Social Capital and Fertility Intentions: The Case of Poland

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Abstract
The material situation of the household is one basic determinant of fertility decisions. Within demographic research, this situation is primarily expressed in terms of monetary income and wealth. However, beside economic capital also social capital may be an important factor for fertility-related decision making and behavior, especially in societies that face economic uncertainty. The paper explores the impact of the availability of social capital on individual fertility intentions in Poland in 2001. Social capital is measured with the help of individual embeddedness in networks of giving and receiving support. Results based on 311 married respondents that are at risk to get a second child show a positive influence of the size of these networks on fertility intentions. This influence is on the hand caused by the number of parents in these networks, but on the other hand also by the number of supportive friends and colleagues.

1. Introduction

Trends of declining fertility and of fertility rates at or below replacement level are becoming a worldwide phenomenon (Morgan, 2003; Bongaarts, 2002; Kohler et al., 2002). Over a short period, the number of countries in which fertility levels do not ensure generation-to-generation replacement has grown. In particular, the last decade of the 20th century brought about, quite unexpectedly, a decline in fertility to an extent that compelled the UN to verify the assumptions adopted for global population projections in two subsequent years, 2001 and 2002 (United Nations, 2003). Two general processes are responsible for this trend. Increasing direct and indirect costs of having children (Becker, 1981), especially caused by the incompatibility of work and familial obligations for women (Rindfuss et al., forthcoming), and the spread of value orientations like individualism, postmaterialism, symmetric gender roles, or female emancipation (Lesthaeghe and Willems, 1999) that challenge traditional models of family and fertility.

In the light of these processes, childlessness should be a rational decision for women and couples. However, people still intend to have children and they still get children. Also in modern societies children bring benefits to their parents; less in a material sense, but by providing them with highly evaluated intrinsic goods. The first child gives its parents the opportunity to love and to care for someone, to improve the relationship between the couples, or to reduce uncertainties in parent's and especially in mother's life (Friedman et al., 1994; Bulatao, 1981). The second child completes the family, i.e. it is the keystone to fulfil to the ideal type of a two-child family, which can still be found in many modern societies (Goldstein et al., forthcoming). Children may also indirectly generate material benefits for their parents by increasing the willingness of the social environment to support the family (Schoen et al., 1997). On the other hand, institutional contexts outside the labor market tone down the incompatibility of work and familial obligations for women and therefore lessen the costs of having children. These contexts include the quality and accessibility of childcare, flexible work schedules, transfer payments and social benefits that ensure the economic security of a household, changing gender roles with the consequence that men take over duties of childcare and housework, and the stability of marriages and partnerships (DiPrete et al., forthcoming).

Within this paper, we like to add a further context to the list of factors that reduce the costs of having children: the existence of a supportive social environment that generates a stock of fertility-related social capital. Within demographic research, social networks are primarily concerned in connection with communications about fertility and family planning in contexts of high fertility (see for example Bühler and Kohler, 2004; Kohler, 2001; Montgomery et al., 2001; Valente et al., 1997; Entwisle et al., 1996; Rogers and Kincaid 1981). However, social networks do not only transfer communicative contents. They may also be valuable sources of resources for money, time, physical strength, assistance, goods, services, or power. People are aware of the

availability of these resources in their social environment and they therefore use them actively to reach particular goals, like for example rearing and educating children. The active use of the social environment becomes especially evident in situations in which the institutional contexts of public child care, work schedule regulations, as well as of transfer payments and social benefits are cut down or are significantly reorganized as it happened or is still happening in many Central- and Eastern European countries. Therefore, studies from Russia, Hungary and Bulgaria show that supportive social environments have positive influences on fertility intentions, especially on the intentions to have a second child (Buehler and Philipov, 2004; Philipov et al., 2004; Philipov and Shkolnikov 2001). However, more insights from other countries with different institutional settings and a closer look at the mechanisms of social networks is needed to receive a better picture of the relevance of a supportive social environment for fertility decisions.

This paper wants to contribute to this agenda. It explores how much the availability of social capital, measured by the number of supportive relationships in an individual's personal network, has an influence on the individual's fertility intentions. This is done on the background of the significant social, economic, and demographic changes in Poland. Poland is of interest due to several reasons. Similar to other Central and Eastern European countries, it faced a serious decline of fertility after the breakdown of Socialism.[1] At the same time, the costs of having children increased significantly because of cut downs of transfer payments and social benefits, and because of increasing unemployment and unstable employment situations. However, there is also a tradition of mutual help and support between individuals and households that help to get things done and to cope with difficult situations. On the other hand, Poland's economy and society developed very well after the breakdown of Socialism and they were able to fulfill the criteria of EU-membership in a relatively short period. However, the high costs of having children remained.

After this short introduction, the subsequent chapter presents some background information about the increasing costs of having children and the relevance of supportive social networks in the Polish society after the breakdown of Socialism. A systematic understanding of the relevance of social networks for fertility decisions can only take place on the basis of a coherent theoretical model. Therefore, the third chapter presents a theoretical sketch about the influence of social networks on purposeful fertility-related decision-making. The empirical section of the article starts with an introduction of the data (chapter 4), followed by a description of the variables used in the analyses (chapter 5). All empirical analyses rest on data from the survey "The Evaluation of Changes in Attitudes and Reproductive Behaviours of Young and Middle Genera-

[1] The Total Fertility Rate (TFR) declined between 1989 and 2001 from 2.1 to 1.3 (Council of Europe, 2002)

tions Female and Male Poles and Their Influence on the Process of Family, Union, Household Formation and Dissolution", which was carried out in 2001 and which covers a broad variety of information about the demographic behavior of Polish citizens aged 18 to 54. The empirical analyses in chapter 6 concentrate on estimates of ordered logit regressions on the respondents' intentions to have a second child. According to the relevance of social capital for these intentions, the results show a positive influence of the degree of embeddedness in a supportive environment, expressed by the number of network partners that give and/or receive support to/from the respondent. However, this influence is not only a matter of the presence of parents in these networks, but also of the number of supportive friends. Chapter 7 summarizes and discusses these results.

2. The Increasing Costs of Having Children in Poland

Poland's fast move from a planned economy embedded in a socialist society to a democracy with a capitalistic economic order was characterized among other things by a deep change of the relationship between the state and its citizens. Within the last fourteen years, state institutions withdraw more and more their responsibilities for the family (household) as well as for the individual and the principle of the omnipresent welfare state was abandoned and replaced by principles of support-giving and solidarity. Most importantly, social benefits from state institutions that were granted to citizens, families, and households and that used to be of significant importance to their financial situation during Socialism were cancelled. Thus, households and individuals became increasingly responsible for their own financial situation and well being. According to family policy, Poland switched in 1995 from a model of providing permanent support to all families with children to a policy of selective support.[2] Moreover, the current system of family allowances is not a unified one, because different parts of the system were introduced at different periods to meet different contemporary needs. Furthermore, due to the crisis of public finances, capabilities to subsidize family benefits became limited (Balcerzak-Paradowska, 2002, pp. 35) with the consequence that in 2001 the length of maternity leave was reduced and higher income thresholds to receive some categories of family benefits were installed.

Therefore, people in Poland had to learn during a relatively short period how to live in a state that reduces step by step its former universal responsibilities for the welfare of its citizens. Especially parents had to learn how to handle the fact that they become burdened with almost all the costs related to having children. Having a 'low-quality' child, i.e. reducing the expenditures to rear and educate a child, might seem a reasonable alternative. However, reduced incomes,

[2] See Frątczak et al. (2003) for more detailed information about the current and historical perspective of selected legal regulations pertaining to children and family in Poland.

cancelled tax relieves, restricted social services, and restricted financial and in-kind benefits caused that also having 'children of low quality' is associated with serious outlays. In many cases, these costs are beyond the financial capacity of an average family.

