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STRUCTURAL DETERMINANTS OF MEN'S AND WOMEN'S PERSONAL NETWORKS*

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Men's and women's personal networks often differ in composition, with women's more focused on family and men's on nonkin, especially coworkers. Using data from the 1985 General Social Survey, I find that these gender differences arise in part from dissimilar social structural locations of men and women, which lead to distinct opportunities for and constraints on the formation of close personal ties. Most gender differences in network composition disappear or are considerably reduced when variables related to employment, family, and age are controlled. However, some gender differences remain. Women have a larger number, higher proportion, and greater diversity of kin ties in their personal networks than men, even when compared with men in similar social structural positions.

Over the past two decades extensive research on social networks has demonstrated the importance of networks in diverse facets of social life, including social support (e.g., Kadushin 1982), employment (Granovetter 1974, 1982; Lin, Ensel and Vaughn 1981; Lin 1982), and power and influence in organizations, communities, and nations (Laumann and Pappi 1976; Moore 1979; Laumann and Knoke 1987; Miller 1986). Indeed, network ties have frequently been described as social resources that offer valuable support, acquaintances, and information (Lin 1982; McPherson and Smith-Lovin 1982, p.884, 1986; Campbell, Marsden and Hurlbert 1986).

Studies of personal networks, comprised of an individual and the others to whom he or she is connected, have found that women and men usually have networks of similar size (Fischer 1982; Marsden 1987). These studies have also found, however, large gender differences in network composition. When compared to men, women have fewer ties to nonkin and more ties to kin, while men include more coworkers in their networks (Fischer and Oliker 1983; Wellman 1985; Marsden 1987). These findings suggest that women are less able to use networks as instrumental resources and that men benefit more from the diverse and extensive networks useful in finding jobs and advancing their careers. Much research on networks as instrumental resources has focused on weak ties. But organizational studies, usually measuring stronger ties, have confirmed findings of gender differences, often finding that men have more extensive ties than women, especially to powerful persons in work organizations (Miller 1986; Brass 1988).

Observed gender differences in networks have sometimes been attributed to contrasting *dispositions* of men and women toward interpersonal relationships, concluding that women are more disposed to maintaining closer ties to kin and fewer ties outside the family (e.g., Miller 1976; Chodorow 1978; Gilligan 1982). In contrast, the *structural* perspective has ascribed gender differences in networks to the dissimilar social structural locations of women and men (Fischer and Oliker 1983).

While researchers frequently have adopted a structural perspective to explain network differences, the structural perspective theory has yet to be subjected to a comprehensive empiri-

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cal test. Previous studies of differences between men's and women's networks have largely used local samples and a few structural variables (Fischer and Oliker 1983; Campbell 1988; Wellman 1985; Gerstel 1988). In this study, I investigated structural determinants of men's and women's networks to identify structural factors and to determine if gender differences in networks can be explained by these factors.

RESEARCH HYPOTHESES

Blau's axiom, that "social associations depend on opportunities for social contact" (1977, p. 281), summarizes the structural perspective. Social relations occur within an opportunity context that precludes or makes possible various kinds of social contacts (Blau 1977,p.79; Marsden forthcoming, p. 1). Fischer and Oliker, reporting on data from a study of friendship ties in northern California communities, argued that structural opportunities and constraints are the primary cause of gender differences in networks: "We propose 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, p. 130; also see Fischer 1982, pp. 253-255; Wellman 1985; Gerstel 1988). Structural opportunities, particularly jobs outside of the home and higher income, occur more often for men than for women. On the other hand, structural constraints on the development of network ties, such as responsibility for housework and childcare, are experienced more often by women.

Important structural variables are those relating to work, family, and age. Work-related factors, including paid employment, educational attainment, and income, are positively (and often strongly) related to network size and ties to nonkin; they increase the opportunity to form ties with persons outside the family and neighborhood (Fischer 1982, pp. 251-252; Marsden 1987, p. 129).

Although key factors in the structural perspective relate to paid employment, Fischer (1982) did not find occupation to be related to network ties. Nevertheless, it is probable that some occupations offer more opportunity and incentive than others to form ties with coworkers. Tightly knit occupations such as typographers and coal miners have been found to foster comradeship among coworkers (Fischer 1982, pp. 104-05; Lipset, Trow and Coleman 1956). Considering occupational groups rather than specific occupations, high-status positions may lead their occupants to form more ties to coworkers than do low-status positions. This reflects the value of ties among occupants of high-status positions for career mobility, work conditions permitting interaction, and the limited time these persons have for purely social relationships.

Family structure and age also affect network composition. The presence of children at home constrains the formation of ties, especially those to nonkin who are not neighbors. Persons who are married have more ties to kin and neighbors and fewer ties to others than do unmarried persons (Fischer 1982, p. 253; Wellman 1985; Gerstel 1988; Hurlbert and Acock 1990). Networks also differ by age: Nonkin ties peak in the early thirties and generally decline after that (Fischer 1982, p. 253; Fischer and Oliker 1983; Marsden 1987, pp. 128-129).

