

Comparison of fertility ratios, attitudes and beliefs of Polish and Czech women

Porównanie wskaźników dzietności oraz postaw i poglądów w grupie kobiet polskich i czeskich

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(a) idea

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(c) collection of material for research

(d) working on text and references

ABSTRACT

Aim of the study: The aim of this study was to estimate some basic data related to the fertility in the chosen groups of Polish and Czech women. We have tried to acquire and analyze the attitudes and beliefs of these women in motherhood and the desire to have children. These data enable to verify the interdisciplinary hypothesis explaining the decline of birth rate and low fertility in European countries.

Materials and methods: The authors performed the survey by means of a questionnaire formulated after a comprehensive discussion of possible reasons of birth rate decline. They have tried through the questions of the survey to verify the hypothesis that the decline is the result of the cumulative mental changes occurring in contemporary societies. The questionnaire completed 90 Polish women students pursuing complementary studies of nursing in Higher School of Applied Sciences in Nysa, during the academic year 2012/2013. The questionnaire also completed 53 Czech women students pursuing part-time studies and training at the Tomas Bata University in Zlin (the Czech Republic).

Results: The above surveyed 90 Polish women gave birth to 132 children, so fertility rates is 1.46. The average age at the birth of the first child was 24.7 years, of the second child 27.5 and of the third child 31.7 years. The surveyed 53 Czech women gave birth to 86 children, so fertility rates is 1.62. The average age at birth of the first child was 24.7 years, of the second child 27.2 and of the third child 27.5 years. The authors present also convictions, beliefs and attitudes of the women under study. **Conclusions:** The multifaceted and interdisciplinary hypothesis (theoretical model) formulated at the outset of our work, can be useful for attempts to estimate the pro-family attitudes in different populations of women. The results in the light of compli-

ance with the proposed theoretical model allow for the formulation of proposals for action, which would counteract the decline in birth rates.

Key words: fertility, fertility rate, birth rate, attitudes of women, beliefs of women

STRESZCZENIE

Cel pracy: Celem pracy była ocena podstawowych danych dotyczących płodności w wybranych grupach kobiet w Polsce i Czechach. Próbowaliśmy także analizować postawy i przekonania tych kobiet odnośnie macierzyństwa i chęci posiadania dzieci. Dane te pozwalają na sprawdzenie interdyscyplinarnej hipotezy wyjaśniającej spadek liczby urodzeń i niskiej dzietności w krajach europejskich. **Materiał i metody:** Badania przeprowadzono za pomocą kwestionariusza sformułowanego po dokładnym omówieniu możliwych przyczyn spadku liczby urodzeń. Jedną z nich jest kumulacja zmian psychicznych zachodzących we współczesnych społeczeństwach. Ankiety wypełniło dziewięćdziesiąt Polek, studentek uzupełniających studiów pielęgniarskich Wyższej Szkoły Zawodowej w Nysie, w roku akademickim 2012/2013. Ankieta została również przeprowadzona wśród pięćdziesięciu trzech studentek z Czech. Były to kobiety, które studiują w niepełnym wymiarze czasu na Uniwersytecie Tomasza Baty w Zlinie. **Wyniki:** Ankietowane Polki urodziły łącznie 132 dzieci, zatem współczynnik dzietności w tej grupie wynosi 1,46. Średni wiek ankietowanej w momencie narodzin pierwszego dziecka wynosił 24,7 lat, w momencie narodzin drugiego dziecka: 27,5 i trzeciego dziecka: 31,7 lat. Badane kobiety z Czech urodziły 86 dzieci, więc współczynnik dzietności wynosi 1,62. Średni wiek urodzenia pierwszego

dziecka w tej grupie kobiet to 24,7 lat, drugiego dziecka 27,2 i trzeciego dziecka 27,5 lat. Autorzy przedstawiają również przekonania i postawy kobiet objętych badaniem, odnośnie macierzyństwa. **Wnioski:** Wielopłaszczyznowa i interdyscyplinarna hipoteza (model teoretyczny), sformułowana na początku pracy, opisująca spadek liczby urodzeń, może być przydatna do prób oszacowania prorodzin-

nych postaw w różnych populacjach kobiet. Wyniki w świetle zgodności z proponowanym modelem teoretycznym pozwalają na formułowanie wniosków dotyczących działań, które mogłyby przeciwdziałać spadkowi liczby urodzeń.

