WEAK TIES AS A LIABILITY
THE CASE OF EAST GERMANY

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ABSTRACT

Every institutional system induces specific problems that have no standardized solutions for the people living in it. In this paper it is argued that people invest in relationships with certain others partly in order to solve these problems. Hence, the personal networks that result provide solutions to system-induced problems and they reflect the institutional environment. Personal networks of people living in the former German Democratic Republic (GDR) during communism are examined, and social capital theory is used to explain why communism did not produce social integration. In a communist society like that of the former GDR, weak ties are a liability, not an asset. Therefore, GDR citizens trusted only people whom they knew well. Since people in the former GDR were acutely aware of political control and the damage potential of weak ties, they invested only cautiously in others. They kept their distance from strangers and all others whose trustworthiness was uncertain and discussed politics only with people whom they truly trusted (the ‘niche’). Yet the shortages of the command economy forced people to rely on weak informal ties to secure necessary goods and services. Personal networks in East Germany had two specialized parts each kept separate from the other, a division of labor that vanished after the fall of the Wall. Our hypotheses are tested using multilevel models and triad analyses with data collected in 1992 and 1994 from two random samples in Leipzig and Dresden (n = 489). The first measurement focuses on the situation before the upheaval, the other the situation in 1994. Results show that during communism people indeed created ‘niches’ consisting of dense, small networks of close relations with similar and trustworthy others. Provision networks were maintained that were small, heterogeneous, and consisted of weak and uniplex ties. Furthermore, there was a relational ‘gap’ between the niche and the provision network. These differences have gradually been vanishing since the fall of the Wall and with the political and economic unification of the former GDR and the former FRG.

KEY WORDS • communism • liability • social capital • social networks • trust • weak ties
1. Introduction

East Germany's (GDR) institutional overhaul began with the fall of the Wall in the autumn of 1989. The transformation in the GDR from communism to a market economy and democracy is among the best traceable cases of the velvet revolution in East European societies (Stark and Bruszt 1998). The resulting institutional changes have had extensive and lasting consequences for almost every aspect of life for the citizens of the former GDR. These events offer sociologists a unique opportunity to inquire into a number of key elements of social scientific research: the social conditioning of human life, limits to the malleability of social life through political regimes, and the ideology and social institutions created by regimes.

Our study focuses on the degree to which seemingly private decisions (such as with whom to interact) are influenced by institutional contexts. More precisely, we study why the promise of communism - the creation of social cohesion - went unrealized. We argue that every institutional context leads to specific personal experiences and problems for which no standardized solutions are available. Personal networks are a means of solving such problems. Therefore, people invest in different kinds of social relationships according to the social institutional environment in which they live.

The remainder of this paper is organized as follows: in Section 2 we sketch the theory of social capital and describe the institutional context of the former GDR. We then use the social capital theory to formulate hypotheses concerning the consequences of the institutional context for the personal networks of East German people. In Section 3 we describe our data and measurements. We analyze our results in Section 4 and draw conclusions from our findings in Section 5.

2. Communist Society, Communist Networks?

Social capital theory interprets personal networks and the resources to which they provide access as social resources. Personal networks are placed alongside symbolic, political, and economic capital as another type of capital resource (Bourdieu 1981; Flap 1988, 1999, 2001; Coleman 1990; Lin in 1992, 2001). The more capital persons have, the more likely they can achieve their goals. These goals come down to improving or defending physical well-being, gaining social approval, and bettering living conditions in general. Social capital has at least three dimensions: the number of people
in one's network, the ability of these people to lend support, and
their willingness to do so. The idea of social capital further implies
that people will invest or divest in relationships according to the
expected value of future support. This ‘shadow of tomorrow’ sug-
gests that social institutions will influence the returns of (and
thereby investments in) social capital. Through time, institutions
stabilize people’s social situations and their problems, as well as the
instrumentality of certain ways of solving these problems.

Marxist society has two main organizing principles: (1) the politi-
cal control of most spheres of life by a Leninist party and state, and
(2) the organized dependency on the party for all goods and oppor-
It propounds collective norms of comradeship according to which
humans can control their fate on earth, not as individuals but
together with others as a collectivity. Human nature is considered
to be malleable: qualities such as morality and social consciousness
are merely products of a specific social situation. Changes in social
institutions (such as a change from private to collective property
rights) and changes in organizations that define, control, and
enforce these institutions, will create a new individual. This new
individual is the ‘socialist’ for whom collective interests reign
superior to self-interests. Marxist institutions claim to offer not only
social equality, but also social cohesion. Practically all institutions
in the GDR were devised according to norms of collectivism.
People worked in brigades or collectives and had to join organiz-
ations in which to spend their leisure time. Neighborhood and
house committees collectivized life in and around the home (see
Völker and Flap (1995, 1997) for a discussion of neighborhood
relationships during communism).

This organizational embedding of citizens by state-controlled
organizations was officially meant to create social integration. In
the former GDR, however, it also enabled the one-party state to
control practically all aspects of citizens’ lives. Control by the party
and related state organizations was probably more pronounced in
the former GDR than in other communist countries because of the
existence of a capitalist sister state. The ruling elite was extremely
uncertain about its legitimization and popular support (Muschel
1991), and any deviation from ideology would have raised serious
questions about the necessity of their own communist nation.

Our interviewees told us they assumed that every house com-
nitee, cadre, working group or brigade had at least one person
who was an unofficial informant of the security police. They felt
controlled, especially during working hours and educational train-

This encompassing political control of daily life presented people with the acute problem of whom to trust and how to decide whether someone else's intentions were honest. The problem of whom to trust became particularly prominent if one wanted to discuss politics: people had to assume that in every public circle informants were listening, and the damage potential of misplaced trust was high. A note in one's personnel record of being politically unreliable or even for having criticized any kind of process could be detrimental to one's life chances and those of one's family.

The absence of public political debate created the often-quoted 'double reality' in which many people lived. Already in secondary schools, children became acquainted with creating both a private and a public version of a story (see Stock and Tiedke 1992: 26). That is how East Germans adapted to the daily reality of the political system. According to Ash (1981), there was probably no other society as private as the former GDR. The GDR was sometimes called the society of 'niches' (Gaus 1983). This illustrates how citizens tried to escape the 'collectivism and communism by design' and searched for more individuality, freedom, or areas of life that were not contaminated by the encompassing ideology of communist lifestyle and norms. People in the former GDR created niches in their personal networks as a refuge, a shelter, from the meddling by the government and party into their private lives.

We expected that East Germans discussed politics frankly only with people whom they trusted, that is, those with whom they also discussed their personal, private problems. The part of a personal network in which personal matters are discussed is usually referred to as the 'core' network (see Marsden 1987). Accordingly, we call the part of the core network in which people also discuss politics the 'niche'. We expect niches to consist of strong ties to trustworthy others, which allow a frank, uncensored exchange of political opinions and which provide social approval.

Earlier research showing that strong ties are the most prominent channels for finding a job in the GDR (Völker and Flap 1999) and China (Bian 1999) supports our argument on the institutional conditioning of the instrumental value of social ties. To get a better job, people tried to circumvent the official job allotment system and used informal channels. But because the latter was forbidden one could only use strong ties to people one trusted.

