for between-country variation in how economic uncertainty shapes fertility intentions, it does not fully explain why individuals within the same national and economic environment respond differently to perceived uncertainty. One plausible individual-level mechanism is neuroticism, a trait within the Five-Factor Model of personality characterised by emotional instability, heightened anxiety, and a tendency to interpret ambiguous situations as threatening. Individuals scoring high on neuroticism may be disproportionately sensitive to perceived economic uncertainty, amplifying its effect on fertility decision-making relative to those with lower neuroticism scores. Research has documented associations between FFM traits and reproductive outcomes (Jokela et al., 2011), and neuroticism in particular has been linked to uncertain fertility expectation trajectories, especially among men (Özoruç et al., 2025). It must be emphasised that personality traits are not measured in the present study; neuroticism is therefore identified here as a theoretically plausible individual-level moderator warranting attention in future research rather than a variable included in the current analysis.

The Gender Revolution Theory (Goldscheider et al., 2015) provides a useful framework for understanding fertility trends. According to this framework, the initial fertility decline was driven by women's increasing participation in education and the labor market, which disrupted the balance between work and family life. The second phase characterized by greater male involvement in household responsibilities was expected to restore fertility rates. The experience of Nordic countries, where family-friendly policies coincided with relatively higher fertility rates at the beginning of the 2000s, has been regarded as consistent with this theoretical trajectory (Goldscheider et al., 2015). The early 2000s are considered the early stages of what Goldscheider et al.

(2015) describe as the "second half" of the gender revolution, where evolving norms around fatherhood and shared domestic responsibilities began to reshape family dynamics.

However, fertility declines in Western countries, particularly in the last 10–15 years, challenge these predictions (Sobotka et al., 2011). The main trend discussed is the decline or postponement of fertility during and following economic recessions, particularly the Great Recession of 2008–2009. Fertility tends to decline during economic downturns in developed countries. This trend is particularly evident among cohorts, where childbearing is often postponed due to economic uncertainty. While the Great Recession initially contributed to this trend, fertility rates have remained low even after economic recovery. Many studies (Ayllón, 2019; Bellido & Marcén, 2019) link this to economic uncertainty, emphasizing job insecurity and financial instability as key deterrents to childbearing.

Furthermore, even countries less affected by economic crises, such as the Nordic nations, have seen fertility decline (Comolli & Andersson, 2021), suggesting that beyond objective economic uncertainty, perceived uncertainty, including social, environmental, and geopolitical concerns, may also influence fertility decisions. Even more surprising is the decline in fertility intentions among younger generations (Comolli, 2023; Berrington et al., 2024), which could make reversing these trends even more challenging.

Demographic changes are influenced by a multitude of factors, among which economic uncertainty might play a significant role. Individuals often consider their future financial stability when making decisions, including about having children. Concerns such as income instability, job insecurity, economic fluctuations, and inflation are key indicators that might shape people's perceptions and influence their decisions to either delay or embrace parenthood. A notable example is the 2008 financial crisis, which had a profound impact on fertility rates, leading to a significant decline in many high-income countries (Goldstein et al., 2013). Furthermore, subjective perceptions of economic insecurity, such as fears of unemployment or insufficient savings, often have a more substantial impact on fertility intentions than objective economic conditions (Fahlén & Oláh, 2018). Extensive research in this area can provide critical insights into how policies and social structures might be designed to support individuals and families in navigating these uncertainties, thereby aiding

them in making informed decisions about childbearing in an increasingly unpredictable world.

Becker's (1960) model establishes economic rationality as the foundation of fertility decisions, two unresolved questions emerge in contemporary contexts. First, does the observed decline in birth intentions stem more from measurable economic burden (e.g., housing costs) or from subjective fears of instability (e.g., hazardous employment)? Addressing these questions tests the limits of Becker's theory and highlights actionable areas for policy innovation.

This study adds to the ongoing discussion by using data from the 2021 wave of the Generations and Gender Survey (GGS), which captures both objective and subjective dimensions of economic uncertainty. The data come from Estonia, Finland, and Sweden, enabling a comparative analysis of how each type of uncertainty shapes people's decisions about having children. The results can help policymakers better understand how to support families across different welfare state contexts.

The remainder of this thesis is structured as follows. Section 2 reviews the theoretical framework and relevant empirical literature on economic uncertainty and fertility intentions. Section 3 describes the data, variables, and analytical strategy. Section 4 presents the results of the regression models for Estonia, Finland, and Sweden. Section 5 discusses the findings in relation to the theoretical framework and prior research. Section 6 concludes with a summary of key findings, policy implications, and directions for future research.

2. Theoretical framework and previous studies

Economic uncertainty depicts the starting point of this framework, encompassing both aggregate-level and individual-level dimensions. At the macro level, economic uncertainty manifests during recessions and periods of economic volatility, which typically lead to delays in major life commitments such as family formation due to rising uncertainties about future economic conditions. However, contemporary fertility declines in developed countries cannot be reasonably explained by conventional economic indicators alone, suggesting instead that subjective perceptions of economic futures disconnected from current economic conditions play a more critical role (Comolli, 2017; Lindström, 2025)

The relationship between fertility decline and economic uncertainty is a complex and multifaceted phenomenon that can be understood through the lens of

several interdisciplinary theories. These theories provide a foundation for analyzing how economic conditions, both objective and subjective, influence fertility decisions. This framework integrates demographic transition theory, economic theories of fertility, risk aversion theory, and life course theory to explore the mechanisms through which economic uncertainty shapes reproductive behavior (Wang & Zhong, 2022).

The framework distinguishes between objective and subjective dimensions of economic uncertainty. Objective economic uncertainty refers to measurable precarious conditions such as unemployment or part-time employment, while subjective perceptions of economic uncertainty reflect how individuals cognitively interpret and experience their economic circumstances. Importantly, the research has demonstrated that subjective perceptions of economic uncertainty often add to and compound the effects of objective economic indicators, particularly in contexts where fertility declines do not correspond to conventional economic metrics.

The concept of globalization provides important context for understanding contemporary economic uncertainty. Globalization, understood as the increasing integration of economies through international trade, technological advancement, and global labour markets, has significantly transformed employment structures and economic opportunities. While globalization has created new economic possibilities, it has also increased competition in labour markets and contributed to greater job insecurity for many individuals (Mills et al., 2011; Vignoli et al., 2020). Technological change and automation have further altered the nature of work, often leading to more flexible but also more precarious employment arrangements, such as temporary contracts or gig-based work. These developments can reduce individuals' sense of economic security, as workers may face uncertain career prospects, unstable income, and difficulties predicting their long-term financial situation. Such conditions may make it harder for individuals and couples to plan major life events, including childbearing, since decisions about having children are often closely tied to expectations of future economic stability.

Economic uncertainty, compounded by globalization and technological changes, has been recognized as a critical factor in fertility decisions (Vignoli et al., 2020), leading to postponement of childbearing or even decline (Vignoli et al., 2020) argue that perceived uncertainty is just as important as objective economic indicators, such as unemployment or income instability, in shaping fertility intentions. Vignoli et

al. introduces a new Narrative Framework, which conjectures that fertility decisions are influenced not only by past experiences and current conditions but also by individuals' narratives of the future. These narratives are shaped by socialization agents such as parents, peers, and the media. Understanding fertility patterns in Europe requires considering the role of personal and shared narratives of the future. These narratives help individuals navigate uncertainty and make long-term decisions, including those related to childbearing. Even in relatively stable economies, such as Sweden, fertility rates have fallen, illustrating how perceived instability can handle independently of measurable economic crises (Comolli & Andersson, 2021). There are few studies on the subjective dimension of economic uncertainty that mainly focused on Southern European countries. A study by Gatta et al. (2022) in Italy found that perceived resilience to job loss is a strong predictor of fertility intentions, while perception of employment stability had a limited impact. The study differentiates between perceived employment stability (likelihood of retaining a job) and perceived resilience (ability to recover from job loss). Another study by Luppi et al. (2022) in Italy found that the COVID-19 crisis heightened perceived financial risks, leading vulnerable groups such as the self-employed and temporary workers to abandon or postpone their pre-pandemic fertility plans.

Economic theories of fertility, particularly the microeconomic theory of fertility (Becker, 1960), offer a framework for understanding individual decision-making in the context of economic uncertainty. Becker's theory conceptualizes children as "consumer goods" that provide utility to parents but also incur costs, including direct expenses (e.g., education, healthcare) and opportunity costs (e.g., foregone income and career advancement). According to this theory, the relative costs and benefits of childbearing, which are shaped by economic conditions influence the fertility decisions. Becker's theory mentions that when people earn more money, they usually want fewer children but are willing to invest more in each one shifting from quantity to quality. So, as income raises up, people focus more on the quality of children rather than the number. This would mean that fertility rates might decline, but not dramatically, because people can still afford to have children.

Furthermore, the costs of raising children particularly housing and childcare have grown substantially relative to household incomes across developed high-income countries (Blossfeld & Hofmeister, 2006), generating what economists describe as an affordability constraint that intensifies the quantity–quality trade-off

central to Becker's framework. While Becker's (1960) model predicts that rising incomes should increase both the number of children and the level of per-child investment in human capital (education, health, and developmental resources), contemporary fertility rates in high-income countries fall below these predictions. Economic insecurity appears to push households toward foregoing parenthood entirely rather than simply reducing family size, as the perceived cost of meeting adequate human capital investment thresholds becomes prohibitive. Furthermore, Becker's income–fertility predictions were formulated in a specific historical context of low female labour force participation and modest opportunity costs of childbearing that differs considerably from contemporary Nordic labour markets, where women's educational and professional attainment substantially raises the opportunity cost of having children (Blossfeld & Hofmeister, 2006). Becker himself acknowledged that higher incomes do not deterministically increase birth rates once the substitution effect (children competing with consumption and leisure) is accounted for, leaving the net direction of income effects on fertility theoretically ambiguous.

Higher income provides individuals with greater financial security, enabling them to afford the costs associated with raising children. However, in contemporary high-income countries it is consistently observed that individuals with higher earnings tend to have fewer children, resulting in lower fertility rates. This reflects the fact that higher-income individuals often prioritise career advancement, higher education, and personal fulfilment over larger families (Esping-Andersen & Billari, 2015). The assumption that lower-income individuals compensate with higher fertility as was characteristic of pre-transition societies where children served as economic support or old-age security no longer holds in fully transitioned welfare states. Across OECD countries, fertility decline has occurred at all income levels, driven by long-term cultural and institutional shifts rather than short-term economic constraints alone. As Castles (2003) documents across 21 OECD countries, changing preferences and family norms have reshaped reproductive behaviour independently of income, while Colleran (2016) demonstrates that fertility decline is better understood through intergenerational transmission of norms and cultural evolution than through economic rationality alone. Thus, the relationship between income and fertility is complex and varies across economic and cultural contexts (Mills et al., 2011).

