INTERGENERATIONAL DYNAMICS OF REPRODUCTIVE BEHAVIOUR IN MOLDOVA: INSIGHTS FROM GGS

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Abstract

In Moldova, significant changes in generational replacement have occurred over the past three decades. A historical decline in the number of children per woman is linked to lower fertility norms and shifts in life priorities, including prolonged education and greater focus on professional and personal goals, often conflicting with family formation. This study analyzes the intergenerational dynamics of reproductive behavior, using data from the 2020 Generations and Gender Survey. Focusing on four generational cohorts of women aged 20-29 to 60-69, the study reveals a clear generational shift in family and fertility patterns. Younger women, while holding traditional views on marriage and family, tend to have fewer children than older cohorts. The prevalence of women with three or more children declines with each successive cohort, whereas having only one or two children becomes more common among younger generations, reflecting a shift toward smaller family sizes despite traditional values.

Keywords: Reproductive Behavior, Family Values, GGS, Moldova

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Introduction

In the last three decades, a significant shift in generational dynamics of fertility is observed for women and men in Moldova. The period after 1990, witnessed significant changes in the timing and occurrence of life transitions among young adults. They have been delaying parenthood towards ever later ages (Grigoraș, 2024). Postponement of fertility has become characteristic for a wide range of countries with very diverse cultural, social and economic conditions (Burikmisher, 2015), (Šprocha, Tišliar & Šídlo, 2019). Several studies show that having children at a young age generally results in a higher number of children being born during the reproductive years. On the other hand, delaying childbirth to older ages (tempo effect) is a major factor contributing to the decline in the number of children being born (Billari, Liefbroer, & Philipov, 2006), (Frejka, 2012), (Sobotka, 2017).

The Republic of Moldova has experienced a decline in the number of children born per woman of childbearing age over time (Gagauz & Grigoraș, 2017). This trend can be attributed to several factors, such as an increase in the length of education, greater emphasis on personal and professional success, changes in attitudes towards having children, the tendency to delay childbirth to later ages, and a decrease in the desire to have more children (Grigoraș & Gagauz, 2022). These factors often conflict with the desire to start a family and have children, leading to a reduction in reproductive intentions.

The trend of delaying childbirth started in Moldova in 1996. This is defined as the first year of a three-year period during which the average age of mothers at the time of their first childbirth increased by more than 0.3 years, according to Kohler and Ortega (Kohler & Ortega, 2002). Between 1991 and 2023, fertility was significantly decreased among women aged 15 to 24. In 1991, this age group accounted for 55% of the total number of births, but by 2023, it had dropped to 26% (a 28% decrease). Meanwhile, the highest fertility rates in 2023 were found among women aged 25 to 34, accounting for 55% of births, compared to only 39% in 1991. The average age at which Moldovan women had their first child increased by 2.3 years, from 22.6 years in 1996 to 24.4 years in 2023. These shifts in birth patterns by maternal age have significantly impacted the total fertility rate in the Republic of Moldova, which was recorded at 1.6 children per woman in 2023. This is a decrease of 1.14 children compared to 1971 and 0.7 children compared to 1991. Additionally, most women in Moldova now have at most two children.

In this study, we are examining how the fertility calendar affects the average number of children born later in the reproductive years. We analyzed data from the Generations and Gender survey, which was conducted for the first time in Moldova in 2020. We divided women into age groups to represent different generations. Each group was further categorized based on the mother's age at the birth of her first child (up to 19 years, 20-24, 25-29, and 30 years and older) to see how it correlates with the average number of children born per woman in each group.

Main results

The results of the analysis show a clear connection between a mother's age at first birth and the mean number of children she has during her reproductive age. Having a first child at a younger age is linked to having more children while delaying the first birth is associated with a lower mean number of children (Tab.1). This pattern was consistent across all groups of women

studied. Women who have their first child by age 19 have an average of 2.39 children by ages 30-39, and by the end of their reproductive years, the average number of children is even higher at 2.43. For women who have their first child between the ages of 20 and 24, the average number of children ranges from 2.17 to 2.26, ensuring the replacement of generations. However, for women who have their first child at ages 25-29, the average number of children drops to about 1.93, and for those who have their first child after age 30, it decreases further to 1.60.

Tab. 1: The mean number of children per woman, depending on age at first childbirth, age groups

Mother's age at birth of first child	Age groups of women (age at the time of the interview)				
	30-39 years old	40-49 years old	50-59 years old	60-69 years old	Total: 30-69 years old
Up to 19 years old	2,43	2,37	2,42	2,50	2,43
20-24 years old	2,17	2,15	2,24	2,36	2,26
25-29 years old	1,81	1,92	1,86	2,08	1,93
30 years old and more	1,57	1,58	1,60	1,62	1,60

Source: calculated by author based on GGS data, 2020
Basis of calculation: women from 30 to 69 years old, (N = 4056).

