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Social Capital and Fertility Intentions: The Case of Poland

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Abstract

Research on fertility draws increasing attention on the significance of social networks as a medium by which individuals learn about demographic behavior. However, social networks can also be sources of valuable resources that help to reduce the costs of having children and that build a stock of fertility-related social capital. Based on data from the Polish Retrospective Survey in 2001, the impact of social capital, measured by an individual's number of supportive exchange relationships, on intentions to have a second child is explored. Results from ordered logit regressions report positive associations between the number of exchange relationships and the intention for a second child. This influence is primarily exerted by the number of parents in the networks, but also by the number of supportive friends and colleagues.

1. Introduction

Declining fertility and fertility rates at or below replacement level are becoming a world-wide phenomenon (Morgan, 2003; Bongaarts, 2002; Kohler et al., 2002). Over a short period, the number of countries with fertility levels that do not reach generation-to-generation replacement has grown. This decline appeared quite unexpectedly and compelled the UN to verify their assumptions for global population projections in the two subsequent years of 2001 and 2002 (United Nations, 2003). Two general processes are discussed to be responsible for low levels of fertility: Increasing direct and indirect costs of having children (Becker, 1981), especially caused by incompatibility between female work and familial obligations (Rindfuss et al., 2003) and the spread of new value orientations arising from individualism, postmaterialism, symmetric gender roles, or female emancipation (Lesthaeghe and Willems, 1999) that challenge traditional models of family and fertility.

In light of these processes, childlessness should be a rational decision to make for women and couples. However, people still intend to and do have children. In modern societies parents benefit from children primarily by being provided with intrinsic goods that they highly desire. The first child gives parents the opportunity to love and care for someone, improve the parental relationship, or reduce uncertainties in parents' and especially mothers' lives (Friedman et al., 1994; Bulatao, 1981). The second child completes the family, i.e. it is the keystone to fulfilling the ideal of a two-child family, an ideal that still persists in many modern societies (Goldstein et al., 2003). Children may also indirectly generate material benefits for their parents by increasing the social environment's willingness to support the family (Schoen et al., 1997). On the other hand, institutional contexts outside the labor market reduce the incompatibility between female work and familial obligations and therefore the costs of having children. These contexts include the quality and accessibility of childcare, flexible work schedules, transfer payments and social benefits that ensure economic household security, and changing gender roles with the consequence that men more often take on childcare and housework duties (DiPrete et al., 2003).

With 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. In demographic research, social networks are primarily concerned with communications about fertility and family planning

in high fertility contexts (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 to money, time, physical strength, assistance, goods, services, or power. People are aware of resource availability in their social environment and therefore use them actively to reach particular goals, such as rearing and educating children. The active use of social environment resources is especially evident when changes occur in the institutional contexts, that is, when public child care, work schedule regulations as well as transfer payments and social benefits are reduced or significantly reorganized. This was and still is the case in many Central- and Eastern European countries. Consequently, studies from Russia, Hungary, and Bulgaria show that a supportive social environment has a positive influence on fertility intentions, especially on intentions to have a second child (Philipov et al., 2004; Philipov and Shkolnikov 2001). Deeper insights from other countries with different institutional settings and a closer look at the mechanisms of social networks is needed, however, to get a clearer picture of the relevance of a supportive social environment to fertility decisions.

This paper aims to contribute to this agenda. It explores the extent to which the availability of social capital, measured by the number of supportive relationships in an individual's personal network, has an influence on individual fertility intentions. This is done in the background of significant social, economic, and demographic changes in Poland. Similar to other Central and Eastern European countries, Poland 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 reductions and reorganizations in transfer payments and social benefits, and due to rising unemployment and unstable labor markets. However, there is a tradition of mutual help and support between individuals and households that help to get things done and cope with difficult situations and it is of interest to explore, how much these supportive networks support fertility within a context of high costs of having children.

After this short introduction, the subsequent section presents background information on the increasing costs of having children and the relevance of supportive social networks in Polish society after the breakdown of socialism. A systematic understanding

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

of its relevance to fertility decisions is only possible on the basis of a coherent theoretical model. The third section therefore presents a theoretical outline of social networks' influence on purposeful fertility-related decision-making. The empirical section starts with an introduction of the data (section 4), followed by a description of the variables used in the analyses (section 5). All empirical analyses rest on data from the survey "The Evaluation of Changes in Attitudes and Reproductive Behaviours of Young and Middle Generations Female and Male Poles and Their Influence on the Process of Family, Union, Household Formation and Dissolution". It was carried out in 2001 and covers a broad variety of information on the demographic behavior of Polish citizens aged 18 to 54. The empirical analyses in section 6 concentrate on estimates of ordered logit regressions on the respondents' intentions to have a second child. In terms of the relevance of social capital to these intentions, the results show a positive influence of the degree to which the individual is embedded 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 among these network members, but also of the number of supportive friends and colleagues. Section 7 summarizes and discusses these results.

