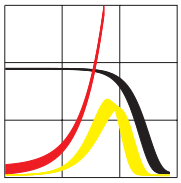

Max-Planck-Institut für demografische Forschung
Max Planck Institute for Demographic Research
Konrad-Zuse-Strasse 1 · D-18057 Rostock · GERMANY
Tel +49 (0) 3 81 20 81 - 0; Fax +49 (0) 3 81 20 81 - 202;
http://www.demogr.mpg.de

MPIDR WORKING PAPER WP 2005-017
JULY 2005

Learning from others and receiving support: The impact of personal networks on fertility intentions in Poland

Christoph Bühler (buehler@demogr.mpg.de)
Ewa Fratczak (ewaf@sgh.waw.pl)

This working paper has been approved for release by: Vladimir M. Shkolnikov (shkolnikov@demogr.mpg.de), Head of the Laboratory for Demographic Data.

Learning from others and receiving support:
The impact of personal networks on fertility intentions in Poland

Christoph Bühler and Ewa Frątczak

Rostock, July 2005

Christoph Bühler
(corresponding author)
Max Planck Institute for Demographic Research
Konrad-Zuse-Str. 1, D-18057 Rostock
Tel.: ++49 381/2081-174, Fax.: ++49 381/2081-474
E-mail: buehler@demogr.mpg.de

Ewa Frątczak
Warsaw School of Economics
al. Niepodległości 164, pokój 716, 02-554 Warszawa
E-mail:ewaf@sgh.waw.pl

Abstract
Research about fertility has focused in the main on studying separately the influences of communication networks and social capital on reproductive behavior, but it has rarely tried to integrate both network properties theoretically or analytically. We therefore discuss a general model of purposeful behavior that perceives individuals' subjective perceptions of the utilities of different courses of action to be affected by structures of interpersonal influence. Resources needed to realize desired goals are furthermore shaped by exchange relationships that build social capital. These considerations are empirically applied to explanations of the intentions of 758 Polish men and women ever to have a first, second, or third child. Personal networks are especially relevant for the considerations to have a first or a second child. The intentions of childless respondents are positively influenced by network partners that are in a similar stage of their reproductive biographies or that have already taken the step of having a first child. However, respondents with one child intend to have a second child with a higher probability the more they have access to fertility-related social capital.

Keywords: interpersonal influence, social capital, fertility, rational choice, behavioral intentions, Poland

1. Introduction

During the last two decades, social networks became a central aspect for understanding reproductive behavior and changing levels of fertility. Diffusions of new values and contraceptive methods were a driving force of the first demographic transition in Europe and they fuel contemporary declining trends of reproduction in developing countries (Bongaarts and Watkins 1996). These diffusion processes rest on personal communication networks providing the channels through which people learn about new social evaluations of fertility and become influenced to adopt new contraceptives (see, for example, Kohler 2001, Valente *et al.* 1997, Entwisle *et al.* 1996, Rosero-Bixby and Casterline 1994). Supportive networks and social capital matter for reproductive decision-making in Central and Eastern Europe. They provide monetary and non-monetary resources that help households to stabilize their economic and social situations, and this increases the willingness of the household members to have children (Bühler and Philipov forthcoming, Philipov *et al.* 2004, Philipov and Shkolnikov 2001).

Both fields of research emphasize communication and transfers, two central contents of personal networks (Mitchell 1973). However, each of them stress on one content exclusively. The restriction to one content is meaningful within the particular social, economic, and historical contexts, these fields of research deal with. However, a generalized view of the significance of social networks for reproductive behavior is still missing. People are simultaneously embedded in relationships and personal networks of multiple contents. Moreover, individual decision-making neither exclusively rests on subjective evaluations nor is it entirely an expression of the resources actors can utilize to reach their desired goals. Therefore, theoretical considerations and empirical analyses are needed that integrate network influences on reproductive behavior due to communication and transfers.

The subsequent explanations intend to make some steps in this direction. Based on a general model of rational choice, the theoretical section (Section 2) discusses the significance of communication and transfers for individual decision-making. It is argued that communication networks affect individual preferences and that exchange relationships create social capital, which shapes the pool of resources actors can utilize. These arguments are transferred to the context of fertility and are empirically applied to the fertility intentions of Polish men and women. Fertility intentions are analyzed because they represent the stage at which individuals decide about their reproductive goals as well as about the instrumental activities they want to use to achieve it. Section 3 describes briefly the data, followed by a discussion of the variables used in the analyses. Section 4 presents basic descriptive statistics and results from logit regressions on the respondents' intentions to ever have a first, second, or third child. Section 5 gives a summary and concluding discussion.

2. Social networks and considerations of having children

The subsequent arguments rest on a model of purposeful decision making which perceives individual behavior as an outcome of personal preferences, available resources, and rules by which actors finally decide to engage in particular activities (Diekmann and Voss 2004). Personal preferences are an expression of the benefits that different courses of action promise to provide, i.e. of the expected direct or indirect improvements of actors' general utilities, such as wealth, well-being, or social approval (Hechter and Kanazawa 1997, Friedman *et al.* 1994). However, the performances of desired activities are restricted by the resources actors can utilize. These resources rest on their physical and mental strengths, their degrees of human capital and wealth, but they are also provided by their environment (Diekmann and Voss 2004).

Individuals' personal preferences and the resources that are available for them depend, among other things, on their personal relationships and social networks. Interpersonal interaction is in general characterized by communication and exchange as well as by the transmission of norms as a byproduct of the first two relational contents (Mitchell 1973). Consequently, social networks matter for purposeful decision-making because of two reasons (Schweizer 1996: chapter 4, Burt 1982). Communication influences individuals' perceptions of the expected utilities of different courses of action. Exchange relationships shape the pool of resources individuals can use to carry out desired activities.

2.1 Social networks and perceptions of utility

Communication networks form subjectively perceived utilities for different activities by exposing individuals to information and structures of interpersonal influence. Knowledge about expected costs and benefits of particular behaviors are a basic requirement for purposeful decision-making. However, individuals are bounded rational actors and therefore access to information by interpersonal communication or mass media is crucial (Montgomery and Casterline 1996, Rogers 1995). Individuals can passively receive information or they can actively seek for it. In both situations, their positions in communication networks determine their exposures to information of different content and quality (Freeman 1979, Granovetter 1973).

However, actors do not decide exclusively on information. They also want to become convinced that particular behaviors will lead to positive outcomes (Rogers 1995). Personal evaluations, experiences, and opinions serve this purpose if they are communicated by network partners that are socially close to the deciding individuals, i.e. if they belong to their peer groups or occupy similar network positions, and if they mention the topics, the individuals have to decide on (Friedkin 1993, Marsden and Friedkin 1993, Burt 1987). Peer groups are influential as they build a substantive part of individuals' daily life. They also tend to build cohesive networks of high density that distribute information quickly, but that also produce

homogeneous evaluations and normative pressures fueled by repeated interactions and mutual dependencies (Coleman 1990: chapter 11, Friedkin 1982). Individuals in structural similar positions exert influence because they are in similar and therefore comparable social situations and stages of their life cycles. Due to this comparability, actors evaluate the utilities of different courses of action by virtually performing these activities through their counterparts (Burt 1982). They learn directly from them if their similar network partners already perform activities that they are considering (Marsden 1998; Friedkin 1993).