Economic uncertainty amplifies the perceived costs of childbearing. For instance, job insecurity, income volatility, and rising housing costs increase the

financial burden of raising children, leading individuals to postpone or forgo parenthood (Comolli et al., 2021). Additionally, economic theories highlight the role of opportunity costs, particularly for women. In uncertain economic environments, women may delay childbearing to invest in education or career stability, further contributing to fertility decline (Mills et al., 2011). These insights underscore the importance of economic factors in shaping fertility intentions and behaviors. Women facing unstable or precarious employment conditions might be more likely to delay childbearing, as economic instability, such as temporary contracts or unemployment, creates significant uncertainty that may discourage them from starting families (Kreyenfeld, M. 2010). This uncertainty is particularly pronounced among women with higher educational attainment and strong career aspirations, who often prioritize establishing a stable career before having children. Consequently, the desire to achieve professional stability and financial security emerges as a critical factor influencing fertility timing. Economic stability, therefore, plays a pivotal role in fertility decision-making, with women being more inclined to have children when they feel financially secure and have stable employment. The study concludes that economic and employment uncertainties act as significant barriers to earlier childbearing, especially for highly educated women with ambitious career goals. To address these barriers, the study suggests that implementing supportive policies such as affordable childcare, flexible work arrangements, and enhanced job security could help align fertility intentions with actual fertility behaviors, thereby mitigating the trend of delayed parenthood.

Risk Aversion Theory (Kahneman & Tversky, 1979) helps explain why subjective perceptions of instability may matter more than objective conditions. People tend to weigh potential losses more heavily than gains when making decisions under uncertainty. In fertility decisions, this manifests as heightened sensitivity to job insecurity or future financial instability, even when current circumstances appear stable. This psychological dimension is particularly relevant for younger who reached the fertile age during the 2008 financial crisis and COVID-19 pandemic, potentially creating generational differences in risk tolerance.

Empirical studies have suggested that perceived job and income security are critical determinants of fertility intentions. For example, the empirical analysis by Fahlén and Oláh (2018) is based on data extracted from the European Social Survey (ESS), waves 2004/2005 and 2010/2011, which are the only ones that include

information on short-term childbearing intentions and perceived job security around the years of the Great Recession. The paper explains how macroeconomic conditions and individual economic uncertainty affect short-term first-birth intentions across ten European countries with different institutional contexts.

At the micro-level, the study finds that increased economic uncertainty following the Great Recession significantly reduced men's fatherhood intentions compared with 2004, while the decline in women's motherhood intentions had been more stable. These findings suggest that economic security plays a crucial role in family formation decisions. One explanation for this difference is that traditional gender norms often position men as primary economic providers, which may make their fertility intentions more sensitive to changes in employment stability and income prospects. When men perceive their economic position as insecure, they may postpone or reconsider plans for fatherhood. Women's fertility intentions, while also influenced by economic conditions, may be shaped by a broader set of factors, including biological timing, partnership dynamics, and long-term life planning (Mills et al., 2011; Fahlén & Oláh, 2018). Women's economic insecurity is found to mainly result in the abandonment of motherhood for younger mothers (<30), with no effects seen at older ages. Interestingly, the welfare regime does seem to shape this relationship. The continuation of gendered breadwinner norms could reduce transitions to dual-earner families that are generally fertility-enhancing. The research shows that uncertainty surrounding economic conditions interacts differently based on gender when it comes to their fertility intentions. As a result, economic uncertainty may affect men's and women's fertility intentions through somewhat different mechanisms.

To test these hypotheses, the empirical analysis includes several indicators capturing both objective and subjective dimensions of economic uncertainty. Employment status (employed, unemployed, in education, and other activities) serves as a measure of objective labour market attachment and is used to evaluate H1. Perceived financial well-being, measured through respondents' ability to make ends meet, is used to test H2 by capturing the subjective assessment of household economic conditions. Finally, respondents' level of worry about the economic situation is included to examine H3, reflecting perceived macroeconomic uncertainty. These variables are incorporated into logistic regression models estimating the probability that individuals intend to have a child within the next three years. Thus,

the following hypotheses are proposed:

- H1:** Employment stability positively affects fertility intentions, with employed individuals more likely to intent to have another child than those in education or unemployed.
- H2:** Perceived financial well-being is positively associated with fertility intentions.
- H3:** The objective financial wellbeing is positively associated with fertility intentions.
- H4:** Worry about the future economy crisis negatively affects fertility planning.
- H5:** Perceived financial situation has more importance in determining fertility intentions among parents than the objective financial situation.

3.Data and modelling

This study draws on data from the Generations and Gender Survey (GGS), specifically the second round of data collection conducted in 2021, covering Estonia, Finland, and Sweden. The GGS is a cross-national panel survey that collects rich information on demographic behaviour, family formation, and the social and economic contexts in which these decisions are made. The combined dataset across the three countries comprised 4075, 2010 and 3755 observations respectively, after restricting the sample to individuals aged 17 to 40. The research focuses on individuals aged 17 to 40 because beyond this age, biological fecundity declines substantially for women, even with the use of contemporary reproductive technologies, and fertility intentions at older ages are less likely to translate into actual childbearing within the three-year window captured by the dependent variable (Dommermuth et al., 2011; Testa, 2014). In Estonia, mothers aged 40 and older account for 2% of all recorded births (Fahlén & Oláh, 2018), making this demographic group less central to the study of fertility intentions.

The dependent variable is “intention to have a child in next 3 years”, operationalised using the GGS-II survey item *fer14*: "Do you intend to have a/another child during the next three years?". Respondents selected from a five-point scale ranging from *Definitely not* (1) to *Definitely yes* (5), with an additional category for those currently pregnant (6). For the purposes of this analysis, the variable was recoded into a binary outcome as respondents who answered *Probably yes* or *Definitely yes* were coded as 1 (*intends to have a child within three years*), while those who answered *Definitely not* or *Probably not* were coded as 0 (*does not intend*). Respondents who selected *Unsure* or indicated they were currently pregnant

were excluded from the analysis, as these responses do not reflect a clear positive or negative intention and would introduce ambiguity into the outcome measure. This dichotomisation is consistent with standard practice in fertility intentions research using GGS data (Sobotka & Beaujouan, 2014; Spéder & Bálint, 2024). After applying these exclusions, the final analytical samples comprised 4,073 observations for Estonia, 2,010 for Finland, and 3,755 for Sweden.

We treated responses marked "N/A" as missing data or when the question did not apply to the respondent (for instance, when asking menopausal women about their future childbearing plans). The survey included two types of "N/A" responses: genuine uncertainty about the future and questions that did not apply to the respondent. Rather than excluding observations with missing responses on key independent variables (for instance, ability to make ends meet, level of worry about the economic situation, etc.), missing values were retained and coded as a separate "Unknown" category, ensuring a larger sample size in the regression models. The pregnancy condition builds up a short-term impact on women's economic perception because many women suspend their work activities during pregnancy. Thus, the used research design produces unbiased results about childbearing decisions because it prevents biological constraints and short-term life events. These restrictions were implemented to ensure analytical relevance, as pregnancy may directly impact intention responses, and older individuals are generally past the age of active childbearing or related decision points.

Independent variables include age group, ethnicity, main activity status, marital status, perceived economic difficulty, and worries about the economic situation. A logistic regression model was used to estimate the probability of intending to have another child, followed by the computation of Average Marginal Effects (AMEs) to facilitate interpretation. All analyses were conducted in R.

Table 1 presents descriptive statistics for the analytical samples across the three countries. The distributions highlight several cross-national differences. Estonia has the lowest share of students (12.6%) and the smallest proportion of high-income respondents, while Sweden has by far the largest share of above-40K earners (57.3%). The proportion of respondents with no children is highest in Finland (71.4%). Worry about the economy is most prevalent in Estonia, where nearly half the sample reports being somewhat worried, compared to just over a third in Sweden.

Table 1

Descriptive Statistics

Variables	Estonia			Finland			Sweden		
	N of total sample	% of total sample	Intend in 3 years, %	N	%	Intend in 3 years, %	N	%	Intend in 3 years, %
Age group									
Below 25	922	22.6	25.8	637	31.7	12.4	873	27.5	10.2
25 to 35	1801	44.2	47.1	841	41.8	38.9	1404	44.2	48.3
35 and above	1350	33.1	25.2	532	26.5	15.6	902	28.4	21.4
Ethnicity									
Est- Fin-Swe	3022	74.2	34.5	1565	77.9	23.1	2828	89.2	29.7
Others	1051	25.8	36.6	445	22.1	28.5	343	10.8	34.1
Ends meet									
easily	1270	31.2	40.3	845	42.0	28.5	2056	64.7	31.8
fairly easily	1135	27.9	33.9	533	26.5	23.3	667	21.0	29.5
with difficulty	978	24.0	30.2	385	19.2	14.3	393	12.4	26.0
NAs	690	16.9	34.1	247	12.3	27.9	63	2.0	12.7
Employment status									
Employed	2520	61.9	38.3	1088	54.1	30.9	1944	61.2	35.9
In education or training	514	12.6	20.2	527	26.2	11.0	752	23.7	13.7
Others	902	22.1	35.0	296	14.7	27.0	336	10.6	37.8
Unemployed	137	3.4	30.7	99	4.9	15.2	147	4.6	21.8
Objective income									
Below 10K	316	7.8	28.8	148	7.4	14.2	51	1.6	15.7
10-20K	556	13.7	35.8	184	9.2	13.6	338	10.8	30.5
20-40K	887	21.8	39.6	326	16.3	24.5	882	28.1	45.0
Above 40K	552	13.6	41.3	615	30.7	34.8	1803	57.3	23.0
UNK	1762	43.3	31.7	728	36.4	20.3	70	2.2	28.6
Child Order									
No child	2328	57.2	40.6	1436	71.4	23.5	2098	66	29.9
1	657	16.1	53.6	198	9.9	58.6	358	11.3	66.8
2	765	18.8	14	258	12.8	10.1	595	18.7	15
3+	323	7.9	7.1	118	5.9	7.6	128	4	3.9
Worry: economy									
Not worrying	816	20.0	36.3	644	32.0	24.1	1624	51.1	29.7
Somewhat worrying	1952	47.9	35.5	833	41.4	24.7	1201	37.8	32.0
Very worrying	922	22.6	33.4	303	15.1	20.5	343	10.8	26.2
UNK	383	9.4	34.2	230	11.4	28.7	11	0.3	27.3

Notes. * There logistic regression models are estimated in stepwise manner to examine the association between the independent variables and the dependent variable and estimated separately for each country.