2.   Increasing costs of having children and the importance of supportive networks in Poland

Poland's fast transition from the planned economy of a socialist society to a democracy with a market economy was characterized among other things by a deep change in the relationship between the state and its citizens. In the last fourteen years, state institutions have increasingly reduced their responsibilities to the family (household) as well as to the individual, and the principle of the omnipresent welfare state was abandoned and re-placed by the principles of giving state support in particular situations. Most importantly, social benefits from state institutions were cancelled. During socialism, these benefits had been granted to citizens, families, and households and used to be of significant importance to their financial situations. Households and individuals thus became increasingly responsible for their own financial situation and well being. In terms of family policy, Poland switched in 1995 from a model that provided 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. This is because different parts of the system were introduced at different periods in order to meet different contemporary needs. Furthermore, a crisis in public finances limited the state's ability to subsidize family benefits (Balcerzak-Paradowska, 2002, pp. 35). In consequence, the duration of maternity leave was reduced in 2001 and higher income thresholds to receive some categories of family benefits were introduced.

People in Poland therefore had to learn during a relatively short period how to live in a state that reduces its former universal responsibilities for the welfare of its citizens step by step. Parents especially had to learn how to handle the fact that they were burdened with almost all of the costs related to having children. Having a 'low-quality' child, i.e. reducing expenditures for rearing and educating a child, might seem a reasonable alternative. However, reduced incomes, cancelled tax relieves, restricted social services, and restricted financial and in-kind benefits led to large outlays of even having 'children of low quality'. 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 the direct costs of having children, they also have to face increasing uncertainties of income from labor due to unstable labor market conditions, and in particular increasing unemployment. The unemployment rate increased from 14.0% in 1993 to 19.9% in 2002. The share of the unemployed rose in all age groups of the labor force, but people at childbearing age (in Poland primarily between 20 and 30) suffered especially from this problem. As early as in 1993, large numbers of men aged between 20 and 24 (28,2%) and between 25 and 29 (14.1%) were unemployed. The same holds for women, with 31.7% and 18.5% respectively. However, the share in male unemployment increased to 44,5% (aged 20 to 24) and 23.0% (aged 24 to 29) in 2002 and that for women to 46.1% and 24.5% respectively. Although a considerable number of unemployed in these age groups are students, unemployment in real terms remains high.

Taken these aspects together, one has to conclude that the transition period in Poland was characterized by significant changes in institutional arrangements that reduce the costs of having children. Monetary and non-monetary social benefits from sources

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[2] See Fratczak et al. (2003) for more detailed information about the current and historical perspective of

such as state companies disappeared and state transfer payments were reorganized or reduced. New legal regulations for or alterations to public services excluded individuals from resources that had been guaranteed during socialism. Furthermore, significant changes in the labor market led to a destabilization of income from work due to a de-valuation of traditional forms of human capital, unstable employment, and high unem-ployment. Because of these developments, another context gained in importance: the individual's embedding 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. It 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 the malfunctions of the command economy and state bureaucracy clientilism, social networks were an important source of resources. In view of the perceived and considerable ineffectiveness of the system of public institutions under socialism, social networks played a 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 had a destructive impact on the functioning of the whole system. After the breakdown of the socialist system in Poland, the nature of social network utilization changed and a two-fold meaning of social networks developed (Giza-Poleszczuk, 2000). On the one hand, they became an intermediary institution between the individual and the state, built on local communities, releasing the burden of public institutions and encouraging decentralization of the system. On the other hand, social networks remained an important coping strategy. This is because social networks provide sources for resources that are to some extent 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 to changes in markets or institutional regulations (Sik, 1995). Social relationships also rest on emotional and affective moments, and this has a serious impact on the willingness of the relationship partners in exchanging resources. The resources that are available to an individual natu-

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selected legal regulations pertaining to children and family in Poland.

rally depend on the particular situations of the network partners, but also 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 may therefore offer profitable ways of making use of abilities and resources that cannot be exchanged on markets. Social networks in consequence do not only offer 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 provide access to network partners' resources and build up individual social capital. They therefore influence the means 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 below.

3.1 Social relationships and subjective perceptions of utility

If individuals have to decide among two or more different alternatives of action, they want to choose the alternative that promises the highest expected utility. A decision-maker's perception of the utilities of different action alternatives depends on various aspects: The information she has on 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 during communication and they adjust their subjective cost-benefit calculations accordingly. However, communications also always convey normative behavioral expectations that are related to a topic (Mitchell, 1969). These expectations have a direct influence on utility perceptions. 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 through which 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 associated with specific rights and specific access to resources. Since 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 face 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).

In 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 a characteristic of these processes that the decline of fertility was caused less by the availability of contraceptives 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 basis 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 adoption of contraceptives in developing countries like Kenya (Bühler 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 eligibility to public transfers or assistance due to legal regulations, and her social capital. In principal, the term 'social capital' means all resources to which an individual has access through her social relationships. It covers resources that are directly enjoyed or controlled by primary network partners or that can be acquired indirectly through relationships with 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.