Repeated transactions embedded in a network of strong ties enable everybody in the circle to have the same (access to) information about all other members. In such a network, a person's reliability can easily be confirmed by asking another member.
Similarly, a reputation for being untrustworthy spreads quickly. Actors in such a network can readily control what kind of information about themselves circulates in the network and correct it if necessary. Moreover, strong ties give people some leverage in their relationships with each other, since they can always threaten to withhold future support (Granovetter 1985; Raub and Weesie 1990). Therefore, such a network structure promotes mutual trust and inherest least risk of betrayal. Consequently, we expect the niches in personal networks to be highly dense and to consist of strong ties. We also expect the niches to be composed of relationships with similar others with regard to background characteristics like occupation and education, since feelings of security and trust are more likely if interaction partners share the same social background. Finally, since members of the niche are selected cautiously and the relationships cost time and energy to maintain, we expect the number of niche relationships to be limited in the personal network. Rather, these relationships have a high multiplexity.

The second organizing principle of the communist society system has been the Plan, designed by the government, describing how and what goods and services should be produced, and how they should be distributed. The hierarchical organization of the economy led to shortages of various commodities, from clothes and electrical equipment to fresh fruits (see e.g. Kornai (1980) on the 'economics of shortage'). People tried to compensate for these shortages and keep up their physical well-being through the creation of an extensive informal economy. This 'shadow' or 'second economy', as it is also called, consisted of second jobs, a grey or black market, and the informal exchange of goods and services (Gabor 1979). Unlike people in other Eastern European communist countries, like Hungary, few East Germans had a second job. In our sample all respondents had a job, but only six percent of them had a second, part-time job. In addition, because of the government's strict control, black markets were inaccessible to many. Because it was forbidden by law to keep foreign currency for more than two weeks, black markets were much less popular in East Germany than, for example, in Bulgaria or the former Soviet Union. The remnants of the Prussian bureaucracy seemed to linger on in the GDR state.

Although there were undoubtedly differences among East German citizens concerning their opportunities to access scarce goods, in general everybody was confronted with the problem of how to obtain goods short in supply. Because, as described, black markets and second jobs were not popular solutions, we assume that people invested in their personal networks to get scarce commodities.
‘Provision networks’ (German: Beschaffungsnetzwerke) as a source of material commodities are often mentioned in studies on the organization of daily life in the former GDR (Gutenberg and Neef 1991; Srubar 1991; Hölder 1992; Diewald 1995; for informal exchange between firms, see Aderhold 1994). Gutenberg and Neef (1991) report that in the period between 1985 and 1988 about 30 percent of all repairs in a household were done via personal relationships. Furthermore, in 1989 about 80 percent of citizens knew someone who could help them acquire scarce goods. Note that financial assets played no role in these exchanges.

Although it is known that people created provision networks to counter the economy of shortages, not much else is known about these relationships (see Sik and Wellman (1999) for a general discussion of informal provision networks of people living in Communist societies). Since the variety of resources accessible through others increases with the heterogeneity of a network, we assume that the more heterogeneous this part of a personal network was in terms of occupations and types of education of its members, the more instrumental such a network was for the provision of goods. Moreover, we expect ‘provision ties’ to be weak rather than strong, because these kinds of transactions were normal in the GDR and needed no special investment. They required neither a common past nor an expected shared future of interaction. This argument, however, does not imply that provision ties were always weak, nor that weak ties were always provision ties. In our view, provision ties are an important case of weak ties, whose emergence and value are institutionally conditioned. Of course, someone who was able to provide family and best friends with scarce commodities would probably have done so.

Above, we argued that niche relationships were embedded in a highly connected network of strong ties, and that such network structures warranted trustworthiness of the interaction partners. In weak relationships, such as provision ties, the problem of whom to trust would have been much more prominent. In empirical studies, see, for example Burt and Knez (1996), weak ties turn out to be least trustworthy in general. In a communist society, trustworthiness of weak ties becomes a much greater issue because of the increased damage potential. In a one-party state such as the former GDR, most social institutions were party controlled and opportunities for oneself and one’s relatives for having a good life depended largely on having a politically correct image. In addition, everybody knew about the considerable control apparatus the system had established. Being weakly related to somebody implied
uncertainty about the intentions of the person, as well as about the circles in which he or she might be involved. Furthermore, a weak tie provided little leverage for influencing the decisions of the other person. A weak relation must therefore have been a suspicious one. Hence, we argue that the communist ideology and the related policies had perverse effects because people know about the 'strength of weak ties' (Granovetter 1973).

Since people in the former GDR were suspicious of weak ties because of their damage potential, they probably had relatively few weak relationships in contrast to people in democratic countries. Earlier we found that ties between direct neighbors, and in the neighborhood in general, barely existed in the former GDR because neighbors were mistrustful of each other (see Völker and Flap 1997). Weak ties are even more suspect if they are interconnected (Burt and Knez 1996). Consequently, someone with unconnected weak ties will have been better off. In addition, weak ties will not only have been separated from each other but also from strong ties, that is, from the niches, in order to maintain their functioning. There will therefore have been a 'gap' between the niche and the remainder of the personal network, inter alia, the provision ties.

It might seem implausible that the focal actor (ego) influences the connections among the members of his or her social network (alters), thereby influencing the density of the network. However, one has to realize that both partners in an interaction in which they wanted to discuss personal and political matters were similarly interested in cautious selection of others. Friends of friends will largely have been friends because in the former GDR there was a stronger selection on forbidden triads in the evolution of networks, that is, of friends of friends not being each other’s friends (Granovetter 1973).

The structural features that, according to our argument were typical for personal networks in a communist society like that of the GDR, are presented in Figure 1. The ‘gap’ in the network of focal actor A can be seen in this picture in the absence of a tie between the alters B/C - members of A’s niche network - with the alters D/E, who are members of A’s provision network. The members of the niche (A-B-C) are all connected with each other, while the provision ties (D-E) are unconnected.

If our argument on the institutional conditioning of personal networks is correct, we expect these networks to change after the institutional overhaul, as there will no longer be a need to concentrate on a few trustworthy network members and restrict other contacts.
to a minimum. Therefore, the segregation, the gap in the network, will disappear and the niches themselves will vanish. In the old days, niches helped people to develop a sense of identity and individuality, an image of self on the one hand and an image of the world in which one lived on the other. Niches had many relational functions, that is, they were fairly multiplex. Nowadays, an individual’s interests might better be served if different kinds of relational activities are divided among a larger number of people, because one would avoid being dependent on just a few others. In addition, along with the expected decline in strength of the average tie between the focal actor and members of the niche, we expect a decline in the average strength of relationships among the alters. Further, after the fall of the Wall, there is no longer a need to hold provision ties or, more generally, weak ties, apart from each other or from stronger ties. Political trustworthiness is no longer an issue in everyday life, and politics can and is discussed with strangers too.

Figure 1. Typical Pattern of Personal Networks in a Communist Society like the former GDR: Dense Niches (A, B, and C, connected via thick lines), disconnected Provision ties (D and E, connected only with the focal actor A through thin lines), and a Gap between Niche and Provision Network. +, −, and 0 indicate the notation for the triad analysis (see section 4.4).