Source: author's calculations.

Table 2 presents the Spearman rank-order correlation matrix for Estonia (N = 4,073). Child order shows the strongest negative correlation with fertility intentions ($\rho = -.21$, $p < .001$), while subjective and objective income are positively associated. Worry variables correlate strongly with each other but show weak and largely non-significant associations with fertility intentions.

Table 2 presents the correlation matrix for Finland (N = 2,010). Objective income shows a notably stronger positive correlation with fertility intentions ($\rho = .19, p < .001$) compared to Estonia, and overpopulation worry shows a significant negative correlation ($\rho = -.12, p < .001$), a pattern not observed in Estonia.

Table 2

Spearman Rank-Order Correlation Matrix, Estonia (N = 4,073)

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. Age group	1.00																
2. Child order	.44***	1.00															
3. Subj. income	.01	.01	1.00														
4. Obj. income	.10***	.16***	.36***	1.00													
5. Eco crisis	.01	.04*	-.12***	-.04**	1.00												
6. Unemployment	-.02	.02	-.18***	-.19***	.41***	1.00											
7. Military	-.06***	-.01	-.03*	-.04**	.33***	.36***	1.00										
8. Org. crime	-.01	.04*	-.06***	-.09***	.25***	.44***	.50***	1.00									
9. Refugees	.10***	.08***	-.04**	-.04**	.27***	.38***	.33***	.34***	1.00								
10. Terrorism	-.02	.05**	-.04*	-.01	.27***	.30***	.49***	.44***	.32***	1.00							
11. Climate	-.13***	-.08***	.03*	.07***	.22***	.12***	.30***	.11***	.08***	.32***	1.00						
12. Epidemics	-.01	.03	-.01	.04**	.32***	.29***	.42***	.30***	.20***	.36***	.38***	1.00					
13. Democracy	-.04*	.00	-.04*	.04*	.30***	.27***	.36***	.25***	.21***	.22***	.29***	.29***	1.00				
14. Inequality	-.05**	-.02	-.09***	-.04*	.29***	.35***	.32***	.26***	.16***	.22***	.34***	.33***	.50***	1.00			
15. Extremism	-.02	-.02	-.01	.07***	.28***	.21***	.35***	.21***	.12***	.22***	.41***	.37***	.52***	.51***	1.00		

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
16. Future gen.	.03	.07***	-.08***	-.04**	.28***	.27***	.30***	.22***	.23***	.20***	.30***	.27***	.35***	.38***	.34***	1.00	
17. Fertility int.	-.04**	-.21***	.09***	.08***	-.02	-.02	.01	.03	.02	.01	-.01	.01	-.01	-.05**	-.02	-.02	1.00

Notes. * Spearman rank-order correlation matrix, Estonia (N = 4,073). Values represent Spearman's ρ (rho), rounded to two decimal places. The lower triangle shows all pairwise correlations; the upper triangle is intentionally left blank because the matrix is symmetric, the upper-triangle values are identical to those in the lower triangle and are omitted to avoid redundancy. Diagonal entries show self-correlations ($\rho = 1.00$). Cells with a light grey background indicate a statistically significant association ($p < .05$). Variable key: 1 = Age group (1 = below 25, 2 = 25–35, 3 = 35 and above); 2 = Child order (number of existing children: 0, 1, 2, 3+); 3 = Subj. income (subjective financial wellbeing, ability to make ends meet, 1–4); 4 = Obj. income (objective household annual income, four brackets); 5 = Eco crisis; 6 = Unemployment; 7 = Military; 8 = Org. crime; 9 = Refugees; 10 = Terrorism; 11 = Climate; 12 = Epidemics; 13 = Democracy; 14 = Inequality; 15 = Extremism; 16 = Future gen.; 17 = Fertility int. (intention to have a child within the next three years, 0 = no, 1 = yes). Worry items 5–16 coded: 1 = not worrying, 2 = somewhat worrying, 3 = very worrying.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Source: Generations and Gender Survey (GGS), Wave 2 (2021).

Table 3 presents the correlation matrix for Finland (N = 2,010). Objective income shows a notably stronger positive correlation with fertility intentions ($\rho = .19$, $p < .001$) compared to Estonia, and overpopulation worry shows a significant negative correlation ($\rho = -.12$, $p < .001$), a pattern not observed in Estonia.

Table 3

Spearman Rank-Order Correlation Matrix, Finland (N = 2,010)

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1. Age group	1.00																	
2. Child order	.49***	1.00																
3. Subj. income	.05*	.02	1.00															
4. Obj. income	.39***	.35***	.36***	1.00														

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
5. Eco crisis	-.05*	-.10***	-.15***	-.10***	1.00													
6. Unemployment	-.09***	-.10***	-.15***	-.12***	.42***	1.00												
7. Military	-.10***	-.10***	-.10***	-.12***	.32***	.30***	1.00											
8. Org. crime	.01	.00	-.08***	-.04	.27***	.32***	.41***	1.00										
9. Refugees	.05*	.01	-.05*	.03	.33***	.32***	.23***	.28***	1.00									
10. Terrorism	-.04	-.03	-.09***	-.07**	.24***	.24***	.39***	.46***	.32***	1.00								
11. Climate	-.10***	-.12***	.01	-.10***	.15***	.09***	.23***	.00	-.04	.21***	1.00							
12. Overpopulation	.01	-.12***	.00	-.04	.29***	.21***	.22***	.14***	.34***	.25***	.32***	1.00						
13. Epidemics	-.06**	-.06*	-.07**	-.07**	.28***	.22***	.44***	.25***	.09***	.28***	.33***	.12***	1.00					
14. Democracy	-.07**	-.12***	-.14***	-.09***	.29***	.30***	.39***	.24***	.18***	.17***	.21***	.20***	.27***	1.00				
15. Inequality	-.07**	-.10***	-.13***	-.13***	.24***	.26***	.34***	.19***	.04	.14***	.36***	.19***	.29***	.56***	1.00			
16. Extremism	-.10***	-.15***	-.06**	-.09***	.24***	.17***	.38***	.23***	.04	.21***	.37***	.19***	.35***	.47***	.49***	1.00		
17. Future gen.	-.08***	-.07***	-.08***	-.12***	.29***	.24***	.24***	.09***	.12***	.13***	.46***	.28***	.27***	.32***	.39***	.35***	1.00	
18. Fertility int.	.05*	-.02	.12***	.19***	-.02	-.04	-.01	.03	-.01	-.01	-.06*	-.12***	-.01	-.07**	-.04	-.08***	-.06**	1.00

Notes. * Spearman rank-order correlation matrix, Finland (N = 2,010). Values represent Spearman's ρ (rho), rounded to two decimal places. The lower triangle shows all pairwise correlations; the upper triangle is intentionally left blank because the matrix is symmetric, the upper-triangle values are identical to those in the lower triangle and are omitted to avoid redundancy. Diagonal entries show self-correlations ($\rho = 1.00$). Cells with a light grey background indicate a statistically significant association ($p < .05$).

Variable key: 1 = Age group (1 = below 25, 2 = 25–35, 3 = 35 and above); 2 = Child order (number of existing children: 0, 1, 2, 3+); 3 = Subj. income (subjective financial wellbeing, ability to make ends meet, 1–4); 4 = Obj. income (objective household annual income, four brackets); 5 = Eco crisis; 6 = Unemployment; 7 = Military; 8 = Org. crime; 9 = Refugees; 10 = Terrorism; 11 = Climate; 12 = Overpopulation; 13 = Epidemics; 14 = Democracy; 15 = Inequality; 16 = Extremism; 17 = Future gen.; 18 = Fertility int. (intention to have a child within the next three years, 0 = no, 1 = yes). Worry items 5–17 coded: 1 = not worrying, 2 = somewhat worrying, 3 = very worrying.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Source: Generations and Gender Survey (GGS), Wave 2 (2021).

Table 3 presents the correlation matrix for Sweden (N = 3,755). Objective income is negatively correlated with fertility intentions ($\rho = -.15$, $p < .001$), which is the reverse of the Estonian and Finnish patterns and reflects Sweden's distinctive non-linear income structure. Overpopulation worry is again negatively associated with fertility intentions.

Table 4

Spearman Rank-Order Correlation Matrix, Sweden (N = 3,755)

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1. Age group	1.00																	
2. Child order	.54***	1.00																
3. Subj. income	.04*	.03	1.00															
4. Obj. income	.09***	.40***	.13***	1.00														
5. Eco crisis	.01	-.02	-.15***	-.04*	1.00													
6. Unemployment	-.06***	-.10***	-.16***	-.04*	.40***	1.00												
7. Military	-.05**	-.04**	-.06***	-.01	.26***	.30***	1.00											
8. Org. crime	.06***	.08***	-.05**	.09***	.19***	.35***	.30***	1.00										
9. Refugees	-.00	-.03	-.02	.04*	.18***	.33***	.18***	.42***	1.00									
10. Terrorism	-.02	.03	-.09***	.01	.21***	.27***	.34***	.43***	.32***	1.00								
11. Climate	-.04**	-.06***	.01	-.06***	.19***	.12***	.23***	-.01	-.04*	.14***	1.00							
12. Overpopulation	-.02	-.07***	-.02	-.06***	.25***	.23***	.20***	.18***	.30***	.18***	.34***	1.00						
13. Epidemics	-.01	.01	-.07***	-.00	.33***	.31***	.38***	.22***	.12***	.25***	.31***	.19***	1.00					
14. Democracy	-.01	-.05**	-.04*	-.10***	.23***	.24***	.32***	.11***	.04**	.14***	.32***	.18***	.31***	1.00				

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
15. Inequality	.05**	-.03	-.04**	-.11***	.22***	.25***	.25***	.06***	-.01	.03*	.38***	.19***	.27***	.55***	1.00			
16. Extremism	-.04**	-.08***	-.04*	-.09***	.21***	.20***	.33***	.09***	-.01	.12***	.36***	.14***	.30***	.58***	.53***	1.00		
17. Future gen.	.04*	.03	-.04*	-.03*	.24***	.21***	.22***	.13***	.11***	.14***	.38***	.26***	.28***	.32***	.36***	.32***	1.00	
18. Fertility int.	.09***	-.06***	.04*	-.15***	.00	-.01	-.04*	.03	-.00	.00	.01	-.00	-.00	.01	.03	-.02	.02	1.00