The resources that are accessible through social relationships might be very different in nature. They may include 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 to 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 present relationships. 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 accessible resources. Network partners' expectations of having a fair exchange with the individual are a 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 provides resources to her network partners without expecting a direct repayment from them. However, she expects to be supported by other network members when she needs help or assistance.

The aspects of availability and willingness also imply that people invest in their social capital. They can improve resource availability by building new social relationships, which again lead to changes in the wider network in which they are placed. 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

For 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. 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. The number of network partners is a basic characteristic of social networks and gives therefore central insights in the significance of social capital for fertility-related behavior.

Research on 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 provide support (Wellman, 1992). Moreover, large networks tend to consist of more heterogeneous people than smaller ones do, 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 may impede each other. In many cases, it is more important to have one or two supporting network partners than 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 work 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 in terms of their economic, cultural, and human capital.

Research on 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 on Bulgaria report about significant effects of the size of different kinds of supportive networks on women's general intention to have a second child. However, the timing of second childbirth is not influenced by the availability of network support (Bühler 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 on the characteristics and meanings of supportive networks during the transition period. Data from 1993 document the significance of family members and especially parents as sources of resources within supportive networks (Giza-Poleszczuk, 2000). Parents are the primary source of money and support in kind, 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 economically (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*

The decision to have a child has long-term consequences. Under the assumption that this decision is made by purpose 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 we hypothesize that the more resources this pool contains or will contain, the higher the decision-maker's intention to have a child. Social capital is a 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, 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 also have an influence on her fertility-related intentions. Therefore, we hypothesize that the larger the number of network partners that give support to an individual, the higher her intention to have a child.

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 often have the character of long-term exchange processes between the relationship partners. Thus, giving resources to an exchange partner maintains the relationship and may provide future access to the resources that the exchange partner controls. We therefore form a second hypothesis: 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 retro-

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[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 autumn 2004.

spective 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 a 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 descriptive analyses in section 6 will show, this population has finally to be restricted to 311 respondents with one child.

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 for 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 into the past. In the Polish retrospective survey, this period is the year before the interview. This limitation causes a small number of

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

observed births in that period, however. Consequently, a prospective design for the analyses was used to explain fertility-related intentions.[5]

In the questionnaire, a respondent's fertility intention was measured by the question whether he or she plans to have another child. Possible answers were 'absolutely not', 'no', 'yes', 'definitely yes', or 'difficult to say'. Using the category 'difficult to say' as a neutral category and combining the categories 'absolutely not' and 'no' into one category and 'yes' and 'definitely yes' into another, 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'. Naturally, this variable covers only the general intention to have a (another) child and provides no information on the intended timing of birth.[6]

The respondent's embeddedness in a supportive social environment was addressed by questions that identified the number and the characteristics of network partners that mattered for a particular relational content during the last year before the interview. These relational contents are: 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 therefore a compromise between the two general approaches to measure the amount of social capital either by collecting information on 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). For example, the number of people that gave 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 on all other relational contents. Moreover, the respondent was also asked to report the network partners that received resources from her, like money, non-monetary support, and assistance in finding a dwelling. This was done to cover the processes of investing in social capital and to identify longer lasting exchange relationships. For example, the number of people that received regular or substantive monetary

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in Fratczak and Peczkowski (2002).

[5] See Quesnel-Vallée and Morgan (2003), Schoen et al. (1997), and 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 on the timing of intended births. However, for analyses separated by parity, the subgroups become too small for meaningful multivariate analyses.

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 on experienced resource transfers have a general problem: The respondents' answers depend significantly on their own and their network partners' demands for these resources during the period in question. If there was no demand, the respondents report 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 support experienced in the past and their expectations to receive support for a particular purpose in future. Both arguments lead to the conclusion that additionally information about the availability of potentially supportive network partners is needed to receive a more coherent picture of an individual's social capital. In the questionnaire, this problem is solved to some extent by additional questions to all respondents that did not name a network partner who 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 no supportive network partner.

For the subsequent empirical analyses, only networks of giving and/or receiving support are considered. As argued in the theoretical section, the number of network partners within a supportive network can be used as a simple indicator for social capital availability. Therefore, four variables about network size build the starting point of the analyses. Two of them give information on the number of network partners from whom the respondent received money or non-monetary support 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 to whom the respondent gave money or non-monetary support during the same period.

Because each member in these four networks can be identified individually, several additional variables about the respondents' embeddedness in supportive exchange relationships are created. Two variables summarize the number of network partners that were supportive or that received support from the respondent independently of money or non-monetary resource transfers. Another variable covers the 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. A further six variables give information about multiplex relationships. By this, we mean that a relationship is characterized by two or more contents, like the trans-

fer of money and non-monetary resources. It therefore gives information on relationships that are relatively intensive. For all network partners that gave support to the respondent, three variables are created that document the number of partners that gave exclusively money, that gave non-monetary resources exclusively, and that provided both money and non-monetary resources. Similar variables are created for the network partners that received the respondent's support. Finally, another three variables cover the field of reciprocal relationships. Reciprocity here means that an individual actor provides a network partner with resources and receives resources directly from her or indirectly from another network partner immediately or some time in the future. Reciprocity is also an indicator of a more intensive resource exchange. However, due to the cross-sectional character of the data, only direct exchange relationships can be observed. The three variables therefore give information on the number of network partners that exclusively gave support to the respondent, exclusively received support from her, or gave and received support from her.