Postponing the birth of a first child can indirectly result in having fewer children overall. It also reduces the probability of having higher numbers of children (Tab.2). For women who have their first child before age 19, there is a high probability of having at least two children (89.6%) and approximately 48.3% probability of having at least three children. However, women who postpone having children until 30 or older reduce the probability of having at least two children to 43.8% and having at least three children to 15.1%.

Tab. 2: Probability of having two and three children depending on the age of mother at first birth

Mother's age at birth of first child	Probability of having children, %		Mean number of children born
	Not less than two children	Not less than three children	
Up to 19 years old	89,6	48,3	2,37
20-24 years old	84,6	30,4	2,15
25-29 years old	75,8	17,2	1,92
30 years old and more	43,8	15,1	1,58

Source: calculated by author based on GGS data, 2020
Basis of calculation: women from 40 to 49 years old, (N = 821)

Our analysis suggests that the education level of women has an impact on the likelihood of having multiple children (Tab.3). We found that the age of the mother at the time of her first childbirth significantly affects the probability of having more children. As the age of the mother increases at the time of her first childbirth, the likelihood of having two or three children decreases. Additionally, we noticed a correlation between the average age of women at the completion of their studies and the average age of first-time mothers. The average age of first-time mothers tends to be higher. Women with lower education levels tend to have their first child at the age of 21.7 years, which results in a 74.3% probability of having at least two children and a 36.5% probability of having three children. This, in turn, determines the average number of children born per woman, which stands at 2.15.

Tab. 3: The probability of having two or three children depends on the level of education of women

Level of education	Mean age at the birth of the first child		Probability of having children, %		Mean number of children born
	At the end of the studies	At the birth of the first child	Not less than two children	Not less than three children	
Higher level of education	22.8	24.7	65.6	16.9	1.78
Medium level of education	20.5	22.3	73.5	24.4	1.96
Low level of education	19.2	21.7	74.3	36.5	2.15

Source: calculated by the author based on GGS data, 2020
The basis of calculation: women aged 40 to 49, women who completed their education by the age of 24 (N = 733).

On average, women with an intermediate level of education typically give birth to their first child at 22.3 years of age. Interestingly, these women have a similar likelihood of having at least two children as women with low education levels, which stands at 73.5%. Nevertheless, the probability of having three or more children is notably lower, at 24.4%. The mean number of children born to these women is less than two, with 1.96 children per woman. In contrast, women with higher education tend to have their first child at a later average age of 24.7 years. They are less likely to have at least two children (65.6%) and three children (16.9%). Consequently, the average number of children born to women with higher education is only 1.78 children per woman.

Table 3, presents data illustrating the impact of delaying childbearing to older ages on the probabilities of having second-order and third-order births, as well as on the average number of children born. The lowest mean age of mothers at first is recorded in rural areas, at 22.26

years old. In rural areas, there are also higher levels of probability of giving birth to a second child (78.4%) and a third child (31.9%). On the other hand, in urban place of residence, the mean age of mothers at the first birth is higher, at 24.07 years old. The probability of giving birth to the following children decreases in urban areas, with 60.7% for the second child and 16.4% for the third child. In Chisinau, the highest average age of mothers at the first birth is 24.12 years old. Consequently, the probability of giving birth to subsequent children is lower, at 53.1% for the second child and 12.3% for the third child. The mean number of children born per woman is 2.29 in rural areas, 1.85 in urban areas, and 1.76 in Chisinau.

Tab. 4: The probability of having two or three children depends on women's living place of residence

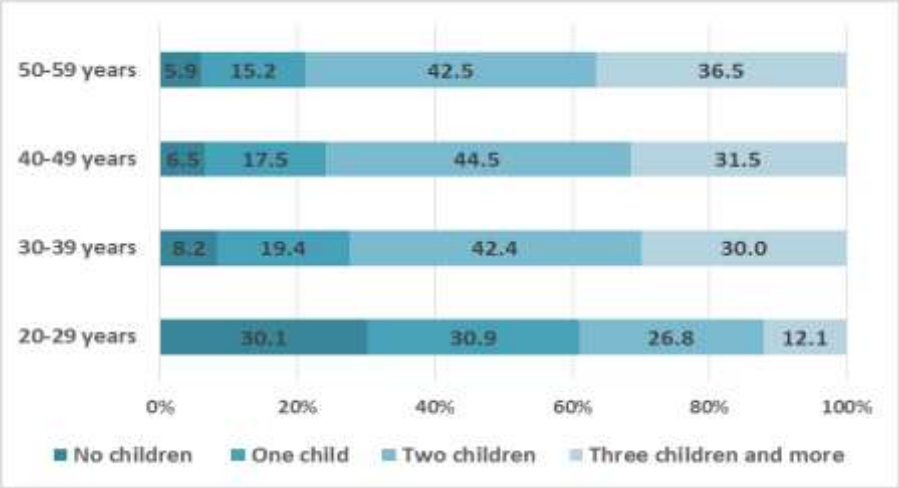
Place of residence	Mean age at the birth of the first child	Probability of having children, %		The mean number of children
		Not less than two children	Not less than three children	
Rural	22.26	78.4	31.9	2.29
Urban	24.07	60.7	16.4	1.85
Mun. of Chisinau	24.12	53.1	12.3	1.76