To conclude, the hypotheses we test are the following:

1. In communist societies people have relatively small networks with a niche and a part that takes care of provision.
2. Niche ties are strong and multiplex, whereas provision ties are weak and uniplex.

3. The partial network constituting the niche is dense and homogeneous, whereas the partial network of provision ties is open and heterogeneous.

4. There is a gap in people's personal network between the niche and the weaker part of the network, inter alia, the provision network.

5. After the velvet revolution, the personal network becomes disconnected from institutional conditions and the division of labor between the niche and weaker ties disappears.

To sum up, the institutional framework of communism induces problems of trust and of obtaining scarce goods for every individual who lives within that context. Our argument is that personal networks provided an informal means of solving these problems: GDR citizens created niche networks of trustworthy relationships to counteract the all-encompassing institutional control and guarantee a minimum of individual freedom of speech. They also created provision networks that compensated for the bottlenecks of the economy of shortages. We expect further that the niche and provision networks have some typical features and are not connected to each other. Figure 2 summarizes our theoretical argument and the resulting hypotheses on the institutional embeddedness of relational investments.

<table>
<thead>
<tr>
<th>Institutional framework</th>
<th>Communism, totalitarianism</th>
<th>Command economy</th>
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<tr>
<td>Collective outcomes</td>
<td>Party and state control, collectivism</td>
<td>Economy of shortage</td>
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<td>Individual problems</td>
<td>Trust and individual identity</td>
<td>Obtaining scarce goods</td>
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<td>Individual investment</td>
<td>In niches, being aware of weak ties</td>
<td>Provision networks</td>
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<td>Network consequences</td>
<td>Niches are</td>
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<td>- separated from weak ties</td>
<td>- separated from niches.</td>
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Figure 2. Institutional Embeddedness of Relational Investment and Resulting Consequences for Personal Networks in a Communist Society.
3. Research Design, Measurements and Methods

Design

The data were collected in random samples in two large East German cities, Leipzig and Dresden. A pilot study was conducted in the spring of 1991 to acquire more background knowledge on the former GDR, develop a ‘feeling’ for the situation before and after the political turn, and test a preliminary version of the questionnaire. In May 1992 we started the first series of interviews with the first sample. In April 1993, we re-interviewed this sample and interviewed respondents from another sample for the first time. In 1994, both samples were interviewed for the third and second time, respectively. Both samples were randomly selected in Leipzig and Dresden by the civil service of the local municipalities. Criteria for inclusion were that respondents had to be between 30 and 55 years of age and to have been in employment before 1989.

The research design thus includes three points of measurement, each time collecting data on retrospective and actual networks, before and after the political revolution (see Table 1). At \( t_1 \) we paid more attention to personal networks before the revolution and posed fewer questions on the actual situation. At \( t_2 \) we focused strongly on the actual situation and only asked a subset of questions on the time before the revolution to have some check on possible biases in our data caused by memory effects. Of course, we studied changes between \( t_1 \) and \( t_2 \) as well as the occurrence of life events.

Table 1. Design of the study on changing personal networks in the former GDR before and after the political turn, 1989–1994

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<tr>
<td>Sample 1</td>
<td>1. measurement data on 1989 and 1992, ( n = 189 )</td>
<td>2. measurement data on 1993, control questions for 1989 and 1992, ( n = 126 )</td>
<td>3. measurement data on 1994, control questions, ( n = 83 )</td>
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<td>pilot study</td>
<td>( n = 35 )</td>
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<td>Sample 2</td>
<td>1. measurement data on 1989 and 1993, ( n = 300 )</td>
<td>2. measurement data on 1994, control questions, ( n = 221 )</td>
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such as marriage, giving birth and becoming a father, or the death of persons to whom an individual had felt very close (see Völker 1995).

With regard to panel attrition, we inquired into selection effects for demographic characteristics like sex, age, marital status, and former party membership. Attrition was unrelated to these characteristics. The research design allowed us to control for biases that might occur while using retrospective questions in the interview schedule (see Bernard et al. 1984). If there is no bias due to cognitive filtering over time, similar retrospective networks should be mentioned at each point of measurement. We found no indications of systematic bias. However, there was a slight, non-significant tendency to forget weaker ties: at the retrospective measurement of sample 2 a somewhat smaller number of weak ties were mentioned than at the measurement of sample 1. If we assume that weaker ties are forgotten, tests of our hypotheses will be conservative, except for the one predicting that the number of weak ties will have been small under communism.

Compared with national statistics, people with higher education are over-represented in our sample, which is typical for the population of larger cities. Other statistics are similar to national statistics, apart from age and work status, because we restricted our sample to individuals between 30 and 55 years of age and to those who were employed before the political revolution.

Our explanatory arguments imply comparative statements as to the differences in social networks between communist societies with a command economy and democratic free market societies. However, comparative data containing the required measurements to test our hypotheses are lacking. Existing international comparisons of personal networks are few and largely based on the International Social Survey Program (ISSP) that collected data in 1986 on personal networks in Australia, Austria, Hungary, Italy, Germany, Great Britain, The Netherlands, and the United States (Höllinger and Haller 1990; Utasi 1990; Bruckner and Knaup 1993; Freeman and Ruan 1997; Immerfall 1997). A las, this survey mainly contains network questions referring to hypothetical situations: (‘Suppose you needed to borrow a large sum of money. Whom would you turn to first for help?’). In addition, there was no question on with whom respondents would discuss politics. To have a point of reference and be able to demonstrate that the division of labor between the different parts and ties within personal networks is far less clear-cut in non-communist settings, we use data that we collected on the actual networks of our East German respondents...
in 1994 (see Table 1). As mentioned, for the situation in 1994 we gathered basically the same information as we did for the situation before the velvet revolution. Because the question on provision ties no longer made sense, we asked instead to whom our respondents had turned for advice on financial matters, taxes, or insurance. This question is in line with descriptions of the shortage of money in other former communist countries after the breakdown of the iron curtain (Ledeneva 1998).

Measurements

The retrospective questions had a time frame of six months: March 1989 to September 1989, or for the six months before the interview in 1994. We did not ask hypothetical questions on social support, but concentrated on factual interactions that had occurred according to a respondent. The focus on actual, concrete and repeated activities is another safeguard against retrospective biases, in addition to the design (see Table 1). To avoid methodological artifacts, we changed the order of name-generating questions for the actual and retrospective networks at the different points of measurement: in the second and third interviews we started with the ‘actual’ network. The interviews lasted between two and two and a half hours. Here, we use the data referring to the situation in 1989 and before (n = 489) and that pertaining to the situation in 1994 (n = 304).