Additional questions collected information about the characteristics of all network partners that were named in the different networks, as well as on the characteristics 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.).

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

ents-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 on the wife's age, the economic situation of the household, the degree of the respondent's religious commitment, and her place of residence. The selection of these variables is not directly driven by theory, because they are primarily used to control for the general characteristics of the couple. The 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 groups 18 to 24, 25 to 29, and 30 to 34 years. 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 its household. Therefore, two groups of variables are used as indicators. The first consists of the husband's and wife's educational degree, measured by the number of years spent in the educational system. The educational degree indicates the level of expected income over the life course. The variable wife's educational degree in addition gives some information on the extent of lost income in case 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 work activity as an employee, employer, or self-employed person. The degree of the respondent's religious commitment is measured by a question on the importance religion plays in his/her life. In Poland, religiousness is closely associated with the Catholic faith and the Catholic Church. According to the Public Opinion Poll (CBOS) from 2001, 96.0% of Polish citizens claim to be believers, of which 96.4% 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. It gives information 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, we expect no large variation. The fertility patterns in towns and villages became very similar during the transition period (Fratczak, 2004). For many years, starting from the 50s, the fertility for people living in the countryside was higher than for those from towns and cities. For example, in 1950 the 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, and 1.5 respectively.

6. Empirical Results

The empirical results are presented in two parts. First, descriptive results on the respondents' fertility intentions, the size and the composition of the different networks of giving and receiving money and/or non-monetary resources are discussed. Second, estimates from ordinal logit regression are presented to explore the impact that the availability of supportive network partners has on respondents' fertility intentions.

6.1 Fertility intentions

A first look at the distribution of fertility intentions shows that the majority (70.4%) of married respondents aged 18 to 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 them have two or more children and as table 1 shows, there is only a small willingness of this group to have a third or a fourth child. Only childless respondents show strong intentions to have a child. Having at least one child is 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 heterogeneous fertility intentions: 33.8% intend to have a second child and 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 have it in the near future, i.e. within a two years period. A large proportion of these respondents (43.3%) intends to have just one child. Only 41.7% intend to have a second child at some point in the future. Respondents with one child tend to postpone second childbirth. 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 proceed to a third child or more.

The results in table 1 also show that only for 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 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 of network partners (network size) in 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 needs to be taken into account. This is because around two thirds (64.0%) of the respondents did not receive regular monetary support (see graph A) and 45.0% were not supported in a non-monetary form by 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 applies to 81.8% of the respondents without any non-monetary support.

FIGURE 1 ABOUT HERE

Respondents tend to be receivers rather than donors of supportive resources. Only 5.1% of them provided other people regularly with money (graph D) and 24.8% gave non-monetary support (graph E). In Total, around one fourth of the respondents (25.1%) was involved in giving support to their network partners (graph F).[7] Taken all networks of

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[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.

giving and/or receiving support together, around two thirds of the respondents (64.0%) were involved in any of these resource transfers (graph G).

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

Multiplex relationships make only a small part of the networks (see table 2). Respondents received money and non-monetary support during the last year from 35.2% of network partners on average. Most of these partners (48.6%) gave non-monetary support exclusively. A similar pattern is found for resources given by the respondents: they provided on average 84.5% of their network partners with non-monetary support and only 10.5% received both monetary and non-monetary support. Because the respondents tend to be more support receivers rather than providers, only a small proportion of reciprocal relationships can be identified. On average, 14.3% of the network partners were supportive to a respondent and received support from her. The majority of network partners (on average 72.4%) exclusively gave support and only a small fraction (on average 13.3%) exclusively received support.

TABLE 2 ABOUT HERE

Table 3 reports the composition of the networks by role relationships. As expected, parents are the dominant source of support, making on average 68.7% of support-giving

network partners. With the exception of the respondent's partner or spouse, who is repeatedly named as a source, all other groups of network partners are of minor importance. Support takes primarily place between family members and kin. These groups make on average 93.3% of the respondents' supportive relationships and on average 84.1% of the network partners that received support from her. However, parents or in-laws are less often receivers than providers. They make only around one third (36.4%) of support-receiving network partners. The population of network partners that received support from the respondents is therefore more heterogeneously composed as the population of network partners that gave support.

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, we estimate a baseline model 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 are very small, only the number of network partners to whom the respondent gave support, irrespective from its content, will be used. The last column in table 5 considers the number of all network partners that provided the respondent with resources and/or received resources from her. A third group of estimations explores the influence of the number of multiplex and reciprocal relationships (table 6). According to the descriptive analyses, parents and in-laws build the largest groups in the networks of giving and receiving support. The question therefore arises whether an effect of network size on respondents' fertility intentions is primarily an effect of the number of parents and in-laws in these networks. In order to answer this question, table 7 reports the impact of the sizes of different groups of network partners on the respondents' intentions to have a second child.

