Differences in contraceptive behaviour of men and women in Slovenia regarding their partnership and parenthood history

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Introduction

Fertility behaviour of today's world population is very closely significantly connected with its contraceptive behaviour. The level of fertility is lower considerably in countries where the accessibility of family planning methods is high (Potts, 2000). It is claimed that the use of contraception has a strong impact on the average number of children and especially in the case of reliable contraception on the low average number of abortions. Within the reproductive technology as a determinant of fertility behaviour (Mellens, 1999), an important role is ascribed to contraception, especially to the reliable one, e.g. the pill which contributed substantially to the drop in fertility, helping couples to postpone the birth of their first child and to limit their family size (de Graaf, Sprengers, 1999). But, it is also stressed that contraception is the means by which changing motivation for family size is implemented. In order to understand these changes in motivations we must examine a wide range of social determinants and consider them together with contraceptive strategies (Weeks, 1996). This linkage has not yet been empirically very well documented.

Some former theoretical considerations and empirical findings (Ajzen, Fishbein, 1980, Schoen, Astone, Kim, Nathanson, 1999) have already indicated that the impact of contraception on fertility is not direct, but is displayed through socio-psychological characteristics such as norms, preferences and intentions that individuals have as regard to the births of their children. However, these socio-psychological characteristics are according to some authors' assumptions (Hawthorn 1970, Andorka, 1978) shaped through social and economic conditions in which individuals live. As regard to this an important question arises: what share of the variance in the number of children could be attributed to contraception as an indirect factor, especially to reliable contraception. Till now there was a lack of surveys that could answer this question. The majority of so far existing surveys that considered contraceptive use was mainly devoted to teenagers, to prevention of their early, unwanted pregnancies and mainly to their first births. Other age groups and the births of higher order were very rarely taken into consideration. The problem are also measures most usually applied in such surveys. These refer to the variety of different time scales (use within the last year, current use, ever use, use at last intercourse, use at first intercourse) (Coleman 1999) that allow observation of shares and frequencies of contraceptive use in one single point or a short period of time. But these measures do not allow to investigate different contraceptive uses as a process that begins with the first sexual intercourse and continues with the first, the second, the third,… the last birth and with the end of reproductive (fertile) period. Therefore, a research of contraceptive use during the whole life course of an individual is needed. Because, only through such viewpoint an insight into the dynamics of family planing and its real contribution (weight) among other factors to the level of fertility could be obtained.

In the present analysis we study the use of different contraceptive methods during the majority of individual’s reproductive period, from the first intercourse to the first, the second and the third birth among men and women of different generations. The purpose of the analysis is to find out what is the impact of contraceptive behaviour, especially how much the use of reliable contraception affects the probability of the first, the second and the third birth in addition to certain individual socio-demographic characteristics (e.g. type of partnership union). Besides, the aim of the analysis is to ascertain what kind of contraceptive strategies during certain birth interval are used.

Theoretical framework

In our analysis we follow the idea of sequential decision-making model of childbearing introduced by Yamaguchi and Ferguson (1995) that presumes the effects of preceding birth outcomes on decision making for subsequent childbirths. Its foundation lies in the rational-choice theory of fertility built by economists (e.g. Becker 1960, 1981, Becker and Lewis 1973, Willis, 1973) that links "quantity of children" with expected income and expected costs of education and related "quality prices" of children. According to sequential decision model a couple's intention for (not)having another child is based on utility synthesised by preceding birth outcomes (e.g. sex of previous children), "quality" consumed for each child, and consumption of goods other than the quality and quantity of children. Thus, each couple is assumed to maximise the utility at each parity by optimally allocating income for the consumption of child "quality" and other goods under certain budget constraints dependent on the number of previous children (boys and girls).