Note. * Spearman rank-order correlation matrix, Sweden (N = 3,755). Values represent Spearman's ρ (rho), rounded to two decimal places. The lower triangle shows all pairwise correlations; the upper triangle is intentionally left blank because the matrix is symmetric, the upper-triangle values are identical to those in the lower triangle and are omitted to avoid redundancy. Diagonal entries show self-correlations ($\rho = 1.00$). Cells with a light grey background indicate a statistically significant association ($p < .05$). Variable key: 1 = Age group (1 = below 25, 2 = 25–35, 3 = 35 and above); 2 = Child order (number of existing children: 0, 1, 2, 3+); 3 = Subj. income (subjective financial wellbeing, ability to make ends meet, 1–4); 4 = Obj. income (objective household annual income, four brackets); 5 = Eco crisis; 6 = Unemployment; 7 = Military; 8 = Org. crime; 9 = Refugees; 10 = Terrorism; 11 = Climate; 12 = Overpopulation; 13 = Epidemics; 14 = Democracy; 15 = Inequality; 16 = Extremism; 17 = Future gen.; 18 = Fertility int. (intention to have a child within the next three years, 0 = no, 1 = yes). Worry items 5–17 coded: 1 = not worrying, 2 = somewhat worrying, 3 = very worrying. Data source: Generations and Gender Survey (GGS), Wave 2 (2021). * $p < .05$. ** $p < .01$. *** $p < .001$.

Source: Generations and Gender Survey (GGS), Wave 2 (2021).

Model 1 is an unadjusted bivariate model that estimates the bivariate association between each explanatory variable and outcome variable individually, without controlling for any other factors. This model addresses all research hypotheses and provides an initial overview of which variables are associated with fertility intentions before adjustments are made.

Model 2 displays a set of core sociodemographic controls, such as age group, ethnicity and activity status and adds each substantive variable of interest, subjective and objective income, one at a time. This stepwise approach allows for an assessment of how the alliance between each variable and fertility intentions alters once basic demographic characteristics are held constant.

Model 3 is the full specification of combining all six variables from Model M2 and additionally incorporates the worry variables, each entered one at a time to assess their independent contribution. Given the large number of worry-related items in the GGS questionnaire, only those worry variables that showed statistically significant associations with the dependent variable in M3 are reported in the tables. An exception is made for worry about the economic situation in the future, which is retained across all models regardless of significance due to its theoretical relevance to fertility decision-making.

The results regarding the remaining worry variables are presented in the Appendix for each country. Across all specifications, reference categories are age below 25; Estonian, Finnish, or Swedish as majority ethnicity; employed as activity status; making ends meet easily; and the 10,000–20,000 EUR annual income bracket.

4.Results

To examine the associations between economic uncertainty and fertility intentions, three logistic regression models were estimated for each of the three countries, Estonia, Finland, and Sweden, with results reported as average marginal effects (AMEs). An AME expresses the change in the predicted probability of intending to have a child within the next three years associated with a given predictor, averaged across all observations in the sample.

In Estonia (see Table 5), individuals in education are between 13.5 and 16.0 percentage points less likely to intend another child in the following three years relative to employed individuals (M1: AME = -0.160 , $p < .01$; M3: AME = -0.135 , $p < .01$). This association remains stable across all model specifications, confirming an

independent structural effect of educational enrollment on fertility intentions consistent with life course theory, which frames educational enrollment as a period of structural incompatibility with parenthood (Blossfeld & Hofmeister, 2006; Mills et al., 2011). Unemployment coefficients are consistently negative in Estonia but do not reach statistical significance across any specification, likely reflecting both a smaller proportion of unemployed respondents in the Estonian sample and differences in social protection systems.

Table 5

Average marginal effects on intention to have a child within three years, Estonia (Models M1–M3)

Characteristics	AME (95% CI)		
	Model 1	Model 2	Model 3
Age group			
Below 25	ref	ref	ref
25 to 35	0.213 (0.177, 0.250)***	0.181 (0.142, 0.220)***	0.181 (0.142, 0.220)***
35 and above	−0.006 (−0.043, 0.030)	0.038 (−0.003, 0.080)*	0.038 (−0.004, 0.080)*
Ethnicity			
Estonian	ref	ref	ref
Others	0.028 (−0.007, 0.062)	−0.004 (−0.035, 0.026)	−0.006 (−0.037, 0.026)
Activity status			
Employed	ref	ref	ref
In education or training	−0.160(−0.220, −0.099)***	−0.134(−0.179, −0.089)***	−0.135(−0.179, −0.090)***
Unemployed	−0.051 (−0.137, 0.035)	−0.048 (−0.122, 0.027)	−0.047 (−0.121, 0.027)
Others	−0.025 (−0.063, 0.012)	0.028 (−0.009, 0.065)	0.028 (−0.008, 0.065)
Subjective income			
Easily	ref	ref	ref
Fairly easily	−0.064(−0.102, −0.025)***	−0.031 (−0.066, 0.005)*	−0.030 (−0.066, 0.006)
With difficulty	−0.102(−0.141, −0.062)***	−0.060(−0.098, −0.022)***	−0.059(−0.097, −0.020)***
Unknown	−0.063(−0.107, −0.018)***	−0.011 (−0.057, 0.036)	−0.010 (−0.065, 0.045)
Objective income			
10–20K	ref	ref	ref
Below 10K	−0.070 (−0.134, −0.006)**	−0.022 (−0.082, 0.039)	−0.021 (−0.081, 0.040)
20–40K	0.038 (−0.013, 0.089)	0.043 (−0.004, 0.089)*	0.043 (−0.004, 0.090)*
Above 40K	0.055 (−0.002, 0.112)*	0.077 (0.022, 0.132)***	0.077 (0.022, 0.131)***
Unknown	−0.041 (−0.087, 0.004)*	−0.019 (−0.062, 0.025)	−0.019 (−0.063, 0.025)
Child order			
1	ref	ref	ref
No child	−0.130(−0.173, −0.087)***	−0.037 (−0.081, 0.007)*	−0.036 (−0.081, 0.008)
2	−0.396(−0.441, −0.351)***	−0.349(−0.391, −0.306)***	−0.348(−0.391, −0.306)***

Characteristics	AME (95% CI)		
3+	-0.465(-0.512,-0.417)***	-0.404(-0.450,-0.358)***	-0.404(-0.450,-0.358)***
Worry about future economy			
Not worrying	—	—	ref
Somewhat worrying	—	—	0.006 (-0.030, 0.042)
Very worrying	—	—	-0.012 (-0.054, 0.029)
Unknown	—	—	0.001 (-0.063, 0.065)

Notes. * M1 is unadjusted model where only bivariate associations are analyzed with the dependent variable. M2 controls for age group, ethnicity, activity status, and adds main interest variables once at a time (i.e., objective and subjective income, and worry about the future economy). M3 includes all variables from M2 plus worries about other concerns asked in the GGS one at a time. Regarding the worry variables (except worry about the economy), Tables only present those that had a statistically significant association with the dependent variable for presentation purposes. The results regarding other worry related variables are presented in the Appendix.

N = 4,073. * $p < .10$, ** $p < .05$, *** $p < .01$

Source: Generations and Gender Survey, author's calculations.

Severe financial hardship is negatively and significantly associated with fertility intentions in Estonia across all model specifications. Individuals reporting difficulty making ends meet are between 5.9 and 10.2 percentage points less likely to intend a child than those managing easily (M1: AME = -0.102, $p < .01$; M3: AME = -0.059, $p < .01$). Notably, the "fairly easily" category is significant in M1 (AME = -0.064, $p < .01$) but attenuates and loses significance in M3 (AME = -0.030, $p > .10$), suggesting the gradient weakens once full controls are included.

Even though, findings regarding objective income also suggest a statistically significant positive gradient in unadjusted model (M1), the differences across income groups are largely attenuated once other controls are included in M2, with only the highest income group remaining statistically significant at 95% level.

Increasing worries about the future economic situation are negatively associated with the intention to have a child in the next three years in Estonia, as H4 predicted; however, the association is uniformly non-significant across M1, M2, and M3. None of the worry categories approaches conventional significance thresholds in any specification, not supporting H4 in the Estonian context. Furthermore, regarding other worries about the future in Estonia, only worries about organized crime found to be significantly associated with fertility intentions (Table 5, M3). However, findings suggest a positive association with worries about organized crime: the higher the level

of worry, the higher the intention to have a child in next three years: somewhat worrying (AME = +0.044, $p < .01$), very worrying (AME = +0.062, $p < .01$) and unknown (AME = +0.143, $p < .01$). The positive direction is counter-intuitive from an uncertainty-aversion perspective. One plausible interpretation is compositional: individuals expressing concern about organized crime in Estonia may disproportionately belong to community-rooted, family-oriented networks where familistic values coexist with awareness of social safety concerns. Another plausible explanation might be that there is an issue of reverse causality: the individuals who are planning to have a child soon might be more worried about the organized crime, such as child kidnapping.

In Finland, being in education or training consistently reduces fertility intentions across all model specifications (Table 6), consistent with the Estonian case, with penalties ranging from 12.7 to 13.3 percentage points relative to employed individuals (M1: AME = -0.133, $p < .01$; M2: AME = -0.127, $p < .01$). Unemployment equally shows a consistent significant negative effect throughout all models (M1: AME = -0.111, $p < .01$; M2: AME = -0.117, $p < .01$).

Subjective income is found to be positively associated with fertility intentions in Finland: individuals with difficulty making ends meet are between 6.1 and 8.1 percentage points less likely to intend to have a child (M1: AME = -0.081, $p < .01$; M2: AME = -0.061, $p < .01$). Unlike Estonia, the intermediate "fairly easily" category is non-significant throughout all models. Only severe hardship falls below the statistical significance threshold at which reproductive plans are revised downward. A clear upper-income premium is also observed: households earning above 40,000 EUR annually are between 13.5 and 13.7 percentage points more likely to intend to have a child than those in the reference bracket (M2: AME = +0.137, $p < .01$; M3: AME = +0.135, $p < .01$).