Słowa kluczowe: dzietność, przyrost naturalny, postawy kobiet, przekonania kobiet

INTRODUCTION

It is known, that there is a drop in the birth rate in most of the European countries where the population is in the process of aging [1, 2]. Many articles and scientific publications discuss these issues [3, 5, 7, 16, 17].

The current data on the demographic situation in different countries of the world derives from many open sources [3, 27–29]. Reviewing this data one should note that there is a group of rich Western European countries (Germany, Austria, Switzerland) where so-called Total Fertility Ratio is almost as low as in the most of the post-communist countries (Poland, the Czech Republic, Slovakia, Slovenia, Lithuania, Latvia, Hungary, Romania) (TFR \approx 1.3–1.4).

However, there are countries in Europe where the number of births is high, fertility rate is similar to that needed for so-called renewable population (TFR \approx 2.1). These include France, the United Kingdom, Ireland and Iceland. There is also a group of countries with average values of TFR like the Netherlands, Norway, Denmark, Finland and Sweden (TFR \approx 1.7–1.8).

It is not quite clear why the decline in the number of births occurs not only in the post-communist countries but also in some rich countries. There is also a lack of convincing evidence that the birth decline is a negative phenomenon. In the absence of convincing theories clarifying the reasons of the decline of the birth ratio it is a lack of precise recommendations for actions which could prevent further depopulation [12, 17, 22].

The opportunity to collect the data from a group of young women in the two post-communist countries, Poland and the Czech Republic, was planning to carry out a survey aiming at verification of a complex interdisciplinary hypothesis, which assumes that the decline in the birth rate is the result of mental changes taking place in contemporary societies. These changes are characteristic for the so-called 5th phase of demographic transition, which describes the phenomenon in the countries where the fertility rate falls well below 2.1 [20, 21, 30]. This hypothesis can be expressed by the formulation of factors that influence the demographic situation. We have tried to formulate these factors in

the chapter describing the method adopted in our research. The assumptions of this hypothesis are reflected in our questionnaire.

AIM OF THE STUDY

The aim of this study was to assess in the exemplary groups of young women living in Poland and the Czech Republic the fertility rate, the average age at birth of the first child and subsequent children and the acquisition and analysis of data on the attitudes and views of women on maternity and the desire to have children.

Data is used to verify our own hypotheses showing the decline in the birth rates and the low fertility ratio. It has a cumulative character, what means that the occurrence of any of discerned factors increases the likelihood of occurrence of another change in the society.

Consideration of this hypothesis based on the collected data should allow for 1. better understanding of the reasons of the observed demographic trends, and 2. development of possible actions which could prevent further decline in the population.

MATERIALS AND METHODS

Description of the methods will be facilitated, when we define basic demographic indicators, to avoid many conceptual confusions occurring in this field [20, 21]. Primary data is obtained from: crude number of births (Bn) and crude number of deaths (Dn) in the area (in the country). The indexes (birth ratio and death ratio) are usually calculated determining the annual number of births and deaths per 1000 inhabitants (BR, DR).

Population growth rate (PGR) is the rate at which the number of individuals in the population increases in a given time as a fraction of the initial population, often expressed as a percentage of the number of individuals in the population at the beginning of that period.

Population growth rate (PGR) is calculated according to the formula: $PGR = \frac{BN1DN}{SP} \times 100$, where SP is the size of the population of the country. It is a natural growth rate, which doesn't take into account immigration. To measure the contribution of migration in shaping the population structure a net migration rate is used, i.e. the difference between emigration and immigration in the area. Population growth determine four factors: births (B), deaths (D), immigrants (I), and emigrants (E), using the formula $\Delta P \equiv (B - D) + (I - E)$. Discussions on demographic situation cover the fertility rate (FR). It is a factor determining the number of children of a woman during child bearing age (15–49 years). When we get to the point to be able to estimate the FR for all the women who are over child bearing age, then we can calculate so called Total Fertility Ratio (TFR). It should be noted that it is more difficult to obtain reliable values for estimating TFR than PGR. It is assumed that the total fertility ratio between 2.10–2.15 is the level that provides the alternation of generations.

The basic research tool, which is our questionnaire was developed by formulation of the interdisciplinary multi faceted hypothesis elucidating the mental changes that cause decline in the birth rate in majority of the European countries.