The questions generating the names of the members of a personal network were fashioned after Fischer (1982) and the General Social Survey (Burt 1984), and adapted to the situation in East Germany and our particular research interest (see the appendix for a list of name-generating questions). The names extracted in response to the question ‘With whom did you discuss important personal matters?’ are considered the core ties in someone’s personal network (question 17; see the appendix and also Marsden (1987), who reports on the core networks of Americans). We consider ‘niches’ to consist of those ties that are important for the discussion of personal matters (i.e. core ties) as well as for the discussion and evaluation of political opinions and events (question 15). The politics people were interested in within these discussions usually did not refer to national politics but more to their dependency on local party officials and how things were organized in their direct environment; for example, at the work place or in the neighborhood.
Provision ties are generated straightforwardly by asking respondents which persons helped them obtain scarce goods or services (question 10). In total, we used 18 name-generating questions to describe how our respondents' networks looked before 1989. If we exclude the names given in response to questions that inquire into reciprocity, 14 name-generating questions remain. We also call the name generators ‘functions of a relationship’. To tap the personal network of 1994 we used some additional questions that focus more on the specific situation after the political turn.

Information about network members was collected by asking for each person mentioned additional questions on the relationship with the respondent (role of relationship, frequency of contact, duration, tie strength) and on personal characteristics of the alter (education, occupation, age, gender). We distinguished 13 role relationships. In the analysis, close family members (consisting of parents, children, and siblings) were often combined in one category. In the measurements focusing on the actual network after the downfall of the Wall, a question about the development of previous relationships was included and respondents were confronted with names they had mentioned formerly.

Tie strength is best measured by ‘closeness’, since this indicator is not confounded with other measures (Marsden and Campbell 1984). We measured the strength of a tie by asking respondents to rate how close a relationship had been on a scale from 1 to 5: ‘really not close’, ‘not close’, ‘relatively close’, ‘rather close’, and ‘really close’. In the triad analysis, ties that fell within the first two categories were treated as ‘weak ties’, while those in all other categories of the scale were treated as strong.

Multiplexity was measured by the sum of different simultaneous functions of a relationship. Note that niche relationships by definition have two functions. In the upcoming analyses of multiplexity this will be controlled for.

Similarity of education and occupation was measured differently for the ego-alter relationship and the whole personal network: for educational similarity on the level of a single relationship, the (absolute) difference between the educational level of ego and alter was used. The degree of similarity of occupations was expressed on a Guttman scale (called similarity, ranging from 0 to 3), indicating whether the occupational domains are comparable, similar, or exactly the same.

We computed heterogeneity of the aggregated network using an
index for qualitative variation (IQV) measuring the likelihood that two network members, randomly selected, belong to different defined categories (Agresti and Agresti 1978). The IQV is defined as

\[ IQV = \frac{1 - \sum_{i=1}^{k} p_i^2}{1 - \frac{1}{k}} \]

Where \( k \) = number of categories and \( p_i \) = the fraction of observations in category \( i \). The respondent is included in this analysis. The closer the index comes to 1, the more heterogeneous the network, whereas IQV = 0 implies maximal homogeneity with respect to the categories considered.

In order to establish network density, the number and strength of connections between ties were measured for five name-generating questions (numbers 4, 7, 10, 13, and 17): those alters with whom the relationship implied discussion of personal matters, provision of goods, career advice, being an enemy at work, or small repairs in a household. One measure of density is calculated as the average tie strength among the network members; the other is the fraction of the existing links and the maximal possible links among the alters in a network. In 1992, the interlinkages were measured for the ‘discussion of personal matters’ only, while in the later measurement in 1993 the other four questions were added.

The ‘gap’ between the niche and the provision network was established by counting triads of ties consisting of the focal actor (ego), one network member (alter) taken from the niche, and another one taken from the provision network (see Figure 1). We considered the absence of a tie between the two alters in such a triad as indicating a gap between niche and provision ties. To count the triads, we used a simple program called ‘SIGRPOS’ that calculates positional statistics for the vertices of a signed digraph. Note that for ego-centered networks not all possible triads have meaning, that is, there is by definition always a relation between an ego and his or her alters.1

Background characteristics of ego and alter were measured using standard instruments: educational level was measured as the highest educational certificate obtained and occupational class was determined using Goldthorpe’s class scheme (Erikson et al. 1979). Additionally, we used an occupational coding that had been developed for the specific situation of the former GDR (Mayer and Solga 1993). The coding for the occupations involves three types of information: the domain, the vocational training needed, and the specific occupation.

Other features were ascertained in a straightforward manner; for
example by asking people whether they felt controlled, whether they missed any commodities in their household, and how they coped with such shortages.

Methods of Analysis

All relational data and characteristics of alters are reported by the respondents and these relationships are statistically (or theoretically) not independent of each other. The mutual dependence of relationships within a personal network advises against the use of ordinary least squares regression (OLS) methods on the set of all relational data (see Van Duijn et al. 1999: 188). To aggregate the data to the level of the respondents (and use for example the sum, the average, or the standard deviation of certain network variables) is statistically correct, but usually means a loss of information. In addition, it is then not possible to consider differences between relationships. Multilevel modeling enables us to take into account this nested structure of the data (alters are ‘nested’ within ego) (see Bryk and Raudenbush 1992; Goldstein 1995; Snijders et al. 1995; Van Duijn et al. 1999; Snijders and Bosker 1999).

The main feature of multilevel modeling is as follows: the regression equation of Y on X may be different for each respondent; or, in other words, the regression equation may vary among respondents. The intercept as well as the slope can depend on the respondent. Multilevel modeling allows us to differentiate between random effects, which vary across respondents, and fixed effects, which can be viewed as average effects for the whole population. For more details about the random coefficient model, see the literature mentioned above, in particular Snijders and Bosker (1999).

Fixed and random effects are tested differently. For fixed parameters the t-distribution or, if the sample is large enough, the standard normal distribution is used. Random effects are tested as follows: when a random parameter is included in a model, under the null hypothesis that the model does not differ from the previous one without this parameter, the difference in deviance between the two models approximates a chi-square distribution with k degrees of freedom. The models were estimated with the VARCL program (Longford 1988).2

4. Results

We present the results of our analysis roughly in the order of the hypotheses mentioned. We start by analyzing the differences
between the niche and the provision network in 1989. We describe the size of the niche and provision network before looking at characteristics of ties within each part, that is, their strength and multiplexity. Multiplexity is actually examined twice: in general and with regard to the kind of relational functions that account for multiplexity of niche relationships or provision relationships. Finally, we come to structural characteristics of the networks. First is the heterogeneity of the two parts of the network. Second is their density. Lastly is the interconnection between the two parts, or rather the lack of it, which is the gap. We conclude our analysis by comparing the 1989 networks to the 1994 networks in order to approximate a comparison between a communist and a non-communist setting.

4.1 Shape of Personal Networks, the Niche, and the Provision Network Part

The complete personal networks of East Germans turned out to be small, especially if one takes into account the large number of name-generating questions. The mean size of the personal network was only about 11 persons. We did not expect our respondents’ networks to be that small in 1989. In comparable studies in the United States and The Netherlands, larger personal networks were found while using similar but fewer name-generating questions (e.g. Fischer (1982) found 18.5 alters with 11 questions in California and Busschbach (1996, 1999) found 22 alters with 9 name-generating questions in The Netherlands). This difference in the number of persons mentioned is so large that it is unlikely that the small network size in the former GDR is completely due to the retrospective nature of the data. As already mentioned, the reliability of our analyses of network size and the changes in network size could admittedly be questioned because weak ties seem to have been forgotten to some extent. However, not only were weak ties small in number, but stronger ties were few as well.

