KINCS

Kopp Mária Intézet
A Népesedésért
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Fertility awareness of young Hungarians

Analysis

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Contents

Executive summary

- For **the majority** of young people, **having children is important**; when asked about its importance, respondents give parenthood an average rating of 7.5 out of 10. Among them, those who already have children and are married give an even higher rating (8,4 and 8,7, respectively). **Sixty-eight per cent** of young people would like to have **one child or two children**. Fifteen percent say that they do not intend to have a child, citing an uncertain future and their financial situation, and, in relatively many cases, their health condition as the main reasons. On the average, those who want to have children **intend to have their first child at the age of 30 years,** and the last child at the age of 35 years.

- **Respondents with primary education as the highest level of educational attainment think themselves to have the most accurate understanding of fertility issues**, while those with a higher education qualification perceive themselves to be the least informed.

- **The majority (59%) of respondents opine that the ideal childbearing age for women is the age interval between 25 and 29 years. This, however, does not coincide with when they plan to embark on parenthood.**

- **Only half of the participants are aware of the fact that women are most fertile between the ages of 20 and 24 years.** Fifty-eight per cent of respondents aged 21–24 years answered correctly that their age group have the best chances of having a child.

- **Only 5 %** of respondents **are aware of the fact that a slight age-related decline in female fertility starts between the ages of 25 and 29 years.** Thirty-five per cent of participants believe that such a decline does not start until between the ages of 35 and 39 years, and 47% put the onset of a marked decline in fertility at the age interval 40–44 years. Only **16% gave the correct answer, saying that a marked age-related decline in women's fertility starts in the age interval 35–39 years.** In fact, these young people are not properly informed about when female fecundity starts to decline; they believe it starts ten years later than it actually does.

- **According to 43%** of respondents, **male fertility does not begin to decline until over the age of 50 years.** Only one-fifth of them are aware of the fact that the process starts as early as between the ages of 40 and 44 years.

- **Only half** of participants **are properly informed about the fact that incapacity to have children is attributable exclusively to male infertility in 21–40% of the cases.**

- **Only one-quarter of those surveyed are properly informed about a young couple's chances of achieving pregnancy** during one month of regular unprotected sexual intercourses **(30–39 %).** Most respondents made overestimations. Married respondents in the older age groups are the best informed in that regard.

- As for the chances of getting pregnant of a young woman **(aged 25–30 years) during one year of regular unprotected sexual intercourses, one-quarter of respondents gave the correct answer. For women aged 35–40, one-third were correct.** In both cases, the majority overestimated the chances.

- **The majority of respondents are aware of the fact that smoking and excessive alcohol consumption decreases fecundity,** but, in general, tend to underestimate the unfavourable impacts of obesity.

- **Twenty-seven per cent** of young people involved in the research said that if they were not able to have naturally conceived children **they would, in all likelihood, pursue an assisted reproduction treatment**, 17% would opt for adoption and 14% would accept a life without children. **Eighty-two per cent of respondents would discuss their** potential **infertility problems with their partner or spouse,** and 51% would (also) consult a doctor.

- **Fifty-six per cent** of those involved in the research **knows correctly that the rate of infertile couples is 10–19% in Hungary. Participants overestimate the success rate of Hungarian IVF programmes**, deeming it is 30%–39%, while in fact it is 20%–29%.

- Overall, young people do not have an extensive knowledge of fertility issues, which, however, is not related to their intentions of having a child or children or the importance they attribute to parenthood. **Individuals aged 21–24 years (72%), students (71%) and single persons (73%) are the least informed.** Respondents with the highest level

of educational attainment (tertiary qualification) are the most likely to give correct answers to questions about fertility.

Research methodology and demographic features

In March 2021, the Maria Kopp Institute for Demography and Families (Hungarian abbreviation: KINCS) conducted a survey among young Hungarians aged 21–35 years to collect information about their intentions concerning childbearing and about their awareness of fertility issues. Data were collected at the national level with a computer-assisted web interviewing (CAWI) method, from 1000 individuals. The sample is representative of the Hungarian population aged 21–35 years in terms of gender, age, settlement type of the place of residence and educational attainment. The analysis was performed using the SPSS data analysis software, with Chi-square statistics.

During the analysis, emphasis was laid on the significant interrelations. Also, hypotheses were formulated on interrelations that, as far as deduction shows, may have high relevance for further studies performed on a larger sample.

Awareness of fertility issues was analysed along ten research questions[1]. Data collection was performed with a questionnaire compiled by Lampic et al (1). The questionnaire contained multiple choice questions, with four possible answers to each question. Correct answers were formulated as per data reported in relevant technical literature (2; 3; 4; 5; 6; 7; 8; 9; 10). For the purpose of analysis, respondents were divided into two categories: those whose who answered a question correctly, and those who did not. Within the former, three subcategories were defined as per respondents' level of fertility awareness: (1) *low-level fertility awareness* (0–3 correct answers), (2) *medium-level fertility awareness* (4–5 correct answers) and (3) *high-level fertility awareness* (6–9 correct answers). Four point three per cent of respondents did not answer any of the fertility-related questions correctly, and only

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[1] What do you think? At what age is a woman the most fertile?
What do you think? At what age does female fertility start to decline slightly?
What do you think? At what age does female fertility start to decline markedly?
What do you think? At what age does male fertility start to decline slightly?
What do you think? What percentage of infertility problems is attributable solely to male infertility?
What do you think? If a young couple have regular unprotected sex for a month, what are the chances of the woman becoming pregnant?
What do you think? If a couple have regular unprotected sex for a year, what are the chances of the woman (aged 25–30 years) becoming pregnant?
What do you think? If a couple have regular unprotected sex for a year, what are the chances of the woman (aged 35–40 years) becoming pregnant?
What do you think? What is the rate of couples in Hungary who want to have a child, but do not succeed?
What do you think? What is the average success rate of IVF programmes?

over 2% gave the correct answer to seven or more questions. Given that none of the respondents answered all questions correctly, the groups were formed as described above, the highest number of correct answers being 9.

Young people were the least likely to answer the following three questions correctly: "At what age does female fertility start to decline slightly?" (only 5% of respondents answered the question correctly) "At what age does male fertility start to decline?" (21%) "If a young couple have regular unprotected sex for a month, what are the chances of the woman becoming pregnant?": (one-fifth) By contrast, young people were the best informed with regard to the following questions: "What is the rate of couples in Hungary who want to have a child, but do not succeed?" (56%) "What percentage of infertility problems is attributable solely to male infertility?" (half of respondents) "At what age is a woman the most fertile?" (37%).

The rates of male and female respondents were 52% and 48%, respectively. For the purpose of analysis, young people aged 21–35 years were divided into three age groups: 21–24 years (25%), 25–29 years (34%) and 30–35 years (41%). For the highest educational attainment, three categories were defined: primary (31%), secondary (44%) and tertiary (25%). "Primary" level marks eight (or less) grades in primary school or vocational school qualification. Those who passed the secondary school leaving examination, or participated in post-secondary or higher-level vocational education fall into the "secondary" category. Respondents in the "tertiary" category are graduates of BA/BSc, MA/MSc or PhD programmes. In terms of occupation and/or economic activity, five categories were defined: (1) students who are possibly job seekers as well (11%), (2) students engaged in gainful employment (5%), (3) beneficiaries of infant care fee (Hungarian abbreviation: CSED), childcare allowance (GYES), childcare fee (GYED) or child-raising support (GYET) who may also study or be engaged in gainful employment (13%), (4) workers who may be looking for a job (61%) and the unemployed/job seekers (10%). As far as the place of residence is concerned, 21% of respondents live in Budapest, 21% in a county seat or a city with county rights, 31% in other towns, and 27% in small settlements or villages. In terms of civil status, 27% are single, 13% are in a relationship without cohabitation, 36% are in a relationship with cohabitation and 24% are married. The rate

of individuals with and without children is 70% and 30%, respectively. Among those with children, 52% have one child, 32% two and 16% three or more children.

Questions about personal life

Having children

Respondents were invited to rate the importance of having a child on a ten-point scale. The average rating was 7.51, which indicates that, **all in all, young Hungarian people attribute a very high value to parenthood.** In this regard, a significant difference was detected between, on the one hand, those who already have children and those who do not, and, on the other hand, married couples and unmarried couples or single persons: **those individuals who have children and are married put a higher-than-average emphasis on parenthood.**

In terms of the settlement type, it can be concluded that the average rating slightly increases with the decline of the level of urbanisation. Beneficiaries of family support (infant care allowance, childcare allowance, childcare fee or child-raising support) are more likely to attach importance to having children, which is attributable to the fact that they already have a child or children (30.2% have two children, and 26.2% three or more).

Out of the sampled persons, 296 have children (the average number of children being 1.71). Those persons have the most children who are recipients of family benefits (average number of children: 1.97). **Persons who live in small settlements or villages and are married tend to have more children than the average.**

Table 1. Average number of children (by sex, age groups and educational attainment), persons (N = 1000)

Name	Average number of children	Number of respondents	Standard deviation
Sex			
Male	1.49	105	0.606
Female	1.83	191	1.086
Total	1.71	296	0.957

Age group			
21–24 years	1.38	36	0.641
25–29 years	1.57	97	0.887
30–35 years	1.87	163	1.027
Total	1.71	296	0.957
Highest educational attainment			
Primary	1.94	135	1.125
Secondary	1.54	116	0.757
Tertiary	1.45	45	0.688
Total	1.71	296	0.957

Figure 1. Importance attributed to parenthood and the average number of planned children (N = 1000)
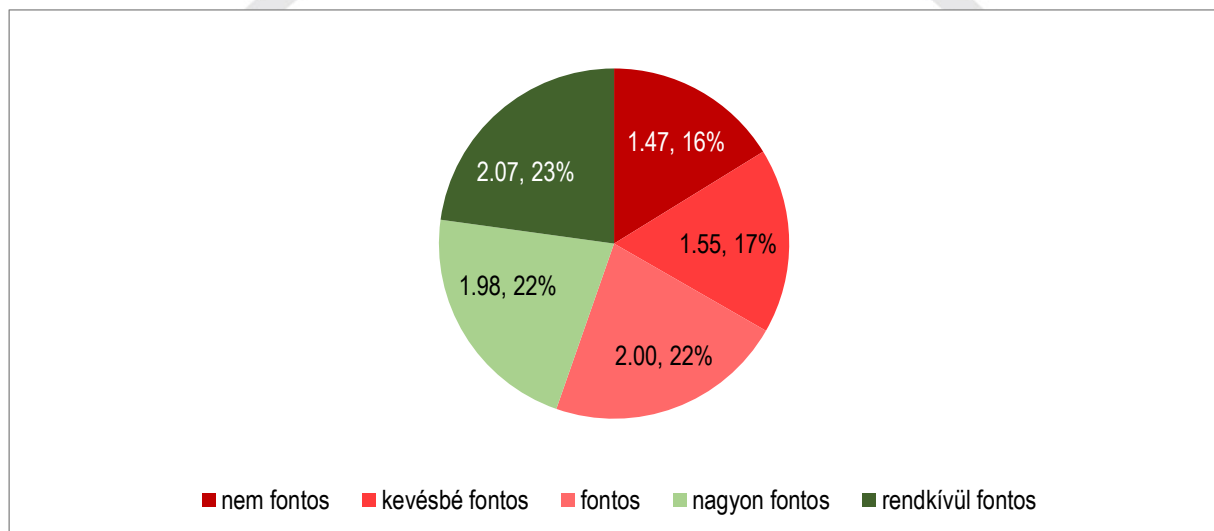
((Az ábrán szereplő kifejezések fordítása sorrendben: not important at all, somewhat important, important, very important, extremely important))

Respondents who attach higher importance to parenthood are those who would like to have more than one child (on the average, two children). In general, data indicate that **the majority of sampled young individuals prefer the two-child family model.**

The importance attached to parenthood and the intention to have children were then compared with the answers given to questions on fertility issues. The sample does not seem to indicate that individuals with relatively little knowledge of fertility issues attach less importance to having children. By contrast, persons with a low-level awareness of fertility-related facts tend to attribute higher importance to parenthood, while persons with a higher level of knowledge

regard it less important. There is a similar relationship between fertility awareness and the average number of children a person intends to have. Those with a lower level of fertility awareness tend to want more children in the future, albeit this relationship is not significant. The co-occurrence of variables does not imply a cause-and-effect relationship. The number of children a person intends to have is impacted by other factors such as the number of children he or she already has. It is to be assumed that persons who have more than one child are, in general, older (and, therefore, better informed) and want to have less children in the future. **Knowledge of fertility-related facts increases with the number of children.** In general, those with more children tend to know more about the issue of fertility.

