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MPIDR WORKING PAPER WP 2009-001  
JANUARY 2009

**Who is relevant?  
Exploring fertility relevant  
social networks**

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## **Who is relevant? Exploring fertility relevant social networks**

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### **0 INTRODUCTION**

Explanations for changing fertility patterns increasingly draw on the concept of social networks and social interaction. Social interaction and network effects on fertility behavior have been shown on the macro level (e.g., Montgomery and Casterline 1993, Rosero-Bixby and Casterline, 1994); at the micro level, research has concentrated on the mechanisms through which personal relationships influence individuals' fertility intentions and behavior (e.g. Bernardi, 2003). However, not much is known about which relationships are influential as far as fertility behavior is concerned. In order to shed light on the processes of social influence on the individual level, and to identify 'relevant others', that is, persons who influence individuals' fertility intentions and behavior, we employ a mixed-methods study combining qualitative interviews with a standardized collection of network data.

In the following section, we present theoretical and empirical evidence for the relevance of social networks and social interaction in explaining fertility intentions and behavior. In Section 2, we describe our study design, our sample, and our analytical methods. We present results of our analysis of the question of who is relevant for fertility decisions in Section 3, and, finally, discuss our results in the concluding Section 4.

## 1 BACKGROUND

The network perspective stresses the notion that individuals are not acting in isolation, but that they are 'embedded' (Granovetter, 1985) in a network of social relations. Individual actors (Egos) exchange information, material and immaterial goods, and services in social interactions with their network partners (Alters). Resources bound in social networks build the 'social capital' of individuals (Bourdieu, 1986; Coleman, 1988). Individuals also learn, transmit, negotiate, and challenge social norms in social interactions (Mitchell, 1973). Network structure and composition thereby strongly shape the availability of access to information and other resources (Granovetter, 1973; Freeman, 1979), as well as the intensity of social control exerted to enforce social norms (Portes, 1998). Social networks are key elements in structuring individuals' expectations of the future, and, therefore, in restricting and/or enabling individuals' choices (Emirbayer and Goodwin, 1994; Emirbayer and Mische, 1998).

Social network research distinguishes mainly two types of ties: strong ties and weak ties (Friedkin, 1982; Burt, 1987; Marsden and Friedkin, 1993). According to Granovetter, the strength of a tie is defined by four dimensions: amount of time (e.g., duration of relationship), emotional intensity, intimacy, and reciprocal services (Granovetter, 1973: 1361). Strong ties can, therefore, be represented by kin and non-kin who are engaged in frequent contact with Ego, who are emotionally close, and who help each other on a regular basis. Strong ties often build cohesive networks of high density in which information is transmitted quickly. But dense networks also tend to produce homogenous evaluations and normative pressures (Friedkin, 1982; Bott 1957). Weak ties can be represented by colleagues, neighbors, etc., who are emotionally distant from Ego, and from whom mutual reciprocity is not expected. Weak ties do not have a direct sanctioning power, but they can be sources of new information (Granovetter, 1973). However, it has been argued that it is not the intensity of the ties *per se* that is relevant, but rather the way in which these ties are culturally and socially constructed. The effect of the different types of ties on individuals' intentions and behavior strongly depends on the context. Wegener (1991), for example, showed that the strength of ties does not affect all subgroups in society similarly. While Granovetter (1974) argued that weak ties are the main source of information for getting a new job, Wegener's research showed that weak ties are relevant for specific groups only: namely, for persons from higher

social strata. By contrast, persons from lower social strata tend to employ strong ties in finding a new job (Wegener, 1991). Thus, the meaning and the impact of personal relationships in social networks depends very much on personal characteristics, on the individual, and on the cultural context, as well as on the kind of life domain the researcher is interested in.

Whereas specific people may be influential in the decision to buy a new car, the same individuals may be irrelevant in the decision to have a child. The cultural context is important because it provides social norms that may vary between, but also within, societies. Additionally, the cultural context gives meaning to social ties and the resources and information exchanged in social interactions. It defines the rules of interaction, the rules of reciprocity, and so on.

In recent decades, the relevance of social interactions for fertility research has been increasingly acknowledged (Bongaarts and Watkins, 1996; Kohler 2001). One stream of research focuses on diffusion processes, mostly on the diffusion of contraceptive behavior in developing countries (Valente et al, 1997; Kincaid, 2000; Behrman et al., 2002). At the center of this research are communication networks and their role for the diffusion and adoption of new behavior. Another stream of research dealing with social interactions and fertility is centered on the concept of ‘social capital’ (e.g., Philipov et al., 2006; Bühler and Fratczak, 2007). This research focuses on material resources and various forms of social support exchanged in social networks, showing that supportive networks facilitate the realization of fertility intentions. This stream of research is largely disconnected from the research on the diffusion of family planning mentioned previously (exception: Bühler and Fratczak, 2007).

Studies on diffusion processes and social capital connected to fertility behavior have been conducted mostly in developing countries and in post-communist transformation societies in Eastern Europe, stressing the relevance of social relations and interpersonal support in these countries with rather weak mass media, education, and welfare systems, and the prevalence of rather strong and traditional family bonds. Little is known about how social networks affect fertility behavior in Western European societies characterized by individualization processes that tend to diminish the importance of traditional family bonds. Nevertheless, studies on issues such as social capital and dropping out of school in the United States (Coleman, 1988), or social relationships

after widowhood in Germany (Hollstein, 2002), appear to indicate that social capital, social support, and personal relationships are relevant to individuals' behavior in Western countries as well, and can therefore also be applied to fertility research. A rather large research field deals with intergenerational support (e.g., Aquilino, 2005; Mandemakers and Dykstra, 2008) and provides evidence for the existence and relevance of various forms of reciprocal support between parents and children in Western countries. Research in the U.S. and other Western countries on the intergenerational transfer of fertility patterns and the transmission of family values and ideals show a positive correlation across generations and among siblings (Axinn et al., 1994; Murphy and Wang, 2001; Steenhof and Liefbroer, 2008). In addition to the role played by relatives, other relationships, such as those to peers, are important factors of secondary socialization affecting fertility, as research on teenage pregnancies has shown (Arai, 2007; Billy and Udry, 1985). There is qualitative evidence suggesting that peers are influential in the fertility choices of post-adolescent populations, just as they are in the choices made by adult couples (Bernardi, 2003).