High numbers of respondents did not report any receipt of resources. Most of them have not been in need of assistance. A similar situation can be assumed for the respondents that did not provide their network partners with resources. Consequently, we

hypothesize that respondents who did not name a network partner as a source or as a receiver of support differ systematically from those that named network partners. All estimates therefore consider in addition a dummy variable that indicates whether the respondent did not report a partner in the particular network.

<center>TABLE 4 AND 5 ABOUT HERE</center>

The results of the baseline model document strong positive effects of wife's age on the intention to have a second child. This holds especially for the 18 to 29 age group. Surprisingly, the intention to have 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 the husband and the wife show gender-specific results. Husbands are mostly the principal breadwinners of the family in Poland. They therefore profit from expected incomes by higher educational degrees, which improves the material basis of their families. There is no significant effect of the women's educational degree. However, the negative sign of the coefficient can be interpreted as women with higher educational degrees tending to face opportunity costs in the form of lost income if they have a second child, and this would lower their fertility intentions. The variables that indicate the 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 that of men, the fact that the wife also generates at least some income through work supports the intention to have a second child.[8] This result proves that having an occupation and active participation in the labor market is a very important factor affecting economic stability and limiting uncertainty. As expected, respondents that perceive themselves as religious are more willing to have a second child in comparison to those who are less religious. Finally, the baseline model also indicates some systematic variation between respondents that live in the countryside and those that live in towns or cities, but this variation is not significant.

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[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, Warsaw 2003).

The models for the different networks of receiving and giving support show 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 indicating 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 significant effect of the number of network partners that received support from the respondent also documents the positive influence of expected future access to supportive resources. The more the respondent is engaged in long-term exchange relationships or the more she invests in the future access of network partners' resources, the more she is intending to have a second child. To give no resources to network partners also has a positive impact on fertility intentions. One interpretation of this result is that these respondents do not have to spread their resources among their network partners but can use them to pursue their personal goals, e.g. having a second child.

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 giving support. The more network partners are providing the respondent with both kinds of resources and the more the respondent is supplying her network partners with money and non-monetary support, the more she intends to have a second child. However, the number of network partners that exclusively received help is also significant. Table 6 shows a significant positive effect of the number of reciprocal relationships. The more a respondent is involved in giving resources to and receiving resources from her network partners, the more she intends to have a second child. These results indicate the relevance of intensive relationships that provide help and support to the respondents' fertility intentions.

Table 7 finally reports the effects of the sizes of different groups of network partners. As expected, the number of parents and in-laws has a positive impact on respondents' fertility intentions within the contexts of resources received from network partners and resources given to network partners. Therefore, especially the fact that the parents of both spouses are part of the supportive networks has a positive impact on respondents' intentions to have a second child. However, the positive effects of network size do not only represent the number of parents and in-laws in the network. There are also unexpectedly positive and significant effects of the number of friends and colleagues. Bivariate analyses of the sizes of the four different groups report significant 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 extent substituting alternatives of supportive relationships. Moreover, both are able to provide the respondent with valuable resources or to embed her in a general supportive environment that has a positive influence on her intention to have a second child.

7. Conclusions

In view of declining fertility and of fertility rates at or below replacement level in many developed countries, research on fertility does not only have to understand the factors that are responsible for this development but also to single out the reasons why people are motivated to have children. Insight into these reasons is not only relevant in order to appreciate current levels of fertility. It also helps to identify factors that may lead to fertility increase in future. In the background of a model of conscious fertility-related decision-making, it is argued that people intend to have children if their expected benefits outweigh their expected costs. In developed societies, these benefits have a material

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

character only to a small extent; they primarily have the character of intrinsic goods that are highly desired, like love, care, building a family, or certainty. However, people need to face the high costs of having children. Therefore, institutional arrangements and legal regulations that reduce the direct and indirect costs of having children, like transfer payments, parental leave, or flexible working schedules, are especially supportive in considering to have a child.

In this paper, we argued that the informal and intermediate institution of social networks has to be added to the list of factors that may reduce the costs of having children. Social networks have the potential to reduce these costs especially when institutional arrangements and legal regulations do not exist, change significantly, or are considerably cut down and when unstable labor markets and high unemployment rates challenge the material situation of households. This was the case for Poland and many other Central- and Eastern European countries. Moreover, in a general model of conscious fertility-related decision making the consideration of social networks helps to understand individual perceptions of benefits supplied by children and of costs of having children.

It was therefore the general intention of the empirical analyses to explore whether an individual's embeddedness in resourceful social networks has a positive effect on her fertility intentions. Being embedded in supportive networks creates individual social capital. The value of 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 to 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 the existence of 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 exerts a positive influence. As the giving of resources implies either long-lasting exchange relationships or investments in social capital, 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. especially intensive exchange relationships, for the respondents' intentions to have a second child.

