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Family comes first: Men's and women's personal networks in Tehran

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Abstract

This paper examines the characteristics of middle class Tehranis' networks, based upon a survey of 318 individuals from the 159 households. The results show that women and men have similar-size networks. However, their networks differ substantially in gender composition, with each having almost two-thirds of network members of their own gender. Men's and women's networks contain a large proportion of kin overall. Most ties tend to be with immediate kin: children, parents and siblings. An immediate kin is usually the socially closest member of a network. Apart from voluntary factors, the importance of kinship ties in men's and women's networks may be the result of the macro-structural conditions under which patterns of social relationships take place.

Keywords: Personal networks; Gender composition; Kinship ties; Macro-structural conditions

1. Introduction

The Islamic revolution has caused a wide variety of changes in Iranian society. Recent studies in Tehran indicate that although kinship continues to be a strong bond for people in all areas of the city, the political-ideological situation has had a deep effect on people's networks (Bastani, 1989; Sedigh-Sarvestani, 1991). Gender segregation in public areas is the rule, *hijab*[1] is obligatory and family laws appear to favor men. The Islamic movement has served to strengthen the situation of the family: motherhood and the direct care and upbringing of children is seen as the primary role and major responsibility of women. The leisure time function of the family has been strengthened, with leisure activities becoming more home-centered. In turn, these changes may have had other effects on the overall family network.

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[1] *Hijab* refers to the clothing that covers the body from head to ankles, with the exception of the face, hands and feet. According to Islamic law, women should cover their hair and body when they are in the presence of adult men who do not belong to the specified category of close relatives.

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The revolution has also increased women's involvement in society's social and political life, such as the role of women in the victory of the revolution, their role during the Iran–Iraq war, and in different political elections. Research shows that more women are going to work than ever before, and there are more women studying in Iranian universities (Mehran, 1991; Moghadam, 1988). However, the effects of these revolutionary changes on men and women's relationships have been little examined, especially in social network terms. Most of the time, discussions of the role of women and men in Iran have addressed only official rights and duties and have ignored their actual patterns of behavior.

Studying men's and women's networks in post-revolutionary Iran shows their living conditions as manifested in the constitution and use of their social networks. This study identifies the characteristics, size, composition, density, and heterogeneity of women's and men's personal networks.

Middle class individuals are the focus of this study because their networks are not well-known in the research literature about developing countries. Although some studies emphasize differences between lower, middle, and upper-class households in using social networks (Jacobson, 1973; Roberts, 1978; Sharma, 1986), they do not explain the characteristics of middle class networks. An exception is Lomnitz and Melnick's work (1991). This paper differs from their work in its use of network concepts and quantitative techniques, as well as in its analysis of Iranian society.

2. Personal networks

A personal network consists of a focal actor (Ego), a set of network members linked to Ego, and the ties between Ego and these network members. For instance, "when studying people, one samples respondents, and each respondent reports on a set of alters to whom they are tied, and on the ties among these alters" (Wasserman and Faust, 1994: p. 42).

Social networks are constructed and maintained by individuals within specific contexts and reflect a variety of personal and social constraints (Fischer, 1982: p. 4). As Wellman and Wortley note, "they are both a product and a cause of role relationships" (1990: p. 559). Therefore, men and women's different roles within the labor force, family, and community both shape and reflect their social environments.

The results of North American studies concerning gender differences in network structure have been fairly consistent (Moore, 1990; Marsden, 1987; Fischer, 1982). They show that while men and women generally cite the same number of persons in their network, men's networks consist of fewer kin and more nonkin, fewer neighbors but more coworkers and friends. Women's networks contain a larger proportion of kin overall, more different types of kin, and fewer types of nonkin. Women tend to be the kin-keepers in families: organizing family events and staying in touch with distant kin. Tasks associated with working in the home also tend to persist – even for women working outside of the home (Wellman and Wellman, 1992). Men and women also differ in the number of females and males they identify as network members, in frequency of contact, and in the average age of network members.

Studies in the developing countries show greater differences between men's and women's networks. They indicate that there is a considerable separation between the worlds of men and women. A man is likely to spend his time in public places with his male friends, while his wife visits with her female friends at her home or at theirs (Sharma, 1986; Peil, 1981; Lomnitz, 1977; Peattie, 1968). Relations with kin and neighbors tend to be more important to women than to men. For women, kinship ties have priority on their time and energies, and are of much practical and psychological importance.

The developing countries are divided into societies characterized by vastly different environmental, cultural, and political settings, and these differences are reflected in the nature of personal communities. Middle Eastern cultures, for example, emphasize personal contacts and relationships. These are combined with systems of relationship groups that may increase the number of primary ties to hundreds or possibly thousands of persons (Costello, 1977; Abu-Lughod, 1961). In Iran, although 83 percent of urban households are nuclear families, they have extensive socio-economic relations with the kinship network. Such kinship networks (*khanedan*) in their cities continue to play a significant role as a system of protection (Nassehi, 1985).