Beside the fact that parents have to deal with the problem of rising direct costs of having children they also have to deal with increasing uncertainties of their income from labor due to unstable labor markets and increasing unemployment. The unemployment rate increased from 14.0% in 1993 to 19.9% in 2002. The share of unemployed people increased in all age groups of the labor force, but people at childbearing age, this means in Poland primarily between 20 and 30, suffer especially from this problem. In 1993 already high numbers of men between 20 and 24 (28,2%) and between 25 and 29 (14.1%) were unemployed. The same holds for women with a proportion of 31.7% and 18.5%. However, this share increased for men to 44,5% (aged 20 to 24) and 23.0% (aged 24 to 29) and for women to 46.1% and 24.5% in 2002. Although, a considerable number of unemployed people in these age groups are students in reality, a still high number of unemployed young people remains.

Taken these aspects together, one has to conclude that the transition period in Poland was characterized by significant changes in the institutional arrangements that reduce the costs of having children. Sources of monetary and non-monetary social benefits, like from state companies, disappeared and transfer payments by the state were reorganized or cut down. New legal regulations or alterations of public services excluded individuals from resources that were guaranteed during Socialism. Furthermore, significant changes in the labor market led to a destabilization of income from labor due to a devaluation of traditional forms of human capital as well as due to unstable employment situations and high unemployment. Because of these developments, another context became important: the embeddedness in supportive exchange networks.

Network related help and support is a distinctive mark of Poland as well as of many other Central and Eastern European countries, which has its roots in pre-communist times (Sik, 1995). Due to an underdeveloped infrastructure, a low standard of living, and people's orientation towards household and kinship, mutual help and support was a common strategy of coping and getting things done at the beginning of the 20th century. This was also the case during Socialism. Because of male-functions of the command economy and clientilism of state bureaucracy, social networks were an important source of resources. After the breakdown of the socialist system in Poland, the character of the utilization of social networks has changed. Under communism, seeing the considerable ineffectiveness of the system of public institutions, social networks played the basic role in determining opportunities to reach individual goals. They were created as a by-product of the official, formal systems of social roles and therefore they had a destructive impact on the functioning of the whole system. Starting with the transition period, the meaning of social networks becomes twofold. On the one hand, it became an intermediary institution between the

individual and the state, which is built up on local communities, releasing the burden of public institutions and encouraging decentralization of the system (Giza-Poleszczuk, 2000). On the other hand, they remained as an important coping strategy. This is because social networks build a source of resources that is to some extend independent from markets, transfer payments, and social benefits. Supportive social networks rest on exchange relationships as well as on group-specific norms and obligations of help and support. These informal social structures are inert and they therefore react only slowly on changes in markets or institutional regulations (Sik, 1995). Social relationships also rest on emotional and affective moments, which has a serious impact on the willingness of the relationship partners in exchanging resources. The resources that are available for an individual depend of course on the one side on the individual situations of the network partners, but on the other side, they also depend on the characteristics of the relationships with the individual. Finally, network members may evaluate an individual's provision with resources in a different way as markets do and they might therefore offer profitable ways of making use of abilities and resources that cannot be exchanged on markets. Consequently, social networks do not offer only opportunities for coping, but also for actively improving one's situation.

3. Theoretical considerations: Social networks and cost-benefit considerations of having children

Social networks matter for individual behavior and decision-making because they give access to the resources of the network partners and build individual social capital. They therefore influence the means one can use to reach a particular goal. However, they also have an effect on individual cost-benefit calculations by shaping a decision-maker's subjective perceptions of utilities (Carley, 2001; Burt, 1982). Both aspects are relevant to understand the influence of social networks on fertility-related behavior and they are therefore briefly discussed in the following.

3.1 Social relationships and subjective perceptions of utility

Individuals want to choose the alternative of action that promises the highest expected utility. A decision-maker's perception of the utilities of different alternatives of action depends on various aspects: The information she has about these alternatives, normative behavioral expectations that are associated with particular courses of action, and her instrumental values. Knowledge about the expected costs and benefits of alternatives of action are a basic requirement for purposeful decision making. Communicative social relationships are important in this context, because they are a central source of information, experiences, and evaluations (Montgomery and Casterline, 1996; Rogers, 1995). People learn about a topic during communications and they adjust their subjective cost-benefit calculations accordingly. However, communications also always pass

normative behavioral expectations that are related to a topic (Mitchell, 1969). These expectations influence utility perceptions directly. Alternatives of action that correspond to existing norms promise to increase utility, because they are rewarded by the social environment. Decisions that contradict existing norms promise to be costly due to negative sanctions. Finally, social networks influence the instrumental values of individuals by conveying the desirability of particular aims and the means how general intrinsic values, like wealth, well being, or certainty (Friedman et al., 1995; Lindenberg, 1984), can be reached. Patterns of social relationships define positions within a social structure. Each position is combined with specific rights and with specific access to resources. As instrumental values depend on the resources an individual can use, different positions are associated with different instrumental values and consequently lead to different perceptions of the utility of a particular behavior (Lindenberg, 1992). Moreover, actors in similar positions are in similar and consequently comparable living situations. This leads to the situation that if actors change their behavior other actors in similar positions will adopt this new behavior if they perceive that it generates utility for them (Marsden, 1998; Friedkin 1993).

Within the research on fertility related behavior, the impact of social networks on subjective perceptions of utility is primarily discussed within the context of fertility decline in developing countries and during the first demographic transition in Europe (see for example Bongaarts and Watkins, 1996). It is one characteristic of these processes that the decline of fertility was less induced by the availability of contraceptives rather than by a change of subjective cost-benefit calculations of contraceptive use and changing values on high fertility, children, and the role of women in society. Research on the macro-level as well as on the micro-level shows that these new evaluations of contraceptives and fertility diffuse within societies and cultures on the bases of interpersonal communication networks (see for example Kohler, 2001; Montgomery and Casterline, 1996; Rosero-Bixby and Casterline, 1994; Montgomery and Casterline, 1993). Within these networks, people do not only communicate information, evaluations, and experiences, they also learn about normative expectations that are associated with this new fertility-related behavior (Kohler et al., 2001). Moreover, experiences and behaviors of people in similar living situations are especially relevant in this process. This holds for the adaptation of contraceptives in developing countries like Kenya (Buehler and Kohler, 2004) as well as for the timing of childbirth and the emergence of low fertility in western societies (Kohler et al., 2002).

3.2 Social relationships and social capital

The costs and the availability of means to put a particular decision into action significantly influence the outcome of a purposeful decision-making process. Both aspects depend on an individual's pool of resources, i.e. her financial and human capital, her physical and mental strength, her rights to receive public transfers or assistance due to legal regulations, and her social

capital. In principal, the term ‘social capital’ means all resources an individual has access to through her social relationships. This covers resources that are directly possessed or controlled by primary network partners or that can be acquired indirectly through the relationships of these network partners (Flap, 2002; Lin, 2001; Astone et al., 1999). Social capital is therefore an expression of the personal relationships between an individual and her network partners as well as of the structure of the wider social network, in which the individual and her network partners are embedded in.

The resources that are accessible through social relationships might be very different like goods, services, power, influence, assistance, or information. However, not every resourceful relationship contributes to an individual’s stock of social capital. Only relationships that provide resources that are relevant for an individual to reach a certain goal or a general purpose generate social capital. Consequently, people profit especially from relationships that provide them with general resources like money, time, or influence, because these resources can be used for various purposes. Moreover, social capital can be an unintended byproduct from other activities (Puttnam, 1993; Coleman, 1988). People start to pursue new goals and existing relationships become unexpectedly valuable sources of resources.

The value of social capital depends on two aspects: the ability of network partners to give resources and their willingness to give these resources in a particular amount and quality (Portes, 1998). Ability means that an individual can only use resources from relationships that are present. Each network partner is a potential source of resources and therefore an individual’s social capital increases with the range of her personal network, i.e. with the number (Flap, 2002; Bourdieu, 1985) and the heterogeneity of network partners (Burt, 1983). Willingness means that network partners need to be motivated to give their resources to an individual. The higher the motivation the higher the amount and value of the accessible resources. Expectations of the network partners of having a fair exchange with the individual are one source of this motivation. People may also be motivated by group specific norms of mutual help and support. These norms often emerge from systems of generalized exchange. Within these systems, an individual gives resources to her network partners without expecting a direct repayment from them. However, she expects to be supported by other network members in the case that she needs help or assistance.