The respondent's parents and in-laws dominate the networks of giving and/or receiving support. Consequently, the size of this group 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 extent by acquired relationships with 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 have a child shape their social networks accordingly, i.e. they invest in their social capital in a way that will be supportive if a child has to be reared and educated. From the methodological side, this problem can be solved to some extent by a panel design, in which the characteristics of a network at time t_1 influence 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 intensify social relationships, i.e. to invest actively in their social capital.

We think, however, 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 in which they are embedded. Therefore, newly selected network partners reflect an individual's general possibilities and abilities to establish new relationships, which is again dependent on 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. Nevertheless, 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 time or

later. Under the assumption that individuals are actively selective in their network partner choices when their intention to perform a particular behavior becomes concrete, one arrives at the conclusion that most of the reported networks do not reflect concrete preparing activities to have a second child.

The second question concerns a potential generalization of the results. Our analyses are limited to respondents that were at risk of having a second child. Fertility-related decisions are parity specific and therefore the conclusion that social capital in the form of giving and/or receiving monetary or non-monetary resources is a factor that supports fertility in Poland in general cannot be drawn. 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.

On the other hand, the general outcome of the empirical analyses is consistent with results from studies in Bulgaria, Hungary, and Russia. Being embedded in supportive exchange relationships shows a positive influence on individuals' intentions to have a second child in all these countries. This supports our theoretical argument that the relevance of social networks is dependent on the strength of institutions and legal regulations as well as on the stability of the labor market. If these factors become weak or are substantially changing, as it happened and is still happening in many Central- and Eastern European countries, social networks are especially relevant in order to cope with the high costs of having children.

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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)

intention to have a child	number of children born					
	0	1	2	3	4 and more	all respondents
"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 not"	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 at risk to have a 2nd child)

multiplexity				reciprocity	
resources received from network partners		resources given to network partners		total network	
money received	0.162	money given	0.050	money and/or help given	0.724
	(0.312)		(0.165)		(0.385)
help received	0.486	help given	0.845	money and/or help received	0.133
	(0.456)		(0.329)		(0.272)
money and help received	0.352	money and help given	0.105	money and/or help given and received	0.143
	(0.428)		(0.282)		(0.285)
n	187		78		199

mean value, (standard deviation)

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 a 2nd child	all respon-dents	t risk to have a 2nd child	all respon-dents	at risk to have a 2nd child
spouse, children	0.158	0.137	0.213	0.165	0.171	0.139
	(0.318)	(0.301)	(0.373)	(0.310)	(0.318)	(0.289)
parents, in-laws	0.621	0.687	0.331	0.362	0.537	0.615
	(0.427)	(0.401)	(0.426)	(0.417)	(0.420)	(0.408)
siblings	0.076	0.051	0.167	0.177	0.107	0.084
	(0.213)	(0.167)	(0.325)	(0.337)	(0.238)	(0.210)
grandparents	0.008	0.014	0.015	0.032	0.009	0.013
	(0.074)	(0.110)	(0.108)	(0.168)	(0.072)	(0.106)
other relatives	0.040	0.042	0.083	0.105	0.058	0.060
	(0.168)	(0.176)	(0.240)	(0.277)	(0.194)	(0.196)
all family members and relatives	*0.901*	*0.933*	*0.809*	*0.841*	*0.881*	*0.912*
	(0.264)	*(0.228)*	*(0.362)*	*(0.352)*	*(0.277)*	*(0.252)*
friends and colleagues	0.074	0.048	0.148	0.149	0.090	0.073
	(0.233)	(0.186)	(0.325)	(0.335)	(0.245)	(0.228)
other persons	0.025	0.020	0.043	0.010	0.029	0.015
	(0.126)	(0.129)	(0.184)	(0.063)	(0.133)	(0.108)
n	738	187	421	78	825	199

mean value, (standard deviation)

Table 4:
Description of variables used in the multivariate analyses

variable	description	all respondents		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 of 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				
female respondent		0.57	(0.495)	0.54	(0.499)
wife's education	highest level of education reached coded by years spent in educational system	12.10	(2.453)	12.52	(2.329)
husband's education	highest level of education reached coded by years spent in educational system	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 less than 20,000 inhabitants	0.60	(0.491)	0.45	(0.499)
network size:					
resources received from network partners:					
monetary support:					
no network partner named	respondent did not receive any monetary support from a network partner	0.66	(0.472)	0.63	(0.483)
number of network partners	number of network partners from whom the respondent received monetary support (logarithm)	0.32	(0.483)	0.39	(0.551)
non-monetary support:					
no network partner named	respondent did not receive any non-monetary support from a network partner	0.50	(0.500)	0.45	(0.498)
number of network partners	number of network partners from whom the respondent received non-monetary support (logarithm)	0.52	(0.574)	0.60	(0.606)
monetary and/or non-monetary support:					
no network partner named	respondent did not receive any mone-tary/non-monetary support from a network partner	0.42	(0.494)	0.39	(0.489)
number of network partners	number of network partners from whom the respondent received monetary/non-monetary support (logarithm)	0.62	(0.599)	0.69	(0.632)
resources given to network partners:					
monetary and/or non-monetary support:					
no network partner named	respondent did not give any monetary/non-monetary support to a network partner	0.68	(0.467)	0.76	(0.430)
number of network partners	number of network partners to whom the respondent gave monetary/non-monetary support (logarithm)	0.33	(0.521)	0.26	(0.498)

mean value, (standard deviation)