Some authors belonging to different theoretical traditions also argue that motivation for each child could differ from the motivation of previous and subsequent child. Research on patterns of values and disvalues of children in successive children decision (Bulatao, 1981) indicate that parents differently evaluate the meaning of each subsequent child. At an early stage (first child) partnership qualities such as bringing the spouse closer, loving and caring for children is prominent. In the middle stage specific values such as sibling companionship, gender preferences and the pleasure of watching children grow become important. Whereas at the late stage the value of strengthening the family economically or disvalue problem of the economic maintenance and the financial burden of the family become more noticeable. The research on family formation process (Blossfeld, Jaenichen, 1992, Iedema, Becker, Sandras, 1997, Cordon, 1997, Nave-Herz, 1997) show that decision for the first child significantly depends on completion of education, attainment of economic independence, arrangement of housing conditions and entering a stable partnership union. Other authors (Huinink, 1989) point out that the motivation for the second child derives from different conditions like: experiences with the first childbearing, changing living conditions and position of an individual in the family and in broader society after the first birth (family income, stable employment, social stability), demographic characteristics of an individual and his/hers partner (age, marital status), individual preferences (sex of the first child, ideal number of children) and subjective characteristics (value orientation). In short, all above mentioned theoretical consideration and empirical findings point out that investigation into each parity demands separate assumptions. Taking these assumptions into consideration certain characteristics connected with previous childbirths are included in the model or excluded out of it.

Decision for or against childbearing are very closely connected with the use of contraception. These two outcomes of decision making process are necessarily linked, since planning childbearing requires some form of fertility regulation (Bulatao, 1984). In order to get a comprehensive picture of the fertility process, these two sides of the same coin must be researched together. As regard to the contraceptive choice the individual characteristics of sexual activity and his/her reproductive intentions play the role. These reproductive intentions refer to different stages in the family life cycle in which an individual plans his/her family size. At the beginning of his/her sexual life the longer or the shorter postponement of the first child prevails. After the first childbirth an individual decides to space the next birth or even

decides to stop having children. The same two strategies may occur also after the third and subsequent childbirths. The contraceptive needs of these three groups of delayers, spacers and stoppers are very different and are expressed in choice of different contraceptive methods as regard to the attributes of each contraceptive method and the perceived barriers of provision. Among contraceptive methods' attributes, the most important are effectiveness and health benefits or risks. Regarding barriers the following disadvantages are often present: legal restrictions, deficient market provision, poor access to health services, service providers compliance. The attributes of contraceptive methods and barriers are differently perceived according to the stage in the family life cycle (Snowden, 1985). It can be assumed that a delayer will choose a more effective contraceptive method than a spacer but a less effective one than a stopper and will use a more easily accessible method than a spacer or a stopper. On the other hand the delayer and the spacer will choose less health risky method than the stopper. It is also assumed that stoppers are the most consistent contraceptive users as compared to delayers and spacers.

One of the purposes of our study is to investigate contraceptive behaviour of men and women living in different partnership unions. Some studies (Loomis & Landele, 1994, Mannings, 1995, Cernic Istenic, 1999) devoted to childbearing behaviour in cohabiting unions showed that women in such unions had the first, the second and the third birth in much lower proportion than married women. Also, it was shown that the probability of having a birth in such unions is considerably lower then in marital unions. Such findings lead us to assume that cohabiting couples regardless of birth order in greater extend use more reliable contraception than their married counterparts.

Methods and data collection

The data collected for the present study were gathered in the 1995 using face to face interview. Included in the sampling frame were all citizens of the Republic of Slovenia aged 15 to 45 years. 10.442 addresses (91 per cent of the selected addresses) were visited, but only 4.559 persons (43 per cent of the addresses visited) were interviewed. At the target person level, only 14 per cent of all suitable persons refused to participate. But if other refusals were taken into account in the sample screening procedure, the total level of non-response was estimated to be 25 per cent.
Acquired net sample involved 1840 males and 2718 females. 498 sexually inactive respondents were excluded from the present analysis due to the problem definition (as they were not at risk of experiencing a birth). In order to estimate 3 proposed models (first, second and third birth) three different databases were prepared. For the modeling of the first birth all 4061 sexually active respondents were included. Following the problem definition the basis for the second and third models were all respondents that experienced first (n=3127) or second (n=2153) birth respectively.