On the average, those who do not have a child yet intend to have more children in the future than those who have children do. The average number of children is higher for women, for individuals in the older age group, for persons with lower-level educational attainment and for residents of small settlements. These persons want to have fewer than average children.

The average number of planned children is 1,978 (that is, two). The average rates for those who already have a child or children and for those who do not is 1.3 and 2.2, respectively. The rate of respondents who do not intend to have more children increases with the number of the children they already have.

Table 2. Number of children respondents have and intend to have

Number of children respondent has	Number of children respondent intends to have				
	Does not want to have children	One	Two	Three or more	Total
Number of respondents (persons)					
0 child	59	130	351	164	704
1 child	21	92	39	4	156
2 children	43	42	8	0	93
3 or more children	31	12	1	2	46
Total	154	276	399	170	999
Rate of respondents (%)					
0 child	8.4	18.5	49.9	23.3	100.0
1 child	13.5	59.0	25.0	2.6	100.0
2 children	46.2	45.2	8.6		100.0

3 or more children	67.4	26.1	2.2	4.3	100.0
Total	15.4	27.6	39.9	17.0	100.0

* The question was "How many children do you want (including the children you already have)?"

Fifteen per cent of respondents said they do not want to have children at all. On the questionnaire, they could give more than one reason for their decision.

Table 3. Reasons for the decision not to have children, % (N = 255)[2]

Reasons cited	Number of replies	%
Health-related reasons	23	9.2
Lack of adequate relationship	19	7.3
Career building	23	9.2
Financial reasons	56	21.9
Age (too old)	16	6.3
Patterns learnt in family	11	4.4
Uncertainty of future	68	26.6
Other	39	15.1
All answers	255	100.0

The reasons most often cited are the uncertainty of future and financial reasons. Among those who give other reasons, relatively many mention the number of children they already have. Only 19 persons mention the lack of adequate relationship. Given the low number of answers, it is not possible to draw a definite conclusion, but it seems that the youngest age group are the most affected.

Individuals who do not have a child but are planning to have children were asked at what age they intend to have their first child. The mean age indicated by respondents is **30.5 years**. Men, respondents with tertiary educational attainment, unemployed individuals and single persons indicated a higher age. There is an interrelation between, on the one hand, the age when a respondent intends to embark on parenthood and, on the other hand, their sex and educational attainment. **Men plan to have their first child later than women do. Individuals with**

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[2] It was possible to give multiple answers.

tertiary qualification postpone parenthood to a date later than all other categories of respondent do.

Table 4. Planned age of having the first child (broken down by sex and educational attainment)

Name	Average age	Number of respondents	Standard deviation	%
Male				
Primary	31.4	108	5.385	16.9%
Secondary	30.9	163	4.034	25.3%
Tertiary	32.2	112	4.444	17.4%
Total	31.4	383	4.589	59.7%
Female				
Primary	28.7	51	3.948	7.9%
Secondary	28.4	136	3.996	21.2%
Tertiary	30.7	72	3.267	11.2%
Total	29.1	259	3.912	40.3%
Total				
Primary	30.5	159	5.117	24.8%
Secondary	29.8	299	4.193	46.5%
Tertiary	31.6	184	4.077	28.6%
Total	30.5	641	4.468	100.0%

On the average, respondents want to have their last child at the age of 34.6 years, that is, more than four years later than the first. When broken down by gender, data on when those respondents who plan to have at least two children intend to have their last child show that, on the average, women want to have their last child at an earlier age than men do (33.5 years vs. 36.1 years).

Infertility

Young people were also asked about the options they would be likely to choose if they were incapable of having naturally conceived children, the options being assisted reproduction treatment, adoption or accepting a life without children. Twenty-seven per cent of them say they would very likely seek an assisted reproduction treatment; 26% are unsure. Thirty-one per cent would probably opt for adoption; 29% are not sure. **The majority (52%) reject the option**

of accepting a life without children even if they were not be able to have a naturally conceived child.

Figure 2. What is the likelihood of you choosing the following options if you were incapable of having naturally conceived children? (N = 1000) What is the likelihood of you … (N = 1000)
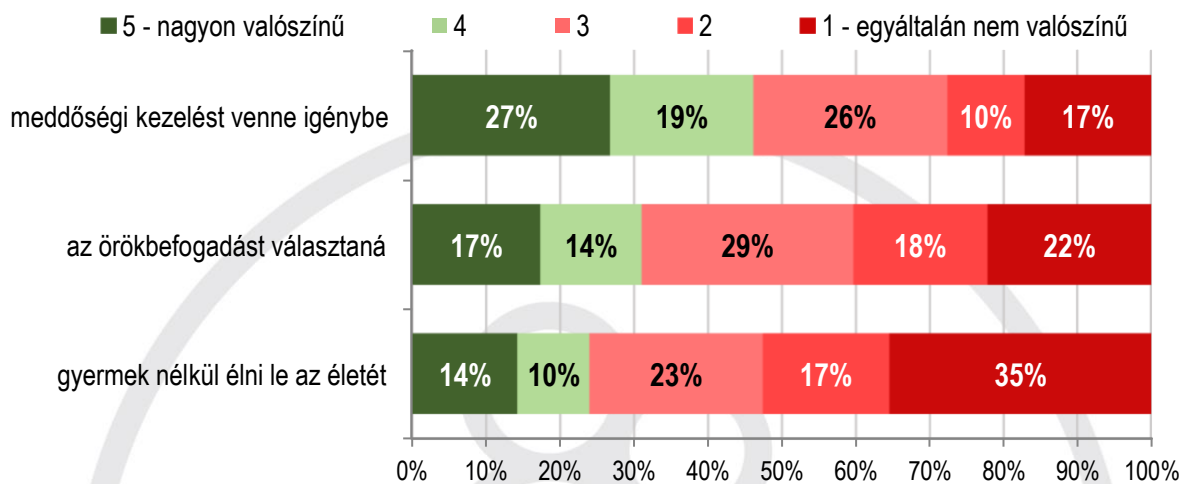
((Az ábrán szereplő kifejezések fordítása:

nagyon valószínű = very likely

egyáltalán nem valószínű = very unlikely

gyermek nélkül élni le az életét = …accepting a life without children

az örökbefogadást választaná = …choosing adoption

meddőségi kezelést venne igénybe = …opting for an assisted reproduction treatment))

In the 25–29 age group, 47.7% would opt for an assisted reproduction treatment likely or very likely if they failed to have naturally conceived children. Nearly two-thirds (59.5%) of respondents with tertiary qualifications say that they would likely or very likely choose this option. More than a third (35.7%) of individuals with primary education as the highest educational attainment do not think they would be likely to seek medical treatment. Nearly half of the unemployed persons or job seekers surveyed (46.7%) also say that they would not be very likely to pursue an assisted reproduction treatment. By contrast, 35.2% of them answered that they would probably seek such a treatment if need be.

Reactions to the issue of adoption were the most diverse among respondents whose highest level of educational achievement was primary education: 31.3% said that if they were not be

capable of having naturally conceived children they would, in all likelihood, adopt a child, 36.1% said they would not, and 32.6% were uncertain. The higher the educational level of respondents, the less likely they are to choose adoption.

Slightly more women than men reject the option of accepting a life without children. With age, the degree of uncertainty increases and so does the likelihood of accepting the fact that one will not have children.

If respondents were to face an infertility problem, most of them would **discuss it with their partner or spouse (82%)**. Fifty-one per cent and 43% would consult their doctor and infertility specialists, respectively. They are the least likely to discuss their concern with a district nurse (6%), a psychologist (13%) or their peers with a similar problem (15%).

Figure 3. Who would you discuss your infertility problems with? % (N = 1000)
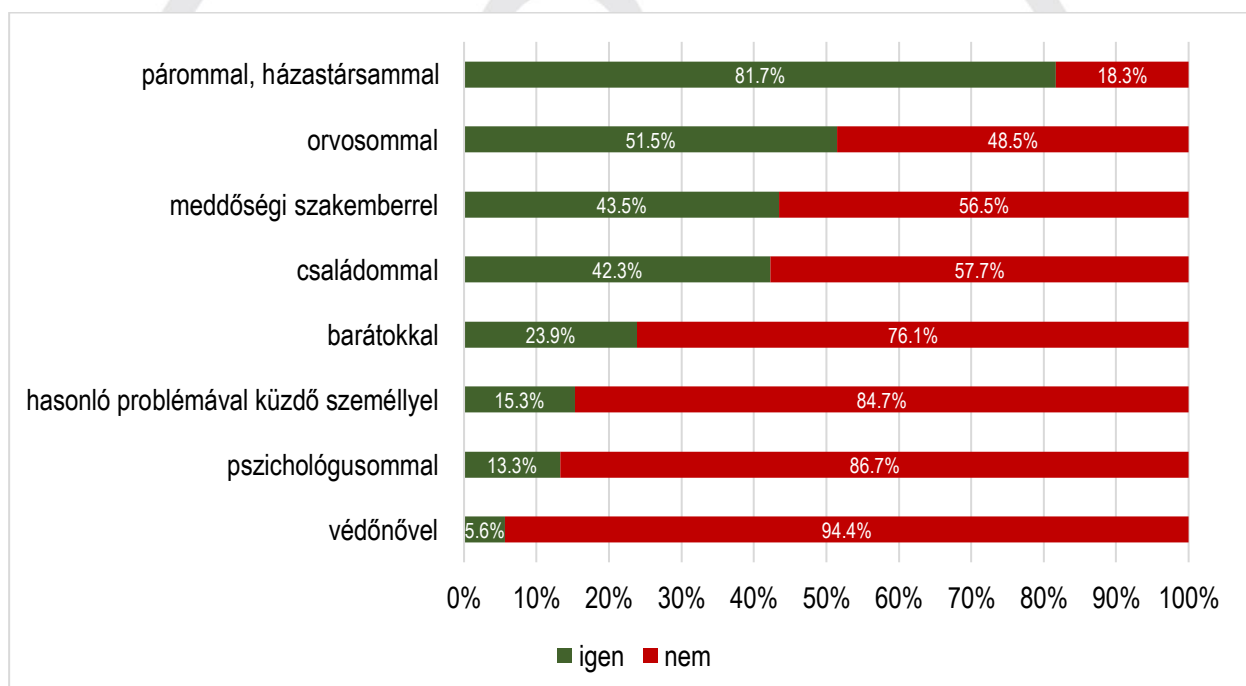
((Az ábrán szereplő kifejezések sorrendben: my partner/spouse, my doctor, an infertility specialist, my family, friends, someone who has the same problem, my psychologist, a district nurse))

Women are more willing to share their infertility problems than men are. In the age group 25–29 years, more than two-thirds (68%) and in the category of persons with a tertiary qualification

more than 80% would do the same. The higher the educational level of respondents, the more emphasis they put on the opinion of a specialist.

Data broken down by settlement type indicate that the smaller a settlement, the less likely for its residents to discuss their infertility problems with persons other than their spouses or partners. This leads to the conclusion that **infertility is still a taboo subject, especially in rural regions.** If those concerned are reluctant to talk about infertility, **they may encounter more difficulties in finding adequate help.**

Three-quarters of participants (75%) say that they have no acquaintance (or are not aware of any acquaintance) who underwent an assisted reproduction treatment.

Knowledge of fertility-related facts

Awareness

On the average, respondents rate their own fertility awareness at 3.42 on a five-point scale, which means that **they consider themselves slightly better informed than the average.** Individuals whose highest level of educational attainment is primary education, students and residents of county seats feel better-informed, yet their average rate is still less than 4 points. In terms of sex, age group, civil status and number of children, there are no differences in how respondents perceive their own awareness. Consequently, it cannot be concluded with a sufficient degree of certainty that either men or women, or respondents with or without children regard themselves as better informed.