Table 4 (continued)

resources received from and/or given to network partners:					
no network partner named	respondent did not receive and did not give any monetary/non-monetary support from/to a network partner	0.36	(0.479)	0.35	(0.479)
number of network partners	number of network partners from whom/to whom the respondent received/gave monetary/non-monetary support (logarithm)	0.74	(0.635)	0.77	(0.661)
multiplexity:					
resources received from network partners:					
only monetary support	number of network partners from whom the respondent received exclusively monetary support (logarithm)	0.03	(0.170)	0.02	(0.145)
only non-monetary support	number of network partners from whom the respondent received exclusively non-monetary support (logarithm)	0.28	(0.482)	0.22	(0.453)
monetary and non-monetary support	number of network partners from whom the respondent received monetary and non-monetary support (logarithm)	0.03	(0.181)	0.04	(0.186)
resources given to network partners:					
only monetary support	number of network partners to whom the respondent gave exclusively monetary support (logarithm)	0.14	(0.329)	0.14	(0.335)
only non-monetary support	number of network partners to whom the respondent gave exclusively non-monetary support (logarithm)	0.34	(0.518)	0.36	(0.525)
monetary and non-monetary support	number of network partners to whom the respondent gave monetary and non-monetary support (logarithm)	0.20	(0.401)	0.28	(0.480)
reciprocity:					
only support received	number of network partners from whom the respondent exclusively received support (logarithm)	0.49	(0.551)	0.59	(0.595)
only support given	number of network partners to whom the respondent exclusively gave support (logarithm)	0.18	(0.386)	0.14	(0.344)
support received and given	number of network partners from whom/to whom the respondent received as well as gave support (logarithm)	0.17	(0.394)	0.16	(0.380)
network composition:					
networks of receiving monetary and/or non-monetary support:					
number of spouse, children		0.17	(0.508)	0.14	(0.358)
number of parents, in-laws		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 spouse, children		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 spouse, children		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 regressions on respondents' intentions to have a second child:
socio-economic characteristics and network size

	baseline	resources received from network partners			resources given to nwps.	resources received from and/or given to nwps.
		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 area or 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)
n	291	291	291	291	291	291

levels of significance: * ≤ 0.1; ** ≤ 0.05; *** ≤ 0.01
unstandardized coefficient, (standard error estimated by Huber-White procedure)
reference categories: wife' age: 35 – 44; religious person: religion is 'little important', or 'not important' in daily life; rural area or small cities: cities with 20,000 or more inhabitants.

Table 6:
Ordered logit regressions on respondents' intentions to have a second child:
multiplex and reciprocal relationships

multiplexity				reciprocity	
resources received from network partners		resources given to network partners			
no network partner named	0.484 (0.476)	no network partner named	1.755* (0.903)	no network partner named	0.848* (0.510)
only monetary support	0.618 (0.476)	only monetary support	1.351 (1.052)	only support received	0.623* (0.353)
only non-monetary support	0.250 (0.345)	only non-monetary support	1.573* (0.829)	only support given	0.446 (0.412)
monetary and non-monetary support	0.857** (0.365)	monetary and non-monetary support	1.604* (0.954)	support received and given	0.708* (0.408)
-LL	263.399		264.656		264.294
χ^2 (df)	73.01 (14)		64.29 (14)		62.51 (14)
n	291		291		291

levels of significance: * $\leq$ 0.1; ** $\leq$ 0.05; *** $\leq$ 0.01
unstandardized coefficient, (standard error estimated by Huber-White procedure).

Table 7:
Ordered logit regressions on respondents' intentions to have a second child:
network composition

	networks of receiving monetary and/or non-monetary support	networks of giving monetary and/or non-monetary support	networks of giving/receiving monetary and/or non-monetary support
no network partner named	0.395	1.098**	0.716*
	(0.399)	(0.544)	(0.401)
number of spouse, children	0.310	0.674	0.573**
	(0.339)	(0.444)	(0.270)
number of parents, in-laws	0.238*	0.631*	0.288**
	(0.131)	(0.355)	(0.135)
number of siblings	–0.285	0.360	–0.273
	(0.198)	(0.372)	(0.194)
number of friends and colleagues	1.126***	0.744**	0.624***
	(0.373)	(0.356)	(0.227)
-LL	262.966	263.145	261.242
χ^2 (df)	58.88 (15)	65.71 (15)	64.69 (15)
n	291	291	291