Social networks become an important factor in explaining processes of declining fertility. The onset and pace of the first demographic transition in Europe and the contemporary decrease of fertility in developing countries rest, among other things, on the diffusion of new evaluations of fertility, children, family size, or gender roles as well as on the dispersion of information, experiences, and opinions about the use of modern contraceptives (Bongaarts and Watkins 1996). Communications about these topics expose individuals to information and structures of interpersonal influence that finally alter their subjective perceptions of high levels of fertility and of the means to control reproduction (see, for example, Bühler and Kohler 2004, Kohler 2001, Kohler *et al.* 2001, Montgomery and Casterline 1993, 1996).

There is, however, not much insight about the relevance of communication networks for fertility decisions outside the specific context of the diffusion of innovative reproductive behaviors. From a theoretical point of view, it is argued that social networks are one cause of lowest-low fertility in Europe, as they distribute role models of childlessness or small families (Kohler *et al.* 2002). Qualitative studies from Italy and Germany show that structures of interpersonal communication are of general significance for reproductive behavior (Bernardi *et al.* 2005, Bernardi 2003). They, for example, provide individuals with fertility-related information, reinforce their childbearing desires, or encourage them in pursuing their reproductive plans, but they may also set serious normative pressures to fulfill commonly shared ideas of fertility.

2.2 Personal relationships and social capital

Actors decide for a particular activity, if they know or assume with a high probability to have access to the resources they need for its performance. Social networks that build social capital are one source of these resources (Flap 2002, Lin 2001, Astone *et al.* 1999, Coleman 1990, Bourdieu 1985). These networks build social capital because they give access to means that are directly enjoyed by individuals' primary network partners or that are acquired indirectly through their network partners' relationships.[1] However, the usefulness of resources depends on the individuals' objectives. Only relationships that support them in pursuing their goals

[1] As our argumentation about the influence of social networks on individual decision-making is micro-oriented, we subsequently do not consider definitions of social capital on the societal level in the tradition of Putnam (1993).

create social capital (Emerson 1976). Consequently, the amount and value of social capital varies with the goals individuals track. Moreover, social capital has a goal-specific component, which gives access to resources needed for particular objectives, and an all-purpose element, which provides resources such as money, time, influence, or trust that can be utilized for various aims (Flap 2004).

Individuals need to have access to resourceful network partners, but these network partners also need to be motivated to give their resources (Portes 1998). Both conditions can be met by establishing exchange relationships of direct or indirect reciprocity (Astone *et al.* 1999, Coleman 1990, Bourdieu 1985). The mechanism of reciprocity ensures that individuals that give goods, services, or symbolic gifts to their network partners will receive resources from the same partners or other network members immediately or in a later period.[2] If reciprocity does not have to be established immediately, individuals can receive resources in advance and they can influence the period of repayment. Social capital, therefore, emerges as an unintended byproduct from group memberships and former activities (Putnam 1993, Coleman 1988) as well as from purposeful investments in personal relationships (Hofferth *et al.* 1999).

Due to the great variety of resources people can utilize to reach particular goals, research identifies a wide range of relational characteristics and network properties that generate social capital (Lin 1999, Coleman 1990, Granovetter 1973). One structural property is network size. Large networks provide more resources than small ones simply because of the larger number of exchange processes that take place and that give access to a larger number of resourceful network partners (Degenne *et al.* 2004, Flap 2002, House and Kahn 1985). Furthermore, larger networks indicate a well functioning social environment (Wellman 1992).

Theoretical considerations emphasize the significance of social capital for fertility decisions. Resources acquired by personal relationships could be fertility specific, such as the availability of informal child-care. However, all-purpose resources, such as money, time, support, or the capacity to work, are of special importance. Access to these resources has an indirect impact on fertility as it helps to improve or to stabilize the economic and social situations of households, which again promotes the fulfillment of the reproductive goals of the household members (Philipov and Shkolnikov 2001). Empirical research on Russia, Bulgaria, and Hungary supports this argument by documenting positive associations between individuals' social capital, measured by exchange relationships that transfer all-purpose resources, and fertility intentions (Bühler and Philipov forthcoming, Philipov *et al.* 2004, Philipov and Shkolnikov 2001).

Supportive relationships are of high significance in the daily life of Polish people before and after the breakdown of socialism. Rooted in family safety nets from pre-socialist

[2] See Astone *et al.* (1999) for a more detailed discussion of exchange relationships as the foundation of social capital.

peasant societies and fueled by the socialist shortage economies, supportive relationships between households and individuals remained an important coping strategy in Poland as well as in other Central and Eastern European countries during the transition period (Sik 1995, Worach-Kardas 1983). Data from the beginning of the early 1990s confirm this argument. In 1993, around one forth of the Polish households received informal support, primarily in form of non-monetary resources, followed by cash transfers and active help (Polish Central Statistical Office, April 1993, cited in Cox *et al.* (1997)). These transfers build to some extent a private safety net as they were given to tone down the consequences of lost earnings or to support potentially economic vulnerable groups such as the young, the elderly, or female-headed households (Cox *et al.* 1997: 192). Parents are the primary source of support. As they intend to improve the living situations of their children in general, they also support their adult children. Moreover, their willingness to give resources increases if grandchildren are born (Giza-Poleszczuk 2000).

2.3 Fertility intentions

One particular characteristic of reproductive behavior is the large temporal distance between the moment of the decision to have a child and the moment at which the behavior becomes successful, i.e. a child is born. Due to this temporal gap, fertility decisions are sensible to unexpectedly intervening circumstances that may cause alterations of proceptive or contraceptive behaviors or reconsiderations of the decisions. These circumstances could be, for example, an undesired gender composition of children already born, the death of a child, infecundity, partnership problems, or events in other living spheres that alter the expected costs and benefits of the intended child (Morgan 2003, Bongaarts 2001, 1990). Consequently, observed levels of fertility are not a random quantity. They are an expression of reproductive intentions and of events that hinder, slow down, or promote their implementation (Quesnel-Vallée and Morgan 2003, Schoen *et al.* 1999). From an analytical point of view, it is therefore sensible to take separate looks at the determinants of intentions and of fertility outcomes.

A psychological model of fertility-related behavior (Miller 1994) gives a theoretical foundation for this separation. This model perceives observed fertility as the result of a process of decision-making and behavior. It starts with fertility-related motivations that shape particular desires, which are again translated into reproductive intentions. Intentions mark the stage at which individuals decide about a reproductive goal and about the means to reach it. These decisions are transferred to proceptive or contraceptive activities that finally lead in dependence from situational forces and unexpected or only partly considerable events to desired or undesired reproductive outcomes (Miller 1986, Miller and Pasta 1993, 1996). Because motivations and desires influence fertility-related activities only indirectly via intentions, the process can analytically be summarized in two parts: an intentional one that covers the developments of the internal

states of motivations, desires, and intentions and a behavioral one that draws attention to the instrumental activities to realize an intended reproductive goal.

