Mapping Social Influence on Fertility: a Mix-Method Approach to Data Collection and Analysis

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1 Introduction

Theoretical propositions on the importance of social effects due to informal interaction for fertility change are not yet supported by systematic empirical evidence (Kohler et al. 2002). Major problems are represented by the correct identification of which are the informal relationships salient for fertility decision-making and by the comparability of social networks across population subgroups. This paper suggests a solution to these two problems. It draws on insights from a comparative study on the role of informal social networks on fertility behavior in East and West Germany to illustrate the advantages of employing a multi-method research strategy in this field. Mix-method research designs are still a rarely met challenge in demographic research, mainly because of the additional effort of merging quantitative and qualitative procedures of data collection and analysis. We use a combination of in-depth interviewing, network charts and network grids to elicit the map of individual personal relationships and their influence on respondents fertility. We collect parallel information from respondents themselves and up to three members of their social network. In the following we sketch our approach to data collection and data analysis.

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2 Sampling strategy

We aim at understanding the influence of relatives and peers on couple fertility decision-making in two social contexts of East and West Germany. We conduct our data collection in the two urban settings of Rostock (East Germany) and Luebeck (West Germany). On the one hand until the postwar period these were largely comparable "Hanseatic twins" with respect to size, historic and economic background, and composition of population. On the other hand, specific differences in the content and meaning of social interaction and the characteristics of social networks emerged during the second half of the XX century (Voelker 1995, Ettrich and Ettrich 1993). We expect that these differences are still visible to some extent and that they affect the role of social influences on family development in the two contexts.

Our purposive sample strategy targets individuals belonging to the cohorts aged between 26 and 31 in 2004 (the age range in which on average occur first and second births among women). The choice of these cohorts means having interviewees for whom family formation is likely to be a salient topic and who may have experienced vicarious parenthood (in their social network). In order to control for influences coming from early socialization during adolescence, we recruit respondents who attended the same school in each of the two settings. Half of the sample (32) graduated from the same 'Gymnasium' (higher level secondary education in the German system) and the other half from the same 'Realschule' (middle level secondary education) and attended the same school class. Men and women with high and medium educational levels are those whose fertility behavior considerably changed in the recent years in Germany (Kreyenfeld 2001).

In addition to the 64 main interviews, we directly collect information from up to three relatives and peers. In each setting, our interviewees can be thought as divided into two groups: main respondents (from now on Ego) and the members of his or her social networks (from now on Alteri). Interviews with Alteri are generally conducted with one of Ego's parents, the current partner, and a close friend when these are available. Figure 1 shows the basic sampling features (the arrows indicate the targeted comparison groups for the analysis, that is East and West Germany, men and women, higher and lower educated individuals)

[FIG 1 about here]

3 A mix-method data collection

The data collection tool is composed of three parts: a) a semi-structured problem-centered guideline; b) a network chart and a network grid c) a short socio-demographic questionnaire.

1. *The interview guideline.* The problem-centered part of the interview (Witzel 1985, 2000) focuses on prospective questions concerning first and second births. However we cover to a smaller extent also retrospective experiences with childbearing . The guideline is structured as follows:

   - biographic events after graduation from school.
   - partnership history, current partner and recent developments.
   - orientations, meanings, and expectations concerning childbearing, interaction with the partner on the topic
   - characteristics of informal social relations and interaction related to family formation
   - filling and discussion of the network chart and network grid (see below)
   - life course goals and expectations

2. *The network chart.* One central problem in social network research is represented by the identification of the relevant network itself. The network-generator stimulus, generally a question - or a set of questions - affects the definition of the network and the consequent inferences which can be made on social influence (Hollstein 2003). In an effort to both assess and evaluate social networks of influence on fertility choices we use an adapted version of the hierarchical mapping procedure successfully employed in social psychology (Antonucci 1986). The original technique consists in asking respondents to use a diagram of graded concentric circles, with a smaller circle in the center containing a word representing Ego (see fig. 2). Each of the circles represents different levels of perceived relevance of the network partner. Respondents are free to define what is a 'relevant' relationship. This can be related to Ego's degree of identification with Alter, to their emotional closeness, to her helpfulness in specific matters, or even to her negative impact on Ego's life.