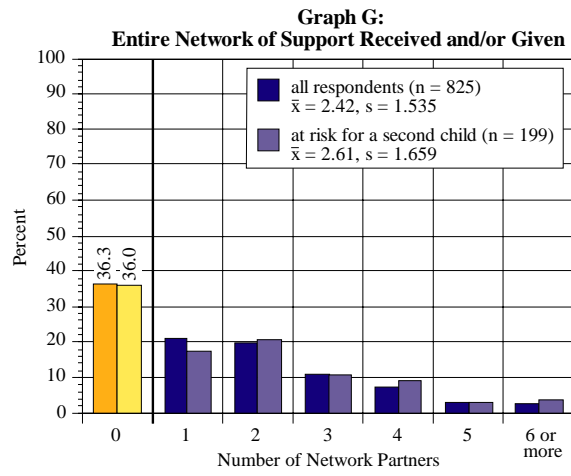levels of significance: * ≤ 0.1; ** ≤ 0.05; *** ≤ 0.01.
unstandardized coefficient, (standard error estimated by Huber-White procedure).

Figure 1:
Distributions of Network Size for Different Networks of Giving and Receiving Support
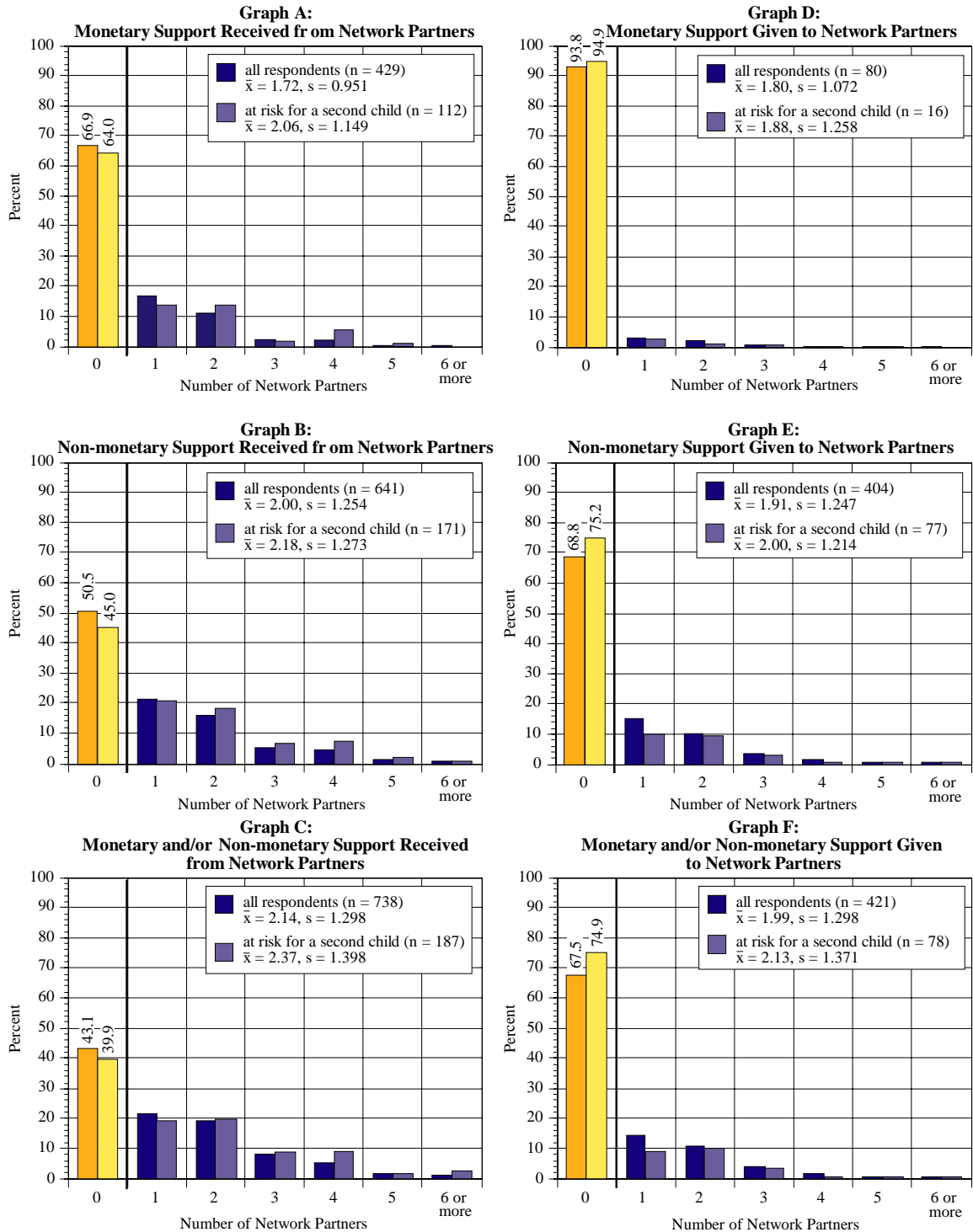
Means and standard deviations are computed for non-empty networks.

Figure 1 (continued)

Graph G:
Entire Network of Support Received and/or Given

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