Motivations, desires, and intentions depend, besides biological and cultural dispositions as well as individual traits, on subjective evaluations of children. Motivations are an expression of general dispositions towards children, which lead to general subjective perceptions of the costs and benefits of having children (Miller 1995, Miller and Pasta 1993). Desires rest, among other things, on personal values, internalized norms, and current evaluations of children. As intentions finally adjust desires to reality, they have to consider desires and attitudes of significant others as well as situational constrains (Miller 1994). The latter addresses very much individuals' personal situations and material conditions.[3]

Subjective evaluations and available resources are therefore important factors in the process that leads to fertility-related intentions. Consequently, we hypothesize that these intentions are significantly determined by network structures of interpersonal influence and social capital. We hypothesize that individuals intend to have a first or another child with a higher probability if they are embedded in structures of interpersonal influence that promote fertility. We also hypothesize that individuals intend to have a first or another child with a higher probability the more they have access to fertility related social capital, i.e. the more they are embedded in exchange relationships of supportive resources. The subsequent empirical analyses will examine these hypotheses.

3. Data and variables

3.1 The Polish Retrospective Survey and its subpopulation used in the analyses

The empirical analyses rest on data from the survey "The evaluation of changes in attitudes and reproductive behaviors of young and middle generations of female and male Poles and their influence on the process of family, union, household formation, and dissolution" (Polish Retrospective Survey 2001), which was carried out in 2001 under the responsibility of the Institute of Statistics and Demography and the Polish Central Statistical Office.[4] The purpose of the survey is to receive a better understanding of the causes of the significant changes in

[3] Our argumentation does not consider the 'Theory of Planned Behavior' (Ajzen 1991). This is because of two reasons. First, there are not many applications of this theory to fertility (see Schoen *et al.* (1999) and Billari and Philipov (2005) for empirical approaches). Second, one outstanding characteristic of this theory is its theoretical tightness. Therefore, an integration of network effects on intentions cannot be done without preparatory theoretical considerations how personal relationships matter for attitudes, subjective norms, and perceived and actual behavioral control. This would go beyond the scope of this paper.

[4] The survey was supported by The State Committee for Scientific Research (KBN), Grant No. 1 H02F 00419, the Narodowy Bank Polski, Credit Bank.SA w Warszawie, Bank – PKO BP. SA, ING Nationale Nederlanden Polska, and Powszechny Fundusz Emerytalny. The grant by the State Committee for Scientific Research is realized by a research team including Professor Janina Jozwiak (Warsaw School of Economics) as the project manager, Professor Janusz Balicki (Cardinal S.Wyszynski University in Warsaw) and Professor Ewa Fratczak (Warsaw School of Economics) as the project leaders, and two other team members: Aneta Ptak-Chmielewska, M.Sc. (Warsaw School Economics) and Kazimierz Latuch, M.Sc. (Central Statistical Office).

demographic behavior in Poland after the end of socialism. Thus, it concentrates on the retrospective reconstruction of histories of education, employment, migration, partnership, and reproduction as well as on the investigation of norms, values, social networks, and attitudes for current and future processes of partnership formation and fertility.

The sample consists of 3,348 male and female respondents.[5] As households were the target units of the sampling procedure, each household member aged 18 to 54 was interviewed.[6] To explore subsequently the network-based determinants of intended fertility-related behavior, this population is reduced by two criteria. First, there is a very low probability for men and women aged older than 44 to get a child (Stanczak 2002). Therefore, all respondents above this age are excluded (1,475 remaining cases). Second, because personal networks build the central explanatory variables, the analyses consider only married respondents. Demographic events such as marriage, the birth of a child, or divorce significantly alter the size and composition of personal networks. Therefore, it is not appropriate to take unmarried respondents into account, as their personal networks will change once a union with a partner is formed and considerations to have a child have been made. Hence, the analyses start with a population of 1,353 individuals.

3.2 Fertility intentions as the dependent variable

The questionnaire addressed a respondent's intention ever to have a first or another child with the question whether he or she 'plans to have a first or another child'. Answers were recorded on an ordinal scale by the categories 'absolutely not', 'no', 'yes', and 'definitely yes'. Undecided respondents were covered by the answer 'difficult to say'. The respondents that replied with 'yes' or 'definitely yes' were additionally asked when they plan to have this child. However, due to small numbers of cases, parity specific analyses of tempo-related intentions are not possible and therefore the subsequent investigations concentrate on the respondents' general intentions.

3.3 Network characteristics

Information on the respondents' personal networks was collected through name-generating and name-interpreting questions (van der Poel 1993, Burt 1984, Fischer 1982). To cover network influences on demographic behavior, the name-generating questions addressed both communications about different demographic topics (partnership, having children, contraceptive use) and transfers of supportive resources (talk about personal problems, monetary or non-monetary support, help in finding a dwelling). Name-interpreting questions were asked

[5] Full information about the survey, the sampling scheme, data quality, and the questionnaire can be found in Fratczak and Peczkowski (2002).

[6] As the subsequent multivariate analyses aim to explain fertility intentions of individual respondents, the coefficients' standard errors rest on robust Huber-White estimators, which consider the fact that respondents are clustered in households.

for all network partners named. They cover basic characteristics such as gender, age, marital status, or the number of children the network partners' have and give information about the attributes of a respondent's relationships to his or her network partners, such as the frequency of contact, the closeness, and the duration.

With information from these questions, variables that cover structures of interpersonal influence and fertility-related social capital are constructed. Following the theoretical considerations above, fertility-related interpersonal influence rests on communications about fertility with socially close network partners who transfer information, experiences, and opinions that matter for an individual's reproductive decision. Fertility-related communications are covered in the data by the number of network partners with whom the respondents talked about the "advantages and disadvantages of having children" during the past year.[7] Socially close network partners are represented by peers and network partners that are similar to the respondent. The number of network partners that meet a respondent at least once a month, that are part of his or her communication network about children, and that have at least one child represents the presence of influential peers. The data do not allow for a direct measurement of structurally similar network partners, because this requires detailed information about the personal networks of the network partners. As structural similarity identifies network partners in similar situations, a compromise is to define similar people by their characteristics. Therefore, the group of similar network partners consists of individuals who have the same number of children as the respondent (including childlessness) and who belong to his or her age cohort, i.e. who are up to three years younger or older than he or she is. These criteria roughly define network partners and respondents that are in similar stages of their reproductive biographies. Thus, the number of network partners that apply to these criteria and that are part of a respondent's communication network about children represents the presence of influential similar network partners.

Both operationalizations of interpersonal influence rest on the assumption that socially close network partners who have children or who are in a stage of probably receiving a first child exert a positive influence on the respondents to intend the birth of a first or another child. Of course, this assumption cannot be taken for granted. Network partners with children may also negatively evaluate their fertility-related experiences or they may serve as undesirable role models. This kind of operationalization stays in the tradition of research about the diffusion of new reproductive behaviors as a process of contagion in which individuals that adopted a new behavior influence their social environment to take over this innovation as well. It is an additional purpose of the empirical analyses to examine whether this kind of operationalization is meaningful outside the context of innovative reproductive behaviors.

[7] In order to avoid that the variables about interpersonal influence and social capital report primarily about communications and transfers between couples, marriage partners that were named as network members are not considered.