Young people can rely on various sources when seeking information on fertility issues. Among sources of information, the television and Internet are the most popular, followed by peers at school and friends. Family ranks only fourth and is followed by doctors/specialists. As far as sources of information is concerned, educational attainment and age have an important role to play. Persons with primary education as the highest level of educational attainment are more likely not to seek information anywhere or from anyone. **The rate of those relying on more than one source of information grows with the level of their highest educational**

attainment. With age, the rate of those using the television or the Internet increases. The same trend is observed among respondents with children, especially with three or more children.

Although respondents perceive themselves as slightly better informed than the average, the answers they gave to subsequent questions on fertility indicate that the majority of young Hungarians have a low level of fertility awareness. **This sheds light on a discrepancy between self-perception and reality.**

Figure 4. Degree of knowledge of fertility-related facts, % (N = 1000)

Legend: ■ Megfelelően tájékozott   ■ Közepesen tájékozott   ■ Nem tájékozott
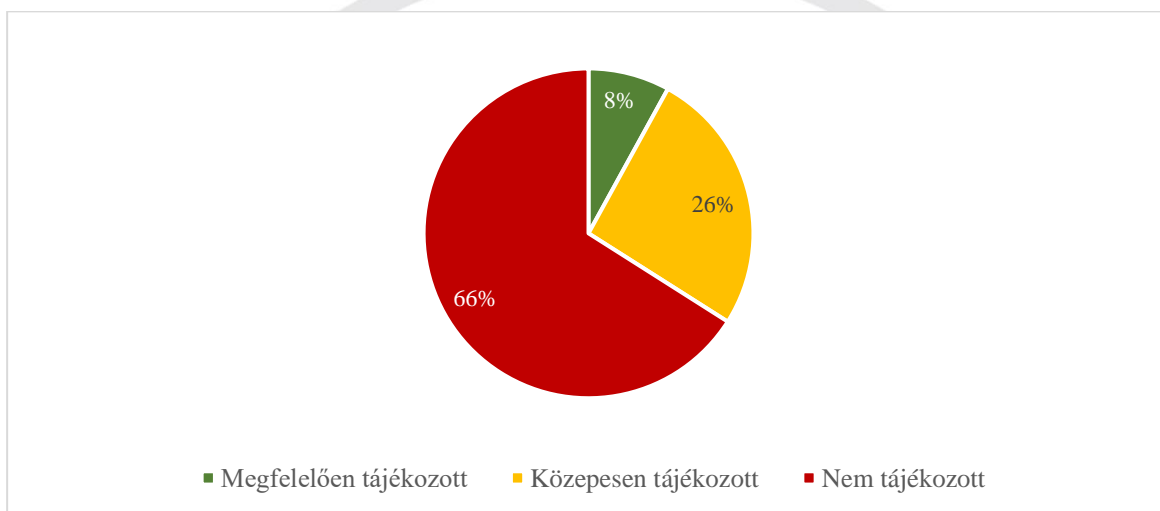
((Az ábrán szereplő kifejezések sorrendben: Adequately informed, Moderately informed, Uninformed))

As demonstrated by the answers given to the ten questions on fertility, two-thirds (66%) of respondents have a low-level fertility awareness, and slightly more than one-quarter of them (26%) are moderately informed. **Among respondents between ages 21 and 35 years, only 8% have a high level of awareness of fertility-related issues.**

Married persons (11%), beneficiaries of maternity allowance (9%) and parents with three or more children (21%) were the most likely to have an appropriate level of fertility awareness. By contrast, respondents aged 21–24 years (72%), students (71%), single persons (73%) and those who regard themselves fully informed have the lowest level of fertility awareness. These links, however, need further clarification on the basis of a larger sample. (No significant

difference is detected in terms of age groups and economic status/activity, but a certain level of difference can be measured and a certain trend identified).

It has already been established that those who consider themselves properly informed do not necessarily know the facts. The sample studied also shows that the level of awareness improves with the number of children. Another factor that has an impact on fertility awareness is civil status: **among the persons surveyed, single individuals are the least informed, while those living in a civil partnership or marriage are the best informed.**

The interrelation between the highest level of educational attainment and actual knowledge indicated by the sample calls for further analysis on a bigger sample. Still, it seems that that persons with tertiary qualification are the most likely to give correct answers to questions on fertility. Another conclusion to be drawn is that higher-level fertility awareness and the willingness to participate in an assisted reproduction treatment seem to correlate. However, given the small number of cases, this is only a hypothesis to be examined on a larger sample. Presumably, it is the participation in an assisted reproduction treatment itself that results in a higher level of fertility awareness.

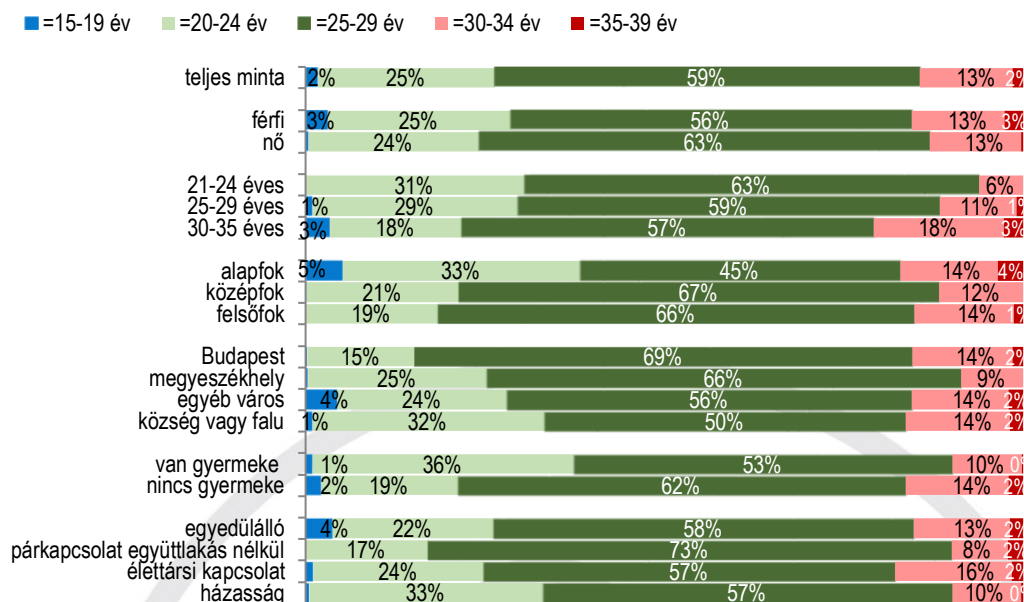## The ideal childbearing age for a woman

The majority of respondents (59%) opine that **the age interval 25–29 years is the ideal period for a woman to have children.** When answering the question, 25% of respondents chose age interval 20–24 and 13% 30–34.

This means that the majority of respondents are convinced that the age interval between 25 and 29 years is the ideal time for childbearing, even if (as reflected by their answers discussed below) they are well aware of the fact that the most fertile period in a woman's life is between the ages 20 and 24 years.

Table 5. What is the ideal age for a woman to have children? % (N = 735)[3]

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[3] Respondents who chose more than one category were excluded from the analysis.

	15-19 év	20-24 év	25-29 év	30-34 év	35-39 év
teljes minta	2%	25%	59%	13%	2%
férfi	3%	25%	56%	13%	3%
nő		24%	63%	13%	1
21-24 éves		31%	63%	6%	
25-29 éves	1%	29%	59%	11%	1%
30-35 éves	3%	18%	57%	18%	3%
alapfok	5%	33%	45%	14%	4%
középfok		21%	67%	12%	
felsőfok		19%	66%	14%	1%
Budapest		15%	69%	14%	2%
megyeszékhely		25%	66%	9%	
egyéb város	4%	24%	56%	14%	2%
község vagy falu	1%	32%	50%	14%	2%
van gyermeke	1%	36%	53%	10%	0
nincs gyermeke	2%	19%	62%	14%	2%
egyedülálló	4%	22%	58%	13%	2%
párkapcsolat együttlakás nélkül		17%	73%	8%	2%
élettársi kapcsolat		24%	57%	16%	2%
házasság		33%	57%	10%	0

((A kifejezések sorrendben: Total sample, Male, Female, 21–24 years, 25–29 years, 30–35 years, Primary, Secondary, Tertiary, Budapest, County seat, Other town, Small settlement or village, Has a child/children, Does not have a child, Single, In a relationship, without cohabitation, Civil partnership, Marriage))

As shown by data broken down by age group, the youngest respondents are the most likely (31%) to think that the optimal childbearing age for a woman is between the ages of 20 and 24 years. One-third of individuals with primary education as the highest level of educational attainment share this opinion, while, on average, only 20% of those with a higher qualification think so. Among residents of small settlements or villages, 32% consider the age interval 20–24 years to be the optimal age for a woman to have children. Only 15% of respondents who reside in Budapest share this opinion. Among respondents, parents are more likely to consider the age range 20–24 years as optimal than childless individuals are, and married persons are more likely to think so than single persons are.
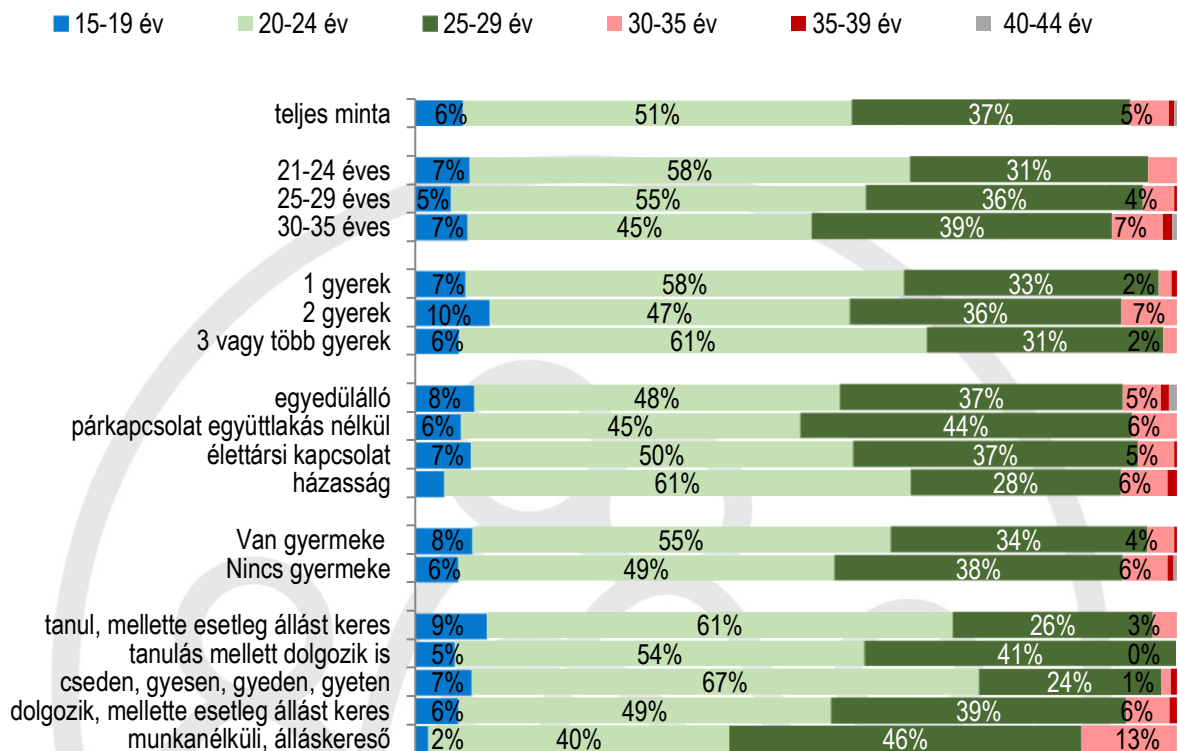
Female fertility

Only half of respondents are aware of the fact that women are the most fertile between the ages of 20 and 24 years. (1). Thirty-seven per cent of respondents think that fertility peaks

between the ages of 25 and 29 years. When answering this question, 6% and 5% chose the 15–19 years and 30–34 years options, respectively.