The aspects of availability and willingness also imply that people invest in their social capital. They can improve the availability of resources by building new social relationships, which again lead to changes in the wider network they are embedded in. They can also actively increase the willingness of their network partners to give resources by intensifying certain relationships and by supporting other group members, which again maintains the structure and the norm of generalized exchange within the group.

3.3 Network size, social support, and fertility intentions

To receive a comprehensive understanding of the influence of social capital on individual fertility-related behavior, the various aspects of availability and willingness have to be considered. However, the following remarks and empirical analyses will be confined to the aspect of availability, indicated by the number of network partners that are involved in supportive exchange relationships with an individual. This is done, because availability is the prerequisite of social capital. It has to be analyzed first to take subsequent steps for a more detailed exploration of the relationship between social capital and fertility.

Research about social networks repeatedly addresses the relevance of network size for the availability of social support. A common result is that large networks are more supportive than small ones (House and Kahn, 1985). This is not only because of the larger number of potentially supportive network partners, but also because larger networks indicate a well functioning social environment that is able and willing to give support (Wellman, 1992). Moreover, large networks tend to consist of more heterogeneous people than smaller ones and they therefore tend to provide resources of a greater variety. However, there is a diminishing return of network size. Each new network member offers in part resources already offered by other network members (Swann, 2002; van der Poel, 1993). The maximization of potential resources might also be counterproductive. A high number of helping people might impede each other. In many cases, it is more important to have one or two supporting network partners as to have many of them (van der Gaag and Snijders, 2002). This is also supported by the fact that small networks are characterized by a higher multiplexity of relationships. Each network member gives more and different kinds of support (Wellman and Frank, 2001).

The ability to have a network with resourceful network partners is also an expression of the unequal distribution of opportunities to establish and maintain relationships. One has to meet resourceful people to generate a valuable stock of social capital. These opportunities depend on an individual's position in the social structure (Lin, 1999) as well as on her contexts of living, like the family, the neighborhood, the working place, clubs, or associations (Marsden, 1990; Feld, 1981; Blau, 1977). Furthermore, people have only limited possibilities to actively establish social relationships. On the one hand, relationships to acquired network partners like family members, colleagues, or neighbors bind resources. On the other hand, people can only invest the resources they possess due to their economic, cultural, and human capital.

Research about the influence of social capital on fertility intentions in Russia, Bulgaria and Hungary shows that the availability of at least one helpful network partner has a positive impact on women's intention to have a second child (Philipov et al., 2004; Philipov and Shkolnikov, 2001). More detailed analyses for Bulgaria report about significant effects of the sizes of different kinds of supportive networks on women's general intention to have a second child.

However, the timing of the birth of the second child is not influenced by the availability of network support (Buehler and Philipov, 2004). Up to now, there is no knowledge about the influence of social capital on fertility-related behavior in Poland. The literature offers only some general insights about the characteristics and meanings of supportive networks during the transition period. Data from 1993 document the significance of family members and especially of parents as sources of resources within supportive networks (Giza-Poleszczuk, 2000). Parents are the primary source of money and of support in kind, like for example in the form of childcare, even if their children are adults. The willingness to give resources increases if grandchildren have to be supported. In general, parents support their children in the economic sphere (financially and in kind) whilst children provide support for their parents in the public sphere. Parents give support to increase the life chances of their children whilst children support their parents only in critical situations.

3.4 The influence of social capital on fertility: two hypotheses

A decision to have a child is a decision with long-term consequences. Under the assumption that this decision is purposefully and considers the costs of having a child, its outcome depends, among other things, on the decision-maker's current and future pool of resources. Similar to the income hypothesis in family economics one can hypothesize that the more resources this pool contains or will contain the higher the decision-maker's intention to have a child. Social capital builds one part of this pool. A basic determinant of the value of social capital is the availability of supportive network partners, expressed by the number of people that are engaged in the exchange of supportive resources with an individual. Two basic categories of support are money and non-monetary resources, like for example tools, food, time, or assistance. The availability of these resources has an impact on an individual's living conditions and consequently it should have an influence on her fertility-related intentions. Therefore, one can hypothesize that the larger the number of network partners that give support to an individual the higher her intention to have a child.

However, the availability of supportive network partners depends on the one hand on opportunities to establish relationships with these people, but on the other hand it depends also on investments in these relationships. The more an individual invests, i.e. the more network partners she supports, the more sources of future support she has. Supportive relationships have often the character of long-term exchange processes between the relationship partners. Thus, giving resources to an exchange partner maintains the relationship and may give future access to the resources the exchange partner controls. Therefore, a second hypothesis can be formulated: the larger the number of network partners that are supported by an individual the higher her intention to have a child.

4. Data

The empirical analyses rest on data from the first wave of the panel 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.[3] The purpose of the survey is to receive a better understanding of the determinants of the significant changes in demographic behavior in Poland after the end of Socialism. Thus, the first wave concentrates on two general topics: the retrospective reconstruction of histories of education, employment, migration, partnership, and fertility and the investigation of the importance of norms, values, social networks, and attitudes for current and future family-related as well as fertility-related behaviors.

The Sample consists of 3,348 respondents, including 1,724 women and 1,624 men aged between 18 and 54. It was realized by a multistage sampling procedure.[4] The target unit of the sampling procedure was the household. Therefore, not a single household member was randomly chosen at the last stage of the procedure, but all household members aged 18 to 54 were interviewed. This leads to population of individual respondents that are clustered in households. Consequently, robust Huber-White estimators for the calculation of coefficients' standard errors have to be used in the subsequent multivariate analyses.

As the following empirical analyses want to explore the determinants of intended future fertility-related behavior, the population of respondents has to be reduced by three criteria to a group of individuals that were at risk to get a child at the time of the interview. First, because there is a very low probability for men as well as for women that are older than 44 to get a child, respondents above 44 are excluded. Second, although out of wedlock childrearing is increasing in Poland, most births still take place in marriages and consequently the population is restricted to respondents that were married at the time of the interview. Third, to have a clear measurement of future intended fertility-related behavior, all pregnant respondents are excluded as well. Therefore, the empirical analyses will start with a population of 1,296 individuals. However, as the

[3] The research project 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). The second wave will take place in 2005.

[4] Full information about the survey, the sampling scheme, data quality, and the questionnaire can be found

descriptive analyses in chapter 6 will show, this population has finally to be restricted to 311 respondents with one child, i.e. to all respondents that were at risk to get a second child at the time of the interview.

5. Variables

The subsequent empirical analyses use respondents' intentions to have a (another) child to explore the relationship between supportive networks and fertility. This is done primarily due to methodological reasons. The retrospective recording of social capital in the form of transactions and interactions in everyday life leads only to reliable answers if the addressed period does not reach too far in the past. In the Polish retrospective survey, this period was the last year before the interview. However, this limitation causes a small number of observed births in that period. Consequently, it was decided to use a prospective design for the analyses, i.e. to explain fertility related intentions.[5]

Within the questionnaire, a respondent's fertility intention was measured by a question whether he or she plans to have a next child. Possible answers were 'absolutely no', 'no', 'yes', 'definitely yes', and 'difficult to say'. Using the category 'difficult to say' as an neutral category and summarizing the categories 'absolutely no' and 'no' as well as 'yes' and 'definitely yes' into two categories, the answers to this question can be interpreted as an ordinal scaled variable that measures whether the respondent 'wants to have a child', whether she is 'undecided about this', or whether she 'does not want to have a child'. Of course, this variable covers only the general intention to have a (another) child and it gives no information about the intended timing of birth.[6]

Respondent's embeddedness in a supportive social environment was addressed by questions that identified the number and the characteristics of network partners in different kinds of networks. These different networks were typified by different relational contents: conversations about partnership, fertility, contraceptive use, and personal problems as well as transfers of supportive resources in the form of receiving money, non-monetary resources, or help in finding a dwelling. The questions follow a compromise between the two general approaches to measure the amount of social capital either by collecting information about all social relationships of an individual (stock of social capital) or by investigating the purpose-specific use of social relationships (van der Gaag and Snijders, 2002). They asked for all network partners that mattered for a particular relational content during the last year. For example, the number of people that gave

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in Fratczak and Peczkowski (2002).

[5] See Quesnel-Vallée and Morgan (forthcoming), Schoen et al. (1997) as well as Micheli and Bernardi (2003) for critical discussions about the pros and cons of using intentions to explain future fertility-related behavior.