For the present analysis a combined analytical approach was used, as proposed by Yamaguchi and Ferguson (1995) exploring both probability and timing of an event. The mix model could not be estimated due to the large quantity of time varying covariates, however the closest possible approach was used in combining traditional analysis for the probability of an event (logistic regression) with event history models to estimate the timing. For the latter analysis the logit model for the discrete time hazard rate was used. Given the P_{it} be the conditional probability that an individual i has an event at time t then the model is specified as follows:

$$\log\left(\frac{P_{it}}{1-P_{it}}\right)=a_t+b_1x_{it1}+\ldots+b_kx_{itk}$$

This model allows the testing of various hypothesis about the dependence of the hazard on time. Furthermore it allows the implementation of a variety of time depending covariates in the model, since the analysis is based on the split data file, where person-6 months was treated as an observation. Although the events and changes of the covariates were specified to the month exact, we ruled out the split on the monthly basis as an improper one mainly due to two reasons:

- the frequency of change tends to be rather on a larger scale (e.g. partnerships do not change every month but rather on a yearly basis),
- recall bias.

Especially the latter reason presents a great threat to the validity of our analysis, since all of the collected data are retrospective in their nature and entirely based on the respondent's recollection of events. This may not be the problem when recollecting some rarer events with longer duration like partnerships, but it may well prove to be harmful when trying to reconstruct the contraceptive history of an individual. Therefore, we widened the interval for the analysis in order to disperse the recall bias effect.
Logistic regression (SPSS logistic procedure) was used to estimate the parameters of the models.

Results

The results of ß and ? coefficients from table 1 show that the significant effects of covariates on the probability and the timing of the first birth are very similar. In these two models the following covariates appear to hold the highest negative impact: condom and all other reliable contraceptive methods, birth cohort (born in 1980-1976), withdrawal and other unreliable contraceptive methods. This signifies that the use of contraception either of reliable or unreliable one in comparison with non-use and membership to the youngest birth cohort in comparison with other birth cohorts most strongly reduces the probability of the first child and most strongly prolongs the interval between first sexual intercourse and the first birth (from 85 to 90 percentage and 88 percentage respectively). Positive, but slightly smaller influence than contraceptive use is attributed to marriage and cohabitation. This indicates that being married or cohabiting in contrast to being single, strongly (for more than 3 and 2 times respectively) increases the probability of the first child and shortens the timing for this particular event. This first set of the most influential covariates is followed by another set of covariates whose significant impact extends from 100 to 7 percentage as e.g.: cohort born between 1975 and 1971, place of residence, number of abortions (with negative sign), gender, being employed, family situation during the childhood and age at first intercourse (with positive sign). The difference between the impact of covariates on the probability and timing of the first birth is evident only in the case of the following three covariates: cohort born between 1970-1966, attendance of school and housing autonomy, which show significant influence only on the timing of the first birth. Additional analysis referred to the first birth that takes into consideration the interactions between some separate covariates (table 2) give more insight into the process of family formation. It shows that the impact of marriage and cohabitation on the shortening of first birth interval weakens with time whereas the negative impact of number of abortions on prolongation of first birth interval also weakens with time and starts even working in the opposite direction. Furthermore, the prolongation effect of reliable and unreliable contraception on birth timing in comparison with non-use has

increased for 50 percentage points after 1980. But, each year of additional education at every younger birth cohort diminishes the risk of the first birth.

For the second birth the results in table 3 reveal very similar effects of covariates on both probability and timing. This time, ß and ? coefficients also show very high negative impact of contraception, especially of the reliable one on the process of family extension. It can be observed that its impact on timing (spacing) and probability (stopping) is even slightly stronger than in the case of the first birth. But this does not hold for the other covariates introduced in the model, since their strength is considerably diminished in comparison with their strength in the previous episode. Besides that, the covariates introduced into the model after the first birth, such as age at the first birth and gender of the first child, did not prove their significant contribution. However, as regards to given results, it can be resumed that the strongest influence on the probability and timing of the second birth have apart from contraception also living with partner (especially in marital union) in positive direction and membership of the youngest cohort in negative direction. This time the difference between probability and timing can be ascribed to the following three covariates: the number of brothers and sisters, being employed and the number of abortions. In the case of the first covariate the results show that increase in the number of brothers and sisters only shortens the spacing of the second child whereas being employed and increased number of abortions only enlarge the probability of having a second child, but does not affect spacing. Results of additional analysis on the second birth that consider interactions among covariates (table 4) show that spacing effect of number of abortions is even diminishing with time. Interactions among other in the model included covariates did not prove their significance.