Table 6

*Average marginal effects on intention to have a child within three years, Finland
(Models M1–M3).*

Characteristics	AME (95% CI)		
	Model 1	Model 2	Model 3
Age group			
Below 25	ref	ref	ref
25 to 35	0.178 (0.125, 0.230)***	0.168 (0.119, 0.217)***	0.167 (0.118, 0.217)***
35 and above	−0.052 (−0.100, −0.003)**	−0.014 (−0.064, 0.035)	−0.015 (−0.064, 0.035)
Ethnicity			
Finnish	ref	ref	ref
Others	0.058 (0.012, 0.105)**	0.066 (0.023, 0.108)***	0.064 (0.022, 0.107)***
Activity status			
Employed	ref	ref	ref
In education or training	−0.133(−0.181,−0.084)***	−0.127(−0.175,−0.080)***	−0.128(−0.175,−0.080)***
Unemployed	−0.111(−0.191,−0.030)***	−0.117(−0.192,−0.043)***	−0.117(−0.191,−0.042)***
Others	−0.007 (−0.062, 0.049)	−0.004 (−0.060, 0.053)	−0.004 (−0.060, 0.053)
Subjective income			
Easily	ref	ref	ref
Fairly easily	0.007 (−0.038, 0.053)	0.026 (−0.018, 0.069)	0.025 (−0.019, 0.068)
With difficulty	−0.081(−0.129,−0.033)***	−0.061(−0.108,−0.015)***	−0.061 (−0.108, −0.013)**
Unknown	0.088 (0.015, 0.162)**	0.107 (0.037, 0.177)***	0.089 (−0.009, 0.187)*
Objective income			
10–20K	ref	ref	ref
Below 10K	−0.002 (−0.092, 0.087)	0.006 (−0.078, 0.091)	0.009 (−0.077, 0.094)
20–40K	0.046 (−0.029, 0.121)	0.040 (−0.029, 0.108)	0.039 (−0.030, 0.108)
Above 40K	0.120 (0.047, 0.194)***	0.137 (0.068, 0.207)***	0.135 (0.065, 0.206)***
Unknown	0.026 (−0.044, 0.097)	0.034 (−0.031, 0.100)	0.033 (−0.033, 0.099)
Child order			
1	ref	ref	ref
No child	−0.350(−0.423,−0.278)***	−0.202(−0.273,−0.131)***	−0.201(−0.272,−0.130)***
2	−0.485(−0.563,−0.407)***	−0.377(−0.448,−0.307)***	−0.378(−0.448,−0.307)***
3+	−0.510(−0.593,−0.426)***	−0.394(−0.471,−0.318)***	−0.394(−0.470,−0.318)***
Worry about future economy			
Not worrying	—	—	ref
Somewhat worrying	—	—	0.012 (−0.027, 0.052)
Very worrying	—	—	−0.016 (−0.069, 0.037)
Unknown	—	—	0.025 (−0.065, 0.114)

Notes. * M1 is unadjusted model where only bivariate associations are analyzed with the dependent variable. M2 controls for age group, ethnicity, activity status, and adds main interest variables once at a time (i.e., objective and subjective income, and worry about the future economy). M3 includes all

variables from M2 plus worries about other concerns asked in the GGS one at a time. Regarding the worry variables (except worry about the economy), Tables only present those that had a statistically significant association with the dependent variable for presentation purposes. The results regarding other worry-related variables are presented in the Appendix.

N = 2,010. * $p < .10$, ** $p < .05$, *** $p < .01$.

Source: Generations and Gender Survey, author's calculations.

Both categories of worry about the economy remain non-significant across M1, M2, and M3 in Finland. This null finding, replicated despite Finland's highly developed survey infrastructure and comparatively high economic literacy, reinforces the interpretation that generalized macroeconomic anxiety is not a proximate determinant of fertility intentions and operates instead as a background orientation rather than a constraint on reproductive decision-making.

An interesting finding in Finland is a strong negative association between worry about overpopulation and fertility intentions: those who were very worried about overpopulation are 11.0 percentage points less likely to intend a child (M3: AME = -0.110 , $p < .01$) (Appendix B). This is the largest worry-related association observed across all countries and all specifications in this study. Furthermore, those who were very worried about extremism were also found to be significantly less likely (AME = -0.077 , $p < .05$) by approximately 7.7 percentage points to intend to have a child within the next three years compared to those who were not worried (Appendix B).

In Sweden, being in education carries the largest single education penalty across the three countries in M1 (AME = -0.222 , $p < .01$), attenuating to -0.124 in M3, when other controls are added. This is consistent with Sweden's longer normative transition from education to stable employment and high urban housing costs. Unemployment shows a significant negative effect in M1 (AME = -0.141 , $p < .01$) that attenuates in the full M3 model (AME = -0.071 , $p < .05$), suggesting partial mediation by financial hardship variables when controlled simultaneously.

Worse perceived situation of an income level reduces fertility intentions in Sweden consistently: individuals with difficulty making ends meet are between 5.4 and 5.8 percentage points less likely to intend to have a child within the next three years (M2: AME = -0.054 , $p < .05$; M3: AME = -0.058 , $p < .01$) than those managing easily. As in Finland, the "fairly easily" category is non-significant.

Objective income displays a distinctive non-linear pattern in M1: medium-income households (20,000–40,000 EUR) show significantly higher fertility intentions even though it loses significance when all variables are controlled for in M3 while both low-income (below 10,000 EUR: -14.8 pp, $p < .01$) and high-income (above 40,000 EUR: -7.5 pp, $p < .01$) groups show negative effects compared to the mid-low-income category.

Table 7

Average marginal effects on intention to have a child within three years, Sweden (Models M1–M3)

Characteristics	AME (95% CI)		
	Model 1	Model 2	Model 3
Age group			
Below 25	ref	ref	ref
25 to 35	0.381 (0.348, 0.414)***	0.268 (0.227, 0.309)***	0.269 (0.228, 0.310)***
35 and above	0.112 (0.079, 0.145)***	0.093 (0.048, 0.137)***	0.096 (0.052, 0.140)***
Ethnicity			
Swedish	ref	ref	ref
Others	0.058 (0.012, 0.105)**	-0.015 (-0.062, 0.032)	-0.015 (-0.062, 0.032)
Activity status			
Employed	ref	ref	ref
In education or training	-0.222(-0.255,-0.190)***	-0.122(-0.163,-0.081)***	-0.124(-0.165,-0.083)***
Unemployed	-0.141(-0.211,-0.071)***	-0.075 (-0.144, -0.005)**	-0.071 (-0.141, -0.001)**
Others	0.019 (-0.037, 0.075)	0.024 (-0.027, 0.075)	0.021 (-0.030, 0.071)
Subjective income			
Easily	ref	ref	ref
Fairly easily	-0.022 (-0.062, 0.018)	-0.010 (-0.046, 0.026)	-0.011 (-0.047, 0.025)
With difficulty	-0.058 (-0.106, -0.010)**	-0.054 (-0.099, -0.009)**	-0.058 (-0.103, 0.014)***
Unknown	-0.191(-0.275,-0.106)***	-0.085 (-0.213, 0.042)	-0.089 (-0.217, 0.038)
Objective income			
10–20K	ref	ref	ref
Below 10K	-0.148(-0.259,-0.037)***	-0.139(-0.248,-0.031)**	-0.130(-0.240,-0.020)**
20–40K	0.145 (0.086, 0.204)***	0.022 (-0.030, 0.074)	0.025 (-0.027, 0.076)
Above 40K	-0.075(-0.127,-0.022)***	-0.058 (-0.110, -0.007)**	-0.055 (-0.106, -0.004)**
Unknown	-0.019 (-0.136, 0.098)	-0.015 (-0.119, 0.090)	-0.010 (-0.115, 0.094)
Child order			
1	ref	ref	ref
No child	-0.369(-0.421,-0.316)***	-0.246(-0.302,-0.190)***	-0.240(-0.296,-0.184)***
2	-0.518(-0.575,-0.461)***	-0.406(-0.461,-0.351)***	-0.406(-0.460,-0.351)***
3+	-0.629(-0.688,-0.569)***	-0.509(-0.572,-0.447)***	-0.508(-0.569,-0.447)***

Worry about future economy

		ref	ref
Not worrying	—		
Somewhat worrying	—	0.009 (−0.022, 0.039)	0.006 (−0.024, 0.036)
Very worrying	—	−0.029 (−0.076, 0.018)	−0.031 (−0.077, 0.016)
Unknown	—	0.083 (−0.185, 0.351)	0.081 (−0.188, 0.351)

Notes. * M1 is unadjusted model where only bivariate associations are analyzed with the dependent variable. M2 controls for age group, ethnicity, activity status, and adds main interest variables once at a time (i.e., objective and subjective income, and worry about future economy). M3 includes all variables from M2 plus worries about other concerns asked in the GGS one at a time. Regarding the worry variables (except worry about the economy), Tables only present those that had statistically a significant association with the dependent variable for presentation purposes. The results regarding other worry-related variables are presented in the Appendix.

N = 3,755. * $p < .10$, ** $p < .05$, *** $p < .01$.

Source: Generations and Gender Survey, author's calculations.

In M1 and M2, worry about the economy is largely non-significant in Sweden. A marginal positive effect for "somewhat worrying" appears in M3 (AME = +0.006, $p < .10$), though this does not reach statistical significance. This positive effect in the full model is unexpected under H4 and may reflect that respondents who express moderate economic concern in Sweden are simultaneously more likely to be actively planning their lives, including family plans consistent with a planning-orientation dimension of the Narrative Framework (Vignoli et al., 2020). The overall picture supports the H3 null finding: abstract macroeconomic worry does not consistently reduce fertility intentions.

In Sweden's M4, worry about military conflict at the "somewhat worrying" level is negatively associated with fertility intentions (AME = −0.044, $p < .05$), plausibly connected to Sweden's NATO accession debate and public anxiety following Russia's full-scale invasion of Ukraine in 2022. Separately, being "somewhat worried" about future prospects is positively associated with fertility intentions (AME = +0.036, $p < .005$), suggesting a possible planning-orientation effect that does not reach conventional significance thresholds (Appendix B).

Age group is the dominant predictor of fertility intentions across all three countries and all model specifications. Individuals aged 25–35 are substantially more likely to intend a child than those below 25, with AMEs ranging from +18.1 percentage points in Estonia (M3) to +38.1 percentage points in Sweden (M1). The

considerably larger magnitude in Sweden likely reflects the more pronounced concentration of intended childbearing within this window, shaped partly by Sweden's generous parental leave system. The 35-and-above group displays contrasting patterns: negative in Estonia and Finland (reflecting declining biological capacity and completed family size), but positive in Sweden ($AME = +0.112$, $p < .01$), most plausibly reflecting a subgroup of higher-parity individuals seeking an additional child.