Our research therefore focuses on this 'blind spot' of fertility research, and takes a closer look at the mostly neglected issue of the influence of peers and other persons beyond the core family. Among the challenges researchers face in studying social network effects on fertility include the need to identify the individuals who compose a fertility relevant social network, and to understand the ways this network affects the fertility behavior of individuals. The choice of the specific section of the network can be grounded a) on theoretical assumptions, and b) on empirically grounded analysis. The studies we have cited above either collect information on the people with whom Ego discusses family planning, or on the people who provide certain kinds of support, drawing on theories of social learning, social influence, and social capital. Insights from this research on fertility in non-Western countries, as well as hypotheses drawn from research on social capital in other domains in Western countries, cannot be easily transferred to fertility research in Western contexts. First, the information exchanged, the norms involved, and the meanings associated with having or not having children are different in different social contexts. Second, the forms and relevance of social support are likely to vary in different welfare state regimes given the different kinds of needs covered by public transfers. Third, the support involved in behavior other than childbearing and childrearing may differ from those relevant for fertility behavior.

To create a basis for further theoretical assumptions, we propose taking an empirical approach, exploring the fertility-relevant relationships, the various mechanisms of influence, and the forms of social support. In this article, we focus our analysis on the following questions: Who influences the fertility intentions and behavior of individuals, and what is the position of these people in Ego’s social network?

## 2 METHODS

We base our empirical analysis on a set of 50 semi-structured, qualitative interviews. We interviewed 35 focal individuals (Egos) and up to three of their network partners (Alters) who were partners or friends of the Egos. The focal respondents were men and women between the ages of 28 and 32. We chose this age group because the median age of first births for women lies in this age span. We therefore presume that, at this age, family formation is a salient topic. Our focal respondents have grown up in the same town in the northwest of Germany; most of them have attended the same school class, either at a secondary school or a high school. We chose respondents with secondary or higher education because, in Germany, it is the fertility behavior of the middle- and higher-educated which has undergone the greatest change in recent years (Kreyenfeld, 2004). The interviews were collected in the frame of a mixed-methods research study on social networks and social influences on family formation (cf. Bernardi et al., 2006, 2007, 2008).

Most of our respondents are childless; some have one or, very rarely, two children. The socio-demographic characteristics of our sample are displayed in the following table.

Table 1: Respondents’ socio-demographic characteristics

Number of Respondents	35 Egos and 15 Alters
Gender	28 women, 22 men
Median Age	30 years, (min 25 years, max 37 years)
Parity	31 childless, 16 one child, 3 two children
Partnership status	11 Singles, 6 LAT, 8 cohabiting, 25 married
Education	13 secondary education, 11 high school education, 18 university education, 8 currently enrolled in education

The interviews cover educational and professional trajectories, partnership history, intentions to have a (further) child, and experiences with becoming a parent; as well as

general information on family-related attitudes, general values, and life goals. Most importantly for our purposes here, the interviews explore in depth the respondent's social relationships, and collect information on kin, friends, and other persons our respondents are in contact with.

In order to collect comparable and quantifiable data on the structure of respondents' social networks, we collected information about those networks with a network chart (Kahn and Antonucci, 1980; Antonucci, 1986) and a grid, which were used to measure the strength of Alter-Alter relationships, and the relational density of the 10 most important network members. In our name-generating question, we asked respondents to name the persons they are in contact with, and to rank them according to their importance in the network chart. In this chart, individuals were placed in six concentric circles corresponding to different degrees of importance, i.e., the two innermost circles were labeled 'very important'; the two medium circles, 'important'; and the two outer circles, 'of little importance'. The space outside the chart was labeled 'not important', and one corner was preserved for persons who are perceived as 'problematic'.

The term 'importance' is not specified further in order to allow for an exploration of the borders of this dimension from the point of view of the respondents. Using a think-aloud technique, we asked the respondents to specify in what ways they interpreted the term 'importance' each time.

Our analysis proceeded in three steps. First, the network charts were analyzed in terms of the size, composition, and the importance given to each tie. Second, the interviews were analyzed based on the open coding procedure developed in Grounded Theory (Strauss and Corbin, 1990). All accounts of the respondents' own attitudes, intentions, and experiences related to fertility and other aspects of the life course, as well as those of other people, were coded. General accounts of relationships were also coded. During this process, incidents of social influence could be identified. In a third step, relevant network partners, the mechanism of influence involved, and the position of the partners in the network chart were contrasted for each incident, thereby identifying patterns of influence.

### **3 FINDINGS: Who is relevant for what?**

The number of persons inserted into the network chart determines the size of the network. The instrument of the network chart and the name generator provide a rather large section of current social relations for each Ego, with a median size of 20.5 single persons. Thirty-five of the respondents included not only single persons, but also groups of people in their network chart. On average, a group consists of 12 persons, with the largest groups mentioned consisting of around 60 persons. This adds up to a median network size in our sample of 33 persons. The two smallest networks include six single persons and no groups, while the largest network contains 48 single persons and five groups. Each group is composed of an average of 19 persons, which adds up to 141 persons in the network.

Since the networks we collected are rather large, we are able to identify a large section of Egos' current social relationships, as well as a variety of different role relationships, and relationships with different degrees of emotional closeness, frequency of contact, and so on. During the interviews, only a few persons were mentioned who were not included in the chart, mostly because they were judged to have too little importance in the lives of respondents (acquaintances). These data allow us to describe the social relationships that make up the respondents' networks, and to identify the relevant network partners for fertility decisions.