The results of ß and ? coefficients for the third birth in table 5 show once more a very similar effect of covariates on the probability and timing of the event. Similarity is also observed in very high impact of contraception on both these models which even expands. However, there are some differences between these two and previous models. While marriage and cohabitation indicate very high impact on the probability and timing of the first and the second childbirth in the models of the third child only marriage preserves its significance. The shares of contraceptive use among different partnership unions (graph 1) indicate that married couples are more reliable contraceptive users in comparison with their unmarried counterparts. In contrast to earlier findings, before the second and especially before the first childbirth cohabiting couples appear to be the most reliable contraceptive users. Differences between the models of the third and the prior childbirths are observed also as regard to respondent's characteristics (respondent's age at the second birth and gender of previous two children) that occur as a consequence of the previous two childbirths. If there was no significant impact of such respondent's characteristics on the probability and timing of the second child, there would be a weak but significant impact of them on the spacing of the third parenthood. The effect of these covariates is even stronger on the stopping of family enlargement. Difference with the previous models is observed also in the case of employment, housing autonomy and respondent's age at the first intercourse. Results show that the first two covariates have no effect on spacing and stopping of the third childbirth while they had it on the second childbirth. Meanwhile the respondent's age at the first intercourse has a significant impact on the process of deciding for the third childbirth while no effect on decision making for the second child could be found. Among coefficients related to the mutual interactions of included covariates, only that of marriage and time show (table 6) significant effect: the impact of marriage on shortening of the third birth interval increases with time.

Discussion

In attempting to explain the importance of contraception on the probability and timing of the first, the second and the third conception, our analysis confirm expected findings. The contraceptive use has a very strong position in shaping the family formation process during the whole reproductive period. Its significance increases in each subsequent childbirth episode. Unexpectedly, the effect of contraceptive use on delay and timing of childbirths did not depend on the effectiveness of contraception used. Namely, the user of the least effective contraception manage to postpone, space and limit childbirth much more efficiently than the contraceptive nonuser.

The significance of typical demographic determinants turn out to be less pronounced. Our results indicate that two groups of covariates emerged regarding their intensity and constancy on the family building process which confirm the assumptions of sequential decision model. The first group of covariates like gender, birth cohorts, place of residence, number of abortions and marriage express the constant impact during the three subsequent childbirth episodes. While the impact of the second group of covariates such as the situation of family of origin, education, employment, initial sexual behaviour and cohabitation varies through the observed period. Thus, from our findings we got the impression that probability and timing of the first birth are more dependent on accomplishment of adult rules (completion of education, entry into employment, formation of stable partnership, achievement of housing autonomy). Whereas, the entry into the subsequent childbirths is more determined by motivations which our data and methodology unfortunately are not able to detect except gender of previous children in the case of the third birth. But, with quite certainty we can state that the changing fertility and contraceptive behaviour among generations is taking place. Younger generations (born between 1971-1980) postpone their decisions for the first and the second child much more intensively than older generations. Also the timing between the second and the third birth is longer in each younger generation. In addition our results confirm the statement that abortion still plays an important role at the beginning and at the end of family formation process. As partnership unions are considered our results clearly indicate that in the process of searching a suitable partner more reliable contraceptive methods are used. But, after the first birth the tendency of using more reliable contraceptive methods is more typical for married couples than for cohabiting ones.

There are also some methodological issues that need to be pointed out. One of the biggest problems encountered is recall bias. Bad recollection of the past events is a known problem in the survey methodological debates concerning retrospective event history data. This could be overcome by at least two methodological approaches. Event history calendar method uses more general and everyday events as the basis for directional probing of past events that need to be recollected. The other possible approach is a broader one and implies the transformation of data collection techniques from cross-sectional to longitudinal and thus forming a cohort panel study. In the panel design the improvements are shown with a time lag, since the reporting improvement is evident only in the young cohorts. With the progress of the survey and inclusion of new cohorts, the reporting of older cohorts is improved since the recall period is shortened to the interval from the previous interview. The best method would probably be the combination of incorporating both short and long range improvements.