Figure 6.   The most fertile age of a woman, % (N = 730)[4]

Legend: ■ 15-19 év   ■ 20-24 év   ■ 25-29 év   ■ 30-35 év   ■ 35-39 év   ■ 40-44 év

	15-19	20-24	25-29	30-35
teljes minta	6%	51%	37%	5%
21-24 éves	7%	58%	31%	
25-29 éves	5%	55%	36%	4%
30-35 éves	7%	45%	39%	7%
1 gyerek	7%	58%	33%	2%
2 gyerek	10%	47%	36%	7%
3 vagy több gyerek	6%	61%	31%	2%
egyedülálló	8%	48%	37%	5%
párkapcsolat együttlakás nélkül	6%	45%	44%	6%
élettársi kapcsolat	7%	50%	37%	5%
házasság		61%	28%	6%
Van gyermeke	8%	55%	34%	4%
Nincs gyermeke	6%	49%	38%	6%
tanul, mellette esetleg állást keres	9%	61%	26%	3%
tanulás mellett dolgozik is	5%	54%	41%	0%
cseden, gyesen, gyeden, gyeten	7%	67%	24%	1%
dolgozik, mellette esetleg állást keres	6%	49%	39%	6%
munkanélküli, álláskereső	2%	40%	46%	13%

==((A kifejezések sorrendben: Total sample, 21–24 years, 25–29 years, 30–35 years, Primary, 1 child, 2 children, 3 or more children, Single, In a relationship, without cohabitation, Civil partnership, Marriage, Has a child/children, Does not have a child, Studies and possibly seeks job, Studies and works, CSED, GYES, GYED, GYET, Works and possibly seeks job, Unemployed, job seeker))==

Respondents who were the most likely to give the correct answer belong to the following categories: individuals aged 21–24 years (58%), parents of three or more children (61%), married people (61%) and beneficiaries of infant care allowance, childcare allowance, childcare fee or child-raising support (67%). Respondents aged 30–35 years and

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[4] Respondents who indicated more than one category in their answer were excluded from the analysis.

unemployed persons are the least informed in this regard (45% and 40%, respectively). Nevertheless, significant differences can be detected only along age groups and economic status/activity. It is to be noted that more than one-quarter (27%) of respondents did not answer the question, which suggests an incomplete or inaccurate knowledge of fertility issues. The rates of respondents who gave the correct answer are identical among those who consider themselves to be properly informed about fertility and those who do not. All in all, only every second respondent knew exactly at what age a woman has the best chances of getting pregnant. Respondents with children and married respondents have a higher level of awareness of the issue.

Only 43% of respondents think that women who want to have children take into account when female fertility peaks. More than half of respondents (52%) opine that women rarely pay attention to this aspect. Half of participants aged 21–24 years and 41% of the 25–35-year olds think that women take this fact into account. The lower the level of their educational attainment, the higher the likelihood for respondents to think that women who intend to have children take into consideration the facts about their most fertile years: 54% of respondents with primary education as the highest level of educational attainment think so, while the rates are 42% and 32% for those with secondary qualification and those with tertiary qualification, respectively. That is, respondents who are the most likely to think that women seek to ensure having children in their most fertile years are young people in the 20–24 age group (50%), individuals with primary education (54%), unemployed persons (49%) and residents of small settlement or villages (48%).

Respondents were asked at what age they believe female fertility starts to decline slightly. Thirty-five per cent of respondents opted for the age interval 35–39 years, 31% for 30–34 years, **and only 5% were aware of the fact that a slight natural age-related decline starts as early as at the age of 25–29 years.** (1). Young people aged 21–24 (4%), individuals with secondary qualification as the highest level of educational attainment (3%) and residents of villages (4%) have the lowest-level awareness. The rate of respondents who gave the correct answer is the highest among parents of three or more children: 12% say that there is a slight decline in female fertility between the ages of 25 and 29 years. Overall, however, it is to be concluded that young

people are not sufficiently aware of the onset of an age-related slight decline in female fertility, putting it at five years later (one-third of respondents) or ten or more years later (two-thirds of respondents).

A similar question was posed about the onset of a marked age-related decline in female fertility. Nearly half (47%) of respondents believe that such a decline starts at the age of 40–44 years, and 35% chose the option of 45–49 years (while, in fact, for women of that age the statistical probability of natural pregnancy or pregnancy through IVF treatment is almost zero) (1). **Only 16% of respondents are aware of the fact the female fertility starts to decline markedly at the age of 35–39 years** (1). In the age group of 21–24, only every tenth person knows this fact. Those aged 25–39 years are slightly better informed: almost one-fifth (18%) of them chose the correct option to answer the question. Young people aged 21–24 years are not sufficiently aware of fertility-related issues: 42% of them believe that female fertility does not start to decline markedly until the age of 45–49 years.

In this regard, parents of three or more children are the best informed: 21% of them gave the correct answer. Again, the rates of respondents who gave the correct answer are identical among those who consider themselves to be properly informed of fertility issues and those who do not. To sum up: a significant rate of young people are of the opinion that a marked age-related decline in female fertility starts five years later (or even ten years later) than it actually does.

*Figure 7. What do you think? At what age does female fertility start to decline slightly? % (N*
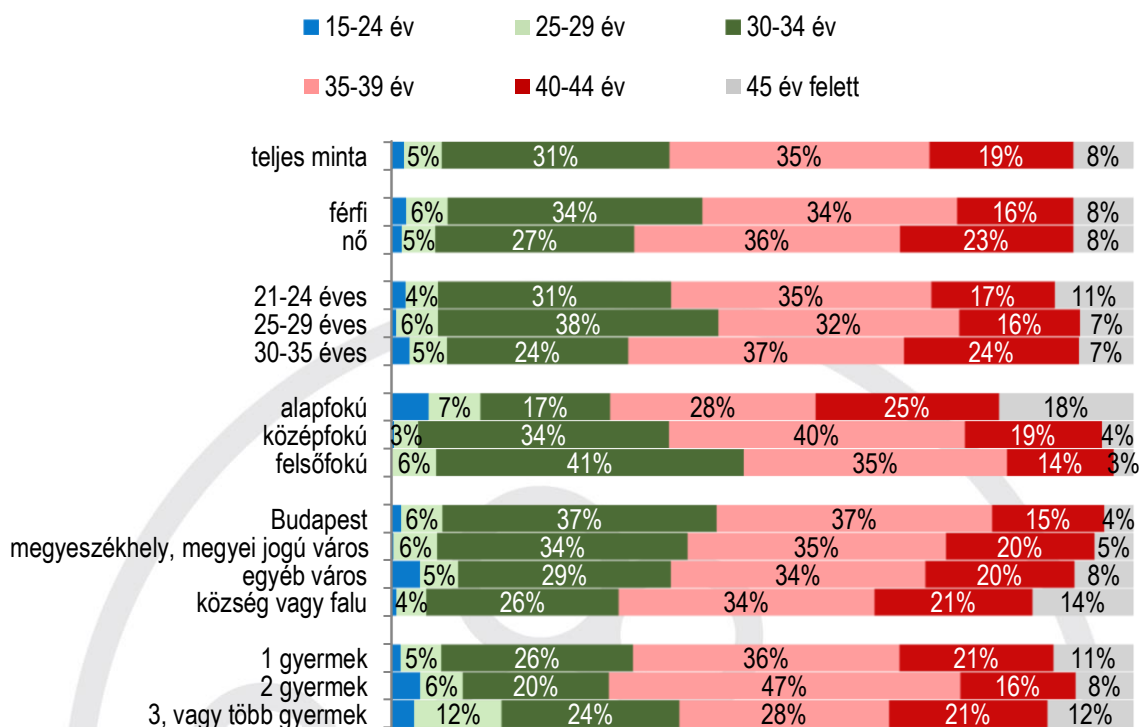
= 1000)

((15–24 years, 25–29 years, 30–34 years, 35–39 years, 40–44 years, Above 45 years, Total sample, Male, Female, 21–24 years, 25–29 years, 30–35 years, Primary, Secondary, Tertiary, Budapest, County seat, City with country rights, Other town, Small settlement or village, 1 child, 2 children, 3 or more children))

Figure 8. What do you think? At what age does female fertility start to decline markedly? % (N = 1000)
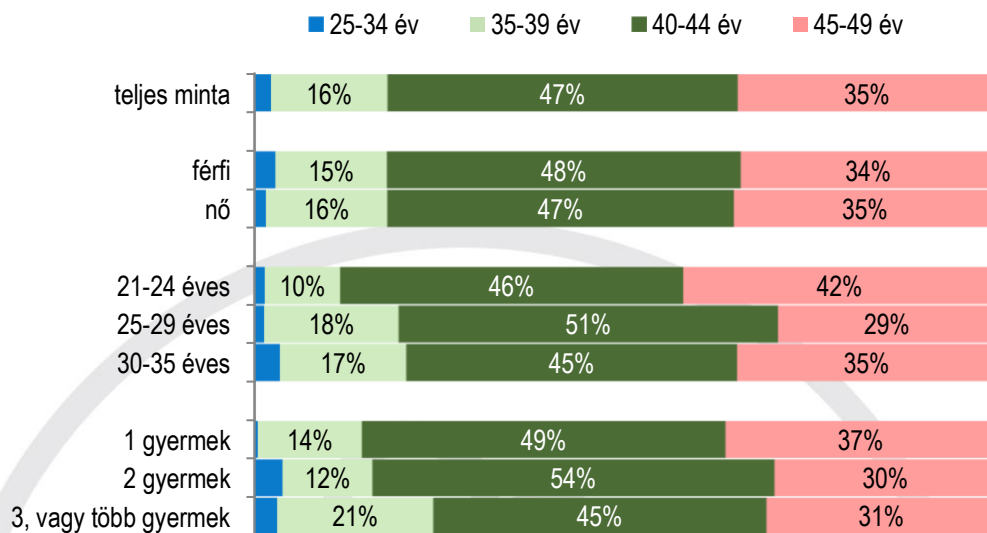
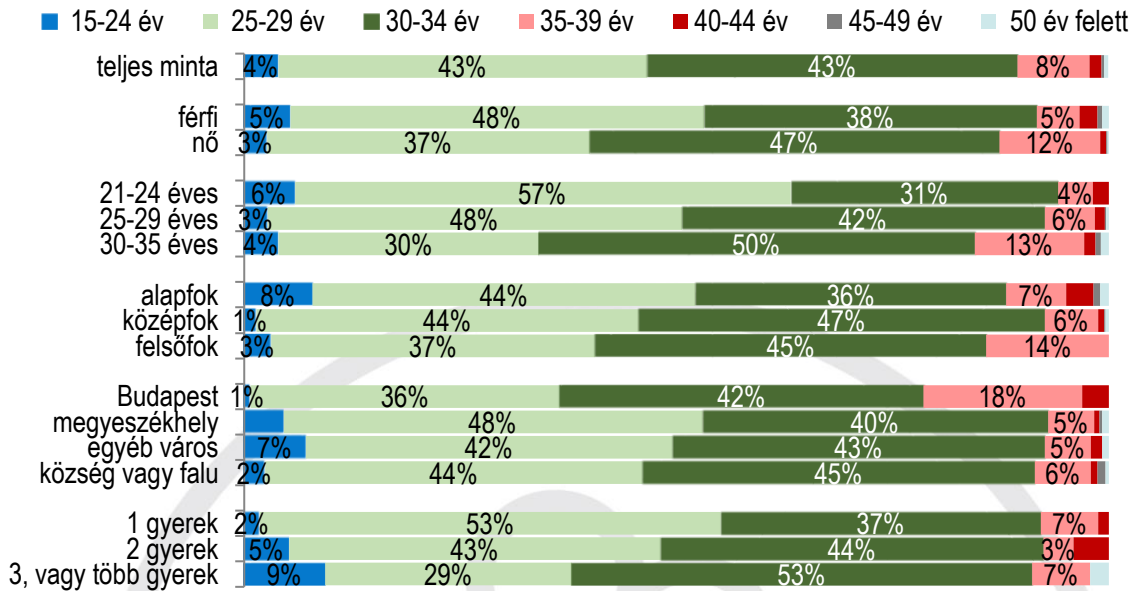
((Total sample, Male, Female, 21–24 years, 25–29 years, 30–35 years, 1 child, 2 children, 3 or more children))

The ideal age for men to have children; decline in male fertility

When answering the question on the optimal age for a man to have children, the same rate of respondents (43%) chose the options of 25–29 years and 30–34 years. Eight per cent are of the view that the ideal age is between 35 and 39 years. One quarter were not able to answer the question.