#### **Social Relations forming the respondents' networks**

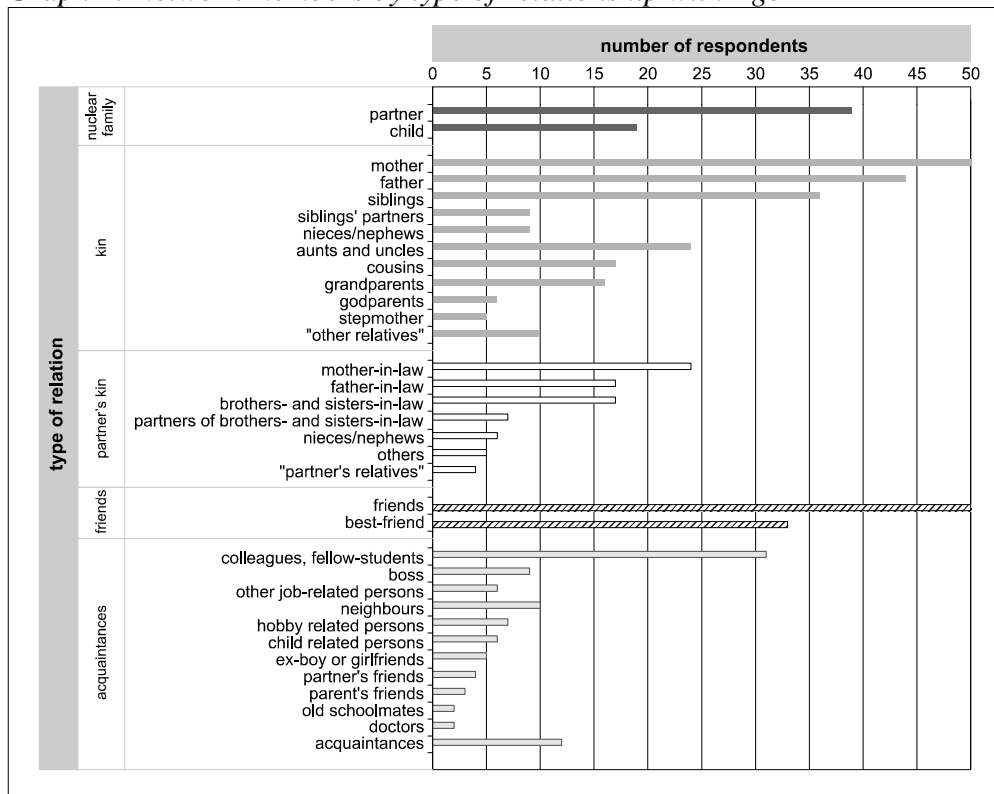
All network charts contain relatives (mostly parents and siblings, the partner, and children, when present) as well as people considered to be friends<sup>1</sup> and acquaintances. A full overview of the persons inserted in the network chart gives the following graph.

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<sup>1</sup> We are aware that defining "friendship" is a delicate issue (Pahl and Spencer, 2004). For our purpose it is sufficient to simply refer to how the respondents designate their network partners. All of them include persons they describe as "friends" in their chart.

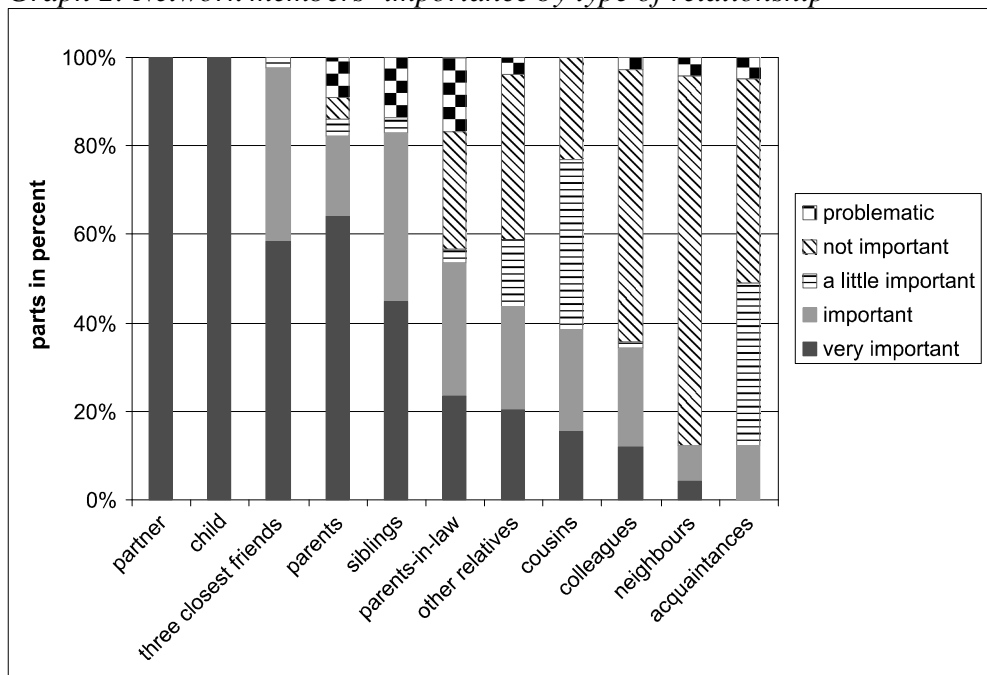


Graph 1: Network members by type of relationship with Ego



The category 'importance' in our name-generating question was interpreted mostly as 'emotional importance', 'emotional closeness', 'intimacy', and 'trust'; and included frequent contacts, either in person or via phone and e-mail. Thus, we argue, the different levels of importance ascribed by the respondents can be taken as a measure of tie strength. The network partners ranked as 'very important' and 'important' are in most cases the following: partners, children, parents, siblings, and the closest friends. These persons can be – based on the definition by Granovetter - considered to be 'strong ties'. Relationships classified as having 'little importance' include those with acquaintances (e.g., teammates, neighbors, old schoolmates), as well as with some friends and relatives who are not considered close. The respondents do not feel emotionally attached to these persons, and do not exchange reciprocal support. They can be thought of as 'weak ties'. There is also a group of ties that some respondents designate as strong, while others classify as weak: parents-in-law, cousins, aunts, and uncles and other relatives, as well as the partners' relatives (designated as 'other relatives' in the graph below) and colleagues. The indicated tie strength for these role relations mostly varies with parity: individuals who are already parents give more importance to their own and their partner's kin. Another interesting finding is that cousins often are classified as strong ties by persons who do not have any siblings. The following graph displays the role relations according to their 'importance'.