[6] The data also offer information about the timing of intended births. However, for analyses separated by parity the subgroups become too small for meaningful multivariate analyses.

regular or substantive monetary support to the respondent was measured by the question: “From whom did you get non-monetary support, e.g. food, finding a job, keeping the household, providing nursing and care during the past year?” Similar questions were asked for all other relational contents. Moreover, the respondents should also report the network partners that received resources, like money, non-monetary support, and assistance in finding a dwelling. This was done to cover processes of investing in social capital as well as to identify longer lasting exchange relationships. For example, the number of people that received regular or substantive monetary support from the respondent was measured by the question: “Whom did you give monetary support on a regular basis or support with a major expense during the past year?”

Questions about experienced transfers of particular resources have to face a general problem. Respondents’ answers to these questions depend significantly on their own and on their network partners’ demand for these resources during the addressed period. If there was no demand, the respondents report about empty networks. However, this does not imply that these respondents do not posses social capital. Furthermore, people intend to behave in a particular way, because of experienced support in the past and of their expectations to receive support for a particular purpose in future. Both arguments lead to the conclusion that also information about the availability of potentially supportive network partners is needed to receive a more coherent picture of an individual’s social capital. Within the questionnaire, this problem was handled to some extend by additional questions for all respondents that did not name a network partner that gave money and/or non-monetary support. These respondents were asked whether they did not need this kind of support during the last twelve months or whether there was really no supportive network partner present.

For the subsequent empirical analyses, only networks of giving and/or receiving support are considered. As argued in the theoretical chapter, the number of network partners within a supportive network can be used as a simple indicator for the availability of social capital. Therefore, four variables build the starting point of the analyses. Two variables give information about the number of network partners that gave money or non-monetary support to the respondent during the last year before the interview. To cover the availability of network partners that may be supportive in future, two additional variables measure the number of network partners that received money or non-monetary support from the respondent.

Because each member in these four networks can be identified individually, several additional variables about respondents’ embeddedness in supportive exchange relationships are created. First, two variables summarize the number of network partners that gave support to the respondent or that received support from her independently whether money or non-monetary resources were transferred. Second, one variable covers respondents’ overall embeddedness in supportive exchange relationships by summarizing the number of all network partners that were

involved in giving support to and/or receiving support from the respondent. Third, six variables give information about multiplex relationships. Multiplexity means that a relationship is characterized by two or more contents, like the transfer of money and of non-monetary resources. It therefore gives information about more intensive relationships. For all network partners, who gave support to the respondent, three variables are created that document the number of network partners that gave exclusively money, that gave exclusively non-monetary resources, and that gave money and non-monetary resources. Similar variables are created for the network partners that received support from the respondent. Finally, three variables cover the field of reciprocal relationships. Reciprocity means that an individual actor gives resources to a network partner and receives resources directly from her or indirectly from another network partner immediately or in some future. Reciprocity is also an indicator for a more intensive exchange of resources. However, due to the cross-sectional character of the data, only direct exchange relationships can be observed. Therefore, the three variables give information about the number of network partners that exclusively gave support to the respondent, that exclusively received support from her, or that gave and received support from her.

Additional questions collected information about the characteristics of all network partners, who were named within the different networks, as well as about the properties of the relationships between the respondents and these network partners. Respondents were asked to typify each named network partner according to her age, gender, and marital status and to characterize the relationship according to its emotional closeness, the frequency of contact, the spatial distance, the duration of the relationship and the kind of relationship (family member, friend, colleague etc.).

Within the analyses, information about the kind of relationship is used to understand the influence of network size on respondents' fertility intentions in better way. Effects of network size on individual behavior leads always to the question whether these effects are really an expression of the number of network partners or whether they rest on the fact that particular groups of network partners are especially present in small or large networks. This question is of special importance within the context of monetary and non-monetary transfers in Poland. As already mentioned, transfers from parents to their children were the dominant from of supportive relationships in 1993. Therefore, within the summarized networks of network partners that gave support, that received support, and that gave and/or received support four variables report about the number of network partners that belong to the respondent's core family (spouse, children), that are parents and parents-in-law, that are siblings of the respondent or of his/her spouse, and that belong to the respondent's friends and colleagues.

The socio-economic characteristics of the respondent and his/her marriage partner are covered by variables about wife's age, the economic situation of the household, the degree of the respondent's religiosity, and her place of residence. The selection of these variables is not directly theory driven, because they are primarily used as variables to control for general characteristics of the couple. Respondent's (if the respondent is a female) or wife's (if the respondent is a male) age is covered by three dummy variables that represent the age intervals of 18 to 24 years, 25 to 29 years, and 30 to 34 years. The age interval of 35 to 44 years builds the reference category. The data do not offer objective information about the economic situation of the couple and its household. Therefore, two groups of variables are used as indicators. The first group consists of husband's and wife's educational degree, measured by the number of years spent in the educational system. The educational degree indicates the expected income over the life course. Moreover, wife's educational degree also indicates the degree of lost income in the case that she has to leave her employment in order to care for a child. The second group covers the employment situation of the couple at the time of the interview. Two dummy-coded variables report whether the wife and the husband are engaged in any kind of working activity like as an employee, employer, self-employed person etc. The degree of respondent's religiousness is measured by a question about the importance of religion in his/her life. Religiousness is closely associated with the Catholic faith and the Catholic Church. According to the Public Opinion Poll (CBOS) from 2001, 96.0% of the Polish citizens claim to be believers. 96.4% of these believers belong to the Catholic Church. Consequently, people's idea of a family that is based on marriage and children is very much influenced by the values and ideas of the Catholic Church. Finally, one dummy variable represents the respondent's place of residence, i.e. whether 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. However, it has to be expected that there will be no large variation. The fertility patterns in towns and villages became very similar during the transition period (Fratczak, 2004). For many years, starting from 50s, the fertility for people living in the countryside was higher then for those from towns and cities. For example, in 1950 TFR was 3.8 for Poland; 3.4 in towns and 4.1 in countryside, while in 2001 it settled at the levels of 1.3; 1.2; 1.5 respectively.

6. Empirical Results

The empirical results are presented in two parts. At the beginning, descriptive results about the respondents' fertility intentions, as well as about the size and the composition of the different networks of giving and receiving money and/or non-monetary resources are discussed. After-

wards, estimates from ordinal logit regression are presented to explore the impact of the availability of supportive network partners on respondents' fertility intentions.

6.1 Fertility intentions

A first look at the distribution of the fertility intentions shows that the majority (70.4%) of the married respondents aged between 18 and 44 does not want to have a (another) child (see table 1). However, this result rests primarily on the fact that a high number of respondents had already completed their fertility at the time of the interview. 69.3% of the respondents have two or more children and as table 1 shows, there is only a small willingness of this group of respondents to have a third or a fourth child. Only childless respondents show strong intentions to have a child. Having at least one child is something like a norm for married people in Poland and consequently the majority (67.1%) of childless respondents intends to have a first child. The group of respondents with one child is characterized by a heterogeneous distribution of fertility intentions. On the one hand, 33.8% of them intend to have a second child, but on the other hand, 41.6% intend to stop fertility. Moreover, around one fourth is undecided.

TABLE 1 ABOUT HERE

Childless respondents that intend to have a first child plan to get this child in the next future, i.e. within a two years period. However, a large proportion of these respondents (43.3%) intends to have just this single child. Only 41.7% intend to have a second child in some future. Respondents with one child tend to postpone the birth of the intended second child. 59.2% want to have their next child in three years time or later. For most of these respondents, the second child means the end of their reproductive career. Only 15.5% intend to have a third child at least.

The results in table 1 also show that only for the population of respondents with one child meaningful multivariate analyses can be carried out. On the one hand, the number of childless respondents is too small. On the other hand, there is an insufficient variation of the depended variable, i.e. the intention to have a next child, among the respondents with two or more children. Consequently, the following analyses concentrate on the population of 311 respondents with one child.