Our preliminary considerations providing an Internet access to open-science discussion group (25, 26) led us to introduce the following elements of social and mental transformation:

- “Equalization of women rights in relation to men”
- “Growing women's professional ambitions”
- “Growing willingness of women to acquire education”
- “Postponing the age to have children due to professional education plans and professional career”
- “Difficulties in combining parenthood with work or training (low availability of nurseries and kindergartens)”
- “Growing difficulties in practical aspects of life”
- “Extension of years of indispensable care and financial support for children”
- “Awareness of potential difficulties that may arise during adolescence of the child”
- “Growing expectations of rest, relaxation and entertainment”
- “Aversion to constraints in domestic life”
- “Small, mostly two – room flat”
- “Aversion to constraints in social life”
- “Concerns of women about unattractive appearance during pregnancy”
- “Attachment great importance to sex life”
- “Fear that the sight of a woman with children takes away her attractiveness”

“Fear that bigger number of children moves her away from her partner”

“Tendency of a partner not to be keen to bring up children”

“Lack of faith that the partner will participate in the hardships of raising children”

“Fear of lack of support from the partner and lack of strong conviction of his vital energy and efficiency of actions”

“Loss of interest in raising and educating children including development of their behavior and personality”

“Belief that there are more interesting ways to spend time than raising children”

“Loss of interest to inculcate personal values in own children”

“Loss of belief that having a child makes sense of personal meaning of life”

“Loss of feeling that having a child is important for the sense of femininity”

“Belief that the right model of family is: 2 + 1”

“Lack of belief that having no children could increase the feeling of loneliness in the old age”

“Lack of conviction that raising of two children with a small age difference is in many ways easier than raising only one child”

“Lack of conviction that life of an own offspring is easier and better if it is not only one child”

“Belief that the use of contraception is not reprehensible”

“Belief that the justification for the use of contraception is not completely desirable, but its use is otherwise completely indispensable”

“Belief that the use of after-sex pills is not reprehensible”

“Belief that the future of the country (of the world) is uncertain and there are reasons for some kind of concern”

“Elimination from personal consideration philosophical and religious aspects of the sense of having a child”

“Lack of interest in social problem arising from the decreasing size of the country population”.

Assuming that the decline in the birth rate in modern European societies is caused by mental changes listed above have established the guidelines for the formulation of the content of the questionnaire. The content of this questionnaire depicts Table I along with results of the survey.

The questionnaire completed 90 students pursuing complementary studies of nursing in Higher School of Applied Sciences in Nysa, during the academic year 2012/2013. The age of the students ranged from <28, 55> years, so the mean age was 38.4 years.

The questionnaire also completed 53 Czech women students pursuing part-time studies and training at the Tomas Bata University in Zlin (the Czech Republic). The age of the women ranged between <27, 47> years. The average age was 36.9 years. Statistical analysis and elaboration of the results consisted of: I. comparison of responses {yes, no, in between, or not applicable} between groups

of Polish and Czech women and II. comparison of the proportion of responses {yes, no, in between or not applicable} in three subgroups of women: for the group of women who: 1. didn't give birth to a child, 2. who gave birth to one child, 3. who gave birth to two or more children. The significance of differences in proportions were verified using the chi-square test.

Table I. Responses {yes, no, in between or not applicable} in the groups of the Polish and Czech women. The last column specifies the p value that the difference in proportions is statistically significant