Source: calculated by the author based on GGS data, 2020
The basis of calculation: women between 40 and 49 years inclusive (N = 751)
* When calculating this probability, women who gave birth to 2 or more children were selected as the numerator, and all women according to the corresponding place of residence were selected as the denominator.
** When calculating this probability, as the numerator, all women who gave birth to 3 or more children were selected; as the denominator, all women living in the corresponding area of residence were selected.

The changing reproductive behavior of a population is influenced by the reproductive activity of both older and younger generations. Reproductive behavior includes procreative behavior, which aims at birth, and behavior related to pregnancy termination (through abortion) or planning through the use of contraceptives. This behavior regulates the timing and number of births. Larger families are mainly affected by fertility, while smaller families are influenced by the prevention and termination of pregnancy. Reproductive behavior significantly impacts the birth rate and fertility. Key characteristics of reproductive behavior include the actual number of children, the age at which children are born, and the interval between successive births. The analysis is based on generational cohorts identified in 10-year age intervals. For example, in the age cohort up to 19 years, 98.2% do not have children. We compare the reproductive behavior of four age cohorts from 20-29 to 60-69 years. The reproductive behavior of these generations is influenced by the demographic transition. Female cohorts born in the late 70s and early 80s experienced a sharp decline in fertility in ex-Soviet European countries. On the other hand, the 50-59-year-old generations entered a period of reproductive activity in

the 1960s-1970s, and witnessed a decline in births at older ages due to family policies and changes in reproductive behavior. This demonstrates how reproductive behavior is changing during the current demographic transition period. As generations age, there is a decrease in the proportion of women who have given birth to three or more children. For instance, in the 50-59 age group, 36.5% of women have given birth to three or more children, compared to 31.5% for the 40-49 age group. There is also an increase in the proportion of women who have given birth to only one or two children in younger generations. The main change observed is a shift from the traditional model of families with several children to an increase in the proportion of women with only one child, particularly in the 40–49 and 50–59 age groups.

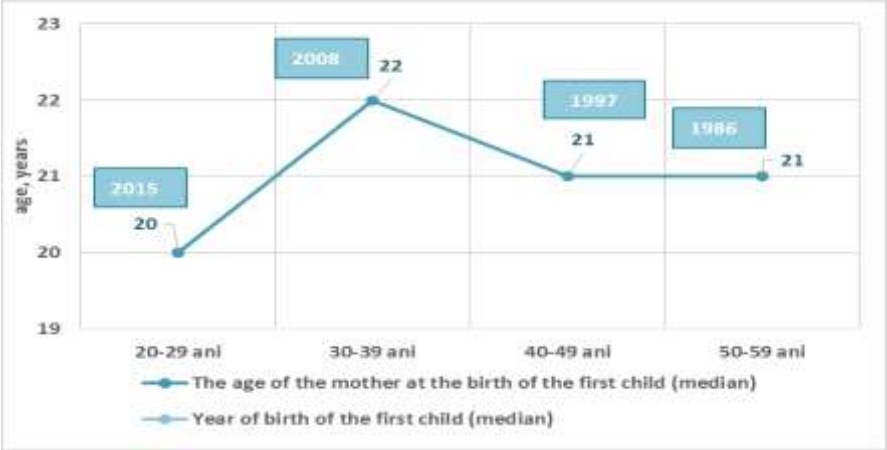
Fig 1: Number of children in the age cohorts at the time of the interview



Source: author's calculation based on GGS data, 2020

The change in the reproductive cycle is observed in the generations aged 30-39 years by the significant change in the age at which women give birth to their first child. The median age shows the central tendency of the change in the mother's age at first birth, meaning that half of the women register the median age at the birth of their first child towards the age of 22 and the other half towards the age of more than 22 years. Thus, the changes in reproductive behavior are observed in the generations aged 30-39 years, which 15 register the median age of 22 years, while those of 40-49 years and 50-59 years – the median age of 21 years.

Fig. 2: Age and year of birth of first child in generational cohorts (median, only those respondents who have at least one child)



Source: author's calculation based on GGS data, 2020

The average age of women at the birth of their first child is increasing, and as a result, women are desiring and expecting fewer children. If the first child was born before the age of 20, women desire an average of 3.18 children and expect 3.06 children. However, if the first child was born after the age of 30, women desire an average of 2.67 children and expect 2.52 children (Tab. 5). This trend of decreasing desired number of children is observed in all age groups.