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Appendix

Selected covariates and their reference groups

T- time.

T^2 - time square .

Gender - female is a reference group.

Birth cohorts 1980-1976, 1975-1971, 1970-1966, 1965-1961, 1960-1956. - Birth cohort born between 1950-1955 is a reference group.

Number of brother and sisters: the number of children of reposndent's mother - no reference group.

Living with parents: not living with parents is a reference group.

Parents divorced - parents were not divorced is a reference group.

Place of residence - rural setting is a reference group.

In training - not in training is a reference group.

Duration of education - no reference group.

Employed - not employed is a reference group.

Housing autonomy - living in the house/flat of one's own or partners' parents is a reference group.

First intercourse: respondent's age at the first sexual intercourse - no reference group.

Contraceptive methods: 1. condom, 2. other reliable methods: sterilisation, IUD, hormonal pill and injection, diaphragm, foam, 3. withdrawal and 4. other unreliable methods: periodical abstinence, rhythm, safe days. - non-use is a reference group.

Abortion: number of abortions - no reference group.

Married and cohabiting - singles are a reference group.

Periodical effect: according to some statistical data accessibility of reliable contraceptive methods in Slovenia increased significantly at the end of seventies and at the beginning of eighties. Therefore, we choose 1980 as a distinguished year between two historical periods. - period before 1980 is a reference group.

First pregnancy: respondent's age at the first pregnancy - no reference group.

Gap: time interval between the first and the second childbirth - no reference group.

Gender of the first child - female is a reference group.

Male-Male, Female-Female: gender of the first two children - either boy or girl is a reference group.

Table 1: Effects of the variables on quantum (b) and timing (g) of the first birth

Covariates	*Probability of first birth*			*First birth interval*		
	b	*SE*	*Exp(b)*	*g*	*SE*	*Exp(g)*
Gender	0,7009***	0,0426	2,0156	0,6723***	0,0436	1,9588
Cohort 1980-1976	-2,1304***	0,2900	0,1188	-2,4230***	0,2929	0,0887
Cohort 1975-1971	-0,8207***	0,1262	0,4401	-1,1101***	0,1293	0,3295
Cohort 1970-1966	0,0397	0,1028	1,0405	-0,2124**	0,1049	0,8086
Cohort 1965-1961	0,0678	0,0806	1,0701	-0,1060	0,0819	0,8994
Cohort 1960-1956	0,0958*	0,0557	1,1006	0,0334	0,0561	1,0339
Number of brot,/sis,	0,0160	0,0103	1,0161	0,0121	0,0104	1,0122
Living with parents	-0,2070***	0,0700	0,8131	-0,1686**	0,0708	0,8449
Parents divorced	0,1520*	0,0776	1,1642	0,1172	0,0783	1,1243
Place of residence	-0,3195***	0,0414	0,7265	-0,3125***	0,0416	0,7316
In training	-0,0849*	0,0474	0,9186	-0,1277***	0,0477	0,8801
Duration of education	-0,0012**	0,0005	0,9988	-0,0010**	0,0005	0,9990
Employed	0,4686***	0,0468	1,5978	0,4773***	0,0481	1,6117
Housing autonomy	0,0278	0,0459	1,0282	0,0911**	0,0465	1,0954
First intercourse	0,0698***	0,0096	1,0723	0,0473***	0,0101	1,0484
KC – condom	-2,1909***	0,1620	0,1118	-2,2159***	0,1622	0,1091
KC – other reliable	-2,3178***	0,1097	0,0985	-2,3304***	0,1099	0,0973
KC – withdrawal	-2,0981***	0,1296	0,1227	-2,1309***	0,1298	0,1187
KC – other unreliable	-1,8637***	0,1626	0,1551	-1,8738***	0,1630	0,1535
Abortions	-0,2946***	0,0665	0,7448	-0,3377***	0,0671	0,7134
Married	1,3507***	0,0477	3,8601	1,4777***	0,0500	4,3828
Cohabiting	1,2636***	0,0612	3,5382	1,2966***	0,0621	3,6567
Periodical effect	-0,0222	0,0806	0,9781	0,0558	0,0818	1,0574
Constant	-4,2751***	0,1972		-3,8606***	0,2124	