Graph 2: Network members' importance by type of relationship



### Persons of influence on attitudes and intentions of family formation

Narrative accounts by respondents of their ideas, plans, and intentions concerning family formation revealed various social influences. An analysis of the narrative part of the interview allowed us to identify the network partners who take part in shaping our respondents' fertility intentions. We will describe here who they are, and in what ways they exert influence. Because one assumption could be that strong ties also have a greater influence on individuals' childbearing decisions, we will contrast the importance of the Alters, as defined by the respondents, with the influence of the Alters on the Ego's fertility intentions, as revealed in our analysis (see Table 2, Appendix).

The person mentioned most frequently in discussions about having children is – not surprisingly – the **partner**; he or she is also always classified as a strong tie. All respondents feel that having a baby is a decision both partners have to make together, and often talk about the issue in terms of what they as an entity ('we', 'us') feel, intend, and have decided. All respondents report that they have often talked with their (current and also former) partners about having children, and that the current partner is always the first person with whom they would discuss this issue. Most respondents report

agreement with their partner about whether and when to have a child, as well as about how to divide the tasks in the partnership. For those who do not, disagreement leads to postponement of childbirth.

Many respondents state that their **parents** have influenced their views on family formation, and that there is a large degree of conformity in fertility attitudes and behavior between parents and children. Most respondents state that they want to organize family life and shared tasks in the partnership in the same way as their parents. Regardless of the strength or weakness of their current ties to their parents, respondents report that their parents are influential. This is because their parents shaped the context the respondents were socialized in, and these early life influences are still effective in later life. Parents who are described by respondents as ‘very important’ also affect their children’s attitudes and behavior by transmitting their values, attitudes, and expectations. For example, as long as their adult children are enrolled in education, most parents do not want them to have a child. But if their children are settled in a job, many parents start asking for grandchildren, and express a desire to become grandparents. Parents who are ‘very important’ also often provide various forms of support. They may, for example, support their offspring financially, provide cheap housing, serve as important sources of emotional support and advice, and (are expected to) provide support in childcare - one of the most influential forms of support when it comes to family formation. Being able to draw on parental support fosters family formation, while a lack of support is one factor hampering it. Parents’ supportive function also gives them sanctioning powers they can use to enforce their expectations.

**Siblings** and **cousins** are most influential when they are strong ties, and when they are older or of the same age and of the same gender as the respondent. Especially when there are no close older siblings, cousins are often relevant network partners. Siblings and cousins are considered to be role models or important points of reference. If siblings and cousins are strong ties and already have children, the respondents talk to them about family formation, interact with their children, and, as a consequence, often feel both rationally and emotionally motivated to have a child of their own. The respondents report many incidents of learning from their siblings and cousins with children about issues such as the consequences of certain timing decisions (having children early in the life course, spacing of childbirths, etc.). Especially siblings with children are often

expected to provide support in childcare. If siblings and cousins do not have children, a very influential opportunity to learn positively about family formation is missing. Siblings and cousins who are described as weak ties are less influential, but they may serve as a reference point and provide information about family formation.

Family formation is an issue respondents discuss with their **friends** who are designated as strong ties, irrespective of their own intentions with regard to having children. Respondents engaged with friends who already have children monitor their behavior and experiences closely, and report that, through their friends' children, their desire for a child has grown. Friends also provide opportunities for learning about family formation, especially about partnership arrangements and reconciliation of work and caring responsibilities. The more the topic of family formation comes up among their friends, the more the respondents report being forced to think about, express, and justify their ideas on family formation. This often leads them to form concrete plans concerning family formation, fostering the realization of their intention. Our analyses of friendship dyads showed that close friends instigate or appease each other on the issue of having a child. They support each other in their belief that their way of living (currently planning for a child, or postponing or forgoing childbirth) is not only acceptable, but is also the most desirable option (Bernardi et al., 2007). Close friends who have decided to remain childless are able to shield themselves from prevailing social norms by establishing an in-group norm, and supporting each other in the perception that their behavior is appropriate. If friends have children, most respondents feel that this changes their friendship, limiting the amount of time that can be spent with each other. Friends, who are involved in a serious partnership, and who plan for and have children, therefore put a strong pressure on the respondents to follow their lead or risk becoming 'the only childless person left'.

Surprisingly, **acquaintances**—such as colleagues, teammates, and neighbors—who are designated as weak ties also have an influence on individuals' fertility intentions and family formation plans. These acquaintances are a very valuable source of information. From acquaintances, the respondents reportedly learn about 'new' behavior, such as paternal leave or the use and availability of childcare institutions. Especially influential are acquaintances who have tried for a long time to get pregnant (some with the help of assisted reproduction techniques). Some women report that learning from acquaintances

that getting pregnant may take at least several months affected their decision-making, and encouraged them to start trying much earlier than they would have otherwise. So this information, coupled with the fear of remaining permanently childless, seems to be a powerful factor in the decision against postponing. Of special relevance among the acquaintances are colleagues. Female respondents can learn from their female colleagues how they deal with job and family: they observe how long their colleagues take breaks from work, and learn from them about the difficulties they will face when they come back into the job. Based on these observations, women draw conclusions about how they will be able to manage these issues themselves. Male respondents learn about the benefits and costs of taking parental leave (e.g., the consequences for their career opportunities). Knowing men who engage in such behavior can foster a positive evaluation, and lead to adoption of the new behavior.