Fischer and Oliker (1983) argue that structural constraints are a primary cause of gender differences in networks. They point out that: "the differing positions of women and men in the work force, in marital roles, and in parenthood create different sets of opportunities for and constraints on friendship building" (1983: 30). The traditional home-based existence of women, their primary role as home-keeper and mother, and the differences in standards regarding sexual activity, all play a part in the differences in the networks of women and men (Fischer, 1982; Wellman, 1985; Gerstel, 1988; Campbell, 1988; Moore, 1990).

2.1. The data

My analysis is based on 318 structured face-to-face interviews conducted with individuals from 159 households. We interviewed both the husband and the wife from each household. The sample represents Tehran's middle class households who were randomly chosen from five districts (10 neighborhoods). The approach I used in this survey is similar to the approaches developed by Fischer (1982) and Wellman and Wortley (1989, 1990) with a few revisions to suit Iranian conditions. It uses questions specific to network analysis to elicit the names of people linked to the respondents.

As the focus of the study was on middle class households, I selected districts which are predominantly middle class. Districts (2, 3, 4, 5, and 6) are all located in the northern and central parts of the city. There is a clear north-south divide in the urban structure. A wide range of social and physical privileges distinguishes the northern part of the city, where the middle and upper classes live, from the southern part. The north has tree-lined streets with larger houses, lower densities, higher land prices, smaller households, higher rates of literacy and employment, higher concentrations of modern facilities and amenities, and more green space (see Madanipour, 1998; Markaz-e Motale'at, 1998).

3. Network size

An individual who has connections to more network members is more socially integrated than someone who has few connections. Network size is often an indicator of social resources. For instance, in looking for a job, a person with more friends (particularly diverse friends) is likely to get more information faster, and obtain help more easily.

3.1. Measurement

In this study, network size is measured as the total number of persons who provide different types of support and who have an intimate or significant relation with respondent is the network

size (see Fischer, 1982; Wellman, 1988). Each respondent was asked the following questions to generate the names of network members:

Who are the people with whom you discussed matters important to you?
Who do you turn to, when you feel depressed and you want to talk about it?
Who has recently turned to you to talk when they were feeling depressed?
Who would you ask for help, if you were in need to borrow money?
Who have you recently loaned a large amount of money?
Who watches over your house when you are not in?
Who has recently asked you to watch his/her house?
Who from outside of your home has recently helped you with tasks around the home?
Who have you recently helped with tasks around the home?
Who have you asked to look after your children when you were not at home?
Who have you recently helped with their children?
Who are the people who you know best living inside your current neighborhood?
Who are the people you enjoy socializing with?
Are there any other people, besides those that you already mentioned, who are important to you or significant in your life?

The names produced by each of these questions were combined to estimate total network size. After listing their network members, the respondents were asked to provide demographic information for each of the people they named, as well as information on frequency of contact, residential location, etc.

3.2. Results

The average size of the networks in Tehran is 9.6, with sizes ranging from 2 to 24 ties. The actual size of respondents' networks is probably larger than what is reflected here. Some respondents said that if they wanted to name all their kin it would take several hours to list them. Closer examination reveals that most respondents were selective in naming their siblings or other kin. If they told the interviewers they had five brothers and sisters, they might only name three as network members. To be sure, when the interviewers probed for detail, more kin were named. However, probing did not add to the number of friends and other nonkin. This finding is congruent with previous studies in the Middle East (Costello, 1977; Abu-Lughod, 1969).

Women have slightly larger social networks than men: an average of 9.8 ties per network, compared to 9.4 ties among men (Table 1). This is in accord with Fischer's Northern California study (1982: p. 41) and Wellman's study in Toronto (1992b: 80; see also Moore, 1990) for the overall network. There are no isolated respondents. Only one respondent did not name any person outside the household. He is retired, with 3 children at home that range in age from 17 to 29 years. He spends most of his time with his wife and children.

Although older respondents have larger networks, regression analysis suggests that age itself has little impact on total network size. Education is the only characteristic that predicts the network size of women. Women with higher education tend to have smaller networks, which is often the result of having smaller number of kin. Education, place of birth, and number of children are the best predictors of their network size.

By contrast to women, men with higher levels of education tend to have larger networks. These findings are congruent with previous network studies that have shown that there is a positive

Table 1
Network characteristics by gender

Characteristics	Women (mean)	Men (mean)	Analysis of variance	Sig.
Number of network members	9.8	9.4	0.714	<0.398
Number of immediate kin	4.7	4.0	7.254	<0.007
Number of extended kin	1.9	1.6	0.968	<0.326
Number of friends	1.6	1.9	2.786	<0.096
Number of neighbors	1.4	1.4	0.201	<0.768
Number of coworkers	0.2	0.5	8.889	<0.002
Network density	.57	.53	3.437	<0.065

relation between education and network size (Campbell et al., 1986; Marsden and Hurlbert, 1988). Men have more opportunities than women to develop relationships with other people because they tend to move in a variety of different social contexts.

4. Network composition

The composition of the networks is indicated by the percentage of specific relationships in the network: percent kin, friend, neighbor, coworker. Several studies have shown the existence of kin ties and the support provided by these relationships (Adams, 1968; Firth et al., 1969; Wellman, 1992a; Wellman and Wortley, 1989, 1990). There is also evidence of intimate relationships among neighbors (Gans, 1962; Keller, 1968; Gilanshah, 1978; Bastani, 1989; Sedigh-Sarvestani, 1991), and among friends and coworkers (Laumann, 1973; Shulman, 1975; Fischer, 1982; Wellman, 1979, 1982; Wellman and Wortley, 1989, 1990).