6.2 Network Size, Multiplex and Reciprocal Relationships, and Network Composition

Figure 1 documents the distribution of the number network partners (network size) within the different networks of giving and/or receiving support. All graphs show that the analyses of the availability of supportive relationships cannot be limited to the number of network partners. Also

the aspect whether the respondent was involved in these activities at all has to be taken into account. This is because around two third (64.0%) of the respondents did not receive regular monetary support (see graph A) and 45.0% were not supported in a non-monetary way from their network partners (graph B) during the last year before the interview. Taken both networks together, 39.6% of the respondents did not receive money and/or non-monetary support (graph C). However, these high shares of empty networks do not lead to the conclusion that a significant part of the respondents does not have the opportunity to receive regular or substantive support. Among the respondents without monetary support, 78.5% reported that they simply did not need this kind of assistance during the last twelve months. The same holds for 81.8% of the respondents without any non-monetary support.

FIGURE 1 ABOUT HERE

Respondents are more receivers than donors of supportive resources. Only 5.1% of them gave regularly money to other people (graph D) and 24.8% provided support in a non-monetary way (graph E). Totally, around one fourth of the respondents (25.1%) was involved in activities of giving support to their network partners (graph F).[7] Taken all networks of giving and/or receiving support together, around two third of the respondents (64.0%) were involved in any of these kinds of transferring supportive resources (graph G).

Although the proportion of empty networks is remarkably heterogeneous between the different networks of giving and receiving support, the mean number of network partners in the non-empty networks is relatively constant and varies around two persons on average (see descriptive statistics in figure 1). The small number of network partners as well as the high number of empty networks are to a large extend caused by the name-generating questions. Respondents were asked to think about regular monetary transfers, about monetary support with a major expense, or about non-monetary support like providing food, finding a job, or providing nursing and care. All these transfers are not ordinary ones and require a substantive amount of resources from the individual that gives this kind of support. Consequently, not every respondent needs these non-ordinary resources within a twelve months period and only a small number of network partners is able and willing to offer these resources to other people. The latter argument is also supported by results from studies in other countries. In Germany for example, one can ask on average 1.5 network partners for lending money (Pfenning 1995), in the U.S. one can ask 2.5 and in Mexico the average number is about 1.5 (Bernard et al. 1990).

[7] No additional questions about the reasons for not giving support were asked and therefore the proportion of respondents with real empty networks cannot be identified.

Multiplex relationships make only a small part of the networks (see table 2). Respondents received on average from 35.2% of their network partners money as well as non-monetary support during the last year. Most of the network partners (48.6%) gave exclusively non-monetary support. A similar pattern can be found for the resources that were given by the respondents. Here, the respondents provided on average 84.5% of their network partners with non-monetary support and only 10.5% were supported in a monetary as well as in a non-monetary way. Due to the fact that the respondents are much more receivers than providers of support, only a small proportion of reciprocal relationships can be identified. On average 14.3% of the network partners gave support to a respondent and received support from her. The majority of network partners (on average 72.4%) exclusively gave support and consequently only a small fraction (on average 13.3%) exclusively received support.

TABLE 2 ABOUT HERE

Finally, table 3 reports the composition of the networks by role relationships. As expected, parents are the dominant source of support. They make on average 68.7% of the network partners that provided money and/or non-monetary support to the respondent. Except the respondent's partner or spouse, who is repeatedly named, all other groups of network partners are of minor importance. Support takes primarily place between family members and kin. Consequently, these groups of network partners make on average 93.3% of the respondents' supportive relationships and they make on average 84.1% of the network partners that received support from her. However, parents or parents-in-law are less often receivers of resources than providers. They make only around one third (36.4%) of the network partners that received support. This population of network partners is relatively heterogeneously composed. The marriage partner, siblings, other relatives, and friends and colleagues are repeatedly named.

TABLE 3 ABOUT HERE

6.3 Multivariate Analyses

The impact of the availability of supportive relationships on respondents' intention to have a second child is analyzed in four steps. First, a baseline model is estimated that considers only the socio-economic characteristics of the respondent and his/her marriage partner (see the model 'baseline' in table 5). In a second step, separate models explore the effects of the numbers of partners in the following networks: receiving money, receiving non-monetary resources, and receiving money and/or non-monetary resources. Because the networks of giving money or non-

monetary resources to the network partners are very small, only the size of the summarized network will be used. The last column in table 5 considers the number of all network partners that gave resources to the respondent and/or received resources from her. A third group of estimations explores the influences of the number of multiplex and reciprocal relationships (table 6) and finally table 7 reports the impact of the networks' compositions with different groups of network partners on the respondents' intentions to have a second child.

All these different networks are characterized by high numbers of respondents that did not report about any transfers of resources. Most of the respondents that did not receive resources did not have been in a situation, in which they needed assistance. A similar situation can be assumed for the respondent that did not give resources to their network partners. Consequently, one has to hypothesize that respondents who did not name a network partner differ systematically from the respondents that named network partners. Therefore, all estimates consider also a dummy variable that indicates whether the respondent did not report about a partner in the particular network.

TABLE 4 AND 5 ABOUT HERE

The results of the baseline model document strong positive effects of the respondent's (if the respondent is a woman) or his wife's (if the respondent is a man) age on the intention to have a second child. This holds especially for the age groups between 18 and 29. Surprisingly, the intention for a second child is not gender specific. There is no effect of female respondents relative to male respondents. However, the variables that cover the human capital of husband and wife document gender-specific results. Husbands, as the principal breadwinners of the family, profit from expected incomes by higher educational degrees, which improves the material basis of their families to have a second child. There is no significant effect of women's educational degree. However, the negative sign of the coefficient can be interpreted that women with higher educational degrees tend to face opportunity costs in the form of lost income if they would get a second child, which consequently lowers their fertility intentions. The variables that indicate wife's and husband's employment situation, i.e. whether they work or not, show both positive and significant effects. Although women's salaries and incomes tend to be much smaller than men's ones, the fact that the wife also generates at least some income through work supports the intention to have a second child.[8] This result also proves that the fact of having an occupation and 'active participation in the labor market' is a very important factor affecting economic stability

[8] Data from October 2002 document that men's earnings were by 20.3 percent higher than women's (Structure of wages and salaries by occupation in October 2002. Information and Statistical Papers,

and limiting uncertainty. What's more, it is a ground for optimism expressed by having a second child. As expected, respondents that perceive themselves as religious are more willing to have a second child in comparison to those who take care of the religion less. Finally, the baseline model also indicates some systematic variation between respondents that live in the countryside and respondents that live in towns or cities, but this variation is not significant.

The models for the different networks of receiving and giving support show for every kind of these networks that a larger number of network partners is positively and significantly associated with a higher intention to have a second child. This holds especially for the number of network partners that gave money to the respondent, but also for the number of network partners that received support from her. Moreover, the variables that indicate that the respondent did not name a network partner show positive effects and in the case of the number of network partners that received support from the respondent this effect is also significant. This leads to the conclusion that two constellations of network support enhance the intention for a second child. Either the respondent does not have to face a, probably critical, living situation in which she needs to be supported by her social environment or she is able to cope with this situation by having access to a relatively large number of supportive network partners. The effects of the network of money and/or non-monetary support given to the network partners can be interpreted in a similar way. However, the significant effect the variable "no network partner named" may also imply that the respondent is able to concentrate her resources on her personal issues and does not have to spread them on her personal network.

The effects of multiplex and reciprocal relationships on respondents' fertility intentions are documented in table 6. The estimations are carried out with the same set of variables as used in the baseline model plus the particular sets of variables that cover multiplexity or reciprocity in the networks. Multiplexity is of special relevance in networks of receiving as well as of giving support. The more network partners give both kinds of resources to the respondent and the more the respondent is providing her network partners with money and non-monetary support the higher her intention to have a second child. However, also the number of network partners that exclusively received help are of significant relevance. Table 6 also shows a significant positive effect of the number of reciprocal relationships. The more a respondent is involved in giving and receiving resources to her network partners the more she intends to have a second child. All these results indicate the relevance of intensive relationships of help and support to the respondents' fertility intentions. The more intensive the exchange of resources is, either in terms of multiplexity or of reciprocity, the more she is willing to have a second child.