Figure 9, What is the ideal age for a man to have a child? % (N = 750)[5]

((15–24 years, 25–29 years, 30–34 years, 35–39 years, 40–44 years, Above 45 years, Total sample, Male, Female, 21–24 years, 25–29 years, 30–35 years, Primary, Secondary, Tertiary, Budapest, County seat, City with country rights, Other town, Small settlement or village, 1 child, 2 children, 3 or more children))

Data broken down by sex show a significant difference between the answers of men and women. Nearly half of the men (48%) answered that the optimal age for them to have children is between 25 and 29 years. Only 37% of the women share this opinion. The majority of women (47%) believe that the ideal age interval for a man to become a father is between 30 and 34 years. The perceived ideal age increases with the respondents' age. When answering the question, 57% of respondents aged 21–24 years, 48% of those aged 25–29 years and 30% of those aged 30–35 years selected the option "between the ages 25 and 29 years". Answers differ significantly as per the settlement type of the respondents' place of residence. Among respondents who live in Budapest 36% opined that the ideal age for a man to have children is between 25 and 29 years, while about one-fifth (18%) selected the age interval 35–39 years.

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[5] Respondents who chose more than one category in their answer were excluded from the analysis.

The rates are different for residents of other settlement types: on average, 45% find the age interval 25–29 years to be the ideal for a man to have children, and only 6% opted for the age interval 35–39 years. Fifty-three per cent of respondents with one child chose age interval 25–29 years as optimal, but only 29% of the parents or three or more children shared their opinion.

A question was posed about the age when male fertility starts to decline. The options "above 50 years of age" and "between 45 and 49 years" were selected by 43% and 35% of respondents, respectively. **Only one-fifth of respondents are aware of the fact that male fertility starts to decline as early as between the ages of 40 and 44 years.** (11)**.** Participants aged 21–24 years are the least informed, given that only 14% of them knew the correct answer. By contrast, nearly one-fourth (24%) of the 25–35 age group answered the question correctly. Persons with primary education as the highest level of educational attainment (25%), residents of small settlements (23%), parents with one child (23%) and individuals aged 25–35 years (24%) are the best informed about the issue. Participants aged 21–24 years made gross overestimations: 56% of them believed that men's chances of having a child did not start to decline until above the age of 50 years. Overall, young people have insufficient knowledge as to the onset of age-related decline in male fertility and specify an age that is ten years later than the actual age.

Only half of participants know that incapacity to have children is attributable exclusively to male infertility in 21–40% of the cases (5)**.** One-quarter of respondents believe that the rate is 41–60%, and 21% chose the option of 0–20%. In this regard, respondents with the highest level of awareness are women (54%), persons with secondary qualification (55%), beneficiaries of maternity benefits (53%), residents of Budapest (55%) and parents of two children (55%).

Chances of pregnancy

A young couple's chances of achieving pregnancy during one month of unprotected intercourses is between 30% and 39%. (1). Only a quarter (24%) of respondents are aware of the fact. More than one-third of them gave an incorrect answer, specifying a rate between 50% and 100%. The answers broken down by age group show that the likelihood of giving the correct answer increases with age. However, the rate of respondents who answered the question correctly does not exceed 30% in any of the age groups. One-fifth of the youngest respondents

(aged 21–24 years), 24% of those between ages 25 and 29 years, and 26% of 30–35-year olds specified the correct range. Nearly half (45%) of respondents aged 21–24 years made overestimations, thinking that the couple's chances of pregnancy were between 50% and 100%. As far as civil status is concerned, married persons (28%) and individuals cohabiting with their partner (27%) are the best informed. Among persons in a relationship without cohabitation and among single persons, the rates of respondents answering the question correctly are 20% and 17%, respectively. Similarly to the youngest respondents, nearly half (46%) of single persons overestimated the chances of pregnancy for the young couple, specifying a rate between 50% and 100%. The best rates of correct answers were achieved by respondents aged 30–35 years, married persons and individuals cohabiting with their partner; still, the rates do not reach 30% in any respondent category.

Figure 10. If a young couple have regular unprotected sex for a month, what are the chances of the woman becoming pregnant? broken down by age group and civil status, % (N = 1000)
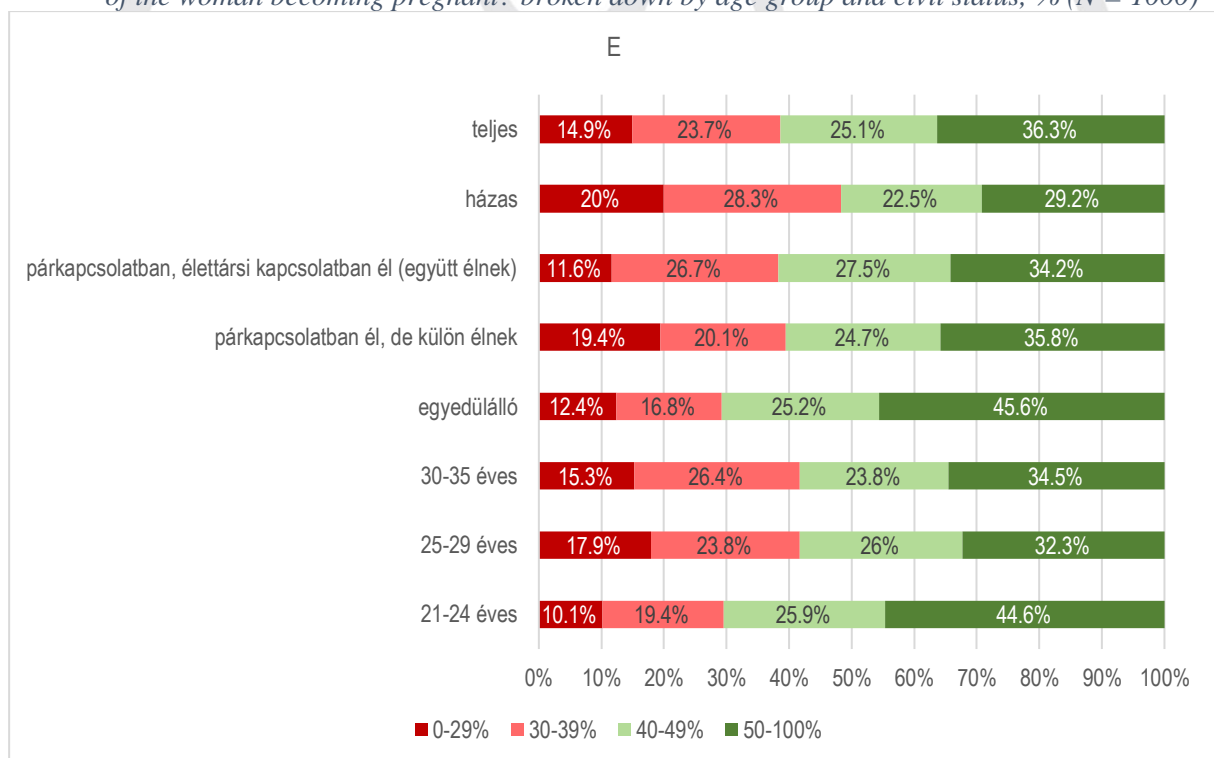

((Total sample, Married, In relationship/civil union (with cohabitation), In relationship/civil union (without cohabitation), Single, 30–35 years, 25–29 years, 21–24 years))

Data on the perceived awareness of one's own fertility awareness were analysed together with the rate of correct/incorrect answers to the previous question. Those who perceive themselves to be best informed about fertility issues are the least likely (16%) to answer the question about the young couple correctly. In all categories, the rate of those who answered the question correctly exceeded 24%. Among respondents who consider their own fertility awareness to be of a medium level, the rate is nearly 30%. As for those who see themselves to be completely uninformed about fertility issues, more than a quarter (26%) gave the correct answer to the question. Given the discrepancy of self-perception and the rates of correct answers to a question that checks on actual knowledge, some respondents overestimate their own level of awareness.

Figure 11. If a young couple have regular unprotected sex for a month, what are the chances of the woman becoming pregnant? In your opinion, how well informed are you about fertility issues? % (N=999)
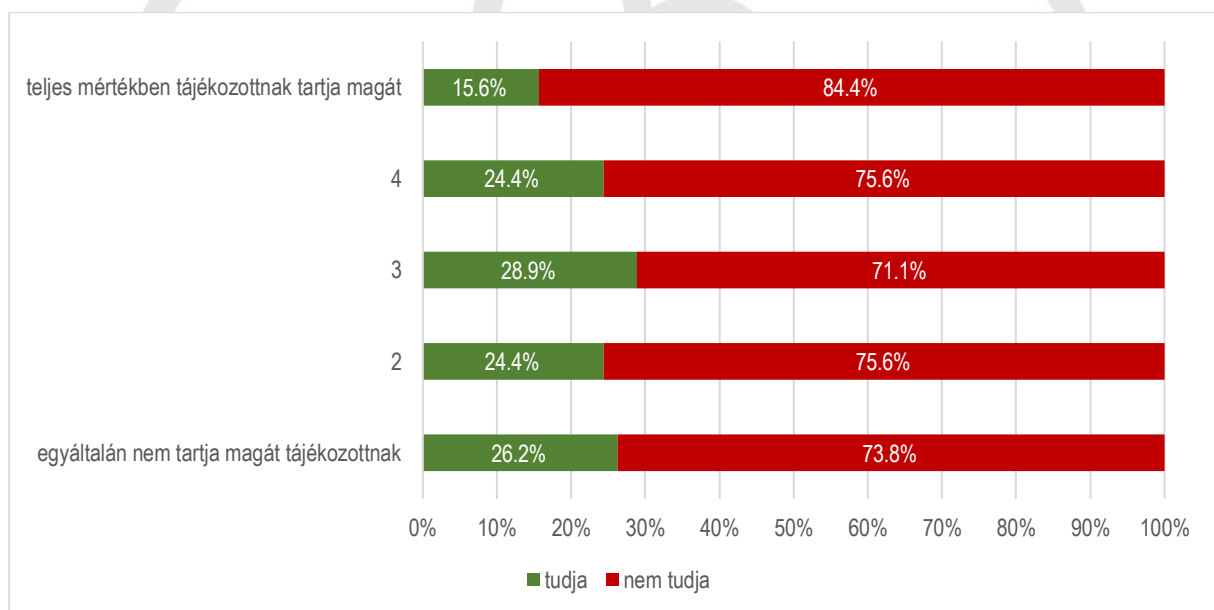
((Completely informed / Completely uninformed, Knows, Does not know))

A couple's chances of achieving pregnancy are greatly affected by the woman's age. If a woman aged between 25 and 30 years have regular unprotected sexual intercourses for a year, her chances of getting pregnant is 70–79%. For a woman aged 35–40 years, the rate is only 50–59% (7). One-quarter of (26%) respondents answered the question about the younger woman correctly. One third (34%) gave the correct answer to the question about the older woman. As

evidenced by the answers broken down by sex, there is no difference between the responses given by women and men. The rate of correct answers is 26% for both sexes. Sixty per cent of the men, and half of the women believed that the woman's chances of getting pregnant are over 80%, which means that men made slight overestimations. To the question concerning the older woman, 37% of female respondents and 31% of the male respondents gave the correct answer. That is, more women than men answered the question correctly. Again, men overestimated the chances of achieving pregnancy (46% vs. 34%).

An analysis from the perspective of age groups shows that respondents aged between 25 and 29 years are the best informed about the younger woman's chances of pregnancy. In the age group 25–29, 30% answered the question correctly. Each of the three age groups tended to make overestimations: 62% in the youngest age group, half of the 35–39-year olds and 55% of those aged between 30 and 35 years believe that the younger woman's chances of getting pregnant exceeds 80%. As for the question concerning the older woman, the rate of the correct answers was higher, and respondents were less likely (35–43%) to overestimate her chances of getting pregnant.