To estimate the importance of informal exchange in the former GDR, we asked our respondents whether they missed particular goods, and whether and how they were able to obtain such goods through other channels. In this way, we estimated the importance of the different alternatives – black market, second job, or personal network – in compensating for shortages. By far, most people mentioned having a personal network that could provide them with scarce goods as the only serious option. About 70 percent of our respondents said they were able to acquire goods
via informal networks and that they did so as well. Only 8 percent said they had contacts with persons in the former Federal Republic of Germany (FRG) providing an additional means to obtain scarce commodities. Only one respondent mentioned the black market as an extra source. There were no reports of buying in Exquisite shops or having regular access to West German marks and forumcheques. If present, a ‘provision network’ consisted on average of three persons (2.8 is the mean; the mean number of suppliers for all respondents is 1.9).

Most East Germans (89%) in the sample also had a ‘niche’: a circle of close associates who were important interlocutors for discussing personal and political matters. If one had a niche, it averaged 2.6 persons (s.d. 1.6, maximum 11).³

4.2 Strength and Multiplexity of Niche and Provision Ties

Most provision ties were weak. We did not exclude family members, who may have been providers too, but who might also be closely related to the respondent. The average strength of provision relations per network is 2.7 (s.d. 1.0, on a five-point scale); for the whole network it is 3.4 (s.d. 1.1). Provision ties have the lowest average strength of all ties in the personal networks, with the exception of ties to foes and untrustworthy individuals. The average multiplexity or number of interaction contexts shared is 1.1 (s.d. .7) for these provision ties. This is low compared with the multiplexity of other ties.

The niches were formed by an individual’s most intensive relationships: the average closeness of these relationships is 4.4 (s.d. 1.5) on a five-point scale. Niche relationships before the revolution have an average multiplexity of 1.9, which is higher than the multiplexity of the whole network (1.3 on average). Differences in multiplexity were tested by multivariate analysis of variance for repeated measurements (results not shown here). As expected, niches differ significantly from provision ties in the number of relational contexts shared. Both network parts are also different from the multiplexity of the whole network.

So far, we can conclude that niches and provision ties were different with regard to their strength and multiplexity. Both parts of the network and also the whole network of East German citizens before the political upheaval were rather small.

To inquire deeper into the coincidence of relational functions that define the niche, that is, ‘discussing important personal matters’ and ‘discussing political opinions and events’, as well as to
study the multiplexity of niches compared with provision relationships, we estimated a logistic random coefficient model, summarized in Table 2, for relations that were important for the discussion of political matters and for provision ties, respectively. To control for conditions that might affect the likelihood of a tie being important for the discussion of personal or political matters or if being a provision tie, we included close family, partner, sample, town, and network size in the analysis. Our argument implies that talking about politics requires a trustworthy relationship and we consider the discussion of personal matters as a good indicator for trust. Hence, we expect that the relational function 'discussion of political matters' will have been well predicted by 'discussion of personal matters'. In addition, other relational functions will have been quite good predictors, since niche relationships were multiplex, or, put differently; niche relationships were characterized by many relational functions. Our expectation regarding provision ties is that provision of goods in short supply did not coincide within one particular tie with many other relational functions, since provision ties are expected to be mostly uniplex.

The results, summarized in Table 2, show the following: First, there is strong indication that the discussion of political matters indeed required a trustworthy relationship. Talking about political matters is predicted best by talking about personal matters. If individuals discuss personal matters with one of the alters in their network, it is very likely that they also discuss political matters with that network member. Further, these relations are important for the discussion of professional matters and problems related to work, helping with small repairs, as well as for spending leisure time, although to a lesser degree. However, if a relation is important for the provision of goods, it is not important for discussing politics. These relational functions are not associated, as indicated by the significant negative coefficient. The second model shows, further, that provision ties are not positively associated with any other relational function. All effects found are negative, a finding indicating that provision ties are, as expected, comparably uniplex. No significant random effects were found in the models, indicating that there were no major differences among individuals with regard to those findings.

This analysis confirms the results obtained from the previous analyses on an aggregated level, as well as our general hypothesis: the function of providing scarce items is not co-mingled with discussing personal and political matters or with any other activity that requires trustworthiness. There was a sharp division of labor in personal networks in the former GDR.
4.3 Heterogeneity and Density of Niches and Provision Networks

According to our hypotheses, the occupational and educational heterogeneity of niches should be fairly low, whereas the heterogeneity of the provision networks should be quite high. A comparison of analysis of the indices of qualitative variation (IQV) of occupational domains for niches and provision networks before 1989 shows that niches are, as expected, homogeneous with regard to those characteristics, while provision networks are far more heterogeneous. The hypothesis of differences in heterogeneity between niches and provision networks was tested by multivariate

<table>
<thead>
<tr>
<th>Functions of relationships</th>
<th>Political matters</th>
<th>Provision ties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Getting a job</td>
<td>-.18 (.16)</td>
<td>-.53 (.21)**</td>
</tr>
<tr>
<td>Discussion of professional matters</td>
<td>.66 (.10)**</td>
<td>-.50 (.14)**</td>
</tr>
<tr>
<td>Discussion of problems related to work</td>
<td>.28 (.12)**</td>
<td>-.03 (.17)</td>
</tr>
<tr>
<td>Advice in questions of career</td>
<td>.08 (.17)</td>
<td>-.33 (.24)</td>
</tr>
<tr>
<td>Getting a house</td>
<td>-.40 (.23)</td>
<td>-.28 (.25)</td>
</tr>
<tr>
<td>Help with small repairs</td>
<td>.45 (.09)**</td>
<td>.11 (.11)</td>
</tr>
<tr>
<td>Provision of scarce items</td>
<td>-.31 (.10)*</td>
<td>—</td>
</tr>
<tr>
<td>Leisure time</td>
<td>.81 (.08)**</td>
<td>-.33 (.10)**</td>
</tr>
<tr>
<td>Discussion of political matters</td>
<td>—</td>
<td>-.28 (.10)**</td>
</tr>
<tr>
<td>Discussion of personal matters</td>
<td>1.10 (.09)**</td>
<td>-.73 (.13)**</td>
</tr>
</tbody>
</table>

Control variables

<table>
<thead>
<tr>
<th></th>
<th>Political matters</th>
<th>Provision ties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Partner</td>
<td>.10 (.05)*</td>
<td>-.16 (.23)</td>
</tr>
<tr>
<td>Close family</td>
<td>.35 (.08)**</td>
<td>-.17 (.10)</td>
</tr>
<tr>
<td>SAMPLE</td>
<td>-.09 (.10)</td>
<td>-.80 (.10)**</td>
</tr>
<tr>
<td>TOWN</td>
<td>.02 (.10)</td>
<td>-.07 (.11)</td>
</tr>
<tr>
<td>NETWORK SIZE</td>
<td>-.10 (.10)</td>
<td>-.01 (.01)</td>
</tr>
</tbody>
</table>

Intercept

-1.36          .05

Variance component estimates

<table>
<thead>
<tr>
<th></th>
<th>Political matters</th>
<th>Provision ties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Random intercept variance</td>
<td>.65 (.06)</td>
<td>.64 (.10)</td>
</tr>
<tr>
<td>Deviance (= -2 log likelihood)</td>
<td>5603.87</td>
<td>3899.32</td>
</tr>
</tbody>
</table>

Note: see Appendix for item formulation. *, ** and + represent p < .05, p < .01 and p < .10 respectively. Data contain 4524 relationships of 476 respondents; unstandardized coefficients. Capital letters indicate variables on the level of the respondent.