Ethnicity presents country-specific patterns. In Finland, non-Finnish speakers are 5.8 to 6.6 percentage points more likely to intend to have a child across M1–M3 ($p < .05$), consistent with established findings on higher fertility intentions among immigrant-origin populations (Mills et al., 2011). In Sweden, a positive minority effect is observed in M1 (+5.8 pp, $p < .05$) but attenuates to non-significance in M3, suggesting partial mediation by income and activity status. In Estonia, minority ethnicity (predominantly Russian-speaking residents) is consistently non-significant once socioeconomic controls are applied.

5. Discussion

This study examined the association between economic uncertainty and fertility intentions among adults aged 18–40 in Estonia, Finland, and Sweden, using 2021 data from the Generations and Gender Survey. Five hypotheses were tested: that employment stability (H1), perceived financial well-being (H2), and objective income (H3) are positively associated with fertility intentions; that worry about a future economic crisis is negatively associated with fertility intentions (H4); and that perceived financial situation matters more than objective financial situation in shaping fertility intentions (H5). The results provide consistent support for H1, H2, and H5 across all three national contexts. H3 receives partial support depending on the country context, and H4 is not supported in any country.

Educational enrollment emerges as one of the most consistent and substantive barriers to fertility intentions across all three countries. Students are markedly less likely to intend another child within three years compared to employed individuals, with the gap ranging from moderate in Finland to substantial in Sweden. This consistency across otherwise very different welfare state contexts, from Estonia's liberal model to Finland's and Sweden's social democratic systems, suggests that educational enrollment represents a structural feature of life course organisation rather

than a country-specific phenomenon. Students typically lack stable income, permanent housing, and the institutional security that underpins reproductive decisions (Blossfeld & Hofmeister, 2006; Mills et al., 2011). The larger penalty observed in Sweden may reflect that country's comparatively longer transition from education to stable employment, compounded by high urban housing costs that extend the period within which parenthood feels financially infeasible.

Unemployment is associated with a substantial reduction in fertility intentions in Finland and Sweden, indicating that labour-market exclusion represents a meaningful barrier to short-term family planning in Nordic welfare contexts. The association is consistently absent in Estonia, which likely reflects both the comparatively smaller share of unemployed respondents in the Estonian sample and structural differences in how unemployment is experienced across welfare regimes. In the Nordic countries, unemployment, even when partially cushioned by generous benefit systems, appears to generate sufficient uncertainty about future economic prospects to suppress fertility intentions, consistent with Kreyenfeld's (2010) argument that the subjective insecurity associated with unemployment, beyond income loss itself, drives fertility postponement.

Perceived financial hardship is negatively associated with fertility intentions in all three countries, though the pattern differs meaningfully across national contexts. In Estonia, even moderate financial difficulty is associated with reduced intentions, pointing to a clear and continuous positive gradient between perceived wellbeing and reproductive plans. In Finland and Sweden, only severe financial hardship reaches a meaningful association, suggesting that the Nordic welfare infrastructure provides a buffer against moderate financial stress but not against the most acute forms of economic insecurity.

This cross-national difference is consistent with welfare state theory: Finland's and Sweden's comprehensive childcare subsidies, generous parental leave policies, and universal family allowances effectively buffer the fertility consequences of moderate financial strain (Thévenon, 2011; Duvander & Andersson, 2006). In Estonia, where family support infrastructure is comparatively less extensive, even moderate perceived financial hardship becomes a relevant constraint on reproductive decision-making. These findings are consistent with Becker's (1960) economic framework, under which the perceived cost of childrearing relative to household resources constitutes a key determinant of fertility.

The objective income findings contextualize the H3 results. Regarding objective household income, an upper-income premium is clearly observed in Finland. In Estonia, objective income effects in M1 suggest a similar positive gradient at the highest income level, but this attenuates once subjective income and demographic controls are included in M2. Sweden displays a distinctive non-linear pattern: both the lowest income group and the highest income group show lower fertility intentions than the middle-income reference category, while the medium bracket loses significance when all controls are included. This non-linear income pattern in Sweden warrants caution in interpretation, as it may partly reflect compositional income of the very low- and very high-income groups in the Swedish sample.

Contrary to H4, subjective worry about the future economic situation is not significantly associated with fertility intentions in any of the three countries in any model specification. In Estonia and Finland, all worry categories (somewhat worrying, very worrying, and unknown) are consistently non-significant across M1, M2, and M3. In Sweden, a statistically significant positive effect emerges for the "somewhat worrying" category, which is directionally opposite to H4. This unexpected positive association may reflect a planning-orientation effect: respondents who express moderate economic concern may simultaneously be those who engage more actively with future planning, including family planning, consistent with the Narrative Framework's proposition that imagined futures rather than objective or perceived structural conditions alone shape reproductive intentions (Vignoli et al., 2020).

The uniform null result for economic worry across three countries with markedly different economic contexts and welfare systems is a substantively meaningful finding. It suggests that generalized subjective worry about the macroeconomy, as captured in single-item survey questions, does not translate into a proximate constraint on reproductive decision-making. This aligns with Kreyenfeld's (2010) conceptual distinction between objective economic insecurity, which directly impacts the personal financial situation and thereby on fertility intentions and diffuse subjective uncertainty which operates as a general feeling of insecurity that is not tied to personal circumstances, at a greater distance from the specific biographical and financial circumstances that drive fertility decisions. The findings thus indicate that labour market exclusion and household financial hardship (H1 and H2) represent

qualitatively different mechanisms than ambient economic anxiety (H3), with the former constituting proximate constraints on fertility and the latter not doing so in the present data.

Aligning with H5, subjective financial hardship is significantly associated with fertility intentions in all three countries and across virtually all model specifications, while objective income effects are statistically significant only in Finland and in selected income brackets elsewhere and tend to attenuate or disappear once subjective income is included in the model. This pattern indicates that it is not the objective level of household resources, but rather the subjective assessment of financial adequacy, that more directly governs reproductive decision-making. This finding is consistent with a broader literature showing that subjective financial evaluations capture the psychological salience of economic constraints more effectively than income brackets (Kreyenfeld, 2010; Billingsley, 2010).

Beyond the primary hypotheses, the analyses in M3 reveal several significant associations between other dimensions of subjective worry and fertility intentions. In Estonia, concern about organised crime is positively associated with fertility intentions at all response levels. The positive direction is counter-intuitive from an uncertainty-aversion perspective. Two interpretations are plausible. First, a compositional explanation: individuals expressing concern about organised crime in Estonia may disproportionately belong to community-rooted, family-oriented social networks in which familistic values coexist with heightened awareness of social safety concerns. Second, a reverse causality explanation cannot be excluded: individuals actively planning to have a child in the near future may become more attentive to and worried about risks to child safety, including organised crime, as a consequence of their reproductive plans rather than as a cause.

In Finland, worry about overpopulation is strongly and negatively associated with fertility intentions. This is the largest worry-related association observed across all three countries. It suggests that a subset of Finnish respondents hold explicit pro-environmental or ecological attitudes that translate into reduced reproductive intentions, a pattern consistent with recent literature on the emerging role of environmental concerns in fertility decision-making (Comolli, 2023). Worry about extremism is also negatively associated with fertility intentions among those who are very worried in Finland, though at a weaker significance level.

In Sweden, worry about military conflict at the "somewhat worrying" level is negatively associated with fertility intentions, a finding plausibly connected to Sweden's heightened security environment following Russia's full-scale invasion of Ukraine in 2022 and Sweden's NATO accession process during the survey period, but it is surprising that Russia being rather bigger threat for Estonia, it was not found to be associated with lower fertility intentions among Estonian respondents, given that declining fertility in Estonia is widely attributed in public and policy discourse to the country's heightened geopolitical anxiety in the proximity of Russia. One possible explanation is habituation: military threat may function as a chronic background condition in Estonia shaped by the country's history of Soviet occupation and its geographic position rather than as an acute stressor that enters into near-term reproductive planning. A second explanation relates to the Kreyenfeld (2010) distinction discussed above: even if geopolitical anxiety is prevalent, it may operate as diffuse background worry rather than as a proximate biographical constraint. A third explanation is survey timing: the GGS Wave 2 data were collected in 2021, prior to Russia's full-scale invasion of Ukraine in February 2022; the most acute phase of military anxiety in the Baltic region thus falls outside the observation window. Future research using post-2022 data would allow a more direct test of whether the invasion altered the relationship between military worry and fertility intentions in Estonia. Additionally, moderate worry about future prospects is positively associated with fertility intentions, echoing the pattern observed for economic worry in Sweden and suggesting that moderate forward-looking concern may accompany, rather than deter, active life planning, including family formation.

Age group is the strongest and most consistent predictor of fertility intentions across all three countries. Individuals aged 25–35 are substantially more likely than those below 25 to intend another child. The much larger age effect in Sweden likely reflects the greater concentration of intended childbearing within this age window in Swedish family formation patterns, shaped in part by the country's generous parental leave system that rewards stable employment prior to birth (Duvander & Andersson, 2006). The 35-and-above group shows negative or attenuated fertility intentions in Estonia and Finland, consistent with declining fecundity and completed family size at older ages, but positive intentions in Sweden, likely reflecting a subgroup of older parents actively pursuing an additional child in a context of high institutional support for larger families.

Ethnicity effects are present in Finland and Sweden but not in Estonia. In Finland, non-Finnish speakers are more likely to intend to have a child within the next 3 years across M1–M3, consistent with established findings on higher fertility intentions among immigrant-origin populations in high-income countries (Mills et al., 2011). In Sweden, a positive minority effect in M1 attenuates to non-significance in M3, suggesting that income and activity status differences account for much of the ethnic gap in Sweden. In Estonia, minority ethnicity, predominantly Russian-speaking residents, is consistently non-significant once socioeconomic controls are applied.

6. Conclusion

This study investigated whether economic uncertainty, operationalised through employment status, perceived and objective financial wellbeing, and subjective worry about future economic conditions is associated with fertility intentions in Estonia, Finland, and Sweden using data from the 2021 wave of the Generations and Gender Survey. The analysis yields three principal conclusions.

First, employment stability is a robust and consistent predictor of fertility intentions. Being in education is negatively associated with fertility intentions across all three countries and all model specifications, indicating that labour-market exclusion through educational enrollment constitutes a structural constraint on reproductive decision-making that operates independently of national welfare context. Unemployment is associated with lower fertility intentions in Finland and Sweden, though not in Estonia, where the smaller size of the unemployed subgroup likely limits statistical power.