Most of the research in developing countries has looked at ties with kin, friends, and neighbors that individuals and households use for coping with daily life. In these studies, the household has been widely used as the unit of analysis in studies of survival strategies. The household must cope with unemployment, sickness, disablement, and the like. Thus, networks are a household's resources and not just the 'property' of individuals (Roberts, 1978; Sharma, 1986; Espinoza, 1999). Although these studies describe personal communities in general, they do not present detailed information about such network characteristics as size, density and composition

4.1. Measurement

Each respondent was asked a set of questions to generate the names of network members. For each of the persons named, an additional question focused on their relationship to the respondent. Respondents mentioned different role types: spouse ('*hamsar*'), parent ('*pedar*/*madar*'), child ('*dokhtar*/*pesar*'), sibling ('*khahar*/*baradar*'), other kin (in-laws, uncles, aunts, and cousins), friend ('*doost*'), neighbor ('*hamasieh*'), and coworker ('*hamkar*'). The first five relationships (spouse, parent, child, sibling, and other kin) were coded as kin and the last three (friend, neighbor, and coworker) were coded as nonkin.

4.2. Results

The data show that most Tehranis have socially close ties with both kin and nonkin. Respondents tend to name their kin first. If many ties are mentioned, neighbors and coworkers are likely to be included.

Table 2
Percentages of role types by gender (all ties)

Tie type	Male		Female		Total	
	N	%	*N*	%	*N*	%
Spouse	152	10.1	152	9.8	304	9.9
Parents	57	3.8	111	7.1	168	5.5
Sons/daughters	236	15.7	234	15	470	15.3
Brothers/sisters	193	12.8	248	15.9	441	14.4
Immediate kin	638	42.4	745	47.8	1383	45.1
Parents-in-law	49	3.3	36	2.3	85	2.8
Sons/daughter-in-law	7	0.5	12	0.8	19	0.6
Brothers/sisters-in-law	104	7.0	137	8.9	241	7.9
Grandparents	1	0.1	2	0.1	3	0.1
Paternal uncles/aunts	4	0.3	3	0.2	7	0.2
Maternal uncles/aunts	9	0.6	20	1.3	29	0.9
Cousins	16	1.1	28	1.8	44	1.4
Other kin	70	4.7	59	3.7	129	4.1
Extended kin	260	17.3	297	19.1	557	18.2
All kin	898	59.7	842	66.9	1940	62.4
Friend	310	20.6	244	15.7	554	18.1
Neighbor	216	14.3	222	14.1	438	14.2
Coworker	59	3.9	22	1.4	81	2.6
Other	21	1.5	28	1.9	49	1.7
All nonkin	606	40.3	516	33.1	1122	36.6
Total	1504	100.0	1558	100.0	3062	100.0

All of the respondents mentioned one or more kin in their networks, and 75 percent mentioned at least one nonkin. For the sample taken as a whole, about half (51 percent) of all ties outside the households are with kin. As expected, kinship ties are important in the composition of social networks. Twenty-four percent of the networks consist only of kin.

Although kin occupy important positions in the network, not all types of kin are equally represented (see Tables 2 and 3). Most ties tend to be with immediate kin: children, parents and siblings. An immediate kin is usually the socially closest member of a network: 95 percent of the respondents mention their spouse as the first network member.

Respondents usually turn to kin for sociability and also go to them for different kinds of help. Kin living outside of the household constitute 59 percent of the ties whom respondents see socially, 73 percent of the ties with whom respondents discuss important matters, and 83 percent of the ties from whom respondents can borrow money. These percentages are based on the number of kin who lived outside the respondents' households. The percentages increase to 67, 88, and 85 percent when we include all kin, including those living in the same household.

The Tehrani respondents' networks are smaller than North American networks, probably because of the characteristics of the sample. The respondents are mostly middle class and middle-aged. Many have adult children and can get help from inside their households. On the other hand, most also know they can get the help they need from the formal sector, and they do not name any network member as a source for some kinds of help. This is especially true for financial support, for which they rely on banks. The findings suggest that Tehranis' networks are "kin-centered,"

Table 3
Percentages of role types by gender (counted ties outside the households)

Tie type	Male		Female		Total	
	N	%	*N*	%	*N*	%
Parents	55	4.5	110	8.5	165	6.6
Sons/daughters	116	9.4	129	9.2	235	9.3
Brothers/sisters	193	15.7	248	19.3	441	17.5
Immediate kin	364	29.6	487	37.0	841	33.4
Parents-in-law	49	4.0	36	2.8	85	3.4
Sons/daughter-in-law	7	0.6	12	0.9	19	0.8
Brothers/sisters-in-law	104	8.5	136	10.7	240	9.6
Grandparents	1	0.1	2	0.2	3	0.1
Paternal uncles/aunts	4	0.3	3	0.2	7	0.3
Maternal uncles/aunts	9	0.7	19	1.5	28	1.1
Cousins	16	1.3	28	2.2	44	1.7
Other kin	69	5.6	58	4.4	127	5.0
Extended kin	259	21.2	294	22.8	553	22.0
All kin	623	50.7	781	59.9	1394	55.5
Friend	310	25.2	244	19.0	554	22.0
Neighbor	216	17.5	222	17.1	438	17.3
Coworker	59	4.7	22	1.7	81	3.2
Other	21	1.8	28	2.3	49	2.1
All nonkin	606	49.3	516	40.1	1122	44.6
Total	1229	100.0	1287	100.0	2516	100.0

similar to what was found in Toronto (Wellman et al., 1988; Wellman and Wortley, 1989, 1990). By contrast, the California networks contain more friends and coworkers (Fischer, 1982).