It is not only individual persons who are relevant for the forming of respondents' childbearing intentions, but also **groups of persons** who serve as frame of reference. These groups are often labeled 'my circle of friends' or 'the people around me'; or are more specialized groups, such as 'my old schoolmates', 'my colleagues', or 'my fellow students'. These groups mainly consist of people of around the same age, often with a similar education and partnership status as Ego. Looking at these groups provides some sort of measure along an imaginary scale ranging from 'most of the members of this group are childless', to 'many are starting to think about family formation', to 'some are having children', to 'many are having children', and to 'most are having children'. Accordingly, one is either early in having children (when most do not), or late (when most already have children); one is either somewhat on the line and conforming, or one is deviant. Considerations about the timing of childbirth and the perception of the respondent's own readiness often include this kind of evaluation.

Grandparents, aunts and uncles, and other relatives are very seldom perceived and mentioned as being influential. If at all, the respondents report that some of these relatives ask about their childbearing plans, but, in contrast to how the respondents perceive these questions when asked by their parents, they do not feel pressured or obliged to adjust their behavior to their relatives' expectations. Parents-in-law play an important role in providing support for the couple, but their influence on Ego is rather indirect, coming via the partner, whose attitudes and intentions they influence.

## 4 CONCLUSIONS

Previous studies on social interactions and fertility behavior have focused on communication and support networks in developing and Eastern European countries. These studies demonstrated social network effects on individual fertility intentions and behaviors. With our German case study, we were able to show that, even in a Western, modernized European country, social networks and personal relationships have an impact on individual fertility intentions. We further wanted to identify network partners relevant for family formation. We were able to show that the people the respondents communicate with on issues surrounding family formation, and the information exchanged with these people, are in many ways relevant in the respondents' decision-making process about becoming a parent. Network partners who can be considered to be strong ties (e.g., parents, siblings, and friends) exert a broad variety of influences and have sanctioning power, especially in dense networks. Network partners to whom the respondents have weak ties (e.g., acquaintances) are mainly providers of certain pieces of information; especially in sparse networks, they can distribute 'new' information. It is also important to note that the influences in communication networks do not necessarily all point in the same direction: parents may ask for grandchildren, while friends may insist on not having children; some people may provide information that favors childbirth, while others may suggest forgoing parenthood – a compromise in these cases is often postponement. A lack of communication on fertility and poor access to information can also play a role in decision-making. In networks in which all members of the same age group agree that family formation is not yet an issue, and in which no one already has children, respondents do not have access to any substantial information about how their lives would change by having children.

We could also show that social support is very relevant in giving the respondents the perception that they are able to realize their fertility intentions, especially in the provision of childcare support. In Western Germany, attitudes towards public childcare, especially for children under three or involving fulltime kindergarten, are very negative (Fagnani, 2002). In addition, the supply of childcare is rather low, especially for children under three (BMFSFJ, 2006). Nevertheless, many mothers want to or have to work (OECD, 2001: 136), and, since it is rather uncommon for fathers to take over family responsibilities, they need to find proper childcare arrangements. In many cases,

care is provided by the grandparents of the child, and it is widely expected that grandparents will be willing and able to provide this kind of regular support. A supportive environment created by the parents, as well as by other relatives and friends, strongly fosters the realization of family formation.

Apart from the individuals Ego communicates with about family formation, and the people who are supportive to Ego, there are also two groups of people who are influential, but who would not necessarily come to mind when being asked about communication and support. These are, first of all, the people whose fertility-related behavior Ego observes. Respondents refer quite often to peers whose behavior they have been observing, using them as examples for how to behave or how not to behave, or mention learning from them about possible consequences of certain forms of behavior. However, our respondents draw their information only from observing these individuals, and do not talk to them about family formation. The people observed are mainly weak ties, and are often similar in age, education, gender, partnership status, or profession, such as colleagues. The second influential group is composed of people who have children. Ego comes into contact with these children, plays with them, and babysits them, though not necessarily regularly or often. These persons are often friends of friends or relatives whom the respondents meet at family parties and reunions, but with whom they otherwise have little contact. Again, Ego would not necessarily discuss issues related to family formation with people from this group, but exposure to their families, including playing with their children and watching them grow, can trigger positive emotions towards children, and thereby foster childbearing intentions.

Groups, which cannot be measured by looking at single ties, emerge as relevant sources of social influence. These groups can be very large, such as ‘my social environment’ or ‘my group of friends and acquaintances’; or very specialized, such as ‘the people I went to school with’, or ‘the people I went to university with’. Members of these groups serve as comparative standards: ‘Do they already have children?’ ‘How many?’ Based on the answers to these questions, the respondents judge whether they would be early or late if they had a child now. As our qualitative analyses have shown, this type of judgment is an important factor in building a feeling of readiness for entering into parenthood.

Recently, Claire Bidart and Daniel Lavenu (2005) have shown how life course trajectories, such as entry into the labor market, setting up house with a partner and the birth of children in the household, can influence size and structure of personal networks. Based on our qualitative analysis and complementary to the findings of Bidart and Lavenu, we argue that social relationships can also have a strong impact on individuals' and couples' fertility intentions and behavior. Thus, social networks can shape the timing and the form of life course trajectories. Further, we are able to show that social relationships beyond the core family of parents and siblings need to be considered when taking social influence on the family formation of individuals into account. Nevertheless, there are limitations to our approach. Since our research is based on a relatively small sample, which does not include respondents from lower social strata, further examination, especially of respondents with lower levels of education, is needed. Moreover, our study was designed to be cross-sectional; to learn about the effects of social influence, a longitudinal research design would be preferable. Following respondents over time would make it possible to link attitudinal and behavioral changes to changes in the social networks of the respondents. Apart from longitudinal research, comparisons across countries are needed in order to explore the channels and mechanisms of social influence on fertility in different cultural contexts. The results we presented in this paper are based on a sample from Western Germany. Comparative research we have conducted in Western and Eastern Germany (Bernardi et al., 2008) gives us reason to assume that – due to different cultural contexts – these channels and mechanisms of social influence vary even across these two parts of one country. Much more variation is to be expected when this research is extended to other European or Western industrialized countries.