4.3 Heterogeneity and Density of Niches and Provision Networks

According to our hypotheses, the occupational and educational heterogeneity of niches should be fairly low, whereas the heterogeneity of the provision networks should be quite high. A comparison of analysis of the indices of qualitative variation (IQV) of occupational domains for niches and provision networks before 1989 shows that niches are, as expected, homogeneous with regard to those characteristics, while provision networks are far more heterogeneous. The hypothesis of differences in heterogeneity between niches and provision networks was tested by multivariate
analyses of variance for repeated measurements while controlling for the two samples. This way, we also controlled for dependencies between niche relations and provision ties within the same network. The niche and provision network differ significantly from each other in heterogeneity. Results obtained with standard deviation scores instead of the IQV led to similar conclusions (see Marsden 1990).

On an aggregated level, our hypothesis of homogeneous niches and heterogeneous provision networks was confirmed. Next, effects were tested for the particular relationship between ego and alter. For that purpose, again logistic random coefficient models were estimated with ‘niche relationship’ and ‘provision relation’ as the dependent variable and similarity of occupation as the independent variable, using the coding described above. In order to control for strong relationships, we included role relationships like partner and close family members in the model of niche relationships. In none of the models was a significant random slope found.

While studying similarity of provision relationships, besides similarity of occupation we also included in our model the absolute difference in education and a variable indicating status differences (not shown). The variable ‘status’ indicates whether a network member has a higher education than the focal actor (coded as 1), whether they have equal educational levels (coded as 0), or whether the focal actor has more schooling than the network member (coded as -1). Random slopes were tested for all three variables but found to be insignificant. At the level of ego, control variables as already discussed in previous models were included. Table 3 shows that, in contrast to niche relationships, provision ties under communist conditions were socially different from ego. In additional analyses we found that status differences did not matter and educational differences were only weakly associated with provision.

Our hypothesis on the homogeneity of niches and the heterogeneity of provision networks turned out to be correct. Niche relationships of trust, important for the discussion of both personal and political matters, are relations to alters who are similar to ego as well as to each other with regard to background characteristics like education and occupation. The provision network consisted of alters who were different from ego as well as different from each other.

As mentioned above, niche relationships were a person’s most intensive relations, whereas provision ties were instrumental and
much weaker. This holds true for relations between ego and alter as well as relationships among the alters. Provision ties and weak ties in general were kept apart, we hypothesized. Thus, the density of the niche will have been much greater than that of the provision network. The question that establishes the density of the personal network included one alter of the provision network (see the section on measurements), one who fulfills the functions of giving advice on career, and one who provided help with odd jobs around the house (questions 4, 7, and 10). A comparison of measures of density of these network parts demonstrates that density in niche networks is high not only compared with the parts outside the niche but also compared with what is known from density in (core) networks in other countries (Marsden 1987). Multivariate analyses of variance were performed, one for each density measure, that is density based on existing connections and density based on the strength of connections, while controlling for differences between the two samples (not shown here). Not surprisingly, niches and the weak part of the network differ significantly with regard to their density, regardless of which indication for density is concerned.

Table 3. Logistic random coefficient model on similarity of niche and provision relationships in East Germany, 1989

<table>
<thead>
<tr>
<th>Logistic regression parameter estimates</th>
<th>Niche coefficient (S.E.)</th>
<th>Provision coefficient (S.E.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Similarity</td>
<td>.16 (.04)**</td>
<td>-.18 (.05)**</td>
</tr>
<tr>
<td>Control Variables</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Partner</td>
<td>3.03 (.15)**</td>
<td>-.16 (.12)</td>
</tr>
<tr>
<td>Close family</td>
<td>1.40 (.07)**</td>
<td>-.14 (.10)</td>
</tr>
<tr>
<td>SAMPLE</td>
<td>-.20 (.12)</td>
<td>-.24 (.10)**</td>
</tr>
<tr>
<td>TOWN</td>
<td>-.05 (.09)</td>
<td>-.07 (.10)</td>
</tr>
<tr>
<td>SIZE OF NETWORK</td>
<td>-.74 (.88)</td>
<td>.01 (.01)</td>
</tr>
<tr>
<td>Intercept</td>
<td>-2.0</td>
<td>-.95</td>
</tr>
<tr>
<td>Variance component estimates</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Random intercept variance</td>
<td>.31 (.06)</td>
<td>.59 (.08)</td>
</tr>
<tr>
<td>Deviance (=-2 log likelihood)</td>
<td>3929.6</td>
<td>4788.9</td>
</tr>
</tbody>
</table>

Note: * and ** represent p < .05 and p < .01 respectively. 4524 relationships of 476 respondents; unstandardized coefficients. Capital letters indicate variables on the level of the respondent.
4.4 The Gap Between Niche and Provision Network

We argued that there will have been a division of labor in personal networks in the GDR such that niches were kept apart from provision ties or, more generally, from weak ties. That is what we call the 'gap' (see Figure 1). In order to test this argument we counted specific triads in the personal network that indicate the existence of a gap (again, using questions 4, 7, and 10). We distinguished between weak ties (indicated by -), strong ties (indicated by +) and no ties (indicated by 0). Accordingly, as depicted in Figure 1, the expected typical pattern of triads in the niches is ‘+++', which implies high connection among strong ties. The expected pattern between niche and weak ties, the gap, is ‘+-0’ or ‘--0’ which indicates that the focal actor is connected strongly to one network member, weakly to another one, and that these two alters are not connected to each other. Lastly, the expected pattern within weak ties would be ‘--0’ indicating that the focal actor is related weakly to two network members who are not connected to each other. Table 4 (on p. 420) shows the frequency of occurrence for different types of triads in 1989 and 1994.

For 1989, the table shows that within the niches the expected pattern (++++) did occur with the highest frequency – almost 70 percent. Further, between niches and weaker, provision ties the triad pattern expected for the gap, ‘+-0’, occurs fairly frequently (30 %). Even more frequently (38 %), however, occurs the pattern, ‘++0’, indicating a strong connection of ego with the two alters who are not connected with each other. This finding is due to our coding of strong ties: ties that have a medium strength (category 3 on the scale from 1–5) are considered as strong (see the measurement section). Outside the niches, the same pattern occurs most frequently. In addition, the pattern ‘--0’ occurs relatively frequently (18 %), indicating that the relationships between ego and alters are weak and that the alters do not have contact with each other. In sum, only in the niches did we find many closed triads indicating high interconnection. In the other investigated parts of the networks we found the expected open triad structures.

4.5 Changes in the Division of Labor Between Niche and Provision Ties Since the Transition to Capitalism

We also inquired into the implications of our argument concerning the time period after communism while using the data collected in 1994 focusing on the actual living situation of East
German citizens. One has to bear in mind, however, that these data do not provide sufficient information on personal networks in a market-democratic or capitalist institutional system, since the transition was still ongoing in 1994 when the data were collected. Yet, compared with the other Eastern European societies, the transition in the former GDR has probably been most rapid (see Stark and Bruszt 1998).