In terms of the respondents' civil status, it is to be mentioned that single respondents are the least likely (21%) to give a correct answer to the question on the younger woman's chances of pregnancy. The rates of correct answers are 29% among married people and people cohabiting with their partner. One-fourth of respondents who are in a relationship but are not cohabiting with their partner answered the question correctly. In the category of single respondents, 35% overestimated the chances of the woman aged 25–29 years of getting pregnant (putting it at 90%), which is markedly higher than the rates in the other categories (23–25%). As for the chances of the woman aged 35–40 years of getting pregnant, single respondents, compared to others, also tended to overestimate it: one-fifth of them believe it to exceed 70%, while in the other categories only 9–11% believe so.

Table 5. If a couple have regular unprotected sex for a year, what are the chances of the woman (aged 25-30 years) becoming pregnant? - broken down by gender, age group and civil status % (N = 1000 persons)

	If a couple have regular unprotected sex for a year, what are the chances of the woman (aged 25–30 years) becoming pregnant?	If a couple have regular unprotected sex for a year, what are the chances of the woman (aged 35–40 years) becoming pregnant?

	0–69%	70–79%	80–89%	90–100%	0–49%	50–59%	60–69%	70–100%
Total	18.9%	**26.1%**	28.3%	26.7%	25.8%	**34.2%**	27.7%	12.3%
Male	14.5%	**25.9%**	29.8%	29.8%	23%	**31.4%**	31.4%	14.2%
Female	23.6%	**26.3%**	26.7%	23.4%	28.9%	**37.3%**	23.7%	10.1%
21–24 years	14.2%	**23.8%**	32.1%	29.9%	25.5%	**33%**	26.5%	15%
25–29 years	20.9%	**29.3%**	29.3%	20.5%	30.5%	**34.7%**	27.7%	7.1%
30–35 years	20%	**24.9%**	25.1%	30%	22.1%	**34.8%**	28.3%	14.8%
Single	17.6%	**21.4%**	26.3%	34.7%	20.7%	**32.5%**	27.2%	19.6%
In a relationship, without cohabitation	16.9%	**25.3%**	33.8%	24%	25%	**36%**	28.5%	10.5%
In a relationship, with cohabitation; civil partnership	16.2%	**28.8%**	30.5%	24.5%	27.6%	**33.5%**	30.4%	8.5%
Marriage	24.6%	**28.7%**	24%	22.7%	28.5%	**37.6%**	22.5%	11.4%

The questionnaire contains questions that measure respondents' knowledge as to the onset of a slight/marked age-related decline in female fertility. The correct and incorrect answers were compared with those given to the two questions about the chances of achieving pregnancy. As clearly shown by the cross table, **it is by no means certain that respondents who give a correct answer to the first question will answer the other question on the same subject correctly.** On the average, 46.5% of those who are correctly informed about the onset of a slight decline in female fertility are able to answer correctly the questions concerning the chances of pregnancy of woman who has regular unprotected sexual intercourses for one year. Again, respondents who are correctly informed about decline in female fertility were more likely to answer the question about the older woman correctly. The majority of respondents who gave an incorrect answer to the question on the slight decline in fertility gave an incorrect answer to the questions on the chances of pregnancy, too (75% and 66.5%). Compared to those participants who answered the question on the slight decline in fertility correctly, those who gave the correct answer to the question on a marked decline in fertility were less likely to answer the questions on the chances of achieving pregnancy (33% and 45%) correctly. They were also

more likely to be sufficiently informed to give a correct answer to the question on the fertility of the older woman. Respondents who are aware of the time of the onset of a slight age-related decline in female fertility were more likely to give the correct answer to questions on the likelihood of achieving pregnancy during one year of regular unprotected intercourses. Based on the correct and incorrect answers given to the questions on fertility, it is to be concluded that less than a half (and, in one case, only one-third) of respondents answered subsequent questions on the same topic correctly. Only they can be regarded to have a reliable knowledge of fertility issues.

Table 6. If a couple have regular unprotected sex for a year, what are the chances of the woman (aged 25–30 years or 35–40 years) becoming pregnant? At what age does female fertility start to decline slightly/markedly? % (N=1000)

		If a couple have regular unprotected sex for a year, what are the chances of the woman (aged 25–30 years) becoming pregnant?		If a couple have regular unprotected sex for a year, what are the chances of the woman (aged 35–40 years) becoming pregnant?	
		Knows	Does not know	Knows	Does not know
At what age does female fertility start to decline slightly?	Knows	**44%**	56%	**49.1%**	50.9%
	Does not know	25.2%	**74.8%**	33.5%	**66.5%**
At what age does female fertility start to decline markedly?	Knows	**33.8%**	66.2%	**44.9%**	55.1%
	Does not know	24.7%	**75.3%**	32.3%	**67.7%**

Factors that reduce fertility

Evidence shows that obesity, smoking, and excessive alcohol consumption have a major negative impact on fertility (8). Our research results show that **the majority of respondents are aware of the fact that smoking and excessive alcohol consumption reduce fertility, but they are less likely to attach importance to obesity.**

Excessive alcohol consumption and smoking are considered to be factors that massively reduce fertility by 60% and 55% of respondents, respectively. However, only one-third (32%) of them opine that obesity is a major factor. The rate of respondents who were not able to give an answer is the highest for the question on obesity (11%). The negative impact of obesity was typically underestimated. Significant correlations are identified only between the respondents' sex and the answers they gave to the questions on obesity/alcohol consumption. (No correlation is established for the question on smoking.) With regard to the two questions on obesity and alcohol consumption, it is worth mentioning that, compared to men, women are more likely to regard obesity (37% vs. 28%) and excessive alcohol consumption (67% vs. 54%) as factors that reduce fertility. Almost half of female and male respondents (47%) believe that obesity has only a minor unfavourable impact on fertility. Thirteen per cent of men were not able to assess the impact of obesity on fertility (they did not answer the question).

As shown by the answers broken down by age group, one-third of respondents over 25 and 27% of those aged 21–24 years consider obesity to be a major factor that reduces fertility. Overall, respondents, regardless of age, opine that obesity has a minor (around 46–48%) negative impact on fertility. In the youngest age group, 17% were unable to answer the question. As for the answers given to the questions on smoking and excessive alcohol consumption, no significant difference is detected between the age groups: the majority of respondents attributed a major fertility-reducing effect to both.

Thirty-nine per cent of respondents with a tertiary-level qualification and 30% of those with lower-level educational attainment regard obesity to have a major unfavourable impact on fertility. A weaker impact is attributed to obesity by more than half of respondents with a secondary-level qualification as the highest level of educational attainment. It is to be highlighted that among respondents with primary education as the highest level of educational attainment the rate of those who were not able to answer the question is higher than in the other groups (15% vs. 9–10%), similarly to the rate of those who believe that obesity has no impact whatsoever on fertility (14.5%).

Smoking is deemed to have a major negative impact on fertility by only 41% of respondents with primary-level educational attainment and by 59% and 67% of those with a secondary- and

tertiary-level qualification, respectively. This indicates that the majority of those with higher educational attainment are aware of the detrimental effects of smoking on fertility. Compared to any other groups defined as per demographic characteristics, respondents with primary education as the highest level of education attainment were more likely not to answer the question (10%) or not to see smoking as a fertility-reducing factor (9%).

Excessive alcohol consumption is considered to have an unfavourable impact in fertility by 55–64% of respondents, regardless of their educational attainment. More than a third (36%) of respondents with a tertiary-level qualification believe that alcohol has a minor negative impact on fertility. Ten per cent of respondents with primary education as the highest level of educational attainment did not give an answer.

Table 7. What do you think? Do obesity, smoking and excessive alcohol consumption reduce fertility?
- broken down by sex, age group and educational attainment (N = 1000 people)

|	What do you think? Does obesity reduce fertility?				What do you think? Does smoking reduce fertility?				What do you think? Does excessive alcohol consumption reduce fertility?			
	Yes, markedly	**Yes, slightly**	**No**	**I do not know**	**Yes, markedly**	**Yes, slightly**	**No**	**I do not know**	**Yes, markedly**	**Yes, slightly**	**No**	**I do not know**
Total	**32.2%**	47.3%	9.3%	11.2%	**55.4%**	34.8%	4.2%	5.6%	**60.3%**	31.1%	3.5%	5.1%
Male	**28%**	47.6%	11%	13.4%	**55.5%**	34%	4%	6.5%	**54.4%**	34.5%	4.7%	6.4%
Female	**36.6%**	47.2%	7.4%	8.8%	**55.3%**	35.7%	4.3%	4.7%	**66.7%**	27.4%	2.2%	3.7%
21–24 years	**27.4%**	45.7%	10.1%	16.8%	**58%**	29.9%	2.9%	9.2%	**64.4%**	26.1%	0.7%	8.8%
25–29 years	**32.4%**	47.2%	9.7%	10.7%	**53.1%**	39.3%	3.1%	4.5%	**59.1%**	33.6%	2.9%	4.4%
30–35 years	**34.9%**	48.4%	8.5%	8.2%	**55.7%**	34.1%	5.8%	4.4%	**58.9%**	32.0%	5.7%	3.4%
Primary	**28.9%**	41.5%	14.5%	15.1%	**40.9%**	40.3%	9.2%	9.6%	**55.2%**	29%	5.4%	10.4%
Secondary	**30.8%**	51%	8.6%	9.6%	**58.8%**	34.7%	2.4%	4.1%	**64%**	29.9%	3.2%	2.9%
Tertiary	**38.7%**	47.9%	4.2%	9.2%	**67.3%**	28.2%	1.1%	3.4%	**59.9%**	35.6%	1.8%	2.7%

The perception of one's own fertility awareness was compared with the actual knowledge of fertility-reducing factors. Among those who consider themselves fully informed, 46% and 71%