****** = P < 0,01***
***** = 0,05 > P > 0,01***
**** = 0,10 > P > 0,05***

Table 2: Interaction effects of the variables on timing (b) of the first birth

	First birth interval		
Covariates	*b*	*SE*	*Exp(b)*
T	0,0681***	0,0134	1,0704
T^2	-0,0028***	0,0005	0,9972
Gender	0,6933***	0,0442	2,0003
Cohort 1980-1976	-1,9162***	0,6259	0,1472
Cohort 1975-1971	-0,4371**	0,1765	0,6459
Cohort 1970-1966	-0,0351	0,1261	0,9655
Cohort 1965-1961	-0,0040	0,1016	0,9960
Cohort 1960-1956	0,1164	0,0804	1,1235
Number of brot,/sis,	0,0122	0,0106	1,0123
Living with parents	-0,1329*	0,0714	0,8755
Parents divorced	0,0969	0,0787	1,1017
Place of residence	-0,3089***	0,0421	0,7343
In training	-0,0976**	0,0483	0,9070
Duration of education	0,0006	0,0007	1,0006
Employed	0,4532***	0,0486	1,5733
Housing autonomy	0,0647	0,0467	1,0668
First intercourse	0,0444***	0,0101	1,0454
KC – condom	-2,0930***	0,2566	0,1233
KC – other reliable	-1,9702***	0,1383	0,1394
KC – withdrawal	-2,0628***	0,1821	0,1271
KC – other unreliable	-1,5228***	0,2128	0,2181
Abortions	-1,4865***	0,2121	0,2262
Married	2,0701***	0,1054	7,9253
Cohabiting	1,5013***	0,1373	4,4874
Periodical effect	0,1071	0,0832	1,113
Married by T	-0,0789***	0,0176	0,9241
Married by T^2	0,0014**	0,0006	1,0014
Cohabiting by T	-0,0564***	0,0216	0,9452
Cohabiting by T^2	0,0021***	0,0007	1,0021
Abortions by T	0,1488***	0,0302	1,1604
Abortions by T^2	-0,0031***	0,0009	0,9969
KC – other reliable by Periodical effect	-0,8060***	0,2280	0,4467
KC – other unreliable by Periodical effect	-0,7786**	0,3328	0,4591
Duration of education by Cohort 1975-1971	-0,0192***	0,0034	0,9810
Duration of education by Cohort 1970-1966	-0,0040***	0,0015	0,9960
Duration of education by Cohort 1965-1961	-0,0022*	0,0013	0,9978
Duration of education by Cohort 1960-1956	-0,0021*	0,0012	0,9979
Constant	-4,0589***	0,2192	

Table 3: Effects of the variables on quantum (b) and timing (g) of the second birth