   We use such an open stimulus as a first step to explore this variety of different dimensions of relevance and in order to asses what kind of relationships are relevant for fertility decision-making. In addition we can explore whether these differences are systematically related to respondent's characteristics or to the research setting (East or West Germany). While respondents fill out the charts we also ask them

to explain in their own words the choices they make, like the reason to include a specific person and the meaning of placing her in a given circle. Since previous studies show significant effects of emotional and material support on fertility intentions and behavior (Hammer et al. 1982, Belsky and Rovine 1984, Kohler and Buehler 2001) we require to fill out two additional charts in which we vary the network generating stimulus to elicit social networks configurations related to these dimensions. The input for filling out the second chart asks respondents to re-position the Alteri according to how close they are emotionally to Ego. The procedure is repeated a third time to get those informal relationships which are the most relevant in giving material support (see fig 3 and 4). The aim of these additional steps is identifying the social networks defined along the two dimensions of emotional closeness and social support.

[FIG 2, 3 and 4 about here]

3. *The network grid.* The ten most highly rated persons from the three charts are entered in a matrix grid. Respondents are asked to indicate the extent to which these persons are acquainted or befriended with each other (on a five-graded scale). By means of the combined use of the chart and the grid we can easily calculate ego and alters networks characteristics as size, closeness, density. While these numerical indices hold only a moderate reliability and validity for the individual case, when comparing groups of respondents the differences between their average ratings can be tested for statistical significance between population subgroups (East-West, women-men). The respondent's perceptions on his personal relationships collected in the unstructured part of the interview are read also in the light of the configuration of his or her social networks. This configuration emerges through the compilation of comparable network indices, like the size and density for the three dimensions (importance, emotional closeness, and support), the average network closeness (that is the average distance to the innermost-circle), average strength of the relationship within the network (that is the average ratings of Alteri-relationships).

[FIG 5 about here]

4 Multiple perspectives on social relations

The combined use of in-depth interviewing, network chart and grid allows the contextual collection of very rich information on social influence on individual fertility decision-making from multiple or crossed perspectives.

First, the vocabulary of attitudes, expectations, and preferences about fertility and parenthood is collected from the multiple voices of ego and his or her relevant others within the network. The content analysis of these related narrative interviews is revealing the presence of social influence in the construction of meanings related to fertility. It is a direct step into the consequences of the process of social interaction, the social construction of meanings.

Second, the reported perception of social mechanisms is explored from multiple points of view. One of the main limitations of ego-networks data as they are collected in demographic research currently is that Ego is the only source of information concerning not only the the characteristics of the Alteri and the relationship with them but also of their potential influence for Ego's fertility choices. However, interviews with Alteri led us more than once to attribute different connotations to Ego's desire for children which have enriched our understanding of the role of social interaction in shaping meanings and preferences related to parenthood .

Third, a methodological approach which contextually collects and analyzes narrative in-depth interviews and numeric definition of network properties breaks with the artificial distinctions between qualitative and quantitative approaches. The charts and grids instigate in-depth reflections of respondents' web of relationships and influence mechanisms while at the same time it allows to collect data for numerical comparisons between groups. Although they may hold only a moderate reliability and validity for the individual case, when comparing the network indexes between sub-groups of respondents (by gender, by residence, by education) the differences between their average ratings can be tested for statistical significance. These results provide further reflection on the perspectives of respondents within these groups and help to contextualize their stories as well as to reread them under a new light.

Finally, as our first twenty interviews have shown [1], the triangulation implicit in these multiple perspectives is also a continuous source of reflection on the different methodologies used and the advantages and disadvantages of each of them.