### **Acknowledgements**

This paper is part of the project “Social Influence on Family Formation and Fertility in Northern Germany”. The project is funded by the Independent Research Group “The Culture of Reproduction” at the Max Planck Institute for Demographic Research in Rostock, Germany. We thank Miriam Hils for language editing.



## Reference List

- Antonucci, T., 1986. Hierarchical Mapping Technique. *Generations* (Summer), 10-12.
- Aquilino, W. S., 2005. Impact of Family Structure on Parental Attitudes toward the Economic Support of Adult Children over the Transition to Adulthood, *Journal of Family Issues* 26(2): 143-67.
- Arai, L., 2007. Peer and Neighbourhood Influences on Teenage Pregnancy And Fertility: Qualitative Findings From Research in English Communities, *Health and Place* 13: 87-98.
- Axinn, W.G., Clarkberg, M.E. Thornton, A., 1994. Family Influences on Family Size Preferences, *Demography* 31(1): 65-79.
- Behrman, J.R., Kohler, H.-P., Watkins, S.C., 2002. Social Networks and Changes in Contraceptive Use over Time: Evidence from Longitudinal Study in Rural Kenya, *Demography* 39(4): 713-738.
- Bernardi, L., 2003. Channels of Social Influence on Reproduction, *Population Research and Policy Review* 22(5-6): 527-55.
- Bernardi, L., Keim, S., von der Lippe, H., 2006. Freunde, Familie und das eigene Leben. Zum Einfluss sozialer Netzwerke auf die Lebens- und Familienplanung junger Erwachsener in Lübeck und Rostock, in B. Hollstein and F. Straus (Eds.) *Qualitative Netzwerkanalyse. Konzepte, Methoden, Anwendungen*, pp. 359-90. Wiesbaden: VS Verlag.
- Bernardi, Laura, Keim, Sylvia and von der Lippe, Holger, 2007. Social Influences on Fertility. A Comparative Mixed Methods Study in Eastern and Western Germany, *Journal of Mixed Methods Research* 1(1): 1-27.
- Bernardi, Laura, Klärner, Andreas and von der Lippe, Holger, 2008. Job Insecurity and the Timing of Parenthood: A Comparison between Eastern and Western Germany, *European Journal of Population* 24(3): 287-313.

Bidart, Claire and Daniel Lavenu. 2005. "Evolutions of Personal Networks and Life Events." *Social Networks* 27(4):359-76.

Billy, John O. G. and Udry, Richard J., 1985. Patterns of Adolescent Friendship and Effects on Sexual Behavior, *Social Psychology Quarterly* 48(1): 27-41.

BMFSFJ – Bundesministerium für Familie, Senioren, Frauen und Jugend, 2006. Kindertagesbetreuung für Kinder unter drei Jahren. Bericht der Bundesregierung über den Stand des Ausbaus für ein bedarfsgerechtes Angebot an Kindertagesbetreuung für Kinder unter drei Jahren; at:  
[www.bmfsfj.de/bmfsfj/generator/Kategorien/Forschungsnetz/forschungsberichte,did=80044.html](http://www.bmfsfj.de/bmfsfj/generator/Kategorien/Forschungsnetz/forschungsberichte,did=80044.html)

Bongaarts, John and Watkins, Susan C., 1996. Social Interactions and Contemporary Fertility Transitions, *Population and Development Review* 22(4): 639-82.

Bott, Elizabeth, 1957. *Family and Social Network. Roles, Norms, and External Relationships in Ordinary Urban Families*. New York: The Free Press.

Bourdieu, Pierre, 1986. The Forms of Capital, J. G. Richardson (ed) *The Handbook of Theory: Research for the Sociology of Education*, pp. 241-58. New York: Greenwood Press.

Bühler, Christoph and Fratzak, Ewa, 2007. Learning from Others and Receiving Support: The Impact of Personal Networks on Fertility Intentions in Poland, *European Societies* 9(3): 359-82.

Burt, Ronald S., 1987. Social Contagion and Innovation: Cohesion Versus Structural Equivalence, *American Journal of Sociology* 92: 1287-335.

Coleman, James S., 1988. Social Capital in the Creation of Human Capital, *The American Journal of Sociology* 94(Supplement: Organizations and Institutions: Sociological and Economic Approaches to the Analysis of Social Structure): S95-S120.

Emirbayer, Mustafa and Goodwin, Jeff, 1994. Network Analysis, Culture, and the Problem of Agency, *American Journal of Sociology* 99(6): 1411-54.

Emirbayer, Mustafa and Mische, Ann, 1998. What Is Agency?, *American Journal of Sociology* 103(4): 962-1032.

Fagnani, Jeanne, 2002. Why do French women have more children than German women? Family policies and attitudes towards child care outside home, *Community, Work and Family* 5(1): 103-20.

Freeman, Linton C., 1979. Centrality in Social Networks: Conceptual Clarification, *Social Networks* 1(3): 215-39.

Friedkin, Noah E., 1982. Information Flow Through Strong and Weak Ties in Intraorganizational Social Networks, *Social Networks* 3(4): 273-85.

Granovetter, Mark S., 1973. The Strength of Weak Ties, *American Journal of Sociology* 78(6): 1360-80.

Granovetter, Mark S., 1974. *Getting a Job: A Study of Contacts and Careers*. Cambridge, Mass.: Harvard University Press.

Granovetter, Mark S., 1985. Economic Action and Social Structure: The Problem of Embeddedness, *The American Journal of Sociology* 91(3): 481-510.

Hollstein, Betina, 2002. *Soziale Netzwerke nach der Verwitwung. Eine Rekonstruktion der Veränderungen informeller Beziehungen*. Opladen Leske + Budrich.

Kahn, Robert L. and Antonucci, Toni C., 1980. Convoys Over the Life Course. Attachment, Roles and Social Support, *Life-Span Development and Behavior* 3: 253-86.

Kincaid, D. Lawrence, 2000. Social Networks, Ideation, and Contraceptive Behavior in Bangladesh: A Longitudinal Analysis, *Social Science and Medicine* 50(2): 215-31.