Covariates	*Probability of second birth*			*Second birth interval*		
	b	*SE*	*Exp(b)*	*g*	*SE*	*Exp(g)*
Gender	-0,1904***	0,0569	0,8267	-0,1570***	0,0583	0,8547
Cohort 1975-1971	-0,6161***	0,1959	0,5400	-0,6467***	0,2012	0,5238
Cohort 1970-1966	-0,0893	0,1198	0,9146	-0,2025	0,1245	0,8167
Cohort 1965-1961	0,0980	0,0877	1,1029	-0,0581	0,0913	0,9435
Cohort 1960-1956	0,0722	0,0605	1,0749	-0,0475	0,0622	0,9536
Number of brot./sis.	0,0219*	0,0113	1,0221	0,0298**	0,0117	1,0302
Living with parents	0,0839	0,0822	1,0875	0,0534	0,0842	1,0548
Parents divorced	0,0196	0,0962	1,0197	0,0651	0,0984	1,0672
Place of residence	-0,2119***	0,0485	0,8090	-0,2318***	0,0499	0,7931
Duration of education	0,0001	0,0005	1,0001	0,0005	0,0006	1,0005
Employed	0,1494***	0,0523	1,1612	0,0621	0,0538	1,0641
Housing autonomy	0,0135**	0,0064	1,0136	0,0153**	0,0066	1,0154
First intercourse	-0,0197	0,0685	0,9805	0,0536	0,0701	1,0550
First pregnancy	0,0218	0,0675	1,0220	-0,0463	0,0691	0,9548
Gap	-0,0331	0,0338	0,9675	-0,0032	0,0345	0,9968
Gender of first child	0,0455	0,0476	1,0466	0,0132	0,0487	1,0133
KC – condom	-2,2222***	0,2463	0,1084	-2,4140***	0,2471	0,0895
KC – other reliable	-2,8596***	0,1037	0,0573	-3,0777***	0,1044	0,0461
KC – withdrawal	-2,7196***	0,2114	0,0659	-2,9153***	0,2120	0,0542
KC – other unreliable	-2,7904***	0,2452	0,0614	-2,9156***	0,2460	0,0542
Abortions	0,1435***	0,0449	1,1543	0,0529	0,0469	1,0543
Married	1,0250***	0,0723	2,7872	0,9062***	0,0735	2,4750
Cohabiting	0,5748***	0,1155	1,7769	0,5597***	0,1178	1,7502
Periodical effect	0,0739	0,0889	1,0766	0,0437	0,0922	1,0447
Constant	-2,8517***	0,2670		-4,0003***	0,2837	

*** = P < 0,01
** = 0,05 > P > 0,01
* = 0,10 > P > 0,05

Table 4: Interaction effects of the variables on timing (b) of the second birth

	Second birth interval		
Covariates	*b*	*SE*	*Exp(b)*
T	0,3925***	0,0165	1,4806
T^2	-0,0176***	0,0008	0,9825
Gender	-0,1410**	0,0584	0,8685
Cohort 1975-1971	-0,6755***	0,2013	0,5089
Cohort 1970-1966	-0,2271*	0,1248	0,7969
Cohort 1965-1961	-0,0591	0,0914	0,9426
Cohort 1960-1956	-0,0564	0,0624	0,9451
Number of brot./sis.	0,0306***	0,0117	1,0311
Living with parents	0,0497	0,0843	1,0509
Parents divorced	0,0751	0,0984	1,0780
Place of residence	-0,2284***	0,0500	0,7958
Duration of education	0,0005	0,0006	1,0005
Employed	0,0569	0,0538	1,0586
Housing autonomy	0,0152**	0,0066	1,0153
First intercourse	0,0542	0,0703	1,0557
First pregnancy	-0,0476	0,0693	0,9535
Gap	-0,0028	0,0346	0,9972
Gender of first child	0,0122	0,0488	1,0123
KC – condom	-2,4407***	0,2474	0,0871
KC – other reliable	-3,0787***	0,1045	0,0460
KC – withdrawal	-2,9196***	0,2120	0,0540
KC – other unreliable	-2,9234***	0,2461	0,0537
Abortions	0,0631	0,1394	1,0651
Married	0,8999***	0,0736	2,4594
Cohabiting	0,5625***	0,1179	1,7550
Periodical effect	0,0512	0,0925	1,0525
Abortions by T	-0,0664***	0,0242	0,9358
Abortions by T^2	0,0047***	0,0009	1,0047
Constant	-4,0254***	0,2845	

****** = P < 0,01***
***** = 0,05 > P > 0,01***
**** = 0,10 > P > 0,05***

Table 5: Effects of the variables on quantum (b) and timing (g) of the third birth