4.2.1. Kin

The number of kin in respondents' networks range from 1 to 18. Gender, education, income, and birth place correlate with the number of kin in networks. Education and income are negatively related to the number of kin in networks. People who have lower levels of education and income have a larger number of kin in their networks, which is not surprising as they have less chance to meet new people. Hence, their networks are less diverse than those people who have higher levels of income and education.

Iranian women are slightly more involved with kin than are men. Being a woman increases the number of kin in the network, just as it does in Toronto (Wellman and Wortley, 1990; Wellman, 1992b). Women are the "managers of house" (*modire khaneh*), and it is their obligation to keep in touch with kin. As one of the female respondents said:

> I am the one who keeps in touch with our relatives. I plan the family gatherings and invite the guests. I even remind my husband to call his parents or siblings.

This is similar to one man in the Toronto study who reports that his wife takes good care of him, including keeping in touch with his kin, but he complains that she cannot find his socks for him (Wellman, 1992b, p. 167).

4.2.2. Nonkin

Few differences exist with respect to the types of ties listed by men and women. Almost half of the ties are nonkin: friends, neighbors and coworkers. Educated respondents and respondents who were born outside Tehran are more involved with nonkin.

We can relate these findings to varying opportunities and constraints. People who were born outside Tehran may live far from their kin and therefore have more relations with nonkin. Education is a source of social opportunity. Respondents who were able to finish high school and attend university (undergraduate and graduate programs) have more chances to meet new people than people who only received high school diplomas.

Friends: Twenty-two percent of ties are named as "friend". Most of the respondents choose friends of the same sex, age, and status level. Many of the respondents' friendship ties began at school (34 percent), 27 percent as coworkers, and 14 percent as neighbors. Only 8.3 percent of the ties with friends arose from directly becoming friends.

Multiple regression analysis indicates that the respondents' level of education is the main predictor of the number of friends in networks. People with higher levels of education have more friends in their networks. This finding is in accordance with previous studies (see Wortley, 1996; Fischer, 1982; Allan, 1979; Young and Willmott, 1973). Fischer (1982) offers some explanations for the Californians he studies that also seem appropriate for Tehranis:

> Other studies have also shown that educated people are involved with larger numbers and more diverse types of non-kin than are comparatively uneducated people. This difference is often attributed to the social skills educated people tend to have: self-confidence and grace in approaching strangers and expanding acquaintanceships, sensitivity in dealing with the psychological nuances of personal relations, cognitive flexibility in managing intersecting social commitments, and so forth. But there are also structural advantages that accrue with education. One who has been through high school, through college, and through a postgraduate program has been exposed to at least one, two, or three more sets of potential friends and acquaintances than the person who finished only grade school. Education, aside from what it may do to people psychologically, is a source of great social opportunity (1982: 92).

Although Tehrani couples each name their own friends, they know each other's friends as well. Women, especially, have information about their husbands' friends. For example, one of the respondents said about her two friends:

> I meet my friends once a month or less but I call them at least once a week. I have also some friends among my husband's friends' wives. My husband and his friends have a monthly gathering. These gatherings are held in our homes. Once or twice a year, it is our turn and they all come here.

For some of the respondents, it is their spouses' friendships that form their friendships: 14 percent of women's friendships, and 4.5 percent of men's friendships. This is consistent with some previous studies (Jacobson, 1973; Sharma, 1986).

Neighbors: Neighbors form another portion of respondents' networks. Relations with neighbors tend to be friendly and non-intimate. They are nonkin living in the same neighborhood. Respondents name a mean of 1.40 neighbors (median = 1; S.D. = 1.52). There is a positive relationship between the length of residence in one's current dwelling and the number of neighbors in one's network. Several studies have shown that the length of residence in the neighborhood,

staying at home during the day, and the presence of children in the household increase the opportunity for neighborly contact (Wellman, 1971; Gates et al., 1973; Fischer, 1982; Bastani, 1989). Although respondents know their neighbors well, they are not dependent on them. Previous studies also indicate that while middle class individuals tend to know more neighbors than upper or working-class people, they are less likely to depend on their neighbors (Keller, 1968; Fischer et al., 1977; Bastani, 1989; Sedigh-Sarvestani, 1991).