Tab. 5: Mean desired and expected number of children for women, combined with age at first birth

Mother's age at birth of first child	Personal ideal family size	General ideal family size
Up to 19 years old	3.06	3.18
20-24 years old	2.86	2.98
25-29 years old	2.61	2.75
30 years and more	2.52	2.67
Total	**2.85**	**2.97**

Source: author's calculation based on GGS data, 2020

Changes in value norms represent a continuous process that directs the attitudes, perceptions and opinions of the population regarding the role of children and the family, determining the particularities of reproductive and marital behavior such as initiation into sexual life before or after marriage, the spread of partnerships, the average age of the mother at first birth, etc. This attitudinal data provides insight into societal values concerning marriage and children, segmented by age groups (those aged up to 39 years and those aged 40 and above), (Tab.6). Table 6 highlights notable generational differences in attitudes toward marriage and family structures. Younger individuals (up to age 39) are somewhat more inclined to see marriage as outdated and show significantly greater acceptance of cohabitation without intent

to marry (60% vs. 47.8% in older adults), suggesting a shift in social norms with a move toward more liberal, non-traditional family forms. The younger cohort also displays more acceptance of divorce, even in cases involving children, indicating a lower adherence to marriage permanence compared to older adults, who more strongly uphold the lifelong commitment aspect of marriage.

Both age groups widely affirm the importance of children in fulfilling both men's and women's lives, with slightly higher endorsement among older adults. There is also overwhelming agreement in both groups on the necessity of a two-parent household for a child's happiness, indicating a shared, deeply-rooted value in the traditional family structure. Additionally, broad support for single motherhood reveals a societal acceptance of single-parent households led by women.

Tab. 6: Attitudinal value factors regarding marriage and children index – strong agree or agree %

	Aged up to 39 years	Aged 40 and more years	Total
Marriage is outdated	23,2%	21,4%	22,0%
It is normal for two unmarried people to live together, even if they do not intend to marry	60,0%	47,8%	51,8%
Marriage is a lifelong relationship and should never be broken	76,9%	84,0%	81,7%
It is normal for a couple in an unhappy marriage to divorce, even if they have children	76,9%	66,8%	70,1%
For a woman's life to be fulfilled, she must have children	91,0%	95,0%	93,7%
A woman can have and raise a child on her own, even if she does not want to have a stable relationship with a man	86,6%	85,8%	86,0%
For a child to grow up happy, they need a family with a mother and father	94,1%	95,8%	95,2%
For a man's life to be fulfilled, he must have children	87,4%	93,0%	91,2%

Source: author's calculation based on GGS data, 2020

In summary, while younger generations demonstrate more progressive views on marriage and cohabitation, traditional beliefs regarding the fulfillment derived from parenthood and the perceived necessity of a two-parent household remain strongly upheld across age groups, reflecting an intergenerational continuity in core family values.

Conclusions and discussions

Having children at young ages leads to a more significant number of children born during the reproductive period, while postponing births leads to a decrease in the number of children born. This finding correlates with other research (Sobotka, 2017). The results showed that the

youngest generations demonstrate the change in reproductive behavior, which is manifested by the increase in the share of women who did not give birth to children in the first and the second birth order and the subtraction of children of the third birth order and higher. Young age is characterized by a decline in fertility, determined by a continuous decrease in the proportion of large families (with three or more children), which is consistent with other findings (Beaujouan, Brzozowska, & Zeman, 2016), (Sobotka, 2017).

The education level of women and their place of residence are important factors in the shift from traditional to modern fertility patterns, including giving birth at older ages, using birth control, and having children outside of marriage (Grigoraș & Gagauz, 2022). Women with higher education, on average, give birth to their first child at the age of 24.7 years, with significantly lower probabilities of having at least two children (65.6%) and three children (16.9%). In the urban place of residence, the probability of giving birth to the second child is 60.7%, and for the third child - 16.4%. In the municipality of Chisinau, the probability of having the following children registers lower levels (53.1% - the second child and 12.3% - the third child).

The persistent high value placed on children across all age groups reflects the deep-rooted cultural importance of parenthood. Shifts in attitudes towards marriage and cohabitation among younger people could signal future societal changes, potentially impacting marriage rates and family structures. The continued preference for traditional family forms, particularly the belief that children need both a mother and father, may influence policy discussions related to family law, child-rearing, and social welfare programs.

Improving the well-being of parents and children is a crucial element in enhancing human capital. By doing so, we can increase the value of human capital for future generations. Additionally, we should prioritize policies aimed at improving education for those who may have received less education in the past. This can lead to improved prospects in education, employment, and wages for their children over the long term. These policy interventions can help boost the country's human capital resources, resulting in increased productivity in both the short and long term.

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