Warsaw 2003)

TABLE 6 ABOUT HERE

However, all these results lead to a general question. Do the positive and significant coefficients of network size and of the number of multiplex and reciprocal relationships really represent effects of size or do they primarily represent effects of the presence of parents in the network? This question arises, because parents are, as table 3 shows, the dominant source of money and non-monetary support and they are therefore primarily responsible for the size of the networks under consideration. To answer this question three additional models are estimated. These consider the four most important groups of network partners: the numbers of spouses and children, of parents, of siblings, and of friends and colleagues.

TABLE 7 ABOUT HERE

The results show that the number of parents has a positive impact on respondents' fertility intentions within the context of resources provided to the respondent and within the overall network of giving and receiving support. This means that especially the fact that the parents of both spouses are part of the supportive networks has a positive impact on her intention to have a second child. However, the results also show unexpectedly positive and significant effects of the number of friends and colleagues in all of the three different networks. Bivariate analyses between the sizes of the four different groups report significantly negative correlations between the number of parents and the number of friends and colleagues for all three networks.[9] Thus, parents, friends and colleagues are to some extend substituting alternatives of supporting relationships. Moreover, both are able to provide the respondent with valuable resources or to embed her in a general supportive environment that this has a positive influence on her intention to have a child.

7. Conclusions

In view of declining fertility and of fertility rates at or below the replacement level in many developed countries, research on fertility does not only have to understand the factors that are responsible for this development, it also has to single out the reasons why people are motivated to have children. Knowledge about these reasons is not only relevant to appreciate current levels of fertility, it matters also for an identification of factors that might support an increase of fertility in

[9] The correlations between the number of parents and the number of friends and colleagues are: Within the networks that gave support to the respondent: r = –0.207, sign. = 0.0038, n = 195; within the networks that received support from the respondent: r = –0.351, sign. = 0.0011, n = 83; within the whole networks of giving and/or receiving support to/from the respondent: r = –0.275, sign. = 0.0001, n = 209.

future. On the background of a rational model of fertility-related decision-making it is argued that people intend to get children if their expected benefits outweigh their expected costs. In developed societies, these benefits have only to a small extend a material character, but they primarily exist of highly evaluated intrinsic goods, like love, care, building a family, or certainty. However, people have to face high costs if they want to have children and therefore institutional arrangements and legal regulations that reduce the direct and indirect of costs having children, like transfer payments, parental leave, or flexible working schedules, are especially supportive for the decision to have a child.

In this paper, we argued that also the embeddedness of an individual decision-maker in her personal social environment has to be considered to receive a better understanding of the outcomes of fertility-related decision making. This is because the social environment influences the subjective perceptions of benefits supplied by children as well as the costs of having children. Social networks, as a part of the social environment, have the potential to reduce the costs of having children especially in situations in which institutional arrangements and legal regulations change significantly or are considerably cut down as well as in which unstable labor markets and high rates of unemployment challenge the material situation of households. These situations occurred in Poland and in many other Central- and Eastern European countries.

Therefore, it was the general intention of the empirical analyses to explore whether an individual's embeddedness in resourceful and supportive social networks has a positive effect on her fertility intentions. This embeddedness creates individual social capital. The value of network-based social capital rests on two aspects: the availability of resourceful network partners and the willingness of these network partners to give their resources to others. To receive a first understanding of the relevance of social capital for fertility intentions, we used network size as a rather simple, but basic indicator for the availability of social capital. Estimates from ordered logit regressions support our hypothesis. They indicate significant positive associations between the sizes of individuals' supportive networks and their fertility intentions. The more a respondent experienced the availability of supportive network partners, i.e. the more network partners supported her during the last year, the more she is intending to have a second child. However, not only receiving resources, but also giving resources to network partners is positively influential. As the giving of resources indicates either long-lasting exchange relationships or investments in relationships, this result indicates that the future access to the resources of network partners also matters for fertility intentions. More detailed analyses documented the relevance of multiplex and reciprocal relationships, i.e. of especially intensive exchange relationships, for the respondents' intentions to have a second child.

The networks of giving and/or receiving support are dominated by respondents' parents and parents-in-law. Consequently, the size of this group of network partners showed significant

positive effects on the respondents' fertility intentions. However, in networks in which parents are less present, the number of supportive friends and colleagues is influential as well. This result is consistent with other studies about supportive networks. If individuals do not have access to the supportive resources of family members or kin, they are able to fill this gap to some extend by acquired relationships, like friends, colleagues, or neighbors (Fischer 1982).

These results raise two general questions. The first one is whether there is really a causal effect of supportive networks on fertility intentions. A counter-argument to our interpretation is that the results primarily reflect selection processes. People with a general behavioral intention intensify or establish relationships with people that support them in their intention. Consequently, individuals with a high intention to get a child shape their social network accordingly, i.e. they invest in their social capital in that way that it will be supportive in the case a child has to be reared and educated. From the methodological side, this problem can be solved to some extend by a panel design, in which the characteristics of a network at time t_1 influences a particular behavior or intention at time t_2. From a theoretical side however, one has to conclude that selection processes are always present. Individual behavior is constrained, but not completely determined by the social environment and consequently, people have the possibility to select and to intensify social relationships, i.e. to invest in their social capital.

However, we think that the positive effects of network size and composition on fertility intentions in Poland can be interpreted in a causal way. First, people's ability to select network partners is constrained by the social environment they are embedded in. Therefore, newly selected network partners reflect an individual's general possibilities and abilities to establish new relationships, which is again dependent from the individual's position in the social structure. Second, most of the network partners are family members and kin. These are ascribed relationships, i.e. the respondent can not select them. However, there is also a strong component of acquired relationships in respondents' networks, as the significant effects of friends and colleagues document. Third, most of the respondents intend to have their second child in three years or later. Under the assumption that individuals start to select actively their network partners when their intention to perform a particular behavior becomes concrete, one has to conclude that most the reported networks do not reflect concrete preparing activities to get a second child.

The second question is about a potential generalization of the results. Our analyses are limited to respondents that were at risk for a second child. Decisions about children are parity specific and therefore no conclusion can be drawn that social capital in the from of giving and/or receiving monetary or non-monetary resources is a factor that supports fertility in Poland in general. Additional analyses for childless people and individuals with two or more children are needed. Moreover, the analyses look only on respondents' general intentions to have a second

child during there life. Nothing is said about the relevance of the social environment for the timing of birth.

It was argued in the theoretical section that the relevance of social networks depends on the strength of institutions and legal regulations, which reduce the costs of having children, as well as on the stability of the employment system. If these factors become weak or are substantially changing, social networks are especially relevant for coping with this unstable situation. As many Central and Eastern European countries have to face this situation, or results are consistent with findings from Hungary and Bulgaria. However, this does not imply that these results can be generalized for countries with more stable institutional settings and with better performing labor markets.

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Table 1:
Respondents' Intentions to Have a Child Separated by the Number of Children Born at the Time of the Interview
(All Respondents)

	Number of children born					
Intention to have a child	0	1	2	3	4 and more	Total
"Definitely yes" or "yes"	67.1	33.8	5.9	1.3	0.0	15.1
"Hard to say"	7.9	24.7	14.7	7.6	6.4	14.5
"No" or "definitely no"	25.0	41.6	79.4	91.1	93.6	70.4
Total	100.0	100.1	100.0	100.0	100.0	100.0
N	76	296	490	225	126	1,213

Goodman and Cruscal's $\gamma = 0.714$; $\chi^2(8) = 402.276$

Table 2:
Mean Proportions of Multiplex and Reciprocal Relationships
(All Respondents That are at Risk to Get a 2nd Child)

Multiplexity				Reciprocity	
Resources given to the respondent		Resources received from respondent		Total network	
Money given	0.162 (0.312)	Money received	0.050 (0.165)	Money and/or help given	0.724 (0.385)
Help given	0.486 (0.456)	Help received	0.845 (0.329)	Money and/or help received	0.133 (0.272)
Money and help given	0.352 (0.428)	Money and help received	0.105 (0.282)	Money and/or help given and received	0.143 (0.285)
N	187		78		199

Mean values, (standard deviations).