The actual number of respondents' neighbors may be larger than the one neighbor that respondents tend to mention as network members. In the interview section about neighbors, respondents gave more details about their neighbor relations. We asked them about the number of neighbors they know (mean = 7.86, S.D. = 8.18), recognize by name (mean = 6.83, S.D. = 7.12), talk with on regular basis (mean = 4.89, S.D. = 6.54), have been invited to their homes (mean = 1.03, S.D. = 2.56), have visited their homes (mean = 0.89, S.D. = 1.81), and would call upon in an emergency (mean = 2.82, S.D. = 4.54). These results suggest that only a minority of respondents' actual neighbors are named as network members. Those neighbors named have socially close relations with respondents. The mean number of neighbors in respondents' networks is comparable to the mean number of neighbors who have been invited to their homes.

Coworkers: The basic measure of coworker involvement is the number of people the respondents name whose primary social context is work. The mean number of coworkers in respondents' networks is 0.34 (S.D. = 0.95). The small number of coworkers in the respondents' networks can be the result of the large number of housewives in the sample and the fact that almost half of the men are employed in private sector, where they usually work alone or have only a few employees or coworkers.[2]

Gender, full-time employment, and income are the main predictors of the number of coworkers in networks. Employed women name more coworkers than employed men, possibly as a result of their employment status. Women who name coworkers are mostly women who teach or work in other sections of the public sector.[3] They spend much time together and therefore can build new relationships. For example, one of the women who named two coworkers said:

> We have worked at the same high school for more than fifteen years. We know each other very well. We spend our break times together and talk about our lives. We expand our relationships to after work hours and get together once a month.

In sum, the results indicate that most Tehranis have ties with both kin and nonkin. For the sample taken as a whole, about half of all ties are with kin and about half are with nonkin (especially "friends"). The importance of kin in respondents' lives and the small size of their friendship networks are in accordance with previous studies in developing countries (Roberts, 1973, 1978; Peil, 1981; Sharma, 1986).

Comparing the composition of networks in Tehran and North America indicates that Tehranis name fewer kin, friends and coworkers than Northern Californians (Fischer, 1982). In Tehran, the mean number of kin is 6.6, compared to 7.7 in Northern California. The main difference is

[2] The largest employment categories among men are private ownership (21.4 percent of jobs), followed by state employee (20.8 percent) and top managers (11.3 percent). When grouped together under the two main sectors of the economy, public and private, the private sector accounts for more than half of the workforce.

[3] The majority of female respondents are housewives (66.7%). Among those who have paid employment, 55 percent work full-time while the rest work part-time. Ten percent of the women are retired. The public sector offers women employment opportunities unavailable elsewhere. In the sample: 76 percent of working women are employed in the public sector.

the number of friends in Northern Californian networks. The mean number of friends reported in Northern California (7.1) is three times larger than in Tehran (1.7). The difference is also high in regard to the mean number of coworkers. Moreover, while the mean number of coworkers in Tehranis' networks is 0.3, it is 1.8 in Northern California.

Tehrani women name fewer neighbors and coworkers than do Torontonians. The mean number of neighbors for women in the Tehran is 1.4 and the mean number of coworkers is 0.2, compared to 3.7 neighbors and 0.7 coworkers for women in Toronto (see Wellman, 1992b; Wellman et al., 1988). This difference may be the result of the larger number of housewives in Tehran survey and also of the different questions used.

By contrast, he main differences between Tehranis and North Americans' networks are in the number of kin and friends. Tehrani men name more kin (5.6) than do Toronto men (4.3). Yet, they name fewer friends (1.6) than the Torontonians (3.3).

5. Network density

Social networks with high density are often considered a positive thing. They are generally associated with kinship circles and vital urban neighborhoods and invoke the images of "community" and "togetherness" (Wellman and Leighton, 1979). High density networks have great potential to provide strong social support, foster social control, and aid communication among members (Wireman, 1984; Erickson, 1988; Lin et al., 1986). By contrast, low density networks, are associated with the idea of impersonal, transitory and segmented relationships. They evoke the image of the loss of community (Wellman, 1988; Wortley, 1996). However, low density networks may be more flexible and consequently more adaptive to the demands of a modern society that is undergoing continuous social change and in which most individuals are likely to be highly mobile, both geographically and socially.

5.1. Measurement

Network density, the extent to which network members are connected to one another, is calculated from the respondents' reports of relationship between others. Measuring density is more complicated than measuring network size and composition. The main goal is to know which of the respondent's members are also involved with each other.

The interviewers first entered the list of their network members in a network matrix. Respondents were then asked to indicate if each of their network members knew one another. Each respondent's answer to this question provided a picture of the general connectedness of her/his network. By counting all the checks in the matrix, the density index was computed.[4]

The results range from zero, when each alter knows only the respondent, to one, when the members of a network all know each other. In a network with a density of 1.00, every individual would have direct connection to others. A densely-knit network is often more homogeneous and has greater potential for both strong social support and strong social pressure for conformity. There is no standard definition of when a network is a densely-knit network, but most researchers would apply this term to a network with a density of at least 0.67, where two-thirds of all possible ties actually exist (Wellman, 1977).

[4] The equation for calculating this index is: density = known ties $\times$ $2/N(N-1)$.

5.2. Results

The average network density is 0.55. That is, more than half of all possible ties among network members are actually reported to exist. The networks of the men are as connected as the networks of the women. The average network density of the male respondents is 0.53, as compared to 0.57 for the female respondents.