Individual social capital rests on exchange relationships of direct and indirect reciprocity. To cover the characteristics of exchange, the respondents' social capital is included in the analyses by the number of network partners that provide them with monetary and non-monetary supportive resources during the last year as well as by the number of network partners that received these kinds of resources from them. Fertility-related social capital is therefore represented by transfers of all-purpose resources that help to stabilize the respondents' personal and economic situations. The number of network partners that received support from the respondents is considered because it may indicate investments in social relationships that ensure or increase the respondents' social capital. It may also determine long-term exchange relationships of postponed reciprocity. Due to the cross-sectional design of the survey, the reciprocal character of these relationships cannot be covered directly.

Our representation of the respondents' fertility-related social capital has one shortcoming: it does not consider network partners that are potential providers or receivers of supportive resources. Social capital rests on expected access to resources, which depends on past experiences and knowledge about potential providers. The variables used in the analyses consider only the aspect of experienced transfers. Due to that, they reflect very much the situations of the respondents and their network partners during the last year. Therefore, if respondents did not report about experienced transfers one cannot conclude that they lack social capital according to monetary and non-monetary support. It may simply mean that there was no need for these transfers. To control for this situation, two additional dummy variables are created. They give information that a respondent did not receive support or that he or she did not give support during the last year.

3.4 Control variables

The control variables cover basic socio-economic characteristics of the couple. These are wife's age, the economic situation of the household, the degree of a respondent's religious commitment, and the place of residence. Wife's age is covered by three dummy variables that represent the age groups 18 to 24, 25 to 29, and 30 to 34. The 35 to 44 age group builds the reference category. The data do not offer objective information on the economic situation of the couple and the household. Therefore, two groups of variables are used as indicators. First, husband's and wife's educational degree, measured by the number of years spent in the educational system, indicates the level of expected income over the life course. Wife's educational degree gives additionally information on the extent of lost income if she is not able to work in order to care for a child. Second, the employment situation of the couple at the time of the interview is covered by a dummy-coded variable that reports whether both partners are engaged in any kind of working activity as employees, employers, or self-employed persons. A question about the importance of religion in the respondent's life measures his or

her degree of religious commitment. In Poland, religiousness is closely associated with the Catholic faith and the Catholic Church which significantly influences people's idea of marriage and having children.[8] Finally, a dummy variable represents the respondent's place of residence. It gives information whether he or she lives in a village or in a small town with less than 20,000 inhabitants. This variable should control for a possible systematic variation in fertility intentions between cities and the countryside.

4. Empirical Results

4.1 Fertility intentions

Similar to other Central- and Eastern European countries, Poland has faced a significant decline of fertility since the breakdown of socialism.[9] During 1989 and 2003 the Total Fertility Rate (TFR) dropped from 2.08 to 1.24 (Eurostat 2005). This development is the result of people in Poland starting both to postpone births and to stop childbearing earlier, i.e. to have a smaller number of children. According to Total Fertility Rates that are adjusted for the postponement of births (Bongaarts and Feeny 1998), the decline of fertility in Poland for the second half of the 1990s is caused by falling rates of births of a second or a third child (Fratczak 2004). The rate for the first child remained constant and even increased at the beginning of the new century.

These parity-specific trends of fertility are reflected by the respondents' fertility intentions (see Table 1). There is only a small willingness among the interviewed men and women with two or three children to have a third or a fourth child. Childless respondents, however, show strong positive intentions, as 72.9% of them intend to have at least one child. Nevertheless, 20.7% do not intend to have a first child, which is an unexpected high number. Due to the rapidly changing age of entry into parenthood – the average age at first birth of Polish women increased from 23.3 in 1989 to 25.0 in 2001 (Eurostat 2005) – several respondents may have answered this question with regard to the intended timing of birth, i.e. that they do not want to have a first child soon. The intentions to have a second child show a heterogeneous distribution. 36.4% of the respondents with one child intend to have a second one, but 39.8% intend to stop fertility. Moreover, around one fourth is undecided.

TABLE 1 ABOUT HERE

The results in Table 1 lead to further restrictions of the population considered in the analyses and to a simplification of the dependent variable. Respondents with three or more children are excluded, as their distributions of fertility intentions are too skewed. The skewed distributions

[8] According to the Public Opinion Poll (CBOS) of 2001, 96.0% of Polish citizens claim to be believers, of which 96.4% belong to the Catholic Church.

[9] See Philipov and Dobritz (2003) for an overview of the trends in family formation and fertility in

of the fertility intentions of respondents with no children or with two children cause a simplification of the dependent variable to a dummy variable that reports whether a respondent intents to have a first or another child ('yes' or 'definitely yes') or not ('no' or 'absolutely not'). To receive a meaningful reference category for this variable, all respondents that replied 'difficult to say' are excluded.[10] Therefore, 758 respondents enter the subsequent multivariate analyses.

4.2 Network influence on fertility-related decisions

The multivariate analyses aim to investigate whether and how much personal networks matter for individuals' parity-specific fertility intentions due to structures of interpersonal influence and/or fertility-related social capital. Two models are estimated separately for the subgroups of network partners that are childless, that have one child, or that have two children (see Table 2 for descriptive statistics of the variables used in the analyses and Table 3 for the regression results). The models differ by the representation of fertility-related communication networks: Model 1 estimates the effect of the sizes of these communication networks and Model 2 reports the results for interpersonal influence due to peers and similar network partners. In the second model, the variables about the number of peers and similar network partners can take a value of zero either because no particularly influential network partner is present in the communication network or because the respondent did not talk about children during the last year. To control for the latter situation, the models for respondents with one child or with two children consider a dummy variable that gives information whether the respondent did not report about a fertility-related communication network. As only three childless respondents did not talk about children, the use of this control variable is not possible for this subgroup and therefore these three cases are excluded from the analyses. All two models also consider the respondents' fertility-related social capital and the characteristics of the couple. We first discuss the effects of couple's characteristics in Model 1 and turn to the network-related results afterwards.

TABLE 2 ABOUT HERE

The characteristics of the couples studied show various parity-specific outcomes. The significant effects of a wife's age document preferred age ranges of childbearing. To have a first or a

---

Central and Eastern Europe.

[10] In principle, the group of the undecided could be considered if the analyses use ordinal or multinomial logit regressions. However, according to Morgan (1981) this group consists of individuals who are uncertain about their future fertility. Dependent on the socially defined minimal and maximal numbers of children as well as on the stages of their own life cycles, these actors may or may not have a first or another child in future. Therefore, this group cannot be used in an ordinal logit as an intermediate category between respondents that intend or do not intend to have a child and its interpretation in a multinomial logit would be ambiguous.

second child is preferred if the female respondent or his wife is in her twenties or at the beginning of her thirties. Respondents with two children intend to have a third child with a higher probability if they or their wives are aged around thirty. These strong and positive age effects also indicate that couples with a wife older than 34 will probably intend to remain childless or to stop childbearing. The respondents' religiousness is a highly significant determinant that increases their intentions to have a second child. The wife's and husband's level of human capital matters only for husbands of childless couples by significantly increasing the respondents' probabilities of intending to have a first child. As husbands are mostly the principal breadwinners of the family in Poland, they profit from expected higher incomes by higher educational degrees, which improve the long-term material security of their families. Surprisingly, this argument is only relevant at the beginning of the reproductive period. The variable that indicates wife's and husband's employment situation, i.e. whether they both work, show a significantly positive effect according to the intention to have a second child. Having an occupation and active participation in the labor market is an important factor effecting economic stability and limiting uncertainty, which is especially evident for considerations to have a second child.