First, we turn to the structure of triads found between niche relationships and provision ties. As mentioned, we did not ask in 1994 about ties that helped to attain items that have been scarce in supply, since the kinds of commodities that had been exchanged through these relationships were no longer scarce. Instead, we asked about another kind of provision tie, that is, advice on all types of financial matters, which we regarded as a new system-induced problem for individuals. Interestingly, both name generators led to similar sub-networks concerning numbers of alters and strength of relationships. The triad structure found for 1994 is given in Table 4, which shows that relationships within the niches are still highly connected (46 percent of all triads are closed and show the pattern +++). Furthermore, there is a remarkable incline in the pattern + + –, from 4 percent to 34 percent of all triads in the niches. This latter finding indicates the decline of tie strength in niches, that is, niches fall apart. Between niche and weak ties the number of open triads has become considerably smaller. The pattern + + 0 occurs in only 9 percent of the triads and the pattern + – 0 and – + 0 decreased from 30 percent to 22 percent. The pattern + – – and – + – occur much more often in 1994 than in 1989, a finding that is also due to the decreasing strength of the niche relationships. While in 1989 the pattern + + 0 occurred most frequently, in 1994 several different patterns are relatively prominent. Seemingly, relationships between the alters became more pronounced and diverse, while the gap between niches and weak ties is vanishing. The same obtains for the triads among ties outside the niches. Although open triads still occur frequently among these ties, they occur less often than previously and more other patterns are found instead.

Other results on the changes in personal networks in the former GDR are as follows: The size of personal networks did not grow, neither the whole network nor the partial network of weak ties. The size of niches remained unchanged. Many relationships were broken, especially those with people one did not trust and who were foes (on average, about three relationships were broken after the revolution). Provision relationships, too, were broken...
### Table 4. Patterns of triads within niches, between niches and weak ties, and outside niches (triads in networks of 300 respondents, East Germany, 1989 and 1994, in percent, n in parentheses)

<table>
<thead>
<tr>
<th></th>
<th>Within niches</th>
<th>Between niches and weak ties</th>
<th>Outside niches</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1989 (n = 217)</td>
<td>1994 (n = 153)</td>
<td>1989 (n = 666)</td>
</tr>
<tr>
<td><strong>Closed triads</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>+ + +</td>
<td>69.1</td>
<td>45.8 ***)</td>
<td>10.4</td>
</tr>
<tr>
<td>- - -</td>
<td>0</td>
<td>2.0</td>
<td>.2</td>
</tr>
<tr>
<td>- - +</td>
<td>0</td>
<td>2.0</td>
<td>1.1</td>
</tr>
<tr>
<td>+ - / - + -</td>
<td>.9</td>
<td>2.6</td>
<td>5.6</td>
</tr>
<tr>
<td>+ + +</td>
<td>1.4</td>
<td>0</td>
<td>6.0</td>
</tr>
<tr>
<td>++ -</td>
<td>3.5</td>
<td>34.0 **)</td>
<td>6.8</td>
</tr>
<tr>
<td><strong>Open triads</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>+ - 0&lt; + -0</td>
<td>1.4</td>
<td>.7</td>
<td>30.3</td>
</tr>
<tr>
<td>+ + 0</td>
<td>21.7</td>
<td>12.4 *)</td>
<td>38.6</td>
</tr>
<tr>
<td>- - 0</td>
<td>0</td>
<td>.7</td>
<td>1.7</td>
</tr>
</tbody>
</table>

Note: + indicates a strong relationship, – a weak relationship and, 0 indicates no relationship. See text for coding details. Notation is ij, ik, jk, whereas the focal actor (ego) = i. *) indicates significant differences between 1989 and 1994 at p < .05 and **) at p < .01.
relatively frequently. People entered into new relationships, mostly in the context of work, which were important for all kinds of activities.

Interestingly, the strength of niche relationships decreased in 1994 (average strength declined from 4.4 to 3.9); 34 percent of all niche relations were weakened. The relationships important for information about all kinds of financial matters, those we considered the ‘new’ kind of provision relationships, had an average strength of 3.3, which indicates stronger relations than provision relations had been before the revolution. Many of the former provision relationships had become weaker (about 58%) or had been broken (22%). Remarkably, many provision relations also became latent (about 20%), that is, the person was not mentioned in the network again, but if the interviewer asked what happened, respondents would state that they still knew each other but that they had no contact at the moment.

The average multiplexity of niche relations decreased, whereas it increased slightly for provision relations. In addition, we found that the average homogeneity of the whole network is increasing, while that of the niches is decreasing. The density of all the network parts considered decreased. Thus, there is a lessening of differences between niche and weaker ties.

In order to understand how the coincidence of relational functions changed, we estimated the same random coefficient model as in Table 2 for the data collected in 1994. Table 5 presents the results and in the right-hand column the absolute t-values for the difference between the 1989 and the 1994 model. The table indicates that discussion of personal matters is still strongly associated with talking about politics, but that the coincidence is weaker than it was before. Further, the variable ‘discussion of personal matters’ now has a significant random slope, indicating that the relationship between this variable and the dependent one differs among individuals. No such differences have been found for 1989. In 1994, talking about politics does not require talking about personal matters as well, at least, not in the same strong manner as before. Political issues can also be discussed with any other person, since confining these discussions to the circle of trustworthy people is now unnecessary. Finally, still other relational functions go together with the function ‘discussion of political matters’, such as ‘discussion of professional matters’, and ‘helping with small repairs’.
5. Discussion and Conclusion

Our hypotheses on the effects of communism on social networks are quite well confirmed by our data. First, East Germans created niches that compensated for the collective organization of daily life, the lack of privacy, and inhibited political debate.

Table 5. Logistic Random Coefficient Model for 'Discussion of Political Matters' for 1994 data in East Germany

<table>
<thead>
<tr>
<th>Functions of relationships</th>
<th>Coefficient (S.E.)</th>
<th>(absolute t-value)</th>
</tr>
</thead>
<tbody>
<tr>
<td>getting a job</td>
<td>-.98 (.44)**</td>
<td>1.8+</td>
</tr>
<tr>
<td>discussion of professional matters</td>
<td>.28 (.14)*</td>
<td>2.9**</td>
</tr>
<tr>
<td>discussion of problems related to work</td>
<td>.72 (.29)**</td>
<td>(3.3)</td>
</tr>
<tr>
<td>advice in questions of career</td>
<td>.70 (.16)**</td>
<td>3.5**</td>
</tr>
<tr>
<td>getting a house</td>
<td>-.27 (.31)</td>
<td>(1.0)</td>
</tr>
<tr>
<td>help with small repairs</td>
<td>.75 (.13)**</td>
<td>1.8+</td>
</tr>
<tr>
<td>leisure time</td>
<td>.47 (.10)**</td>
<td>6.2**</td>
</tr>
<tr>
<td>discussion of personal matters</td>
<td>.70 (.12)**</td>
<td>2.7**</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Control Variables</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>partner</td>
<td>-.08 (.18)</td>
<td></td>
</tr>
<tr>
<td>close family</td>
<td>-.56 (.11)**</td>
<td></td>
</tr>
<tr>
<td>SAMPLE</td>
<td>-.11 (.12)</td>
<td></td>
</tr>
<tr>
<td>TOWN</td>
<td>.05 (.11)</td>
<td></td>
</tr>
<tr>
<td>NETWORK SIZE</td>
<td>-.18 (.12)</td>
<td></td>
</tr>
<tr>
<td>CRITICAL LIFE EVENT</td>
<td>.09 (.06)</td>
<td></td>
</tr>
</tbody>
</table>