These network densities are the result of having a high proportion of kin in networks. The nature of the kinship system affects the structure and operation of personal community networks. Because kinship is an inherently densely connected system, the kin who are active members of a respondent's network are usually linked with each other. Kin generally know one another and should increase the network's density. Only seven networks (2.2 percent) have no links between the network members independent of the respondent. These networks are attached to respondents who have small networks, with only one kin in these networks. Thirty-three networks (10.4 percent) have complete density (i.e., 1.0). In these networks all the members know one another and have close relationships, independently of the respondent as well as through the respondent. These networks are attached to respondents who have ties only with kin or only with friends.

Respondents in low density networks tend to report fewer friends in general, and these are not regarded as especially close personal friends. Finally, the longer the duration of ties, the higher the likelihood of a densely-knit network, and it is kin who have ties of longer duration.

Network density is negatively related to the respondents' education, income, and full-time employment. People with higher education and higher income have low density networks. These respondents have more opportunity to develop relationships with different people because they tend to move in a variety of different social context. As Fischer notes:

> The more diverse people's sphere of activity, the less dense their networks. This finding implies, first, that density is at least in part a by-product of the contextual character of the network. If one's network is drawn heavily from one or two contexts, it will be dense. Second, it underlines the importance of opportunities to form ties outside the basic contexts; without such opportunities, people end up with dense ties (Fischer, 1982: p. 144).

Density is independent of the size of the network but is positively correlated with the percentage of kin in the networks and the average duration of the relationships. This finding confirms a common-sense expectation that kin ties are densely connected and adds support to the validity of other findings about the importance of kin. Individuals are born into kinship relationships, and Iranian family members always know one another. Therefore, networks with a high percentage of kin usually are densely knit (see also Bott, 1971; Wellman, 1977; Fischer, 1982). In other words, the more kin and the fewer nonkin there are in respondents' networks, the denser are their networks.

There is also a negative association between density and the size of networks. Previous studies have also found that there is an inverse relationship between network size and network density (Wortley, 1996; Fischer, 1982). The larger the network, the less likely it is that everyone knows one another.

Tehranis have denser networks than both Northern Californians and Torontonians. In Toronto, 33 percent of the possible ties exist (Wellman et al., 1988), while the average density ratio for Northern Californian is 0.44. In Fischer's study "ten percent of the respondents had ratios of zero, and eleven percent had ratios of one" (1982: p. 145). While, the average density in Tehran is 0.55, five percent of the respondents have ratios of zero and twenty percent have ratios of one. The

higher proportion of kin in Tehranis' networks largely explains the difference between Tehran and North American studies.

5.3. Network heterogeneity

The heterogeneity of a personal network measures the diversity of persons an individual can contact within her or his interpersonal environment. High diversity indicates contacts with multiple spheres of activity. Hence a diverse network provides access to information from multiple sources. Researchers have found this to be advantageous for instrumental purposes, such as finding a job or locating an illegal abortionist (Granovetter, 1974; Lee, 1969).

5.4. Measurement

Each person's social network can be homogeneous in one aspect, such as gender, and heterogeneous in another, such as education. For example, if a woman's friends are all women, her friendship network is completely homogeneous with respect to gender. Social networks of Tehrani men and women differ significantly with respect to gender composition, with men's networks containing a higher percentage of male (64 percent) than female network members. By contrast, women comprise only 62 percent of women's networks. Put another way, almost two-thirds of men's and women's networks are of the same gender as the respondent.

Network heterogeneity was calculated for both continuous and categorical variables. Continuous variables were measured by standard deviation. Age heterogeneity, for example, is indicated by the standard deviation of age among network members. The larger the standard deviation, the more different are the members of a network in terms of age. Categorical variables, such as occupation, were measured by the index of qualitative variation (Muller et al., 1970).[5]

5.5. Results

There is considerable *age heterogeneity* in the networks, with 84 percent of the networks having a standard deviation for age greater than 10 (Table 4). The mean standard deviation of the networks is 13.69. The average *educational heterogeneity* in these networks is 3.85. More than 70 percent of the networks have an educational heterogeneity greater than 3.[6]

Gender heterogeneity score range from zero, when there is a complete absence of variation, to one, when maximum sex heterogeneity exists: the equivalent of picking 50 percent women and 50 percent men by chance. The average gender heterogeneity is 0.81; this means that respondents have high level of gender heterogeneity in their networks. Only 2 percent of the networks have no gender heterogeneity at all.

Occupational heterogeneity is 0.69:69 percent of the maximum possible, given nine occupations. In other words, the probability of having individuals from different occupations is 0.69.[7] Conversely, the probability of selecting two individuals from the same occupation is 0.31.

[5] IQV = total observed differences/maximum possible differences × 100.

[6] I used years of education to measure educational heterogeneity. Therefore, having an educational heterogeneity greater than 3 means that the difference in network members' education is greater than 3 years of schooling.

[7] Occupational heterogeneity score ranges from zero to one. In a network with an occupational heterogeneity of 1.00, every individual would have different occupation from others.