TABLE 3 ABOUT HERE

According to the results in Model 1, the number of network partners with whom the respondents talked about the advantages and disadvantages of having children does not show any influence on their intentions to have a first, second, or third child. However, this situation changes if the presence of influential network partners is considered. On the one hand, an increasing number of peers with at least one child exert negative influences on the fertility intentions in all three subgroups. Moreover, these effects are significantly negative for the intentions of childless respondents' and of respondents with two children. On the other hand, an increasing number of similar partners in the communication networks about children support the intentions of childless respondents to have a first child. However, this group of network partners has no influence on respondents' considerations to have a second or a third child.

The presence of fertility-related social capital shows parity-specific results as well. Couples' intentions to have a second child depend very much on their economic situations. Therefore, their intentions are significantly influenced by their fertility-related social capital. The respondents are more intent on having a second child the more they received monetary or non-monetary support from their network partners during the last year and/or the more they provided their network partners with this kind of support. The latter result holds up the relevance of long-term exchange relationships and investments in personal relationships for future provisions with supportive resources. However, it can also represent a hidden effect of

income or wealth, as individuals need to have resources of particular amounts and qualities to be able to provide them to their network partners. As the data do not contain information about the respondents' economic situations, this alternative explanation cannot be examined.

The negative influences of the number of peers with at least one child on respondents' fertility-related intentions are an unexpected result that needs to be explained. An obvious question is whether these negative effects are an expression of the presence of peers or of the number of children these network partners have. Therefore, the variable about the number of peers with at least one child in Model 2 is replaced by three variables that give information about the number of peers with one child, with two children, or with three or more children. As the results in Table 4 show, childless respondents are exposed to quite opposing influences. Their intentions to have a first child benefit significantly from an increasing number of peers with one child, but they are significantly negative influenced by an increasing number of peers with large families, i.e. with three or more children. Surprisingly, the negative effect rests primarily on respondents that come themselves from large families, as parents build a significant part of the communication partners for this group of respondents. This association could primarily reflect respondents' own negative experiences of having a large number of siblings, but it could also rest on their parent's negative evaluations of their high fertility.

TABLE 4 ABOUT HERE

The significant negative effect of the number of peers with at least one child on respondents' intentions to have third child tends to rest, although in a non-significant way, on the number of peers with one child or with two children in the communication networks. As these peers have no experience with three children and as they perhaps prefer smaller families in general, they cannot support other people in intending a third child.

Additional analyses (not reported here in detail) finally show that the intentions of childless respondents also significantly benefit from communication partners that belong to the respondent's age cohort but that have already one child. Childless respondents are therefore especially sensitive to influential network partners and their family sizes. Their intentions to have a first child are positively influenced by communication partners that are in a similar stage of their reproductive biographies or that already have taken the step of having a first child. However, if the respondents come from a large family and if they talk with their parents about the costs and benefits of having children, their intention to have a first child declines.

5. Summary and conclusions

The purpose of the paper was to explore the significance of personal networks for individual fertility-related decision-making. As the theoretical basis for this exploration, we used a general model of rational choice that perceives purposeful behavior as an outcome of subjective perceptions of the utilities of different courses of action and the availability of resources needed to perform desired activities. These perceptions and resources are not entirely a characteristic of individual actors. They are also an outcome of the personal relationships and social networks these actors are embedded in. Subjective perceptions of utilities rest on information, opinions, and experiences, which are transferred by communication networks and by structures of interpersonal influence. The pool of resources an actor can utilize is significantly shaped by the wealth, influence, knowledge, or willingness to help of his or her network partners. By establishing and maintaining reciprocal exchange relationships, an individual gets access to these resources and accumulates personal social capital.

We applied this general model of network influences on purposeful behavior to fertility intentions of Polish men and women. Estimates from logit regressions show that personal networks matter for individuals' subjective perceptions of fertility as well as for the resources they need to realize their reproductive planning. However, these influences are highly parity specific. Fertility-related social capital, i.e. the embeddedness in exchange relationships of multi-purpose resources of monetary or non-monetary support, significantly encourages individuals' intentions to have a second child. This insight is consistent with results from similar studies about Russia, Hungary, and Bulgaria (Bühler and Philipov forthcoming, Philipov et al. 2004, Philipov and Shkolnikov 2001). The consideration to have a second child depends very much on the economic situation of a household and therefore resources provided by personal relationships matter especially in this context.

Subjective perceptions of fertility are not simply effected by communications about children. They rely significantly on the presence of influential network partners in these communication networks. According to the intentions to have a first child, members of peer groups as well as similar network partners are influential. However, this influence rests very much on the reproductive history of these network members, i.e. whether they are able to communicate experiences, information, or evaluations that are helpful to take the step of having a first child or that work as positive role models. Consequently, respondents' intentions to have a first child benefit from an increasing number of peers with one child in their communication networks about children. However, they suffer from an increasing number of peers from large families with three or more children, although this effect partly reflects the respondents' evaluations of their own families of origin. Furthermore, communication partners that belong to the respondents' age cohort and that are childless or that have already one child are positive role models that support the intentions of having a first child.

These results also show that the modeling of interpersonal influence in form of a contagion process is also meaningful outside diffusion processes of innovative reproductive behaviors. Individuals are positively influenced by communication partners that have already taken the step they are considering. However, communication partners can also exert negative influence, if their reproductive situation is too distant from the individual's situation, i.e. if they have much more or less children as he or she.

Our considerations do not take norms into account, the third general relational content in social networks. Expected rewards or punishments in the case of fulfilling or breaking norms may have important impacts on the subjectively perceived costs and benefits of different courses of action. Moreover, norms of reciprocity and fairness may shape exchange relationships in a significant way. Therefore, an explicit consideration of norms would help to identify how much individuals formulate their reproductive intentions based on information, experiences, and available resources or on normative expectations. However, norms rest on the execution of positive or negative sanctions and the enforcement of sanctions needs dense or cohesive network structures, as these facilitate social control and common decisions about rewards or punishments. This addresses a different network structure as the property of network size we used in our analyses. Future studies should integrate network structures that support norms with structures of interpersonal influence and social capital.

Although, we interpret the effects of the respondents' personal networks on their fertility intentions in a causal way, this causality cannot be taken for granted. Individuals may also select communication partners or intensify exchange relationships according to the intentions they already have formed. This causal inaccuracy addresses in general the need for longitudinal data that report the temporal order between network properties and subsequent fertility-related intentions and behaviors. Moreover, it addresses the need for information about the meanings of communications about children and of fertility-related resources for the individuals. Knowledge about meanings would help to identify how much particular relationships are used to confirm or to encourage intentions that are already formulated or how much they really support individuals to take the decision to have a first or another child.

Literature

Ajzen, Icek. (1988) 'The Theory of Planned Behavior', Organizational Behavior and Human Decision Process 50: 179-211.

Astone, Nan Marie, Nathanson, Constance A., Schoen, Robert and Kim, Young J. (1999) 'Family Demography, Social Theory, and Investment in Social Capital', Population and Development Review 25: 1-31.

Bernardi, Laura (2003) 'Channels of Social Influence on Reproduction', Population Research and Policy Review 22: 527-555.