	Content of the questions and in columns to the right the % ratio for chosen answers	Yes		No		In the between or not applicable	P <
		PL	CZ	PL	CZ		
1	Is taking care of young children all day tiring and can be boring?	48	54	35	42	16/4	0,10
2	Is it difficult to combine two young children with satisfactory social life and other entertainments?	65	58	16	38	18/4	0,008
3	Is it difficult to raise children, without adequate career prospects?	44	44	41	48	18/8	0,28
4	Do you know any form of relaxation and entertainment which would give temporary breaks from childcare causing so that two children would not be so tiring?	78	98	11	0	10/2	0,0075
5	Do you prefer to spend time with your partner only and you don't like life in multigenerational family?	3	16	75	74	22/10	0,02
6	Do you think that in your "old age" (>67 years old), during your retirement you will have close contacts with your children?	87	82	5	2	8/16	0,34
7	Do you expect that in your „old age“ your children will look after you and provide financial assistance?	40	44	40	40	20/16	0,84
8	Do you expect you will be able to support financially the young adults and your grandchildren?	58	76	22	8	20/16	0,09
9	Are you concerned that in the case of childlessness you will be lonely?	43	34	25	32	31/34	0,56
10	Do you think that your partner is very keen to have children?	66	64	17	20	17/16	0,90
11	Does having children consolidate and strengthen your relationship with your partner?	68	68	13	22	18/10	0,28
12	According to your observations is your partner really and truly interested in talking and playing with your child?	75	566	13	28	11/16	0,09
13	In your experience(s) having a child temporarily or permanently diminish sexual life (either sex) and erotic ambience?	40	28	45	62	15/10	0,20
14	Are you afraid that being pregnant your appearance will be less attractive and how far it is important to you?	20	8	75	84	5/8	0,18
15	Do you think that the desire to have a second child may have a negative impact on the stability of your relationship with your partner?	7	0	75	90	18/10	0,06
16	Will granting of a payment in the amount of the average monthly salary make you more likely to have and raise a minimum of two or three children?	31	30	56	56	11/14	0,93
17	In the case of having a child are you worried that his (her) growing up can cause significant problems?	55	16	30	50	15/34	0,001
18	Do you think that in the case of learning difficulties with your child your partner will effectively cooperate with you to overcome the problems?	82	74	10	18	8/8	0,47
19	Do you expect that in the case of learning difficulties you will obtain some efficient professional assistance from teachers, psychologists and social workers?	31	36	40	28	28/36	0,40
20	Do you think that having a child will make your life significantly meaningful?	92	68	2	10	7/22	0,006
21	Do you have a strong belief that having a child is important for your sense of femininity and fulfill the purpose of life?	78	78	8	14	13/8	0,46

22	Do you think that it is important for your partner to have a child?	78	58	7	18	15/24	0,05
23	Are you convinced that raising two children delivered in rapid succession is in many ways easier than raising only one child?	48	28	33	44	18/28	0,08
24	Are you convinced that the process of growing up and life of a young adult is easier and better if it is not only one child?	56	42	20	40	23/18	0,07
25	Do you think that a holiday with children is less enjoyable as a holiday with your partner only?	75	62	13	26	11/12	0,22
26	Do you think that friendships and spending time with another married couple would be easier and more satisfying if the couple were childless?	30	16	31	72	38/12	0,001
27	Do you think that the use of contraceptives is blameworthy and therefore should not be used?	7	8	81	86	11/6	0,57
28	Do you think that despite of the objection of the clergy (church) use of contraception is "practically" necessary?	3	24	31	42	31/34	0,32
29	Do you think that morning-after pill can be used?	45	54	31	26	23/20	0,64
30	Do you think that we should limit ourselves only to the use of so-called natural methods of family planning?	13	10	71	76	15/14	0,84
31	Do your philosophical and religious beliefs indicate that having children and making efforts to educate them is the appropriate way of life?	61	70	23	20	15/10	0,61
32	Do you think that your greatest ambition is to be an educated person?	55	84	31	12	13/4	0,005
33	Would you support feasible governmental policy to encourage into the country a big number of immigrants?	8	2	80	68	11/30	0,02
34	Does living in your country make you feel safe?	26	60	58	30	15/10	0,001
35	Are you proud of the fact that you have a baby?	88	66	5	12	7/22	0,01
36	Do you think that having a two bedrooms flat makes the decision to have two children difficult?	43	12	43	80	13/8	0,001
37	Do you think that having children will cause conflict with different obligations?	30	14	60	80	10/6	0,07
38	Raising a child especially the development of his personality is or will be a source of your satisfaction?	90	82	3	10	7/8	0,33
39	Are you worried that it will depend on you to inculcate your values in your children?	91	84	5	4	3/12	0,38
40	Which model of the family: {2 + 1, 2 + 2, 2 + 3} is the most appropriate?	2 + 1		2 + 2		2 + 3 25/22	0,62
		65	74	10	4		
41	Is your partner being aware of his and your career and the responsibility to support the family trying to dissuade you from your plan of having a second child?	8	6	83	60	8/34	0,003
42	Do you think that your partner is a strong, resourceful, responsible person to rely on?	76	78	13	2	10/20	0,05
43	Who is more influential on the decision to have a second child you (yes-woman), or your partner (no-man)?	Woman		Man		60/6	0,001
		36	62	3	32		
44	Are you concerned about the decreasing size of the nation and is it important to you?	71	24	28	48	0/28	0,001