Table 4
Network heterogeneity by gender

Variables	Male %	Female %	Mean
Age heterogeneity (S.D.)			13.69
1–5 years	2.5	3.1	
6–10	17.0	10.7	
11–15	44.0	45.9	
16+	36.5	40.3	
Educational heterogeneity (S.D.)			3.85
0–1 year	1.3	0	
1.01–3	33.3	28.9	
3.01–6	59.7	62.3	
6.01+	5.7	8.8	
Gender heterogeneity (IQV)			0.81
0	2.5	1.3	
0.01–0.50	6.9	7.5	
0.51–0.75	23.9	21.4	
0.76–0.99	57.2	59.1	
1	8.8	10.7	
Occupational heterogeneity (IQV)			0.69
0	2.5	0	
0.01–0.40	3.1	5.7	
0.41–0.60	18.9	18.9	
0.61–0.80	41.5	50.3	
0.81+	34.0	25.2	

These findings indicate that Tehranis' networks contain people who are different from them in gender, education, occupation, and age. The presence of many kin increases heterogeneity in the network. For example, naming one's spouse will automatically bring in a network member of the opposite sex, and naming a child or parent will increase the age difference of a network.

Heterogeneity scores among nonkin network members, especially friends, are lower than those in the entire networks. Respondents are quite similar to their friends with respect to gender, age, and education. That Tehranis tend to associate with friends who share similar demographic characteristics is consistent with previous American studies (Laumann, 1973; Fischer, 1982; Feld, 1982; Marsden, 1988).

Housewives have high levels of gender heterogeneity. Since two-thirds of the women in this study are housewives, this means that women's networks have higher levels of gender heterogeneity. As is the case in developed countries, respondents tend to be of the same gender as their nonkin (Fischer, 1982; Feld, 1982; Marsden, 1988). Hence, the level of gender heterogeneity is lower for respondents who have a high percentage of nonkin in their networks. It means that people are more similar to their nonkin – especially their friends and coworkers – than to their kin.

Women who have lower levels of income, have higher levels of gender heterogeneity. By contrast, network size and number of nonkin predict to higher gender heterogeneity for men. Men with larger networks have more heterogeneous networks as do men with a high percentage of kin in their networks.

Multivariate analysis shows that people with larger networks have higher levels of occupational heterogeneity. As the number of network members increases, occupational heterogeneity

increases. Moreover, people with more kin in their networks have more occupationally heterogeneous networks.

Fischer's Northern Californian study (1982) found that respondents tended to name friends who are similar to them in age and marital status. This Tehran study similarly shows that respondents are more similar to nonkin members of their networks. However, the results of my study differ from what Wellman and Potter (1999) have argued in their typology of community: Lost, Saved and Liberated (see also Bott, 1971; Granovetter, 1973, 1982; Wenger, 1991). Wellman's community typology finds that networks with a high percentage of kin are homogeneous: they have lower levels of heterogeneity. By contrast, the Tehran study indicates that networks with a high percentage of kin are more heterogeneous than networks with a high percentage of nonkin.

6. Discussion

The main concern of this study has been to analyze the characteristics of Tehranis' networks and to compare women and men's networks. Women and men do not differ with respect to the size of their networks. Both women and men have almost the same percentage of kin in their networks. These findings are different from the previous American studies that have found that men are more involved with nonkin and women with kin (Fischer, 1982; Fischer and Oliker, 1983; Marsden, 1987; Hurlbert and Acock, 1990; Moore, 1990).

This contrast could be the result of the macro-structural conditions under which patterns of social relationships take place. It may also be due to differences in data collection methods. Studies that have used the same name-eliciting questions as the one that I used, have shown compatible results to this study's findings (Fischer, 1982; van der Poel, 1993). They also have found that the number of kin that people are involved with depends on the number of kin they have, and that men are slightly less involved with kin than are women (see Fischer, 1982: p. 87).

The social networks of men and women differ substantially – but symmetrically – in gender composition. Men have networks that consist of nearly two-thirds men; women have networks that consist of nearly two-thirds women. Only two percent of the networks have no gender heterogeneity at all. This means that the networks are not segregated. However, most of the opposite-sex ties are with people who are "*mahram*"[8] to the respondents. The majority of the friends and coworkers in women and men's networks are same-sex ties. Whenever respondents named an opposite-sex tie, they almost always referred to it as a colleague, previous classmate, or spouse's friend. Only a few named a tie as a friend, "*doost*". Women named more opposite-sex friendships than men.[9] Although marriage gives more freedom to both women and men in Iran, it seems that it gives more freedom of expression to women than to men.

Among the demographic characteristics, respondents' education has significant effects on network size and composition. Respondents with higher levels of education have larger networks and higher percentages of nonkin in their networks (see also Fischer, 1982; van der Poel, 1993).

[8] *Mahram* refers to the group of people who are unlawful for a woman to marry due to marital or blood relationships. These people include: (a) her seven permanent *mahrams* due to blood relationships: her father, son, brother, uncle from her father's side, brother's son, sister's son, and uncle from her mother's side. (b) Her *Radha*' *mahrams* due to sharing the nursing milk when she was an infant. Their status is similar to the permanent seven *mahrams* (i.e. nothing can change their status). (c) Her (in law) *mahrams* because of marriage: her husband's father (father in law), her husband's son (step son), her mother's husband (step father), and her daughter's husband.