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[1] At the moment of writing the data collection is ongoing

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Figure 1: Sample strategy

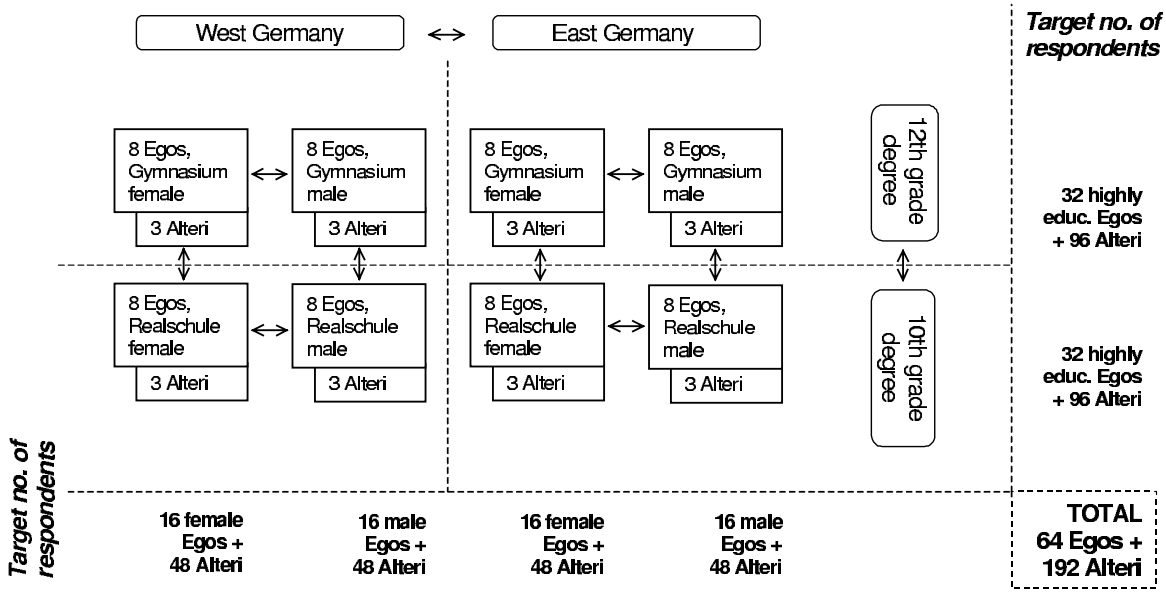


Figure 2: Network chart 1: importance

Interview-No. _____.