Bernardi, Laura, von der Lippe, Holger and Keim, Sylvia (2005) 'Mapping Social Influence on Fertility: A Mixed Method Approach to Data Collection', MPIDR Working Paper WP-2005-015, Max Planck Institute for Demographic Research, Rostock.

Billari, Francesco C. and Philipov, Dimiter (2005) 'Attitudes, Subjective Norms, and Perceived Behavioral Control as Predictors of Fertility Intentions', paper presented at the Annual Meeting of the Population Association of America, Philadelphia, April 2005.

Bongaarts, John (2001) 'Fertility and Reproductive Preferences in Post-Transitional Societies', Population and Development Review 27: S260-S281.

Bongaarts, John (1990) 'The Measurement of Wanted Fertility', Population and Development Review 16: 487-506.

Bongaarts, John and Feeny, Griffith (1998) 'On the Quantum and Tempo of Fertility', Population and Development Review 24: 271-292.

Bongaarts, John and Watkins, Susan C. (1996) 'Social Interactions and Contemporary Fertility Transitions', Population and Development Review 22: 639-682.

Bourdieu, Pierre (1985) 'The Forms of Capital', in: John G. Richardson (ed.), Handbook of Theory and Research for the Sociology of Education, New York: Greenwood, pp. 241-258.

Bühler, Christoph and Kohler, Hans-Peter (2004) ‚Der Einfluss starker Beziehungen auf die Nutzung moderner Kontrazeptiva', Zeitschrift für Soziologie 33: 5-25.

Bühler, Christoph and Philipov, Dimiter (forthcoming) 'Foundations of Fertility-Related Social Capital: Theoretical Considerations and Empirical Results for Bulgaria', forthcoming in: Vienna Yearbook of Population Research 2005.

Burt, Ronald S. (1987) 'Social Contagion and Innovation: Cohesion versus Structural Equivalence', American Journal of Sociology 92: 1287-1335.

Burt, Ronald S. (1984) 'Network Items in the General Social Survey', Social Networks 6: 293-339.

Burt, Ronald S. (1982) Toward a Structural Theory of Action. Network Models of Social Structure, Perception, and Action, New York: Academic Press.

Coleman, James S. (1990) Foundations of Social Theory, Cambridge: Belknap Press.

Coleman, James S. (1988) 'Social Capital in the Creation of Human Capital', American Sociological Review 94: S95-S120.

Cox, Donald, Emmanuel, Jimenez and Wlodek, Okrasa (1997) 'Family Safety Nets and Economic Transition: A Study of Worker Households in Poland', Review of Income and Wealth 43: 191-209.

Degenne, Alain, Lebeaux, Marie-Odile and Lemel, Yannick (2004) 'Does Social Capital Offset Social and Economic Inequalities? Social Capital in Everyday Life', in: Henk Flap and Beate Völker (eds.), Creation and Returns of Social Capital. A New Research Program. London and New York: Routledge, pp. 51-73.

Diekmann, Andreas and Voss, Thomas (2004) ‚Die Theorie rationalen Handelns', in: Andreas Diekmann and Thomas Voss (eds.), Rational-Choice-Theorie in den Sozialwissenschaften, München: Oldenbourg, pp. 13-29.

Emerson, Richard M. (1976) 'Social Exchange Theory', Annual Review of Sociology 2: 335-362.

Entwisle, Barbara, Rindfuss, Ronald R., Guilkey, David K., Chamratrithirong, Aphichat, Curran, Sara R. and Sawangdee, Yothin (1996) 'Community and Contraceptive Choice in Rural Thailand: A Case Study of Nan Rong', Demography 33: 1-11.

Eurostat (2005): Population and Social Conditions: Data, Population, Fertility, Fertility Indicators, http://epp.eurostat.cec.eu.int, June 2005

Fischer, Claude S. (1982) To Dwell Among Friends. Personal Networks in Town and City, Chicago: University of Chicago Press.

Flap, Henk (2004) 'Creation and Returns of Social Capital', in: Henk Flap and Beate Völker (eds.), Creation and Returns of Social Capital. A New Research Program. London and New York: Routledge, pp. 3-23.

Flap, Henk (2002) 'No Man is an Island', in: Olivier Favereau and Emanuel Lazega (eds.), Conventions and Structures in Economic Organization: Markets, Networks and Hierarchies, London: Edward Elgar, pp. 29-59.

Fratczak, Ewa (2004) 'Family and Fertility in Poland - Changes during the Transition Period', paper presented at the conference Demographic Changes and Labour Markets in Transition Economies, Hitotsubashi University a Sano Shoin Kunitachi, Tokyo, Japan, February, 2004.

Fratczak, Ewa and Peczkowski, Marek (2002) The Evaluation of Changes in Attitudes and Reproductive Behaviors of Young and Middle Generations Female and Male Poles and their Influence on the Process of Family, Union Household Formation, and Dissolution. SAS User's Guide. Institute of Statistics and Demography SGH, Warsaw School of Economics and SAS Institute Poland, Warsaw.

Freeman, Linton C. (1979) 'Centrality in Social Networks: I. Conceptual Clarifications', Social Networks 1: 215-239.

Friedkin, Noah E. (1993) 'Structural Bases of Interpersonal Influence in Groups: A Longitudinal Case Study', American Sociological Review 58: 661-872.

Friedkin, Noah E. (1982) 'Information Flow through Strong and Weak Ties in Intraorganizational Social Networks', Social Networks 3: 273-285.

Friedman, Debra, Hechter, Michael and Kanazawa, Satoshi (1994) 'A Theory of the Value of Children', Demography 31: 375-401.

Giza-Poleszczuk A. (2000) 'Przestrzen spoleczna', in: A. Giza-Poleszak, M. Marody and A. Rychard A. (eds.), Strategie i system. Polacy w obliczu zmiany społecznej, Warszawa: Wydawnictwo IFiS PAN, pp. 97-162.

Granovetter, Mark S. (1973) 'The Strength of Weak Ties', American Journal of Sociology 78: 1360-1380.

Hechter, Michael and Kanazawa, Satoshi (1997) 'Sociological Rational Choice Theory', Annual Review of Sociology 23: 191-214.

Hofferth, Sandra L., Boisjoly, Johanne and Duncan, Greg J. (1999) 'The Development of Social Capital', Rationality and Society 11: 79-110.

House, James S. and Kahn, Robert L. (1985) 'Measures and Concepts of Social Support', in: Sheldon Cohen and S. Leonard Syme (eds.), Social Support and Health, San Diego: Academic Press, pp. 83-108.

Kohler, Hans-Peter (2001) Fertility and Social Interactions: An Economic Perspective, Oxford: Oxford University Press.

Kohler, Hans-Peter, Behrman, Jere R. and Watkins, Susan C. (2001) 'The Structure of Social Networks and Fertility Decisions: Evidence from South Nyanza District Kenya', Demography 38: 43-58.

Kohler, Hans-Peter, Billari, Francesco C. and Ortega, Jose A. (2002) 'The Emergence of Lowest-Low Fertility in Europe during the 1990s', Population and Development Review 28: 641-680.

Lin, Nan (2001) Social Capital. A Theory of Social Structure and Action, Cambridge: Cambridge University Press.