[9] For some of the women, it is their spouses' friendships that form their friendships. This finding is consistent with some of the previous studies (Jacobson, 1973; Sharma, 1986, Wellman, 1992b).

Educated respondents, as Fischer states, do not "lack kin ties, however; they simply seem[ed] to be more selective in relying on kin" (1982: 252). Educated women have lower levels of density which is the result of having a larger number of nonkin, especially friends, in their networks. Education allows women to develop relations with people from different contexts.

Contrary to some studies which suggested that older people have smaller networks (Fischer, 1982), older Tehranis have larger networks. This seems to be the result of Iranian family structure and the importance of kin in their networks, because older respondents have more children and siblings in their networks.

Previous research found that household income has significant effects on respondents' network characteristics, e.g., size and composition of the network (Fischer, 1982). In Tehran, only household income is associated with the nature of women's networks. Women with more family income have enough resources to exchange with their network members. On the other hand, women with lower income have more gender heterogeneity in their networks which may be the result of their dependence on male kin.

Family structure also affects networks. Although the presence of children in the household does not have any effect on network composition (see also Moore, 1990), having larger number of adult children increases network size for both men and women. Spouses and adult children play important roles in networks and increase the possibility of greater involvement with kin (see also Wellman and Wellman, 1992; Shulman, 1975).

Why are kin so important in middle class Tehrani networks? Is it a matter of conscious choice on the part of the respondents or a result of the opportunity structure? People often make choices in their lives about establishing and maintaining social ties. Over time, some ties develop into intimate relationships and others do not. Sociologists believe that the choices people make are almost never the pure result of their individual preferences (Fischer et al., 1977; Feld, 1982; Howard, 1988). To understand the patterns of social relationships in a society, it is necessary to look at the macro-structural conditions under which these patterns take place.

Apart from voluntary factors, the importance of the kinship ties in Iranian society can be interpreted in the light of socio-economic constraints imposed by the wider society. Family and kinship are meeting places where socialization of the young and marriage are facilitated:

> The advent of the revolution in Iran introduced new rules of conduct in the relationship between young men and women and revised the leisure time function of the family. It dismantled some of the youth clubs that had been set up for the young and were being especially used by the middle classes. Although the revolution brought in some new avenues, such as mosques and other centers of political and social activities, socialization of the young remained under severe constraint. As a result, a new emphasis was put on the family and kinship as the centers for socialization (Madanipour, 1998).

The importance of kin ties may also be the result of the ambiguity of the criteria used for the allocation of resources and promotion in the socio-economic ladder. In Iran, informal connections still play a major role in the allocation of resources and in the labor market. In such situations, kinship ties are the best means to achieve the desired connections. Larissa Lomnitz's (1987) description of the family's role in middle class Mexican networks corresponds to that of Tehranis:

> [The family] is the pivot of the culture and the core of social networks. Thus the family defines the strategies for gaining access to resources (economic and social) by members of the society. For example, in the early days of faltering state power, weak institutions, and frequent political changes, the system increasingly relied on personal connections. Social

networks became the main vehicles for mobilizing available resources: they became social capital Lomnitz (1987: p. 232).

Iran's young population structure and high fertility rate are other factors that can explain the presence of the high number of kin in personal networks. They increase the number of siblings and children, and as a result, the number of kin ties in networks. As the findings of this study indicate, the number of children is one of the main factors that predicts a network's structure and composition. On the other hand, people who are in middle age groups were born at a time when family size and fertility rates were much higher than today. This increases the number of their siblings and consequently the number of immediate kin in their networks.

The new kinship structure differs from the traditional Iranian one in the nature of the relationship between individuals and their kin. In the traditional structure, emphasis was placed upon group solidarity and the subordination of the individual to the group interest. In the new structure, the group is utilized by its members for social and political mobilization and for economic mobility. While the nature of kinship has changed over time, it still provides a strong and highly valued basis for life in Iran.

The height of the revolution was a period of intense politicization of households and of pluralism in political views and loyalties. In that situation, political differences caused wide variety of changes in social relations. Some ties with kin or friends had broken off and some new ties had been replaced. Some people tried to replace family and group loyalty with religious and political loyalty. After two decades, however, the intensity of the moment, and with it the collective loyalties, have weakened. The family has survived, broken kin ties have been revived, but what has also emerged from the ashes of collective emotions is a rising tide of individualism (Madanipour, 1998).

To be sure, kin ties are important throughout the world, yet, compared to North America, kin play a more important role in Tehranis' networks. In Iran, the family serves as an economic and political institution as much as a social one, and individuals maintain close ties to their kin throughout their lives. Compared to Tehranis, North Americans have larger number of friends in their networks, which can be the result of their higher levels of geographic mobility. Geographic mobility leads to a loosening of kinship ties, and therefore a greater reliance on nonkin ties, especially friends.

Yet, when I compare the Tehran's sample to a subsample of middle class, married people in Toronto and North California, the networks are similar in many ways. This leads me to conclude that while the personal networks described in this study are products of interactions between the social and cultural circumstances in which Tehrani respondents are embedded, it is not correct to "over emphasize the cultural uniqueness" of Iranian society. Interestingly, this quotation by Shinsuke Otani (1999: p. 293) refers to Japan.

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