Variance Component Estimates

| random intercept variance                            | .45 (.08)          |                    |
| discussion of personal matters                      | 1.02 (.28)**       |                    |
| covariance (intercept, slope)                       | .25 (.11)          |                    |
| deviance (= –2 log likelihood)                      | 3063.3             |                    |

Note: see Appendix for item formulation. *, ** and + represent p < .05, p < .01 and p < .10 respectively. For 1989 data contain 4524 relationships of 476 respondents, in 1993 3246 relationships of 417 respondents and in 1994 3156 relationships of 305 respondents; unstandardized coefficients. Capital letters indicate variables on the level of ego.

*values within brackets indicate absolute t-values for non-significant coefficients.
relationships were remarkably close, multiplex, characterized by repeated transactions and with high educational and occupational similarity. The niches were also particularly dense. People indeed seem to have been tied together in their efforts to avoid adverse effects of institutional conditions. Furthermore, East Germans created provision networks that compensated for the economy of shortages. Provision relationships were weak rather than strong, with low multiplexity. People avoided occasional acquaintances and kept those whom they did not know well apart from each other. The number of linkages among members of the niche and the weak relationships such as the provision network, as well as their strength, was low. So, there clearly was a gap between the niche and the weaker part of the network. In general, the networks of East Germans were relatively small.

Our analyses confirm the social capital argument that weak ties have perverse effects in communist societies and that there is therefore a specific division of labor in personal networks. Individuals select different partners for different kinds of transactions and the institutional context determines which transactions are made and with whom by presenting individuals with particular problems for achieving their general goals of well-being and an approved identity (Lindenberg 1992).

On the level of the total network of all citizens of the GDR, our argument implies that there were small islands of intimacy in a sea of instrumental sociability (see Misztal 2000). A promise of the Marxist utopia was to create social cohesion as well as social equality. Yet Marxist practice in the former GDR did not result in a society of comrades, but in a society with a sharp division between private and public parts of personal networks, that is, a society that lacked overall social integration.

After the velvet revolution it looks as if the personal network became disconnected from institutional conditions, as the division of labor between the niche and the rest of the network consisting of weaker ties, as well as their disconnection, began to disappear. During the transition, the niches became vague and people included more weak ties in their personal networks. However, contrary to what we originally expected, people’s networks did not grow after the velvet revolution, although there were some changes: people got rid of those whom they did not trust in the days of the old regime. The new members fulfilled all kinds of functions. Strength and multiplexity decreased slightly for niche relationships and increased slightly for provision relations. A verage homogeneity of the whole network is increasing, while that of the niches is
decreasing. The changes in homogeneity indicate changes in the occupations of network members, but also the introduction of new network members who have different occupations. In addition, the density of all the network parts considered decreased. The coincidence of the relational functions ‘talking about politics’ and ‘talking about personal matters’ became weaker than before. As expected, it is no longer necessary to confine discussions of politics to a small circle of trustworthy others, that is, to the niche.

In 1994 the former GDR was of course still very much a society in transition and not yet a full-fledged capitalist, well-established democratic society. Many people did not know what their own interests were in the new situation, nor what other persons might be instrumental in promoting them. That probably partly explains why people’s networks did not grow to any great extent. However, one can also argue that people did not greatly change the number of activities spent with members of a niche, since it saves time and cost if a few others are relevant for many relational functions (Lindenberg 1997).

Probably most fundamental is that communism taught people not to trust relative strangers (for a more general discussion of this issue, see Misztal 2000: 208–28). Moreover, former GDR citizens nowadays suspect and eschew all organized life. Since all state-sponsored associations have collapsed and there were no others except for the church, hardly any voluntary organizations exist in the new situation. Thus, apart from work there are few places where people are forced to interact with relative strangers. Moreover, the absence of voluntary organizations, according to the classic Toquevillean argument from sociology (Putnam 1993), bodes no good for the chances of democracy and good government in ‘the new countries’ of Germany.

NOTES

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1. The program was written by Tom Snijders. We thank Vincent Buskens who adapted the program to our special problem, i.e. counting triads simultaneously in a large number of networks.

2. VARCL does not give the standard error of the variance components, only the standard deviations of these components. These standard errors are estimated by:

\[ 2\sigma + SE(\sigma) = SE(\sigma^2) \]
3. The core network (i.e. ties that are important for the discussion of personal matters) in the former GDR consisted of three people on average. This is somewhat, but not much, larger than niches. The absolute size of core networks do not differ from core networks in other countries. The core discussion networks of Americans (Marsden 1987) consist on average of three network members and recently collected national representative data in The Netherlands, the Social Survey of the Networks of the Dutch, collected in 2000 by the authors, the same type of network consists of 2.7 persons on average. The peculiarity of the niches in the former GDR is that talking about personal matters was closely associated with talking about political matters.

4. The difference between two coefficients can be tested by the \( t \)-statistic:

\[
\frac{\hat{\beta}_1 - \hat{\beta}_2}{\sqrt{\text{SE}_1^2 + \text{SE}_2^2}}
\]

This \( t \)-statistic does not take into account the fact that there is an overlap between the data sets used for calculating \( \hat{\beta}_1 \) and \( \hat{\beta}_2 \), such that these coefficients are correlated. The overlap may be expected to be a positive correlation, which would imply that the test given here is conservative.

REFERENCES


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Appendix:

Network Delineation Instrument
1. Did anybody help you to get the job you had before the turnover? If so, who?
2. With whom did you discuss professional matters related to work?
3. With whom did you discuss social problems related to your work?
4. Whom did you ask for advice with respect to your career?
5. Did you know anybody, who did not want you to have success and who would definitely not have helped you to have success?
6. Did anybody help you to find your apartment/house?
7. If you had to fix, to repair something, to move your furniture or to paper your walls – whom did you ask for help?
8. Who was important for you to get political information?
9. For whom have you been important to provide with political information?
10. Did anybody help you to attain scarce goods or services? (= provision ties)
11. Did you help anybody to attain scarce goods or services?
12. With whom did you spend your leisure time?
13. Was there anybody you did not trust?
14. Was there anybody who did not trust you?
15. With whom did you discuss political opinions and events?
16. Who did discuss political opinions and events with you?
17. With whom did you discuss important personal matters? (= core ties)
18. We mentioned a lot of people up to now; is there anybody left who should be included in your network and is important for any era of life we did not talk about?

Note: People were encouraged to mention five persons per name-generator, the time frame was the last six months before the political revolution. According to our argument, items no 17 and 15 together constituted the ‘niches’, item no 10 was considered to delineate the ‘provision’ network.