are aware of the major fertility-reducing effects of obesity and excessive alcohol consumption, respectively. Even among those who do not perceive themselves to be well-informed about fertility issues, 53% answered the question on alcohol consumption correctly. With regard to the question on obesity, it is worth mentioning that those who think themselves to be well informed on the subject are indeed likely to answer the question correctly (the rate of correct answers being nearly 50%). This fact needs to be emphasised given that persons with a tertiary qualification were the most likely to answer this question correctly, but the rate of correct answers failed to exceed 39% even in their case.
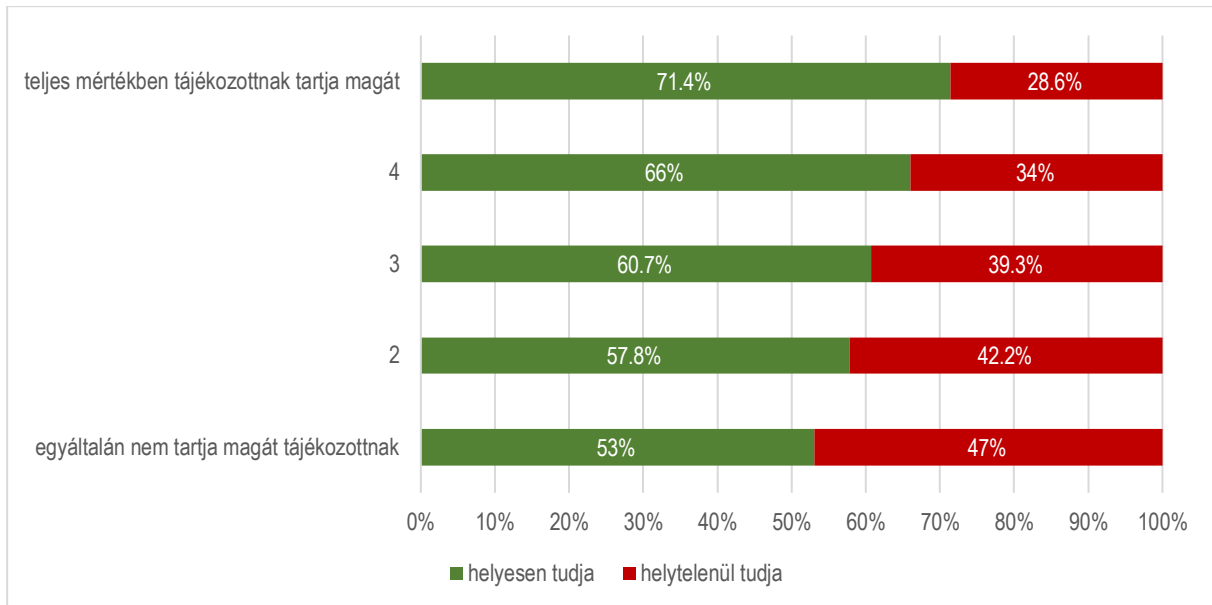
Figure 10. Do you know that obesity reduces fertility greatly? In your opinion, how well informed are you about fertility issues? % (N=887)
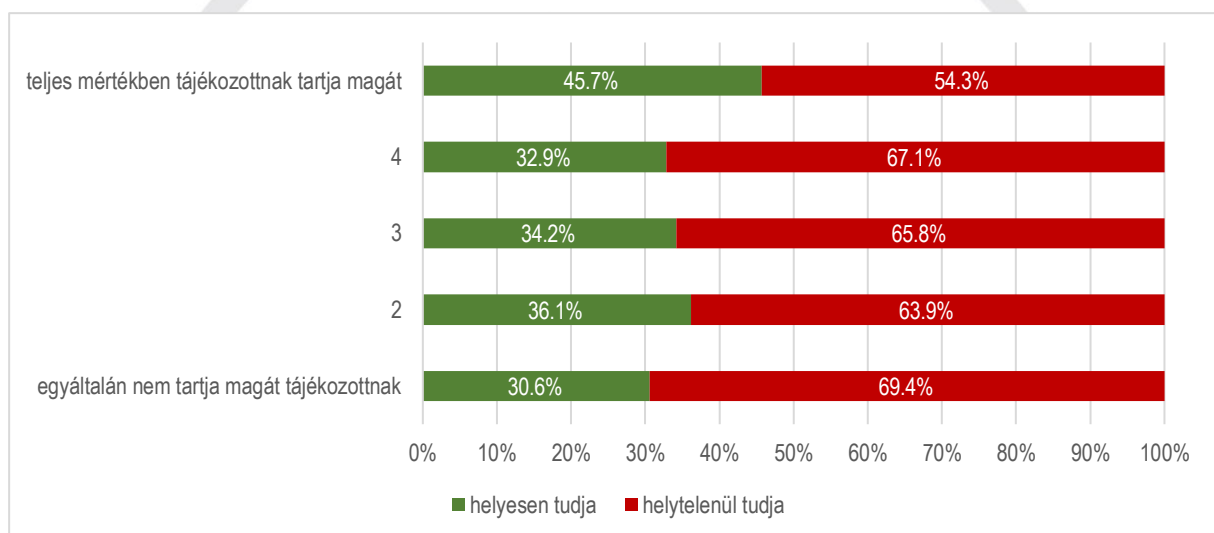
((Completely informed / Completely uninformed, Knows correctly, Does not know correctly))

*Figure 11. Do you know that excessive alcohol consumption reduces fertility greatly? In your opinion,
how well informed are you about fertility issues? % (N=947)*

	helyesen tudja	helytelenül tudja
teljes mértékben tájékozottnak tartja magát	71.4%	28.6%
4	66%	34%
3	60.7%	39.3%
2	57.8%	42.2%
egyáltalán nem tartja magát tájékozottnak	53%	47%

((Completely informed / Completely uninformed, Knows correctly, Does not know correctly))

Answers given to the questions on the fertility-reducing impact of obesity and excessive alcohol consumption[6] were compared to the importance respondents attribute to having children. This aspect was regarded important because it is presumed that individuals who put special emphasis on parenthood consciously take the issue of fertility into consideration and, therefore, are aware of the factors that have an impact on it. Among respondents who consider having children to be of paramount importance, 41.5% are aware of the fact that obesity poses a serious threat to fertility, which confirms the hypothesis. On average, 36% of those who attach great or extremely great importance to parenthood answered this question correctly. The rate is as low as 26% among respondents for whom having children is less important or not important at all.

The analysis of the issue of excessive alcohol consumption sheds light on a different pattern. The rate of correct answers is very high among those respondents who consider parenthood to be of very high importance and among those who do not find it important at all (68% and 64%,

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[6] Given that the question on smoking did not exhibit significant correlation with this question, it was excluded from further analysis.

respectively). In any case, it is evident that individuals who put great importance on parenthood are, in general, better informed about fertility-reducing factors.

Figure 12. Do you know that obesity reduces fertility greatly? How important is parenthood for you? (N=887)
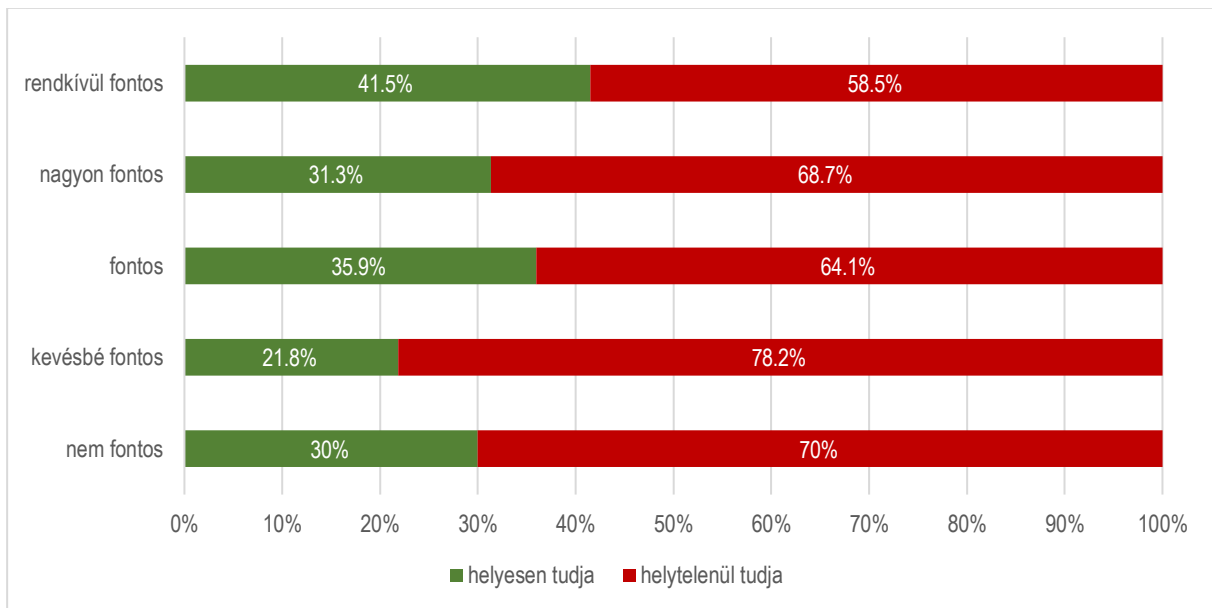
Figure 13. Do you know that excessive alcohol consumption reduces fertility greatly? How important is parenthood for you? (N=947)
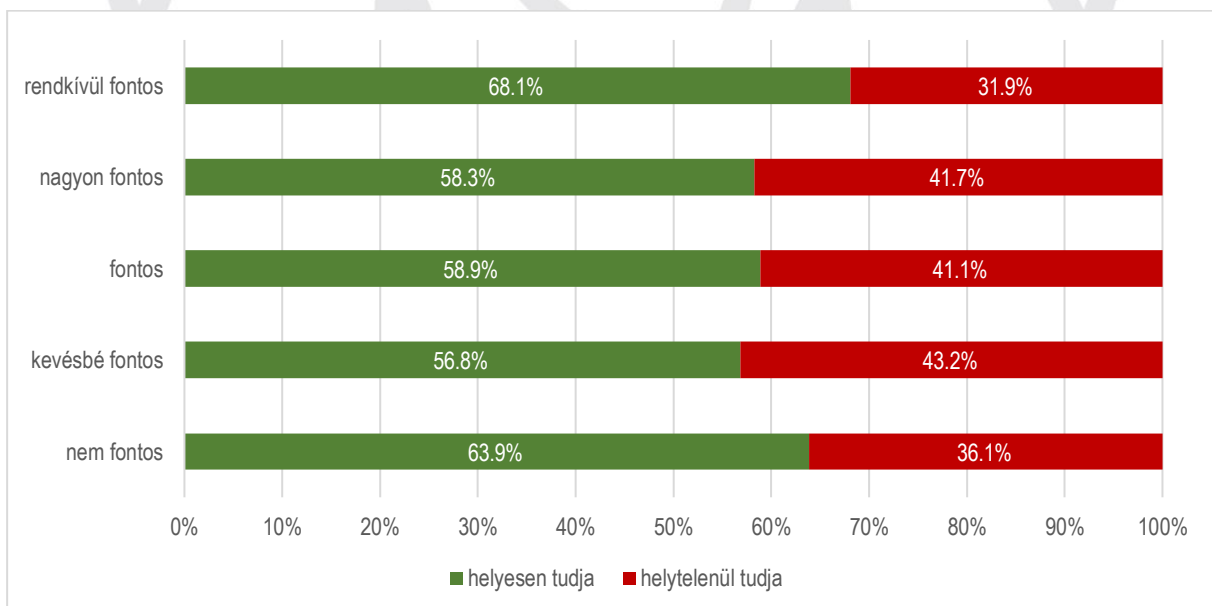
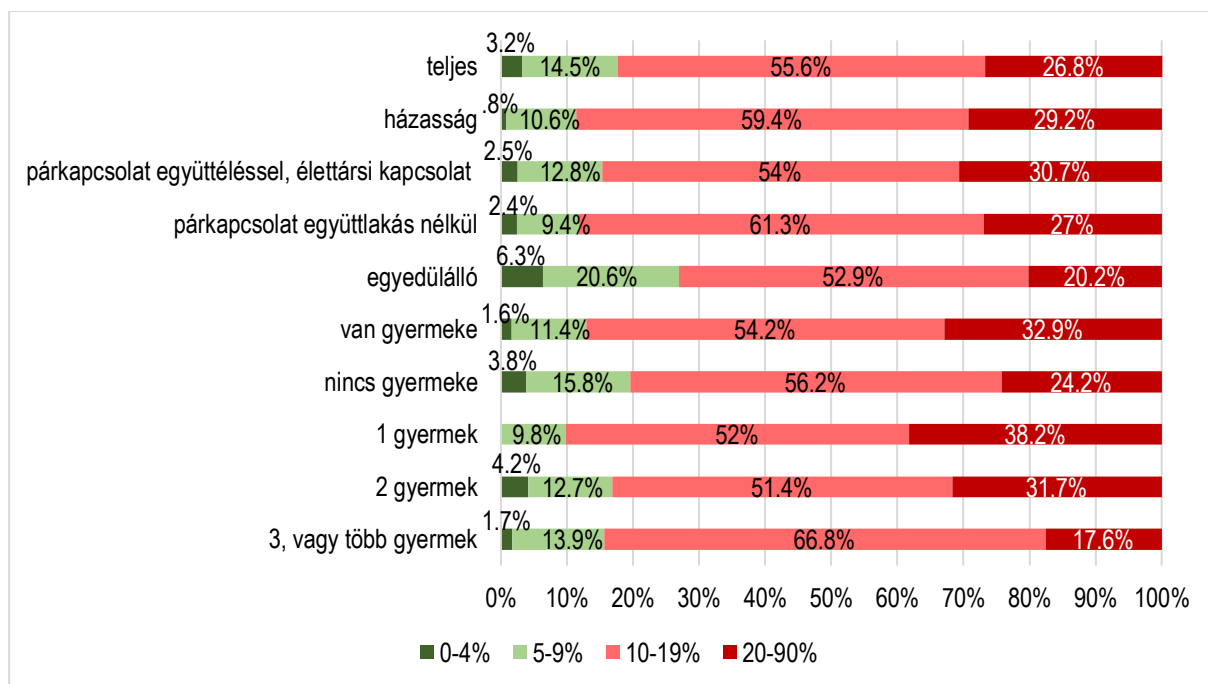## Infertility and IVF programmes in Hungary

Infertility affects 10–19% of couples in Hungary (9)**. More than half (56%) of respondents are aware of this fact.** Twenty-seven per cent of them believe this rate to fall between 20% and 29%.