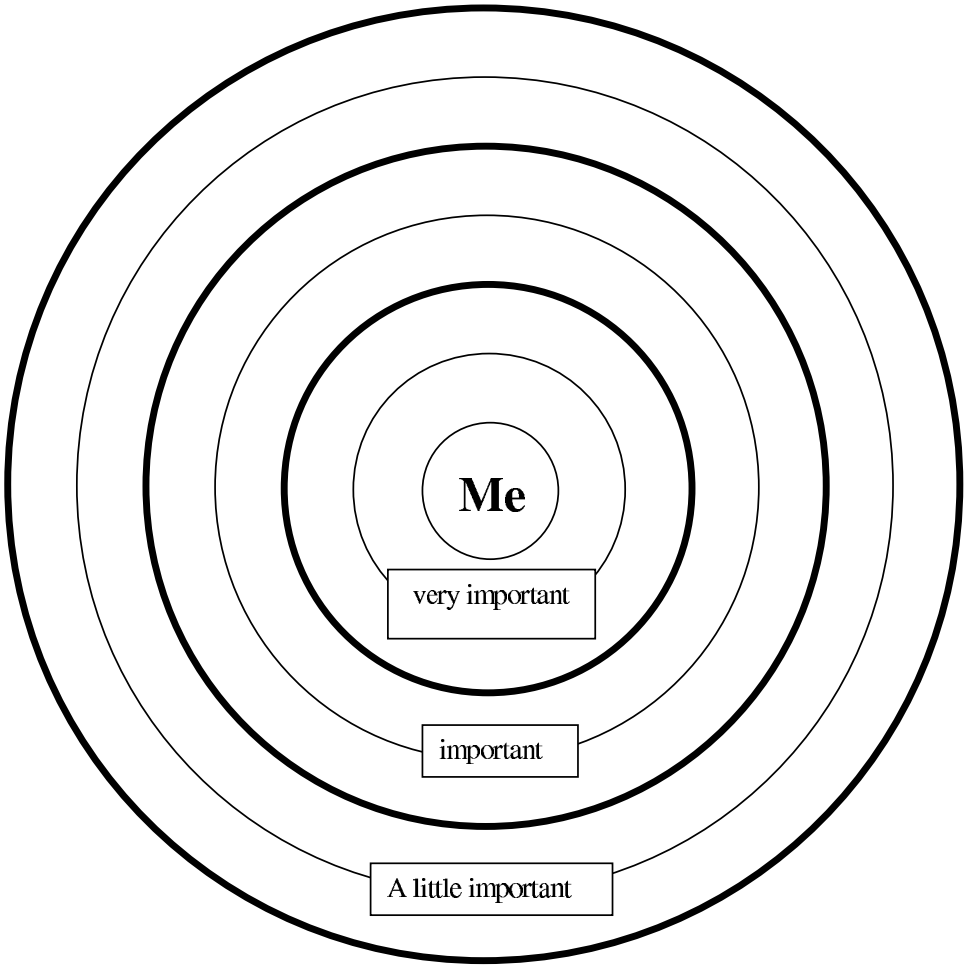


Figure 3: Network chart 2: emotional closeness

Interview-No. _____.