THE RESULTS

The group of 90 Polish women delivered 132 children, so fertility rate for this group is 1.46. In this group 5 women ($\approx 6\%$) were childless, 34 women ($\approx 38\%$) delivered one child, 34 women ($\approx 38\%$) delivered two children, 6 women ($\approx 7\%$) delivered three children and three women ($\approx 4\%$) delivered four children. The average age at birth of the first child was 24.7 years, of the second child 27.5 years and of the third child 31.7 years.

The tested group of 53 Czech women delivered 86 children, so fertility rate for this group is 1.62. The average age at birth of the first child in this group of women was 24.7 years, of the second child 27.2 years and of the third child 27.5 years.

Table I presents the percentage of responses {yes, no, in between or not applicable} obtained in the groups of the Polish and Czech women. The last column on the right specifies the level of probability [$p <$] that the difference in proportions is statistically significant. Estimation of the attitudes and convic

tions of these women presents Table II. Only for part of the questions the differences in the proportions of responses {yes, no, in between or not applicable} between the subgroups of women were statistically significant. The differences in the proportions of answers for the questions listed in Table II suggest that the attitudes, opinions and beliefs of women have a real impact on making decisions to have children.

This can be justified by exemplary answers. Polish women falling into a small sub-group (only 5 subjects), with no children – are much more often convinced that “taking care of young children all day is tiring and boring”; “it is difficult to combine two young children with satisfactory social life and other entertainments”; “having a child diminishes temporarily or permanently sexual life (either sex) and erotic ambience”; “having children causes inconvenience

(see tab. II – differences in the proportion of answers to questions 1, 2, 13, 37).

Women who do not have children are less likely to impute the importance to have a child “to make life meaningful”; to have “the sense of femininity and fulfillment of life goals”; as “the way of life” (Table II – differences in the proportion of answers to questions 20, 21, 31).

The women who gave birth to two or more children significantly more often than women who have one child – are convinced “about the importance of the child for a partner”; “that raising two children, especially with the small age difference is in many ways easier than raising only one child”; “that the life of an offspring is easier and better if it is not only one child” (see Table II – differences in the proportions of answers to questions 22–24).

Table II. Questions with significant differences between Polish women who had no children, had only one child, and women who had two or more children. The table shows the proportion in % of answers (yes, no, in between, or not applicable). The first figure relates to women, who did not have children, the second – who had only one child, the third – who had two or more children. The second row of numbers determine the same values for Czech women, however sometime the differences are not significant

	Questions and in columns to the right of the % ratio for chosen answers	PL/CZ	Yes	No	Undefined
1	Is taking care of young children all day tiring and boring?	PL CZ	80/45/46 40/46/40	20/43/30 56/54/54	0/12/24 0/0/7
2	Is it difficult to combine two young children with satisfactory social life and other entertainments?	PL CZ	100/63/72 33/31/43	0/15/16 56/62/57	0/22/12 11/7/0
3	Is it difficult to raise children without adequate career prospects?	PL CZ	20/41/48 33/54/50	40/44/34 45/46/43	40/15/18 22/0/7
9	Are you concerned that in the case of childlessness you will be lonely?	PL CZ	60/40/38 22/46/29	40/23/16 67/23/29	0/37/46 11/31/42
10	Do you think that your partner is very keen to have children?	PL CZ	80/55/68 44/23/11	20/30/8 56/69/64	0/15/24 0/8/25
12	According to your observations is your partner really and truly interested in talking and playing with your child?	PL CZ	0/67/72 33/23/29	0/10/16 33/62/61	100/23/12 34/15/10
13	In your experience(s) does having a child temporarily or permanently diminish sexual life	PL CZ	80/26/41 56/69/61	20/56/47 22/23/32	0/18/12 22/8/7
16	Will granting of a payment in the amount of average monthly salary make you more likely to have and raise two or three children?	PL CZ	40/35/24 67/69/46	40/45/62 22/23/36	20/20/14 11/8/18
20	Do you think that having a child will make your life significantly meaningful?	PL CZ	20/85/100 11/8/11	20/3/0 56/77/68	60/12/0 33/15/21
21	Do you have a strong belief that having a child is important for your sense of femininity and fulfill the purpose of life?	PL CZ	33/76/88 22/23/7	33/12/2 67/77/82	33/12/10 11/0/11
22	Do you think that it is important for your partner to have a child?	PL CZ	80/65/78 33/8/18	0/20/8 56/46/64	20/15/14 11/46/18
23	Are you convinced that raising two children delivered in rapid succession is in many ways easier than raising only one child?	PL CZ	67/39/66 44/54/39	17/44/24 44/8/32	16/17/10 12/38/29
24	Are you convinced that the process of growing up and life of a young adult is easier and better if it is not only one child?	PL CZ	80/53/71 22/46/43	0/23/16 56/8/54	20/24/13 22/46/3
31	Do your philosophical and religious beliefs indicate that having children and making efforts to educate them is the most appropriate way of life?	PL CZ	40/50/78 22/23/18	60/33/12 67/62/75	0/17/10 11/15/7
32	Do you think that your greatest ambition is to be an educated person?	PL CZ	60/42/64 89/77/86	40/47/17 11/8/14	0/11/19 0/15/0
37	Do you think that having children will cause “conflict with different obligations”?	PL CZ	60/20/29 78/86/79	40/68/60 11/8/18	0/12/11 11/8/3