Kohler, Hans-Peter, 2001. *Fertility and Social Interaction. An Economic Perspective*. Oxford: Oxford University Press.

Kreyenfeld, Michaela, 2004. Fertility Decisions in the FRG and GDR: An Analysis With Data From the German Fertility and Family Survey, *Demographic Research Special Collection* 3(11): 275-318.

- Mandemakers, Jornt J. and Dykstra, Pearl A., 2008. Discrepancies in parent's and adult child's reports of support and contact, *Journal of Marriage and Family* 70(2): 495-506.
- Marsden, Peter V. and Friedkin, Noah, 1993. Network Studies of Social Influence, in S. Wasserman and J. Galaskiewicz (Eds.) *Advances in Social Network Analysis* (22), pp. 127-51. London: Sage.
- Mitchell, J. Clyde, 1973. Networks, norms, and institutions, in: J. Boissevain, J. and J. C. Mitchell (Eds.), *Network Analysis – Studies in Human Interaction*, pp. 2-35. The Hague: Mouton.
- Montgomery, Mark R. and Casterline, John B., 1993. The Diffusion of Fertility Control in Taiwan: Evidence From Pooled Cross-Section Time-Series Models, *Population Studies* 47(3): 457-79.
- Murphy, Michael and Wang, Duolao, 2001. Family-Level Continuities in Childbearing in Low-Fertility Societies, *European Journal of Population* 17(1): 75-96.
- OECD, 2001. *Employment Outlook*; at: [www.oecd.org/dataoecd/11/12/2079435.pdf](http://www.oecd.org/dataoecd/11/12/2079435.pdf)
- Pahl, Ray and Spencer, Liz, 2004. Personal Communities: Not Simply Families of 'Fate' or 'Choice' *Current Sociology* 52(2): 199-221.
- Philipov, Dimiter, Spéder, Zsolt and Billari, Francesco C., 2006. Soon, Later, or Ever? The Impact of Anomie and Social Capital on Fertility Intentions in Bulgaria (2002) and Hungary (2001), *Population Studies* 60(3): 289-308.
- Portes, Alejandro, 1998. Social Capital: Its Origins and Applications in Modern Sociology, *Annual Review of Sociology* 24: 1-24.
- Rosero-Bixby, Luis and Casterline, John B., 1994. Interaction Diffusion and Fertility Transition in Costa Rica, *Social Forces* 73(2): 435-62.
- Steenhof, Liesbeth and Liefbroer, Aart C., 2008. Intergenerational transmission of age at first birth in the Netherlands for birth cohorts born between 1935 and 1984: evidence from municipal registers, *Population Studies* 62(1): 69-84.
- Strauss, Anselm and Corbin, Juliet, 1990. *Basics of Qualitative Research: Grounded*

Theory Procedures and Techniques. Newbury Park, London, and New Delhi: Sage.

Valente, Thomas W., Cotts, Susan W., Jato, Miriam N., van der Straten, Ariane and Tsitsol, Louis-Philippe M., 1997) Social Network Associations with Contraceptive Use Among Cameroonian Women in Voluntary Associations, *Social Science and Medicine* 45(5): 677-87.

Wegener, Bernd, 1991. Job Mobility and Social Ties: Social Resources, Prior Job, and Status Attainment, *American Sociological Review* 56(1): 60-71.

Table 2: Relevant others, corresponding mechanisms of influence, topics, and illustrating quotes

relevant others	mechanisms of influence	topics	quotes
parents / parents-in-law	<p><b>social pressure</b> emotional and financial sanctions</p> <p><b>social learning / socialization:</b> positive or negative role-models</p> <p><b>social support:</b> provision of child care, financial support and housing, economic dependency</p>	<p>desire for grandparenthood</p> <p>timing of children's parenthood: obeying sequencing norms (gendered) division of household work</p> <p>marriage</p> <p>education and work (related)</p> <p>support</p>	<p><i>Male respondent, 29 years old, single, childless, university education.</i> I believe it would be good if someone stays (at home) with the child. I can say that from my own experience, because my mother did not work (when I was a child). I just cannot imagine what it is like when both parents work. <b>(Original quote in German:</b> Es wäre, glaube ich, gut, wenn jemand bei dem Kind bliebe, kann ich aus Erfahrung sagen, weil meine Mutter nicht gearbeitet hat, ich mir auch nicht ganz vorstellen kann, wie es ist, wenn beide Eltern arbeiten.)</p> <p><i>Male respondent, 30 years old, living apart together, childless, university education.</i> Somehow we would work it out ... She (the partner) has her parents as support, I have mine as support. ... In any case, we would have financial support from the parents if we ever get in trouble. <b>(Original quote in German:</b> Ich denk' ja, irgendwie würde man sich denn schon durchwurschteln... sie hat ihre Eltern noch als Unterstützung, ich hab meine als Unterstützung. Also, irgendwie würde das schon klappen. Also, Unterstützung auf alle Fälle von den Eltern, (...) sicherlich auch finanzieller Art, falls man mal in die Bedrängnis kommt.)</p>
siblings / cousins	<p><b>social learning</b> positive or negative role-models vicarious experiences</p> <p><b>social contagion</b> emotional contagion, cascading of events</p> <p><b>social pressure</b> emotional sanctions</p>	<p>timing of parenthood</p> <p>organization of family life, esp. how to combine family and job</p> <p>joys and annoyances of parenthood</p> <p>examples of failure (e.g. divorce)</p> <p>contact with (young) children</p>	<p><i>Female respondent, 25 years old, married, childless, higher education.</i> <i>Interviewer:</i> How about raising the children? <i>Respondent:</i> Well, you observe how others do it, then you say, this way I like it and that way I don't like it. Some things my sister does are all right, other things I would do differently. <b>(Original quote in German:</b> I: Und zum Kinder Aufziehen? P: Ja das ist eben so, man sieht wie es andere machen und das man dann sagt, so find ich das gut so find ich das nicht gut. Das ich bei einigen Sachen bei meiner Schwester sage, das ist in Ordnung, da würd' ich es anders machen...')</p> <p><i>Female respondent, 31 years old, single, childless, university education.</i> I have one sister, she is three and a half years older than me, and she has two children, my godchildren... and I really realize that I very much enjoy it, that I have very frequent contact with them, I always try to be present at key events such as second birthday, third birthday, the first carrot mash, things like that ... One of them is two years old, the other four, and I really realize that somehow I would like to have that for myself. <b>(Original quote in German:</b> Ich hab' `ne Schwester, die ist dreieinhalb Jahre älter als ich, und die hat jetzt zwei Kinder, meine Patenkinder... und ich merk' schon, dass ich mich immer unheimlich drauf freu', dass ich unheimlich viel Kontakt zu ihnen habe und auch immer versuch', zu den Schlüsselerlebnissen der Kinder irgendwie dabei zu sein, zweiter Geburtstag, dritter Geburtstag, und alles was man halt so braucht. Das erste Karottengläschen usw. (...) Die sind jetzt, der eine wird zwei und die andere ist vier geworden. Und dass ich schon merke, dass ich das schon irgendwie gern hätte.)</p> <p><i>Female respondent, 33 years old, married, childless, higher education.</i> <i>Respondent:</i> Even at the risk of sounding awful, I would never stop working. I'd be desperately unhappy if I stayed at home. But, I have nothing against housewives. My sister did that for five years. But I would go mad! ... <i>Interviewer:</i> You said that sounds awful. Why? <i>Respondent:</i> Well, you talk to others about that. They find it awful if I say something like that. How can I say something like that, I should not have children at all and instead focus on my career. I don't like talking to my sister about that issue, because then I feel bad. <b>(Original quote in German:</b> Auch auf die Gefahr, dass das jetzt schrecklich klingt, ich würde, glaub' ich, nie aufhören mal zu arbeiten. Ich wär' todunglücklich, wenn ich zu Hause bin. Wobei ich nichts gegen Hausfrauen habe. Meine Schwester hat das fünf Jahre lang gemacht, aber ich würde durchdrehen. (...). I: Wieso meinst du, das klingt jetzt entsetzlich? P: Ja, man redet ja auch mit andern drüber. Die finden das entsetzlich, wenn ich so was sage: „Wie ich so was sagen kann und dann sollte ich lieber keine Kinder bekommen und mich auf die Karriere orientierten.“ Mit meiner Schwester red' ich nicht so gerne drüber, weil da geht es mir nicht gut.</p>