Table 3:
Mean Proportions of Different Groups of Network Partners

	Resources received from network partners		Resources given to network partners		Total network	
	All respon-dents	At risk to have 2nd child	All respon-dents	At risk to have 2nd child	All respon-dents	At risk to have 2nd child
Partner, spouse	0.158 (0.318)	0.137 (0.301)	0.213 (0.373)	0.165 (0.310)	0.171 (0.318)	0.139 (0.289)
Parents	0.621 (0.427)	0.687 (0.401)	0.331 (0.426)	0.362 (0.417)	0.537 (0.420)	0.615 (0.408)
Siblings	0.076 (0.213)	0.051 (0.167)	0.167 (0.325)	0.177 (0.337)	0.107 (0.238)	0.084 (0.210)
Grandparents	0.008 (0.074)	0.014 (0.110)	0.015 (0.108)	0.032 (0.168)	0.009 (0.072)	0.013 (0.106)
Other relatives	0.040 (0.168)	0.042 (0.176)	0.083 (0.240)	0.105 (0.277)	0.058 (0.194)	0.060 (0.196)
All family members and relatives	*0.901 (0.264)*	*0.933 (0.228)*	*0.809 (0.362)*	*0.841 (0.352)*	*0.881 (0.277)*	*0.912 (0.252)*
Friends and colleagues	0.074 (0.233)	0.048 (0.186)	0.148 (0.325)	0.149 (0.335)	0.090 (0.245)	0.073 (0.228)
Other persons	0.025 (0.126)	0.020 (0.129)	0.043 (0.184)	0.010 (0.063)	0.029 (0.133)	0.015 (0.108)
N	738	187	421	78	825	199

Mean values, (standard deviations).

Table 4:
Description of variables used in the multivariate analyses

Variable	Description	Total population	At risk to have a 2nd child
Dependent Variable: Fertility intention	Intention to have ever a first or another child (1 = no, 2 = difficult to say, 3 = yes)	1.45 (0.743)	1.93 (0.864)
Socioeconomic Variables:			
Wife's age	Age of female respondent or if respondent's wife at time of the interview		
18 – 24		0.08 (0.265)	0.18 (0.381)
25 – 29		0.18 (0.382)	0.32 (0.468)
30 – 34		0.22 (0.416)	0.24 (0.428)
35 – 44	*Reference category*		
Wife's education	Years spend in educational system coded by highest level of education reached	12.10 (2.453)	12.52 (2.329)
Husband's education	Years spend in educational system coded by highest level of education reached	11.87 (2.397)	12.25 (2.363)
Wife works	Wife is employed, self-employed, or employer	0.62 (0.485)	0.64 (0.482)
Husband works	Husband is employed, self-employed, or employer	0.86 (0.349)	0.92 (0.276)
Religious person	Religion is very important or rather important in respondent's life	0.86 (0.346)	0.80 (0.398)
Rural area or small cities	Respondent lives in a village or in a small city with 20,000 or less inhabitants	0.60 (0.491)	0.45 (0.499)
Network Size:			
Networks of receiving monetary support:			
No network partner	No network partner gave monetary support to the respondent during the past year	0.66 (0.472)	0.63 (0.483)
Number of network partners	Number of network partners that gave monetary support to the respondent (logarithm)	0.32 (0.483)	0.39 (0.551)
Networks of receiving non-monetary support:			
No network partner	No network partner gave non-monetary support to the respondent during the past year	0.50 (0.500)	0.45 (0.498)
Number of network partners	Number of network partners that gave non-monetary support to the respondent (logarithm)	0.52 (0.574)	0.60 (0.606)
Networks of receiving monetary and/or non-monetary support:			
No network partner	No network partner gave monetary/non-monetary support to the respondent during the past year	0.42 (0.494)	0.39 (0.489)
Number of network partners	Number of network partners that gave monetary/non-monetary support to the respondent (logarithm)	0.62 (0.599)	0.69 (0.632)
Networks of giving monetary and/or non-monetary support:			
No network partner	No network partner received monetary/non-monetary support from the respondent during the past year	0.68 (0.467)	0.76 (0.430)
Number of network partners	Number of network partners that received monetary/non-monetary support from the respondent (logarithm)	0.33 (0.521)	0.26 (0.498)
Networks of giving/receiving monetary and/or non-monetary support:			
No network partner	No network partner gave/received monetary/non-monetary support to/from the respondent during the past year	0.36 (0.479)	0.35 (0.479)
Number of network partners	Number of network partners that gave/received monetary/non-monetary support to/from the respondent (logarithm)	0.74 (0.635)	0.77 (0.661)

Mean value, (standard deviation)

Table 4 (continued)

Reciprocity:					
Gave support	Number of network partners that exclusively gave support (logarithm)	0.49	(0.551)	0.59	(0.595)
Received support	Number of network partners that exclusively received support (logarithm)	0.18	(0.386)	0.14	(0.344)
Gave and received support	Number of network partners that gave and received support (logarithm)	0.17	(0.394)	0.16	(0.380)
Network Composition:					
Networks of receiving monetary and/or non-monetary support:					
Number of members of core family		0.17	(0.508)	0.14	(0.358)
Number of parents		0.77	(1.075)	1.03	(1.292)
Number of siblings		0.10	(0.368)	0.09	(0.397)
Number of friends and colleagues		0.09	(0.400)	0.08	(0.377)
Networks of giving monetary and/or non-monetary support:					
Number of members of core family		0.14	(0.536)	0.09	(0.326)
Number of parents		0.21	(0.606)	0.21	(0.660)
Number of siblings		0.10	(0.372)	0.09	(0.360)
Number of friends and colleagues		0.09	(0.376)	0.08	(0.436)
Networks of giving/receiving monetary and/or non-monetary support:					
Number of members of core family		0.25	(0.653)	0.19	(0.459)
Number of parents		0.82	(1.097)	1.06	(1.329)
Number of siblings		0.18	(0.488)	0.16	(0.501)
Number of friends and colleagues		0.15	(0.537)	0.13	(0.592)
N		1,197		291	

Mean value, (standard deviation)

Table 5:
Ordered Logit Regression on Respondent's Intention to Have a Second Child:
Socio-Economic Characteristics and Network Size

	Baseline	Resources received from network partners			Resources given to nwps.	Complete supportive network
		Monetary support	Non-monetary support	Monetary and/or non-monetary support	Monetary and/or non-monetary support	
Wife's age:						
18 – 24	2.699***	2.422***	2.550***	2.516***	2.525***	2.599***
	(0.552)	(0.580)	(0.573)	(0.583)	(0.554)	(0.577)
25 – 29	2.761***	2.633***	2.720***	2.669***	2.774***	2.718***
	(0.474)	(0.475)	(0.480)	(0.486)	(0.473)	(0.489)
30 – 34	1.756***	1.764***	1.756***	1.737***	1.758***	1.784***
	(0.493)	(0.485)	(0.493)	(0.493)	(0.487)	(0.497)
Female respondent	0.012	–0.006	–0.006	–0.014	–0.009	–0.039
	(0.189)	(0.194)	(0.193)	(0.193)	(0.195)	(0.198)
Wife's education	–0.079	–0.078	–0.078	–0.082	–0.073	–0.078
	(0.077)	(0.078)	(0.078)	(0.078)	(0.079)	(0.079)
Husband's education	0.184**	0.171*	0.164*	0.166*	0.170*	0.163
	(0.096)	(0.096)	(0.099)	(0.099)	(0.098)	(0.101)
Wife works	0.661**	0.721**	0.633**	0.618*	0.605*	0.588*
	(0.325)	(0.313)	(0.323)	(0.327)	(0.336)	(0.331)
Husband works	0.730*	0.755*	0.714*	0.726*	0.725*	0.730*
	(0.406)	(0.410)	(0.375)	(0.388)	(0.427)	(0.394)
Religious person	0.805**	0.703**	0.746**	0.736**	0.799**	0.766**
	(0.335)	(0.346)	(0.354)	(0.354)	(0.345)	(0.361)
Rural and small cities	0.492	0.365	0.424	0.377	0.491*	0.379
	(0.315)	(0.310)	(0.311)	(0.313)	(0.322)	(0.313)
Network size:						
No network partner named	--	1.076	0.778	0.772	2.242**	1.131*
		(0.746)	(0.574)	(0.596)	(0.938)	(0.600)
Number of network partners (log)	--	1.462**	0.834*	0.810*	2.086**	0.925**
		(0.698)	(0.466)	(0.455)	(0.816)	(0.425)
Cut points						
1	4.606	5.492	5.045	4.973	6.651	5.263
	(1.364)	(1.477)	(1.351)	(1.326)	(1.589)	(1.329)
2	5.941	6.858	6.394	6.323	8.005	6.620
	(1.386)	(1.504)	(1.369)	(1.346)	(1.602)	(1.345)
-LL	267.535	263.445	265.696	265.547	263.954	364.587
χ^2 (df)	48.68 (10)	62.21 (12)	58.83 (12)	58.43 (12)	65.74 (12)	62.00 (12)
Pseudo R^2 (%)	14.8	16.1	15.4	15.5	16.0	15.8
N	291	291	291	291	291	291

Levels of significance: *≤ 0.1; ** ≤ 0.05; ***≤ 0.01.
Unstandardized coefficients, (standard errors estimated by Huber-White procedure)
Reference categories: Wife' age: 35 to 44; Religious person: Religion is 'little important', or 'not important' in daily life; Rural and small cities: cities with 20,000 or more inhabitants.