The most significant results related to attitudes and beliefs of women illustrate figures – published in our former paper [23]. These figures present the proportions of answers to question (1) on the factors that can affect the decision to have a child, to question (2) on fundamental beliefs that lead to a decision to have a child, to question (3) on pragmatic attitudes and convictions which lead to have children, to question (4) related to assessment of the interaction with a partner, to question (5) on the use of contraceptives and the preferred family model.

Results obtained by comparison of answers in the Polish and Czech group of women indicate that: (1) similarly the majority of Polish and Czech women are aware of significant burdens posed by having children, (2) the vast majority of women with children – similarly in both groups attributed the importance to existential and psychological impacts, (3) most of the women similarly in Polish and Czech group are convinced of the pragmatic view to have children, (4) most of the women in both groups are convinced of the positive role and actions of their partners, (5) the point of view of the Polish and Czech women, on the use of contraceptives and the preferred family model, is similar. The vast majority of women from both countries approve the use of contraceptives. 64% of women say that the family model 2+2 is the most desired.

Figures 1, 2, 3 present answers “yes” in the groups of Polish and Czech women which proportions in answers was statistically significant. Figure 1 illustrates *greatest proportion of Czech women whose ambition is to be an educated person. More Czech women than Polish ones have a sense of security living in their*

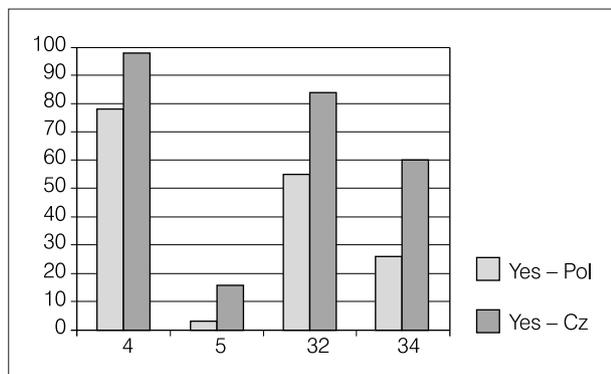


Fig. 1. Positive answers in the groups of Polish and Czech women for questions no: 4. Do you know any form of relaxation or entertainment, which would provide temporary breaks from childcare so that raising of two children would not be so tiring?; 5. Do you prefer to spend time with your partner only and not in a multigenerational family?; 32. Do you think that your greatest ambition is to be an educated person?; 34. Does living in your country give you a sense of security?

country. Czech women are of the opinion that their partners are not as keen to have a child as Polish partners (Figure 2). It seems also that Polish women more often feel the need to have a child. Figure 3 illustrates the finding that greatest proportion of Polish women worry about the problems which can arise in the course of raising a child. Much more Polish women are concerned about the decreasing size of the nation.