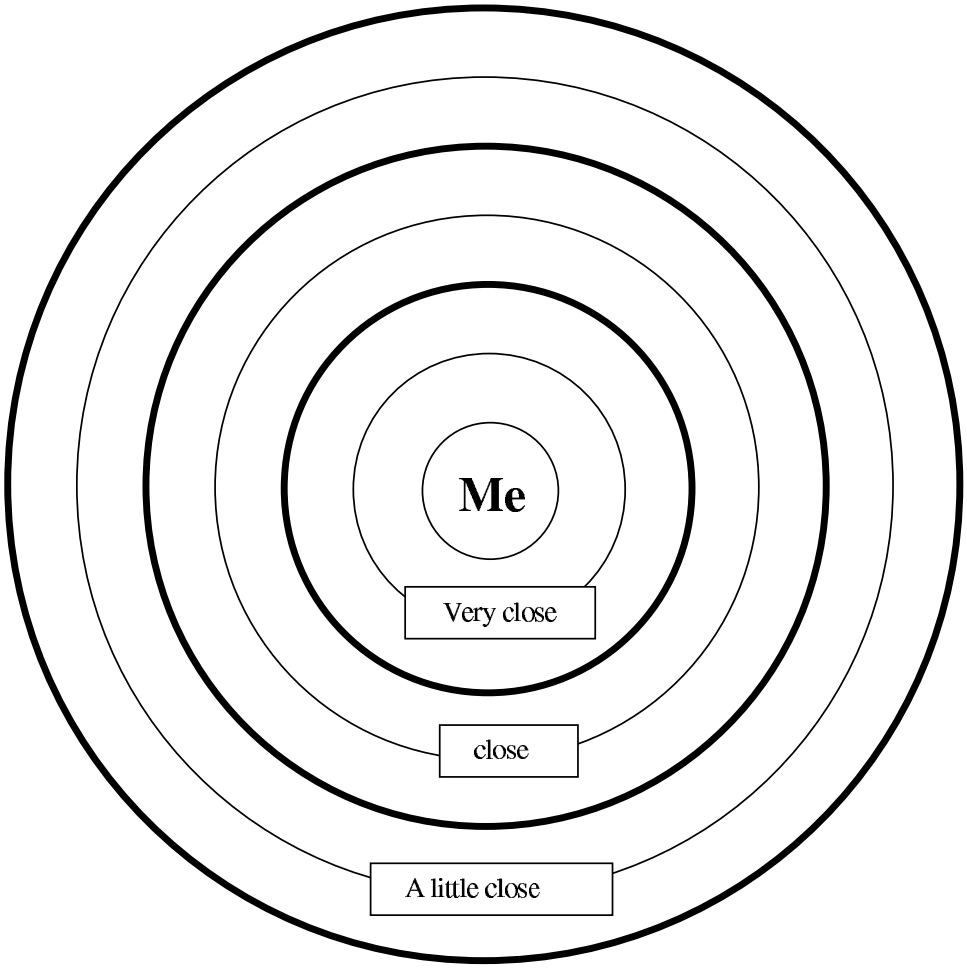
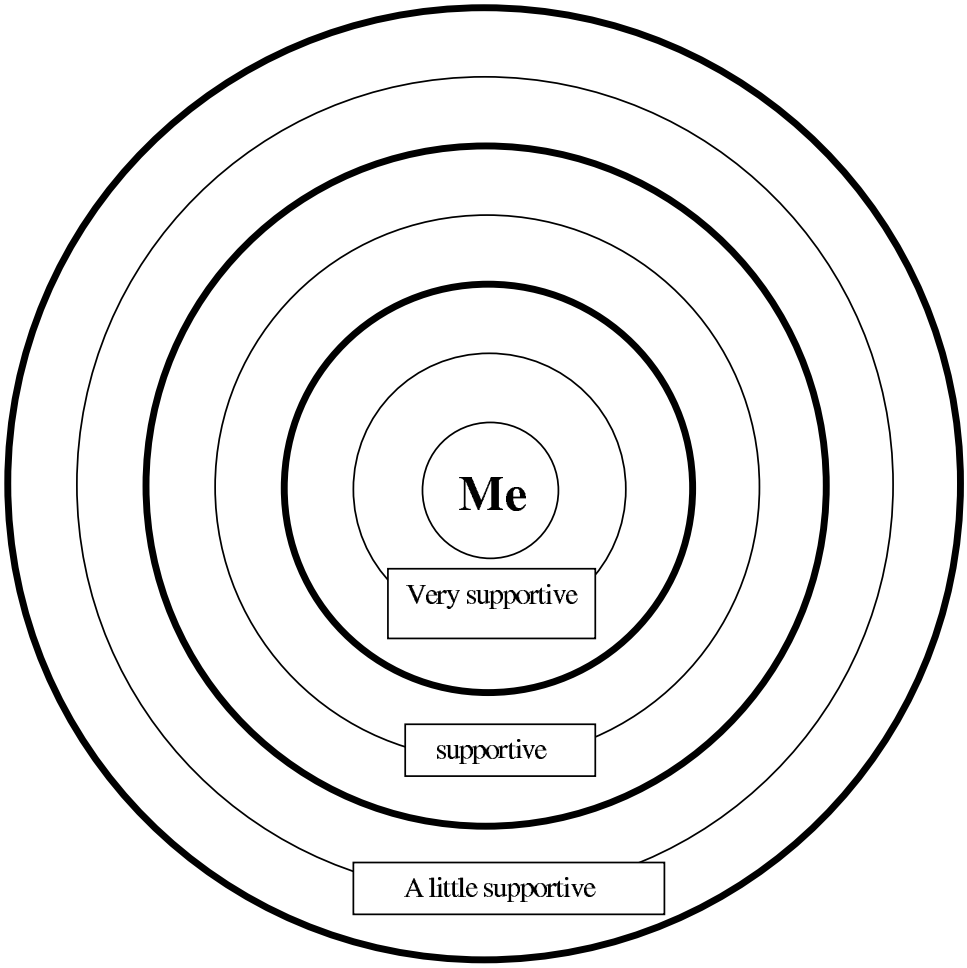


Figure 4: Network chart 3: support

Interview-No. _____ .



Not supportive at all/
difficult or problematic

Figure 5: Network grid

Interview-No. _____.

Network-Grid

Network-partner	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
1.										
2.										
3.										
4.										
5.										
6.										
7.										
8.										
9.										
10.										

0 don't know each other

1 have met once or twice

2 meet from time to time

3 know each other well

4 are close friends / have close contact

/ = don't know