Lin, Nan (1999) 'Building a Network Theory of Social Capital', Connections 22: 28-51.

Marsden, Peter V. (1998) 'Diffusion through Social Networks', paper prepared for the workshop Social Processes Underlying Fertility Change in Developing Countries, National Research Council, Commission on Behavioral and Social Sciences and Education, Committee on Population, Washington, D.C., January 29-30, 1998.

Marsden, Peter V. and Friedkin, Noah E. (1993) 'Network Studies of Social Influence', Sociological Methods & Research 22: 127-151.

Miller Warren B. (1995) 'Childbearing Motivation and its Measurement', Journal of Biosocial Science 27: 473-487.

Miller, Warren B. (1994) 'Childbearing Motivations, Desires, and Intentions: A Theoretical Framework', Genetic, Social, and General Psychology Monographs 120: 223-258.

Miller, Warren B. (1986) 'Proception: An Important Fertility Behavior', Demography 23: 579-594.

Miller, Warren B. and Pasta, David J. (1996) 'Couple Disagreement: Effects on the Formation and Implementation of Fertility Decisions', Personal Relationships 3: 307-336.

Miller, Warren B. and Pasta, David J. (1993) 'Motivational and Nonmotivational Determinants of Child-Number Desires', Population and Environment 15: 113-138.

Mitchell, J. Clyde (1973) 'Networks, Norms, and Institutions', in: Jeremy Boissevain and J. Clyde Mitchell (eds.), Network Analysis: Studies in Human Interaction, The Hague and Paris: Mouton, pp. 2-35.

Montgomery, Mark R. and Casterline, John B. (1996) 'Social Learning, Social Influence, and New Models of Fertility', Population and Development Review 22: S151-S175.

Montgomery, Mark R. and Casterline, John B. (1993) 'The Diffusion of Fertility Control in Taiwan: Evidence from Pooled Cross-Section Time-Series Models', Population Studies 47: 457-479.

Morgan, S. Philip (2003) 'Is Low Fertility a Twenty-First-Century Demographic Crisis?', Demography 40: 589-603.

Morgan, S. Philip (1981) 'Intention and Uncertainty at Later Stages of Childbearing: The United States 1965 and 1970', Demography 18: 267-285.

Philipov, Dimiter and Dorbritz, Jürgen (2003) Demographic Consequences of Economic Transition in Countries of Central and Eastern Europe. Strasbourg: Council of Europe Publishing.

Philipov, Dimiter and Shkolnikov, Vladimir (2001) 'Fertility Intentions and Coping Strategies: Results from the 1988 Round of the Russian Longitudinal Monitoring Survey', paper presented at the Annual Meeting of the Population Association of America, Washington, D.C., March 2001.

Philipov, Dimiter, Spéder, Zolt and Billari, Francesco C. (2004) 'Fertility Intentions and Their Timing: Theory and Evidence from Bulgaria and Hungary', paper presented at the Annual Meeting of the Population Association of America, Boston, April 2004.

Portes, Alejandro (1998) 'Social Capital: Its Origins and Applications in Modern Sociology', Annual Review of Sociology 24: 1-24.

Puttnam, Robert D. (1993) Making Democracy Work. Civic Traditions in Modern Italy, Princeton: Princeton University Press.

Quesnel-Vallée, Amélie and Morgan, S. Philip (2003) 'Missing the Target? Correspondence of Fertility Intentions and Behavior in the U.S.', Population Research and Policy Review 22: 497-525.

Rogers, Everett M. (1995[4]) Diffusion of Innovations, New York: The Free Press.

Rosero-Bixby, Luis and Casterline, John B. (1994) 'Interaction, Diffusion and Fertility Transition in Costa Rica', Social Forces 73: 435-462.

Schoen, Robert, Astone, Nan Marie, Kim, Young J., Nathanson, Constance A. and Fields, Jason M. (1999) 'Do Fertility Intentions Affect Fertility Behavior?', Journal of Marriage and the Family 61: 790-799.

Schweizer, Thomas (1996) Muster sozialer Ordnung. Netzwerkanalyse als Fundament der Sozialethnologie, Berlin: Dietrich Reimer Verlag.

Sik, Endre (1995) 'Network Capital in Capitalist, Communist, and Post-Communist Societies', The Helen Kellogg Institute for International Studies, University of Notre Dame, Working Paper 212.

Stanczak, Joanna (2002): 'Analytical Report 2001', in: UNICEF Innocenti Research Centre (ed.), Poverty and Welfare Trends in Poland over the 1990s. Country Paper. UNICEF Innocenti Research Centre, Florence, pp. 2-10.

Valente, Thomas W., Watkins, Susan C., Jato, Miriam N., van der Straten, Ariane and Tsitsol, Louis-Philippe (1997) 'Social Network Associations with Contraceptive Use among Cameroonian Women in Voluntary Associations', Social Science & Medicine 45: 677-687.

van der Poel, Mart G.M. (1993) 'Delineating Personal Support Networks', Social Networks 15: 49-70.

Wellman, Barry (1992) 'Which Types of Ties and Networks Provide what Kinds of Social Support?', in: Edward J. Lawler, Barry Mankovsky, Cecilia Ridgeway and Henry A. Walker (eds.), Advances in Group Processes 9, Greenwich: JAI Press, pp. 207-235.

Worach-Kardas, Halina (1983) 'The Polish Family Tradition', The Gerontologist 23: 593-596.

Table 1
Respondent's intentions to have a child by the number of children belonging to the respondent (natural, adopted, or fostered)

Intention to have a child	Number of children					All respondents
	0	1	2	3	4 or more	
Definitely yes	20.7	4.2	1.4	0.4	--	3.2
Yes	52.2	32.4	6.5	1.8	--	14.6
No	19.6	27.8	49.5	50.0	45.7	41.8
Definitely not	1.1	12.0	28.0	40.4	48.0	26.4
Hard to say	6.5	23.6	14.7	7.5	6.3	14.1
Total	100.1	100.0	100.1	100.1	100.0	100.1
N	92	309	511	228	127	1,267[a]

[a] 86 respondents did not answer the question about their intentions to have a first or another child.

Table 2
Variables used in the multivariate analyses
(means and standard deviations)