<p>(close) friends</p>	<p><b>social learning</b> positive or negative role-models vicarious experiences</p> <p><b>social pressure</b> emotional sanctions</p> <p><b>social contagion</b> emotional contagion, cascading of events</p> <p><b>(potential) support</b> emotional support, child-care</p>	<ul style="list-style-type: none"> <li>- whether or not to have children</li> <li>- sequencing of events (e.g., finishing education, having children)</li> <li>- organization of family life, esp. how to combine family and job</li> <li>- joys and annoyances of parenthood</li> <li>- contact with (young) children</li> </ul>	<p><i>Male respondent, 29 years old, single, childless, higher education</i> A friend of mine, with whom I once shared a flat, just has confessed to me that his girlfriend is pregnant. And a girlfriend of another one of my former classmates has already had a second child. It all seems to be happening so fast. Well, I find that good. It is extremely interesting and sweet. So, actually I'd like to have that, too, yes. <b>(Original quote in German:</b> hat mir gerade ein Freund, mit dem ich in Berlin mal zusammengewohnt habe, gestanden, dass seine Freundin schwanger ist. Und ein anderer aus meinem Jahrgang, kriegt seine Freundin bereits das zweite Kind dieses Jahr. Und, also das geht im Moment so `n bisschen Schlag auf Schlag in der Beziehung. Ja, also schön finde ich das schon. Es ist halt unheimlich interessant und niedlich natürlich und so. Also eigentlich würde ich das schon gerne mal, ja.)</p>
<p>acquaintances and groups of persons ('my circle of friends', 'my old-schoolmates', 'my colleagues' etc.)</p>	<p><b>social learning/social comparison</b> frame of reference</p>	<ul style="list-style-type: none"> <li>- timing of parenthood</li> <li>- sequencing of events</li> <li>- childlessness</li> </ul>	<p><i>Female respondent, 30 years old, single, childless, higher education</i> Somehow the time is coming, isn't it? It seems that many of the people around me are having children now. Acquaintances, and also friends. Then you think, well, it's my turn now, isn't it? <b>(Original quote in German:</b> Wo man aber mit dem Gedanken spielt: und wann soll ich denn endlich, wenn nicht jetzt? Und irgendwie wird das doch mal Zeit, ne? Allein nur schon so aus dem, aus, weiß ich nicht, aus dem Umfeld heraus, dass viele Kinder bekommen haben. Bekannte, Freunde auch. Wo man sich denkt: so jetzt bin ich ja wohl auch mal bald dran, ne?)</p> <p><i>Female respondent, 28 years old, married, childless, university education</i> First, finishing my studies, then marriage ... I am security fanatic, or maybe I am avoiding danger, because a child, you don't have one incidentally, and if you are studying a lot, well, that is, yes, a risk factor. That sounds so unemotional, but I see it from my colleagues who had children, that's not like a walk in the park for them. Two of them even failed their exam. <b>(Original quote in German:</b> Erstmal Studium zu Ende und dann heiraten, aber sicherlich, ich bin nicht nur Sicherheitsfanatiker, sondern eher auch Gefährlichkeitsfanatiker, denn n Kind, das macht man nicht nur kurz nebenbei und wenn man denn noch recht viel lernen muss usw., das ist halt einfache ein, ja Risikofaktor. Das klingt so unemotional, aber ich seh's halt bei meinen Referendarkollegen, die Kinder hatten, dass ist kein Zuscherschlecken gewesen für die, zwei davon sind sogar durchgefallen).</p>