Second, perceived financial well-being is positively and significantly associated with fertility intentions in all three countries, supporting H2 consistently. The pattern differs qualitatively across welfare contexts: in Estonia, even moderate financial strain is associated with lower fertility intentions, whereas in Finland and Sweden, only severe financial hardship reaches a meaningful association. This qualitative difference is consistent with the comparatively more limited social safety net of the Estonian welfare state, while comprehensive Nordic family support policies appear to absorb the fertility consequences of moderate financial difficulty.

Third, objective income matters under specific conditions. A positive income effect at the highest income bracket is observed in Finland, and a similar pattern appears in Estonia at the first model specification, but attenuates once subjective

financial well-being is included, suggesting that objective income effects in Estonia are largely channelled through perceived financial situation. Sweden displays a non-linear pattern requiring cautious interpretation. Overall, H3 receives support only in Finland, pointing to an important asymmetry: subjective financial assessments carry a more consistent cross-national signal than objective income position.

Fourth, generalised worry about the future economic situation is not associated with fertility intentions in any of the three countries. This consistent null result across different welfare contexts and model specifications suggests that ambient macroeconomic anxiety, as captured by standard survey items, does not function as a proximate constraint on fertility decisions in the same way that labour-market exclusion and material hardship do, in line with Kreyenfeld's (2010) distinction between objective insecurity and diffuse subjective uncertainty.

Beyond the primary hypotheses, the exploratory analyses reveal that non-economic dimensions of subjective worry, including concern about overpopulation, organised crime, military conflict, and future prospects are associated with fertility intentions in ways that vary across national contexts. The strong negative association between worry about overpopulation and fertility intentions in Finland is particularly notable. This suggests that the narratives individuals draw on when making reproductive decisions are expanding beyond economic and biographical concerns to include collective and planetary futures.

Several limitations should be noted. The cross-sectional design of the GGS Wave 2 precludes causal inference. The cross-sectional design of the GGS Wave 2 precludes causal inference. Longitudinal panel data such as linked waves of the GGS tracking the same respondents over time would allow changes in economic circumstances to be connected to subsequent changes in fertility intentions, enabling stronger causal claims. Natural experiments exploiting exogenous shocks to employment or income could similarly strengthen identification. Additionally, the dependent variable captures fertility intentions over a three-year horizon and does not distinguish between first-birth intentions among childless respondents and higher-order birth intentions among parents, two decisions that may respond differently to economic uncertainty. Given that fertility decline in the three study countries is predominantly driven by rising childlessness and first-birth postponement, future research should examine whether the associations identified here differ by parity. Furthermore, because base rates of fertility intentions differ across the three countries,

the magnitude of associations expressed in percentage points is not directly comparable across national contexts; the conclusions drawn here concern the presence, direction, and qualitative pattern of associations rather than cross-national differences in effect size.

Implications for Policy

The findings provide clear policy implications by facilitating faster and secure transitions from stable employment, including early career, housing support, parental leave for employees who are in their early career could decrease structural barriers to fertility intention under H1. The steeper subjective income gradient in Estonia compared to the Nordic countries suggests that expanding childcare subsidies, child allowances, and parental leave generosity could meaningfully lower the financial threshold at which parenthood feels feasible. In Finland and Sweden, where institutional buffers already absorb moderate financial strain, policy attention may be more productively directed toward severe hardship groups and toward the growing subgroup of individuals whose ecological concerns lead them to forgo or limit childbearing a population that conventional pro-natalist measures do not reach.

Implications of Future Research

Several directions for future research follow from these findings. The null result for macroeconomic worry calls for qualitative research examining how individuals construct narratives about the future of economy relation to family planning: survey items measuring generalised worry are likely to be distal from personal biographical circumstances to capture the interpretive mechanisms that Vignoli et al.'s (2020) framework identifies as central. The emerging ecological dimension of fertility decision-making warrants cross-national research using validated measures of environmental attitudes alongside fertility intention scales. Finally, as geopolitical instability, housing market pressures, and ecological awareness have all intensified since the 2021 survey wave, longitudinal analysis using subsequent GGS waves will be essential for understanding how the resources available to individuals in different welfare and cultural contexts evolve in response to a rapidly changing structural environment.

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Appendices

Appendix A.

Descriptive Statistics for all Worry variables

Table 8

Descriptive Statistics for all Worry variables

Variables	Estonia			Finland			Sweden		
	N of total sample	% of total sample	Intend in 3 years, %	N	%	Intend in 3 years, %	N	%	Intend in 3 years, %
Worry: economy									
Not worrying	816	20.0	36.3	644	32.0	24.1	1624	51.1	29.7
Somewhat worrying	1952	47.9	35.5	833	41.4	24.7	1201	37.8	32.0
Very worrying	922	22.6	33.4	303	15.1	20.5	343	10.8	26.2
UNK	383	9.4	34.2	230	11.4	28.7	11	0.3	27.3
Worry: future									
Not worrying	1059	26.0	34.8	519	25.8	25.6	978	30.9	27.5
Somewhat worrying	1582	38.8	37.6	706	35.1	25.6	1349	42.7	32.5
Very worrying	979	24.0	32.5	518	25.8	19.1	835	26.4	29.9
UNK	453	11.1	32.0	267	13.3	28.5			
Worry: extremism									
Not worrying	1061	26.0	37.1	678	33.7	26.8	1150	36.5	30.3
Somewhat worrying	1361	33.4	33.8	619	30.8	23.9	1130	35.8	31.9
Very worrying	1105	27.1	34.9	434	21.6	17.5	875	27.7	27.9
UNK	546	13.4	34.2	279	13.9	29.7			
Worry: inequality									
Not worrying	1114	27.4	36.0	582	29.0	24.4	1099	34.7	28.0
Somewhat worrying	1541	37.8	37.2	617	30.7	26.1	1263	39.9	31.8
Very worrying	979	24.0	29.9	548	27.3	19.7	802	25.3	30.7
UNK	439	10.8	36.2	263	13.1	29.7			
Worry: democracy									
Not worrying	1336	32.8	35.3	739	36.8	27.3	1358	42.9	29.2
Somewhat worrying	1327	32.6	35.7	566	28.2	21.9	1076	34.0	31.9
Very worrying	847	20.8	33.6	410	20.4	20.2	729	23.0	29.4
UNK	563	13.8	34.8	295	14.7	27.1			
Worry: epidemics									

Not worrying	774	19.0	34.8	639	31.8	24.1	1156	36.5	29.3
Somewhat worrying	1520	37.3	34.6	765	38.1	24.7	1390	43.9	32.4
Very worrying	1392	34.2	35.9	379	18.9	22.2	623	19.7	27.3
UNK	387	9.5	34.1	227	11.3	27.3			
Worry: refugees									
Not worrying	1736	42.6	34.1	717	35.7	23.7	1738	54.9	30.1
Somewhat worrying	1300	31.9	35.8	674	33.5	26.0	877	27.7	31.5
Very worrying	634	15.6	36.8	374	18.6	20.6	550	17.4	28.7
UNK	403	9.9	34.0	245	12.2	27.3			
Worry: org. crime									
Not worrying	1851	45.4	33.5	733	36.5	25.5	1386	43.8	29.3
Somewhat worrying	1242	30.5	36.6	782	38.9	23.1	1103	34.9	30.0
Very worrying	550	13.5	35.6	257	12.8	21.0	672	21.3	32.7
UNK	430	10.6	36.0	238	11.8	28.2			
Worry: military conflict									
Not worrying	927	22.8	35.1	712	35.4	28.1	1952	61.7	31.8
Somewhat worrying	1648	40.5	34.5	624	31.0	23.6	887	28.0	27.3
Very worrying	1092	26.8	35.7	427	21.2	15.2	327	10.3	28.7
UNK	406	10.0	35.2	247	12.3	31.2			
Worry: unemployment									
Not worrying	1536	37.7	36.1	733	36.5	25.5	1449	45.8	30.6
Somewhat worrying	1507	37.0	34.8	782	38.9	23.1	1245	39.3	31.1
Very worrying	623	15.3	33.4	257	12.8	21.0	472	14.9	27.1
UNK	407	10.0	34.4	238	11.8	28.2			
Worry: overpopulation									
Not worrying	1399	34.3	35.1	712	35.4	28.1	1740	55.0	29.9
Somewhat worrying	1370	33.6	36.5	624	31.0	23.6	1004	31.7	31.8
Very worrying	16	0.4	37.5	427	21.2	15.2	421	13.3	27.3
UNK	884	21.7	32.7	247	12.3	31.2			
Worry: climate									
Not worrying	1413	34.7	35.0	418	20.8	24.2	833	26.3	28.5
Somewhat worrying	1380	33.9	36.5	666	33.1	27.9	1307	41.3	31.4
Very worrying	890	21.9	32.9	713	35.5	19.6	1027	32.4	29.8
UNK	390	9.6	34.6	213	10.6	29.1			
Worry: terrorism									
Not worrying	1713	42.1	34.7	954	47.5	23.8	2178	68.8	30.3

Somewhat worrying	1430	35.1	35.3	656	32.6	24.4	785	24.8	29.2
Very worrying	502	12.3	36.3	174	8.7	21.3	204	6.4	33.8
UNK	428	10.5	34.1	226	11.2	28.8			

Notes. *.N = number of respondents in each category. % of total sample = share of the national analytical sample in each worry category. Intend in 3 years, % = percentage of respondents within each category who intend to have a child within the next three years. Worry variables coded as: 1 = not worrying, 2 = somewhat worrying, 3 = very worrying. UNK = unknown/missing response.

Source: Generations and Gender Survey (GGS), Wave 2 (2021). Author's calculations.

Source: author's calculation

Appendix B.

Average marginal effects on intention to have next child along with all worry variables.

Table 9

Average marginal effects on intention to have next child along with all worry variables.