Variable	Description	Number of children		
		0	1	2
Dependent variable				
Fertility intention	Intention to ever have a first or another child (1 = 'yes' or 'definitely yes', 0 = 'no' or 'definitely not')	0.76 (0.432)	0.49 (0.501)	0.09 (0.289)
Characteristics of communication networks:				
Communication about children	Number of network partners with whom the respondent talked about children during the last year	2.23 (2.063)	2.25 (1.850)	2.26 (1.782)
No communication about children	The respondent did not talk about children during the last year (1=yes, 0=no)	--	0.09 (0.282)	0.10 (0.296)
Peers with at least one child	Number of people in the respondent's communication network about children that meet him or her at least once a month and that have at least one child	1.04 (1.436)	1.30 (1.362)	1.41 (1.464)
Peers with one child	Number of people in the respondent's communication network about children that meet him or her at least once a month and that have one child	0.31 (0.744)	0.49 (0.786)	0.28 (0.608)
Peers with two children	Number of people in the respondent's communication network about children that meet him or her at least once a month and that have two children	0.44 (0.815)	0.49 (0.874)	0.68 (1.000)
Peers with three or more children	Number of people in the respondent's communication network about children that meet him or her at least once a month and that have three or more children	0.29 (0.839)	0.33 (0.708)	0.45 (0.861)
Similar network partners	Number of people in the respondent's communication network about children who have the same number of children as the respondent and who are up to three years younger or older like he or she	0.23 (0.508)	0.26 (0.622)	0.29 (0.568)
Similar network partners with one child more	Number of people in the respondent's communication network about children who have one child more as the respondent and who are up to three years younger or older like he or she	0.05 (0.222)	0.09 (0.413)	0.10 (0.317)
Social capital:				
No network partner gave support	No network partner gave support to the respondent during the last year (1=yes, 0=no)	0.33 (0.474)	0.36 (0.481)	0.40 (0.490)
Number of nwps that gave support	Number of network partners that gave support to the respondent during the last year (empty networks included)	.50 1.552)	.54 1.638)	.26 1.421)
No network partner received support	No network partner received support from the respondent during the last year (1=yes, 0=no)	.58 0.497)	.71 0.454)	.62 0.486)
Number of nwps that received support	Number of network partners that received support from the respondent during the last year (empty networks included)	.87 1.333)	.63 1.279)	.75 1.229)
Couple's characteristics:				
Wife's age:				
18 – 24	Female respondent or the wife of a male respondent is 18 to 24 years old (1=yes, 0=no)	.33 0.474)	.17 0.379)	.03 0.160)
25 – 29	Female respondent or the wife of a male respondent is 25 to 29 years old (1=yes, 0=no)	.38 0.490)	.31 0.465)	.14 0.343)
30 – 34	Female respondent or the wife of a male respondent is 30 to 34 years old (1=yes, 0=no)	.08 0.268)	.24 0.425)	.25 0.431)
35 – 44	Female respondent or the wife of a male respondent is 35 to 44 years old (reference category)	.21 0.406)	.28 0.450)	.59 0.492)

Continued on the next page

Table 2 (continued)				
Female respondent	Respondent is female	.46 0.502)	.60 0.492)	.60 0.491)
Religious person	Religion is ‘very important’ or ‘rather important’ in respondent’s life (1=yes, 0=no)	.73 0.446)	.83 0.375)	.88 0.329)
Wife’s education	Years wife spent in the educational system	3.32 2.446)	2.75 2.566)	2.33 2.486)
Husband’s education	Years husband spent in the educational system	2.92 2.796)	2.43 2.539)	1.96 2.422)
Husband and wife are working	Husband and wife are employed or self-employed (1=yes, 0=no)	.76 0.432)	.60 0.491)	.61 0.488)
Rural area or small city	Respondent lives in a village or in a small town with less than 20,000 inhabitants	.50 0.503)	.47 0.500)	.59 0.493)
N		78	208	382

Table 3
Determinants of fertility intentions: couples' characteristics, structures of interpersonal influence and access to fertility-related social capital (logit regressions)

	Number of children					
	0		1		2	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
Couple's characteristics						
Wife's age:						
18 – 24			2.766***	2.608***	1.583	1.511
			(0.723)	(0.694)	(1.305)	(1.372)
25 – 29	.027***	.945***	3.648***	3.507***	1.257*	1.270*
	(1.020)	2.447)	(0.709)	(0.665)	(0.744)	(0.746)
30 – 34			2.199***	2.140***	1.434**	1.545***
			(0.735)	(0.711)	(0.569)	(0.576)
Female respondent	0.579	0.110	–0.337	–0.269	–0.350	–0.182
	(0.484)	(0.921)	(0.306)	(0.306)	(0.257)	(0.272)
Religious person	1.083	0.649	1.517***	1.399**	--[a]	--[a]
	(1.017)	(1.091)	(0.548)	(0.564)		
Wife's education	–0.211	–0.440	–0.068	–0.074	–0.175	–0.155
	(0.231)	(0.454)	(0.092)	(0.090)	(0.147)	(0.152)
Husband's education	0.600**	1.397**	0.200	0.192	–0.003	0.010
	(0.236)	(0.554)	(0.155)	(0.158)	(0.142)	(0.142)
Husband and wife are working	–1.222	--[a]	0.740*	0.748*	0.716	0.773
	(1.419)		(0.419)	(0.417)	(0.551)	(0.551)
Rural area or small city	–0.061	–1.976	0.731*	0.692*	0.048	0.034
	(0.907)	(1.777)	(0.418)	(0.414)	(0.602)	(0.592)
Characteristics of communication networks:						
Communication about children	–0.046	--	0.034	--	–0.051	--
	(0.266)		(0.121)		(0.124)	
No communication about children	--	--	--	–0.733	--	–1.330
				(0.820)		(1.093)
Peers with at least one child	--	–1.905***	--	–0.121	--	–0.236*
		(0.521)		(0.166)		(0.138)
Similar network partners	--	4.537**	--	–0.066	--	–0.209
		(1.852)		(0.354)		(0.397)
Social capital:						
No network partner gave support	0.498	–0.430	0.609	0.713	–1.219*	–0.979
	(1.258)	(1.949)	(0.620)	(0.641)	(0.706)	(0.708)
Number of nwps that gave support	0.238	0.384	0.324*	0.409*	0.044	0.126
	(0.308)	(0.653)	(0.195)	(0.227)	(0.176)	(0.170)
No network partner received support	--[b]	--[b]	0.986	0.998	0.321	0.267
			(0.797)	(0.784)	(0.765)	(0.770)
Number of nwps that received support	0.208	–1.020	0.688*	0.670**	0.358	0.329
	(0.499)	(0.665)	(0.356)	(0.335)	(0.256)	(0.246)
Constant	–6.339	–10.440**	–7.592***	–7.473***	–1.451	–1.797
	(4.392)	(4.584)	(1.944)	(2.035)	(1.650)	(1.564)
L	–23.028	–11.043	–97.001	–96.425	–95.103	–93.272
χ^2 (df)	38.03 (12)	99.39 (11)	45.54 (14)	47.76 (16)	30.81 (13)	45.08 (15)
	78	75	208		382	

[a] excluded due to perfect prediction
[b] excluded due to collinearity
Levels of significance: * ≤ 0.1; ** ≤ 0.05; *** ≤ 0.01.
Unstandardized coefficients and robust standard errors in parentheses.

Table 4
Determinants of fertility intentions: Effects of the number of peers in respondents' communication networks about children that have one child, two, or three or more children (logit regressions)

	0	1	2
Characteristics of communication networks:			
eers with one child	6.602**	0.001	–0.385
	(2.605)	(0.366)	(0.285)
eers with two children	0.543	–0.169	–0.255
	(0.800)	(0.216)	(0.161)
eers with three or more children	–7.481***	–0.131	–0.058
	(1.006)	(0.340)	(0.451)
	75	208	382

Levels of significance: * ≤ 0.1; ** ≤ 0.05; *** ≤ 0.01.
Unstandardized coefficients and robust standard errors in parentheses.
Note: The models presented in this table consider the same set of covariates that characterize the couple and the number of similar network partners as in table 3. However, to facilitate the presentation of the results, only the effects of the number of peers with one, two, and three or more children are reported.