The majority of men and women (57% and 54%, respectively) are very much aware of the fact the 10–19% of couples in Hungary do not have children for health reasons. More than one-third of women (35%), that is, almost twice as many women as men (19%) put this proportion at 20–90%.

Overall, compared to single persons, individuals living in a relationship or marriage are better informed. Compared to couples with children, childless couples are slightly more likely to think that the proportion of infertile couples falls between 10% and 19% (54% vs. 56%).

As for respondents who have sufficient knowledge on the rate of infertile couples in Hungary, it is to be mentioned that more than half of them are male, the majority have a secondary-level qualification and belong to the age group of 30–35 years. Respondents who are aware of the rate of infertile couples were able to give a correct estimation of the success rate of IVF programmes.

Figure 14. The rate of couples in Hungary who want to have a child but do not succeed, according to the respondent, % (N = 1000)

Chart data:

Category	0-4%	5-9%	10-19%	20-90%
teljes	3.2%	14.5%	55.6%	26.8%
házasság	.8%	10.6%	59.4%	29.2%
párkapcsolat együttéléssel, élettársi kapcsolat	2.5%	12.8%	54%	30.7%
párkapcsolat együttlakás nélkül	2.4%	9.4%	61.3%	27%
egyedülálló	6.3%	20.6%	52.9%	20.2%
van gyermeke	1.6%	11.4%	54.2%	32.9%
nincs gyermeke	3.8%	15.8%	56.2%	24.2%
1 gyermek		9.8%	52%	38.2%
2 gyermek	4.2%	12.7%	51.4%	31.7%
3, vagy több gyermek	1.7%	13.9%	66.8%	17.6%

In Hungary, the success rate of IVF programmes is 20–29%. (10) However, 42% of respondents put it at 30–39%, and 24% at 40–100%. **Young people overestimate the success rate of IVF treatments.**

Nearly half (47%) of the female respondents believe 30–39% of the IVF programmes to be successful. Overall, women were more likely to overestimate the success rate of IVF programmes than men were. That is, men are better informed about the issue.

Among respondents who study and work, 43% opine that the success rate of IVF programmes is 40%, the which makes their occupational category to be the most confident about the success of IVF programmes. In the group of beneficiaries of infant care allowance, childcare allowance, childcare fee or child-raising support (who, at the same time, work or study), 48.4% put the success rate of IVF programmes at 30–39%.

Nearly three-quarters of married people (72.2%) believe that at least 30% of IVF programmes are successful in Hungary. In terms of confidence in the success of IVF programmes, single

persons rank second: more than one-third (42%) of them saying that 30–39% of IVF procedures are effective.

Overall, young people overestimate the success rate of IVF programmes in Hungary. **Only one-quarter of participants are aware of the actual average success rate of IVF programmes in Hungary.** Women, married persons and single persons equally overestimate it. In the category of those who are adequately informed about the success rate of IVF programmes, more than half (52%) are male and slightly more than three-quarters (76%) are childless. As shown by the answers broken down by settlement type, residents of cities and small settlements are the most likely (31% and 28%, respectively) to know that the success rate of IVF programmes in Hungary falls between 20% and 29%. Slightly more than three-quarters (76%) of the participating childless individuals and 45% of parents with one child also gave a correct estimation of the IVF success rate.

Figure 15. The success rate of IVF programmes according to the respondent, % (N = 1000)
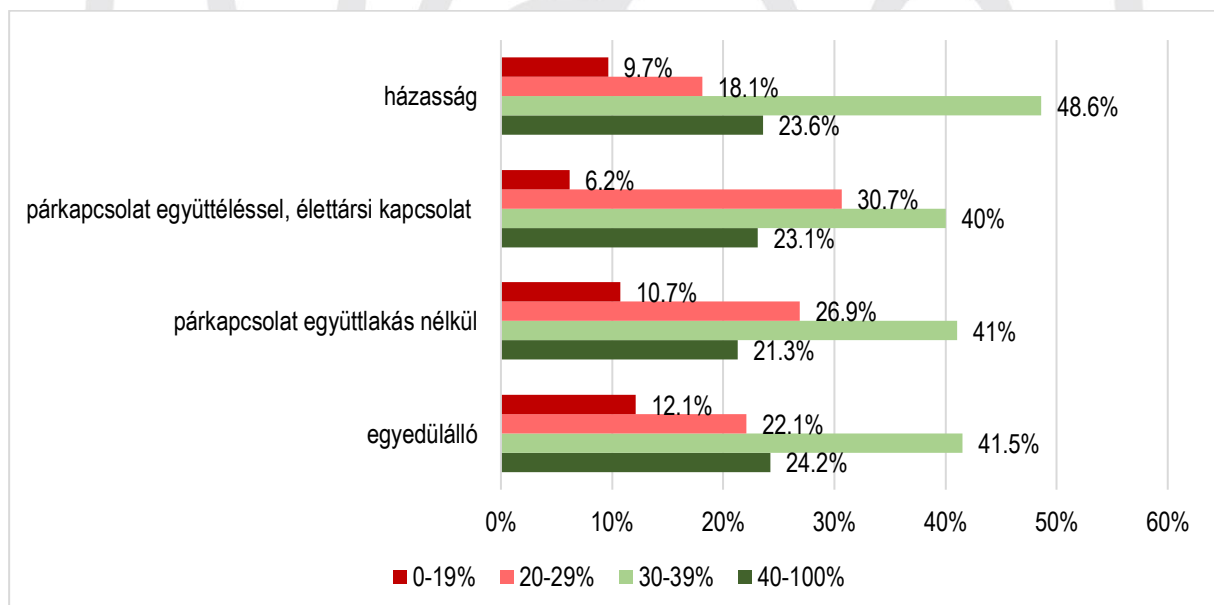
The answers given to the question on the success rate of IVF programmes were compared with those given to the question on the option respondents would choose if they were unable to have a naturally conceived child (the options being assisted reproduction treatments, adoption and the acceptance of a life without children). The success rates attributed to IVF programmes correlate only with the variable related to the option of assisted reproduction treatments. It can be concluded that respondents who find IVF programmes successful to some degree would opt for an assisted reproduction treatment if they could not have naturally conceived children.

Conclusion and suggestions

Young Hungarians put great importance on parenthood, and the majority of them prefer a two-child family model. The analysis of the relationship between fertility awareness and having children shows that level of knowledge increases with the number of children a parent has, but it does not have any impact on the intention to have children (no significant correlation is established between the two; a high level of awareness does not necessarily result in plans to embark on parenthood). By contrast, the improvement of fertility awareness may contribute to the prevention of infertility or make those involved consult a specialist in good time.

Nearly half of respondents would decide to pursue an assisted reproduction treatment if they were unable to have a naturally conceived child, and nearly one-third would opt for adoption. Most of them reject the idea of accepting a life without children. The vast majority of respondents would discuss their potential infertility problems with their partner or spouse, placing their doctor second and infertility specialists third. Approximately three-quarters of those surveyed say they have no acquaintance (or are not aware of any acquaintance) who underwent an assisted reproduction treatment. Infertility still seems to be a taboo subject, especially in rural regions. Although respondents think they would be more likely to seek an assisted reproduction treatment than opt for adoption (the latter being the second option in the case of an unsuccessful assisted reproduction treatment), less than a half of them would consult a specialist and only 13% would discuss the problem with a psychologist. Treatment success depends greatly on the woman's age; therefore, time is a factor of paramount importance. The sooner couples face the problem and learn about possible solutions, the better their chances of an effective treatment. This is why awareness-raising campaigns may have a key role to play.

Targeted communication campaigns may, on the one hand, raise fertility awareness and thus encourage young people to embark on parenthood as soon as possible and, on the other hand, if need be, may offer adequate information to orientate young people and improve trust in the public healthcare system.

There is no relationship between the actual and the perceived levels of fertility awareness. The lower the educational attainment of respondents, the more informed they believe themselves to be: those who were unable to answer any of the fertility-related questions think they have a higher-than-average level of fertility awareness. This suggests that young people are exposed to a lot of misinformation and, although they consider themselves to be well informed about fertility issues, their knowledge in fact is incomplete and inaccurate.

For young people, the most popular sources of information are the television and the Internet, followed by peers at school and friends. Youngsters are less likely to consult doctors or specialists on fertility issues. The role of the Internet cannot be exaggerated: young people spend much of their time on social media platforms, and that is where they gather information. A large number of influencers are engaged in lifestyle and nutrition counselling, sometimes even discussing their own health problems and raising awareness of important issues. Undoubtedly, they are in the best position to reach out to young people, and their influence is massive. **Well-known people who discuss their own experience of various health issues (endometriosis, menstruation) may contribute to raising their young followers' awareness of issues of parenthood and fertility.**

Only one-quarter of young people consult specialists and doctors about fertility issues, so, presumably, general practitioners and gynaecologists also fail to provide their young patients with sufficient information and advice. **Offering expert counselling and paying attention, gynaecologists and urologists can contribute to ensuring that young Hungarians have adequate knowledge of the subject.**

Given the fact that individuals with primary education as the highest level of educational attainment are the most likely not to seek information anywhere at all, **education on fertility issues should commence as early as in primary school, within the framework of the subject "Family life."** At school, students learn about the issue in the context of sexual education,

which means that education on fertility issues is currently centred on the avoidance of unwanted pregnancy. Consequently, **ensuring that young people acquire information on fertility issues from adequate, controlled sources calls for school campaigns that focus on the relationship between age, lifestyle, and fertility. To this end, it is essential to develop an online study material that facilitates pedagogical work.**

The participants of the study typically overestimated their own level of fertility awareness: those who perceived themselves to be particularly well-informed about fertility issues were the least likely to give the correct answers to questions about a woman's chances of getting pregnant. Only one-quarter of respondents were aware of the chances of achieving pregnancy for a couple during one month / one year of regular unprotected intercourses. The rate of correct answers rose to one-third when the same question was posed for an older woman. Typically, the rate of those who were properly informed about the changes in the probability of achieving pregnancy increased with the age of respondents.

As for the factors that reduce fertility, young people were the least informed about obesity and, therefore, underestimated its unfavourable effect. Only one-third of respondents attributed a severe fertility-reducing effect to obesity, while the majority were aware of the negative effects of smoking and excessive alcohol consumption. **Again, influencers who promote a healthy lifestyle and diet may have an important role to play in linking obesity to declining fertility.** Typically, women and respondents with tertiary qualifications were more likely to answer these questions correctly. Those who perceive themselves to be particularly well informed about fertility issues, were more likely to answer the questions about fertility-reducing factors accurately. The survey data confirm the presumption that those who attribute special importance to having children prepare for parenthood consciously (albeit they may run out of time or may postpone having children) and, therefore, are more aware of the factors that have a negative impact on fertility.

In Hungary, 10–19% of couples face the issue infertility; more than half of respondents had an accurate knowledge of this fact. Nevertheless, they overestimated the success rate of IVF programmes. Only one-quarter of respondents knew correctly that the success rate of IVF treatments is only 20–29% in Hungary. As a result of the postponement of having children, only

half of those planned children who were not naturally conceived can conceive through assisted reproduction treatments. (12) Consequently, the postponement of having children may result in involuntary childlessness.

Overall, the fertility awareness of young Hungarians aged 21–35 years is inadequate, and they think that women do not pay attention to ensuring that they have children in their most fertile years. Young people surveyed intend to have their first child at the age of 30.5 years. Men, respondents with tertiary-level educational attainment, unemployed individuals and single persons indicated a higher age. By contrast, more than half of respondents opined that the age interval 25–29 years is the ideal period for a woman to have children, and one-fourth of them answered the question correctly, putting the optimal age for women at the age interval 20–24 years. On the average, respondents want to have their last child at the age of 34.6 years, and the majority intends to have two children. However, for both sexes, older age prolongs the time needed to achieve pregnancy, (13; 11) and recent research shows that if a couple wants to have two children with a 90% probability and without resorting to assisted reproduction treatments, they must start, at the latest, regular unprotected sexual intercourses when the woman is 27 years old. (14)Therefore, it is important to ensure that as many young people as possible have access to accurate information in good time to be able to have as many children as they desire. To be able to do so, they need complex help from their school and family, from the media and specialists.

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