Characteristics	Estonia	Finland	Sweden
	AME (95% CI)	AME (95% CI)	AME (95% CI)
Age group			
Below 25 (ref.)	<i>ref</i>	<i>ref</i>	<i>ref</i>
25 to 35	0.142 (0.097, 0.187)***	0.191 (0.139, 0.243)***	0.279 (0.236, 0.322)***
35 and above	-0.077 (-0.121, -0.033)***	-0.041 (-0.089, 0.007)	0.053 (0.010, 0.095)*
Ethnicity			
Native (ref.)	<i>ref</i>	<i>ref</i>	<i>ref</i>
Minority	0.017 (-0.018, 0.053)	0.042 (-0.002, 0.085)	-0.036 (-0.089, 0.017)
Activity status			
Employed (ref.)	<i>ref</i>	<i>ref</i>	<i>ref</i>
In education	-0.138 (-0.187, -0.089)***	-0.117 (-0.167, -0.067)***	-0.138 (-0.180, -0.095)***
Unemployed	-0.058 (-0.137, 0.022)	-0.096 (-0.179, -0.012)*	-0.088 (-0.164, -0.012)*
Others	-0.027 (-0.063, 0.008)	-0.014 (-0.068, 0.040)	0.017 (-0.034, 0.068)
Subjective income			
Easily (ref.)	<i>ref</i>	<i>ref</i>	<i>ref</i>
Fairly easily	-0.053 (-0.091, -0.016)**	-0.002 (-0.047, 0.043)	-0.015 (-0.054, 0.023)
With difficulty	-0.068 (-0.109, -0.027)**	-0.090 (-0.138, -0.042)***	-0.070 (-0.117, -0.023)**
Unknown	-0.012 (-0.073, 0.049)	0.073 (-0.044, 0.191)	-0.093 (-0.232, 0.046)
Objective income			
10–20K (ref.)	<i>ref</i>	<i>ref</i>	<i>ref</i>
Below 10K	-0.053 (-0.117, 0.012)	-0.014 (-0.103, 0.076)	-0.172 (-0.294, -0.050)**
20–40K	0.008 (-0.042, 0.059)	0.032 (-0.044, 0.109)	0.015 (-0.045, 0.076)
Above 40K	0.019 (-0.039, 0.077)	0.111 (0.036, 0.186)**	-0.112 (-0.169, -0.055)***
Unknown	-0.051 (-0.099, -0.004)*	0.013 (-0.059, 0.085)	-0.027 (-0.147, 0.093)
Worry: climate			
Not worrying (ref.)	<i>ref</i>	<i>ref</i>	<i>ref</i>
Somewhat	0.130 (-0.182, 0.442)	0.037 (-0.013, 0.088)	0.025 (-0.015, 0.064)
Very	0.396 (0.062, 0.729)*	0.017 (-0.042, 0.076)	0.036 (-0.012, 0.084)
Unknown	0.148 (-0.112, 0.408)	0.071 (-0.200, 0.341)	—
Worry: org. crime			
Not worrying (ref.)	<i>ref</i>	<i>ref</i>	<i>ref</i>
Somewhat	0.036 (-0.000, 0.073)	0.036 (-0.010, 0.083)	0.020 (-0.016, 0.056)

Characteristics	Estonia	Finland	Sweden
Very	0.043 (-0.013, 0.098)	0.085 (0.003, 0.167)*	0.063 (0.013, 0.113)*
Unknown	0.173 (0.042, 0.305)**	-0.060 (-0.239, 0.119)	—
Worry: democracy			
Not worrying (ref.)	<i>ref</i>	<i>ref</i>	<i>ref</i>
Somewhat	0.005 (-0.035, 0.046)	-0.049 (-0.099, 0.001)	0.015 (-0.024, 0.054)
Very	-0.005 (-0.055, 0.045)	-0.041 (-0.106, 0.025)	0.005 (-0.046, 0.057)
Unknown	0.002 (-0.089, 0.093)	-0.100 (-0.202, 0.001)	—
Worry: economy			
Not worrying (ref.)	<i>ref</i>	<i>ref</i>	<i>ref</i>
Somewhat	-0.021 (-0.063, 0.021)	0.024 (-0.019, 0.068)	0.013 (-0.022, 0.047)
Very	-0.044 (-0.095, 0.008)	0.036 (-0.034, 0.106)	-0.024 (-0.081, 0.033)
Unknown	-0.088 (-0.261, 0.084)	-0.009 (-0.217, 0.200)	-0.297 (-0.320, -0.274)***
Worry: epidemics			
Not worrying (ref.)	<i>ref</i>	<i>ref</i>	<i>ref</i>
Somewhat	-0.003 (-0.048, 0.041)	0.013 (-0.032, 0.059)	0.011 (-0.025, 0.046)
Very	0.017 (-0.033, 0.066)	0.015 (-0.048, 0.078)	0.000 (-0.049, 0.050)
Unknown	-0.030 (-0.191, 0.130)	-0.115 (-0.288, 0.058)	—
Worry: extremism			
Not worrying (ref.)	<i>ref</i>	<i>ref</i>	<i>ref</i>
Somewhat	-0.030 (-0.074, 0.013)	-0.040 (-0.087, 0.007)	-0.009 (-0.049, 0.031)
Very	-0.003 (-0.054, 0.049)	-0.077 (-0.134, -0.021)**	-0.044 (-0.093, 0.005)
Unknown	-0.038 (-0.133, 0.056)	0.131 (-0.018, 0.280)	—
Worry: future			
Not worrying (ref.)	<i>ref</i>	<i>ref</i>	<i>ref</i>
Somewhat	0.029 (-0.009, 0.068)	0.014 (-0.032, 0.060)	0.036 (-0.003, 0.074)
Very	-0.009 (-0.055, 0.038)	-0.008 (-0.065, 0.048)	0.018 (-0.028, 0.064)
Unknown	-0.146 (-0.239, -0.052)**	0.124 (-0.016, 0.263)	—
Worry: inequality			
Not worrying (ref.)	<i>ref</i>	<i>ref</i>	<i>ref</i>
Somewhat	0.008 (-0.032, 0.048)	0.035 (-0.011, 0.082)	0.008 (-0.031, 0.048)
Very	-0.045 (-0.094, 0.005)	0.034 (-0.027, 0.095)	0.023 (-0.030, 0.075)
Unknown	0.177 (0.045, 0.310)**	0.093 (-0.046, 0.232)	—
Worry: military			
Not worrying (ref.)	<i>ref</i>	<i>ref</i>	<i>ref</i>
Somewhat	-0.010 (-0.052, 0.033)	0.033 (-0.015, 0.081)	-0.044 (-0.081, -0.007)*
Very	0.004 (-0.050, 0.058)	0.038 (-0.045, 0.121)	-0.028 (-0.088, 0.032)
Unknown	0.028 (-0.143, 0.199)	-0.098 (-0.225, 0.030)	—
Worry: overpopulation			
Not worrying (ref.)	<i>ref</i>	<i>ref</i>	<i>ref</i>
Somewhat / Level 2	-0.131 (-0.492, 0.230)	-0.044 (-0.091, 0.002)	-0.021 (-0.056, 0.015)
Very / Level 3	-0.105 (-0.463, 0.253)	-0.109 (-0.161, -0.058)***	-0.061 (-0.111, -0.011)*
Level 4	-0.359 (-0.634, -0.085)*	—	—
Unknown	-0.102 (-0.352, 0.148)	0.118 (-0.049, 0.286)	—
Worry: refugees			
Not worrying (ref.)	<i>ref</i>	<i>ref</i>	<i>ref</i>
Somewhat	0.009 (-0.027, 0.044)	0.017 (-0.027, 0.062)	0.014 (-0.024, 0.051)
Very	0.039 (-0.010, 0.087)	-0.019 (-0.079, 0.042)	-0.004 (-0.054, 0.046)
Unknown	-0.035 (-0.171, 0.101)	0.005 (-0.169, 0.180)	—
Worry: terrorism			
Not worrying (ref.)	<i>ref</i>	<i>ref</i>	<i>ref</i>
Somewhat	-0.008 (-0.045, 0.029)	0.005 (-0.041, 0.050)	-0.007 (-0.046, 0.032)
Very	0.021 (-0.036, 0.078)	-0.015 (-0.093, 0.064)	0.067 (-0.007, 0.140)
Unknown	-0.052 (-0.170, 0.067)	0.018 (-0.179, 0.214)	—
Worry: unemployment			
Not worrying (ref.)	<i>ref</i>	<i>ref</i>	<i>ref</i>
Somewhat	0.001 (-0.037, 0.038)	-0.012 (-0.056, 0.032)	0.001 (-0.035, 0.036)
Very	0.001 (-0.053, 0.056)	-0.002 (-0.072, 0.069)	-0.010 (-0.065, 0.046)
Unknown	-0.013 (-0.151, 0.124)	-0.048 (-0.228, 0.131)	—

Notes. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. ref = reference category. — = category not present in this country's model. Ref. categories: Age < 25; Native ethnicity; Employed; Easily makes ends meet; Income 10–20K; Not worrying. [Country 3] ethnicity minority = Swedish-speaking. [Country 1] worry_overpop coded as levels 2–4 (level 1 = ref.); Somewhat/Level 2, Very/Level 3. † worry_ecoUNK in [Country 3]: AME = -0.297 , $z = -25.74$ — interpret with caution (very small cell). Source: author's calculations

Resümee

KAS MAJANDUSLIK EBAKINDLUS MÕJUTAB LASTE SAAMISE KAVATSUST EESTIS, ROOTSIS JA SOOMES?

Magistritöös uuriti majandusliku ebakindluse ja laste saamise kavatsuse seost Eestis, Soomes ja Rootsis, kasutades Pölvkondade ja soolise uuringu teist lainet (*Generations and Gender Survey*, GCS, 2021). Valimis kasutati peamiste laste saamise kavatsuse ennustajatena 18-40 aastaste inimeste andmeid tööhõiveseisundi, tajutava rahalise heaolu, objektiivse leibkonna sissetuleku ja tuleviku majandusliku olukorra pärast tuntava subjektiivse mure kohta. Eestist oli valimis 4073, Soomest 2010 ja Rootsist 3755 inimest. Andmeid analüüsiti logiliste regressioonimudelite abil, ning tulemusi tõlgendati keskmiste marginaalsete efektide abil.

Tulemused näitavad, et tööhõive stabiilsus ja tajutav rahaline heaolu on kõigis kolmes riigis järjepidevalt ja positiivselt seotud laste saamise kavatsustega. Objektiivne sissetulek omab statistiliselt olulist seost laste saamise kavatsusega ainult Soomes ning subjektiivne mure tulevikumajanduse pärast on läbivalt ebaoluliseks tunnuseks kõigis riikides ja mudeli spetsifikatsioonides. Riikidevahelised erinevused subjektiivse sissetuleku seoses laste saamise kavatsusega mõjus on kooskõlas erinevusega riikide heaolus.

Uurimuslikud analüüsid näitavad, et reproduktiivsete otsuste tegemisel on teguritena esile kerkimas ökoloogilised ja geopoliitilised mured. Soomes viitab sellele mure ülerahvastatuse pärast ning Rootsis mure sõjalise konflikti puhkemise pärast.

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