Table 6:
Ordered Logit Regression on Respondent's Intention to Have a Second Child:
Multiplex and Reciprocal Relationships

Resources received from network partners		Resources given to network partners		Total network	
No network partner named	0.484	No network partner named	1.755*	No network partner named	0.848*
	(0.476)		(0.903)		(0.510)
Number of network partners that …		Number of network partners that …		Number of network partners that …	
… exclusively gave money	0.618	… exclusively received money	1.351	… exclusively gave support	0.623*
	(0.476)		(1.052)		(0.353)
… exclusively gave help	0.250	… exclusively received help	1.573*	… exclusively received support	0.446
	(0.345)		(0.829)		(0.412)
… gave money as well as help	0.857**	… received money as well as help	1.604*	… gave and received support	0.708*
	(0.365)		(0.954)		(0.408)
-LL	263.399		264.656		264.294
χ^2 (df)	73.01 (14)		64.29 (14)		62.51 (12)
Pseudo R^2 (%)	16.1		15.7		15.9
N	291		291		291

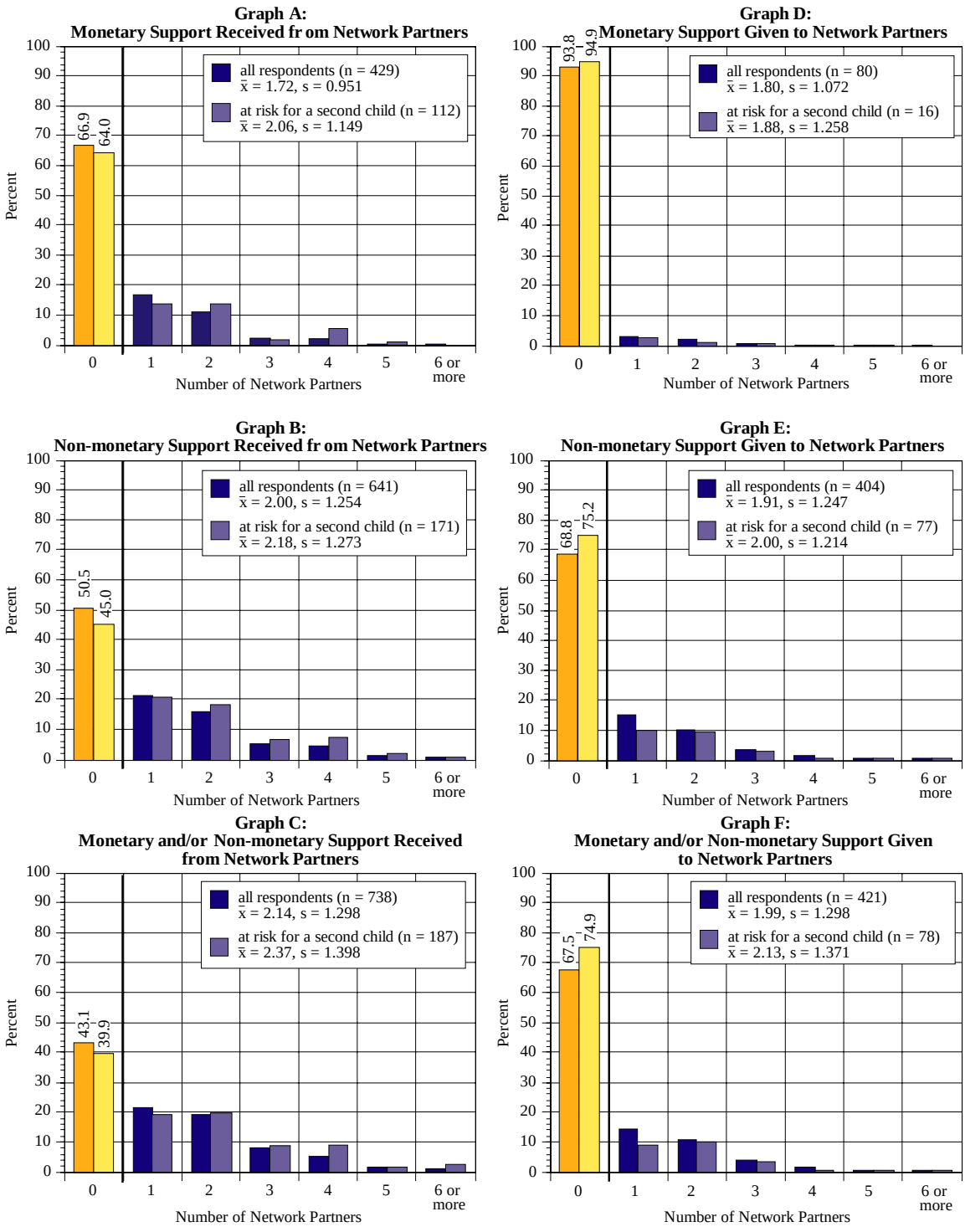
Levels of significance: *≤ 0.1; ** ≤ 0.05; ***≤ 0.01.
Unstandardized coefficients, (standard errors estimated by Huber-White procedure).

Table 7:
Ordered Logit Regression on Respondent's Intention to Have a Second Child:
Composition of Role Relationships

	Resources received from network partners	Resources given to network partners	Total network
No network partner named	0.395 (0.399)	1.098** (0.544)	0.716* (0.401)
Number of spouses, and children	0.310 (0.339)	0.674 (0.444)	0.573** (0.270)
Number of parents	0.238* (0.131)	0.631* (0.355)	0.288** (0.135)
Number of siblings	–0.285 (0.198)	0.360 (0.372)	–0.273 (0.194)
Number of friends and colleagues	1.126*** (0.373)	0.744** (0.356)	0.624*** (0.227)
-LL	262.966	263.145	261.242
χ^2 (df)	58.88 (15)	65.71 (15)	64.69 (15)
Pseudo R^2 (%)	16.3	16.2	16.8
N	291	291	291

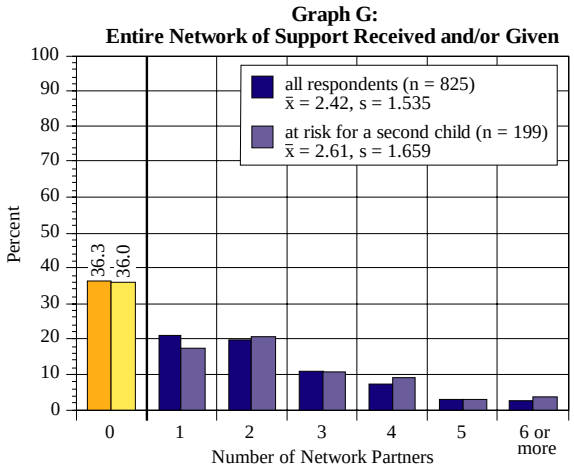
Levels of significance: *≤ 0.1; ** ≤ 0.05; ***≤ 0.01.
Unstandardized coefficients, (standard errors estimated by Huber-White procedure).

Figure 1:
Distributions of Network Size for Dif ferent Networks of Giving and Receiving Support



Means and standard deviations are computed for non-empty networks.

Figure 1 (continued)



Means and standard deviations are computed for non-empty networks.