Covariates	*Probability of third birth*			*Third birth interval*		
	b	*SE*	*Exp(b)*	*g*	*SE*	*Exp(g)*
Gender	-0,3962***	0,1222	0,6728	-0,3766***	0,1235	0,6862
Cohort 1975-1971	-0,6613	0,6362	0,5162	-0,8442	0,6446	0,4299
Cohort 1970-1966	-0,2879	0,2883	0,7498	-0,6004**	0,2998	0,5486
Cohort 1965-1961	-0,3357*	0,1961	0,7148	-0,6784***	0,2039	0,5074
Cohort 1960-1956	-0,0810	0,1162	0,9222	-0,2459**	0,1171	0,7820
Number of brot./sis.	0,0717***	0,0195	1,0743	0,0686***	0,0198	1,0711
Living with parents	0,2163	0,1831	1,2414	0,2564	0,1850	1,2922
Parents divorced	-0,0921	0,2181	0,9120	-0,0934	0,2216	0,9108
Place of residence	-0,2941***	0,1066	0,7452	-0,3071***	0,1075	0,7356
Duration of education	-0,0002	0,0011	0,9998	0,0001	0,0011	1,0001
Employed	0,0756	0,1027	1,0786	0,0362	0,1044	1,0369
Housing autonomy	-0,0130	0,0099	0,9871	-0,0104	0,0099	0,9897
First intercourse	0,0881***	0,0263	1,0921	0,0882***	0,0268	1,0922
Second pregnancy	-0,0919***	0,0204	0,9122	-0,1087***	0,0205	0,8970
Gap	0,0010	0,0105	1,0010	0,0033	0,0105	1,0033
Male – Male	0,2249**	0,1119	1,2522	0,1995*	0,1127	1,2208
Female – Female	0,2465*	0,1294	1,2795	0,2323*	0,1302	1,2615
KC – condom	-2,5378***	0,5051	0,0790	-2,7218***	0,5059	0,0658
KC – other reliable	-3,7286***	0,2636	0,0240	-3,8737***	0,2643	0,0208
KC – withdrawal	-3,5313***	0,5184	0,0293	-3,6035***	0,5188	0,0272
KC – other unreliable	-1,8869***	0,2959	0,1515	-1,9831***	0,2969	0,1376
Abortions	1,0542***	0,0894	2,8697	0,9706***	0,0894	2,6396
Married	0,5700***	0,1034	1,7683	0,6032***	0,1041	1,8279
Cohabiting	0,0106	0,1874	1,0106	0,0322	0,1891	1,0327
Periodical effect	0,1987	0,1988	1,2198	0,2541	0,2044	1,2892
Constant	-3,1098***	0,5620		-3,3388***	0,5915	

***** = P < 0,01***
****** = 0,05 > P > 0,01***
***** = 0,10 > P > 0,05***

Table 6: Interaction effects of the variables on timing (b) of the third birth

	Third birth interval		
Covariates	*b*	*SE*	*Exp(b)*
T	0,2058***	0,0301	1,2285
T^2	-0,0089***	0,0012	0,9911
Gender	-0,3772***	0,1236	0,6858
Cohort 1975-1971	-0,8398	0,6454	0,4318
Cohort 1970-1966	-0,6022**	0,3004	0,5476
Cohort 1965-1961	-0,6814***	0,2046	0,5059
Cohort 1960-1956	-0,2446**	0,1173	0,7830
Number of brot./sis.	0,0672***	0,0198	1,0695
Living with parents	0,2549	0,1854	1,2904
Parents divorced	-0,0985	0,2218	0,9062
Place of residence	-0,3078***	0,1075	0,7350
Duration of education	0,0001	0,0011	1,0001
Employed	0,0372	0,1045	1,0379
Housing autonomy	-0,0102	0,0100	0,9898
First intercourse	0,0879***	0,0268	1,0919
Second pregnancy	-0,1092***	0,0206	0,8966
Gap	0,0030	0,0105	1,0030
Male – Male	0,1939*	0,1129	1,2139
Female – Female	0,2273*	0,1303	1,2552
KC – condom	-2,7376***	0,5060	0,0647
KC – other reliable	-3,8900***	0,2654	0,0204
KC – withdrawal	-3,6522***	0,5225	0,0259
KC – other unreliable	-1,9820***	0,2970	0,1378
Abortions	0,9863***	0,0895	2,6812
Married	0,1834	0,2642	1,2013
Cohabiting	0,0298	0,1890	1,0303
Periodical effect	0,2586	0,2050	1,2951
Married by T	0,1310**	0,0561	1,1400
Married by T^2	-0,0065**	0,0026	0,9935
Constant	-3,1765***	0,5982	

*** = P < 0,01
** = 0,05 > P > 0,01
* = 0,10 > P > 0,05

Graph 1. Contraceptive use by type of partnership union and method in the first, the second and the third birth