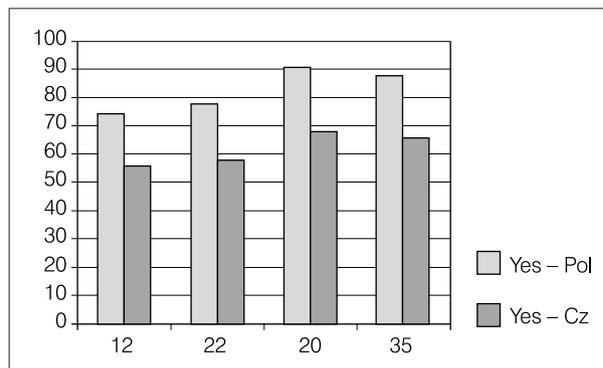


Fig. 2. Positive answers in groups of Polish and Czech women for questions no: 12. According to your observations is your partner really and truly interested in talking and playing with your child?; 22. Do you think that it is important for your partner to have a child?; 20. Do you think that having a child gives a new meaning to your life?; 35. Are you proud of the fact to have a baby?

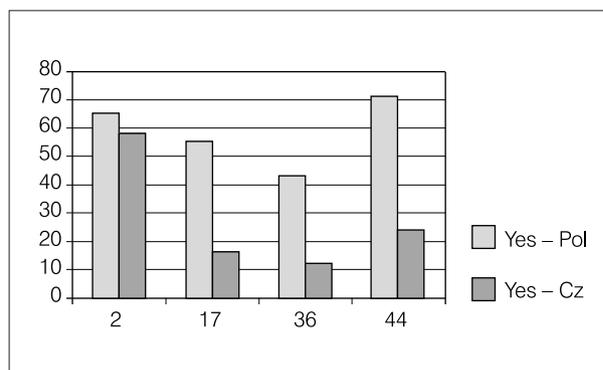


Fig. 3. Positive answers in groups of Polish and Czech women for questions no: 2. Is it difficult to combine two young children with satisfactory social life and other entertainments?; 17. In the case of having a child are you worried that his growing up may bring about significant problems?; 36. Do you think that having a two bedroom flat influences the decision to have two children?; 44. Are you concerned about the decreasing size of the nation and how it is important to you?

DISCUSSION

Development of the questionnaire preceded a thorough discussion. The obtained results allowed for the formulation of multi-disciplinary hypothesis presented in the chapter “Materials and Methods”. We present

the social and mental changes that have occurred in the modern societies. The key element is often the overwhelming desire to have a child. The desire to get education delays the decision to get pregnant. Therefore women recently tend to postpone the moment of getting pregnant. That postponement is possible due to ability to control the time of getting pregnant by effective contraception and increasing acceptance of its use. The same beliefs are in the mentality of a man. Men think alike. It often happens that a man, because of his professional ambitions, encourages a woman to postpone pregnancy. Women are prone to the reasoning of the partner. Sometime, the desire to have a child or even two children is so overwhelming that the fears of the partner do not play a major role. To this general theory we are trying to formulate more simplified elucidation. In this option we assume that it is possible to enumerate: (A) the most important questions in our questionnaire on the encouragement to have a child are: 6, 7, 9, 11, 20, 21, 31, 35, 38.

Assuming that a woman chooses not to have a child, the above family oriented factors are suppressed by negative influences. We have tried to grip the possible negative influences (B) into the following types of impacts:

1. Fear of increased responsibilities, conflicts and restrictions caused by having a child.
2. Fear of deterioration of the financial situation.
3. Realizing that responsibilities and efforts will be required almost all through the lifetime.
4. Low life energy and existential optimism.
5. Self-centered attitude, when a person favors the life at ease, freedom of action, and no obligations.

The presented hypotheses clarifies many different concerns formulated by people puzzled over the causes of the demographic crisis in Europe.

For instance some people see the obstacles to have children through the living conditions including relative poverty. It is not an excuse for the low rate of fertility in Poland and the Czech Republic. Czech society is wealthier. Furthermore, similarly low values of these rates are reported for Germany, Austria, Italy and many other wealthy European countries as well as wealthy countries like Japan, Taiwan, South Korea, Singapore, Hong Kong. It seems that the low fertility in the countries can be explained by factors, which we can name: low life energy, low existential optimism, self-centered attitude. The causes of low fertility can be traced in all these countries looking for specific attitudes, outlook and social conditions [2, 6, 17]. This is confirmed by the comparison of beliefs of Polish and Czech women. According to our own results the fertility rates calculated for the examined groups

of women are higher than for the general Polish and Czech population.

Established facts about fertility are consistent with stated convictions and beliefs which impact the decisions to have a second or even a third child. The relatively high fertility rate among nurses students who have undertaken complementary studies is probably caused by their exceptional pro-family convictions and beliefs. The examined group of women has been selected based on a deeper psychological factor that simultaneously causes high professional motivation, resourcefulness and a concomitant desire to have children.

Regardless of the cause, the observed trends clearly support the expectation that in the near future the population of Europe will decrease in relation to other parts of the world [2]. It is no wonder that many people identify themselves with the culture and heritage of Europe and after analyzing demographic phenomena believe that it is necessary to counteract these trends. The European countries where the fertility rate is about 2.1 lead a very active pro-family policy, which takes into account many of the phenomena mentioned above in the description of changes occurring in mentality and living conditions [6, 11, 14, 15, 17, 18, 19].

In countries where the counteraction against the decline of birth ratio was successful the expenses to support the pro-family policy were enormous, e.g. France allocate around 7% of GDP. Although Germany and Austria allocated the same amount of money the action did not guarantee a success [6, 11]. Considerations presented in this paper are important for those people, who are interested in issues of public health, condition of the society and demographic situation. In Poland and the Czech Republic, where the decline in birth rate and in the size of the population is observed - the endeavors to understand the causes of these situations are important.

Having the data from women without children and women who delivered only one child and women who delivered two or more children enabled to distinguish these questions, which are relevant to make a decision. We assume that these questions to which a significant proportion of women, who delivered a child or children, replied in the affirmative (pro-family) way are important determinants of the decision to conceive a child.

Anyhow this random drawing attention indicate appropriate actions that could be undertaken in order to prevent further decline in births. To take advantage of these observations we have formulated the list of proposals below, which in our opinion impede the decline in the number of deaths.

The proposed actions indispensable to impede the decline of birth rates

1. It is essential that there are “intellectual centers” (scientific institutions, intellectual and expert bodies), which discuss all available data and try to justify the phenomenon of occurring demographic trends.

2. These centers should publish the results of pro-family approach and discussion. The elaborated expertise should be transferred to selected institutions like: parliament, the government (ministries), local authorities, non-governmental organizations.

3. These “managing authorities”, especially the government, should find a “way of reaching out to mass-media” to start the promotion of the widespread idea that having two children is beneficial, prestigious, good for women and men.

4. Mass media should persistently persuade that regardless of adverse circumstances, women (couples) should decide to have their first child at the age of 21–25 years.

5. Government (all authorities) should change the law so that women who become pregnant will be assured fast resume working. The appropriate managing authorities should ensure a cost-effective, comprehensive care of children from a very early age. It comes down to low cost nurseries and kindergartens, placed jobs (near schools, universities, factories).

6. A higher tax credits should be set including child allowances for families who have two or more children. The expert institutions should identify the specific sources of finance that could be spent for this action (for example: restriction of the number of international organizations into which the country pays contribution, reduction of military missions, introduction of excise taxes for products manufactured in a very automated way what generates unemployment, etc.).

7. The same expert institutions need to offer, as soon as possible, the implementation of appropriate, targeted immigration policy. It is possible, without waiting for other regulations, to start bringing students from some chosen countries and encourage them to immigrate.

Because our theory, explaining the reason of birth rate decline, is detailed, multifaceted and multidisciplinary it is possible to formulate yet other actions, which could reverse the demographic trends.

CONCLUSION

1. Fertility rate in the studied group of women is higher in comparison to general Polish and Czech population.

2. In the studied group of women, the average age at birth of the first, the second and the third child was low, optimal from the point of view of modern medical recommendations.

3. Convictions, beliefs and attitudes of women often favor the decision to have the second or even the third child.

4. Further research is needed in relation to possible anti-natal factors, which were designated by terms “low life energy”, “low optimism”, “self-centered attitude”

5. The interdisciplinary working hypotheses describing causes of the decline in the number of births, may be useful for attempts to estimate the pro-birth attitudes in different populations of women.

6. The theoretical models and obtained results of our survey allow for the formulation of proposals for action, which would counteract the decline in the number of births.

Founding: authors' financial sources

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