Yet, in one respect, the structural perspective allows a more fundamental role for gender. The work and family variables that shape network structures frequently affect men and women differently. As a result, gender and social structural variables can be expected to interact in their effects on personal networks (Fischer and Oliker 1983). Women are not only less likely to be employed outside the home and to have lower individual incomes than men, but they also generally retain responsibility for the majority of housework and childcare even when they are employed full-time; men's contribution to housework is relatively unaffected by employment status (Epstein 1988, pp. 209-212; Berk 1988). Thus marriage and parenthood often constrain women's opportunities to form network ties to nonkin outside the neighborhood, while marriage offers men the time and opportunity to form network ties beyond local and kin boundaries, and having children probably affects men's networks little (Fischer and Oliker 1983, p. 129; Wellman 1985; Gerstel 1988; Campbell 1988, pp. 191-194).[1] An addi-

[1] Ties with kin are readymade, an advantage to persons with scarce time to develop new relationships (Wellman 1985, pp. 174-176). Kin may also assist with childcare, and thus among families with children at home may be in more frequent contact. In addition, parents are likely to have a larger number of ties to neighbors' as a result of both neighbors' proximity and the propensity of children to form local friendships that bring their parents, particularly their mothers, in contact with neighbors.

tional effect of women's household responsibilities may be that full-time paid employment leads to a decline in ties of all types other than to coworkers, especially to nonkin. Among men paid employment may increase ties to nonkin, especially coworkers, while having little effect on kin ties.

Although network structures have various components, the focus in this study is on network range rather than other structural features, such as density. A broad range of ties, with many strong or weak connections to diverse others, is often seen as a valuable instrumental resource, while network density is more closely associated with social support (e.g., Campbell, Marsden and Hurlbert 1986; Marsden 1987; Campbell 1988, p. 181; Kadushin 1982). Range has been conceptualized in various ways, including volume of contacts and diversity of alters (Burt 1983; Campbell, Marsden and Hurlbert 1986; Campbell 1988). I measured *volume* of contacts as the total number of persons named as well as the number of persons of each type (e.g., kin or coworkers) in the network. A network would have a greater volume of ties if it had a larger overall size and a larger number of specific types of ties. I measured the *diversity* of alters in two ways: (1) the relative proportion of kin in the network, and (2) the number of different nonkin and kin types in the network. Networks with more diversity of types of ties have greater range and indicate integration into diverse social spheres.(Marsden 1987).

DATA AND METHODS

The 1985 General Social Survey, a national probability sample of 1534 English-speaking Americans eighteen years old and older, gathered data on respondents' backgrounds, attitudes, and other variables, including measures of personal networks (Davis and Smith 1988). Respondents were asked to name people with whom they had discussed "important matters" over the past six months.[2] The interviewers specified neither the content of the discussions nor the number of persons to be named (Marsden 1987, p. 123; Burt 1985, p. 119). The majority of the 1531 respondents with valid network data (85.6%) named between one and five persons, 8.9 percent named no one and 5.5 percent named six or more persons. For each of the first five persons named, additional questions focused on their relationships to the respondent and other information as well.

Because persons named were likely to be those to whom respondents felt close, these network data are best seen as measures of strong ties. For most respondents these were subsets of a more extensive network of strong ties — a subset representing those persons who first came to mind when thinking about recent discussions of important matters.[3] For the small proportion of respondents who named more than five persons, the data on reported ties are incomplete, omitting relationships to the sixth and, for seventeen respondents, persons named later.

Respondents were asked to indicate the ways they were connected to each of the first five persons they named, specifically: spouse, parent, sibling, child, other family, coworker, member of group to which they belong (such as church or club), neighbor, friend, professional advisor or consultant, other nonkin. The first five relationships were coded as kin and the last six as nonkin.[4] In order to clearly separate

[2] The wording was, "From time to time, most people discuss *important matters* with other people. Looking back over the last six months — who are the *people* with whom you discussed matters important to you? Just tell me their first names or initials." If fewer than five names were mentioned, interviewers were instructed to probe, with "Anyone else?" A sex bias in the wording of the network question was suggested by an *ASR* reviewer due to women's greater propensity to talk with their associates and men's to engage in shared activities (Caldwell and Peplau 1982; Aukett, Ritchie and Mill 1988). This argument for the inflation of women's network size, however, is not supported by the results of network research using differently worded questions. Two previous studies gathering data on ties involving both discussions and mutual activities found, as does this one, that women and men have networks of similar mean size (Fischer and Oliker 1983; Gerstel 1988). The more inclusive name generators used in those studies with less focus on close ties, however, yielded far larger networks, with a mean of 18 for both genders in the two studies.

[3] In a study of the personal networks of 33 persons in Toronto that gathered data on all individuals with whom respondents were "significantly in touch," Wellman found a median of four intimate ties as well as seven less intimate ones (1985, pp. 164-165). His results suggest that most persons do not have more than the maximum of five close ties described in the NORC data.

[4] The wording was: "Here is a list of some of the ways in which people are connected to each other. Some people can be connected to you in more than one way. For example, a man could be your brother and he may belong to your church and be your law-

kin and nonkin and to distinguish the more voluntary nonkin ties, persons who were described by the respondent as being connected both by kinship and other relationships were coded only as kin. Nonkin were all network members who were not described as kin.

I used 12 dependent variables in this analysis. One, *network size*, was the total number of persons named.[5] Eight variables reflected the *"absolute" composition* of each personal network. These were the numbers of kin, nonkin, neighbors, friends, group members, advisors, coworkers, and other nonkin.[6] Three measures of "*relative*" *composition* were included: the proportion of kin, the number of different kin types, and the number of different nonkin types in the network.

Obviously, the key independent variable in this analysis was *gender* (male = 1). The other independent variables can be categorized into one of four groups: (1) Variables concerned with *family structure* included number of *children* under 19 years old in the household, and *marital status* (currently married = 1). (2) *Age* variables included the respondent's *age* in years, and also *age squared* (age^2) to test for suspected nonlinear effects. (3) The number of years of *education* was the only variable in the education category. (4) Finally, *employment* variables included *employment status* (a set of dummy variables representing full time, part time, and no employment), personal *income* (in 17 categories, each recoded to equal the midpoint in thousands), and type of *occupation* (a dummy variable where professional/managerial = 1 and all other occupations = 0). Unfortunately, the data did not provide measures of the amount of time devoted to household labor and childcare.

Table 1. Network Size and Composition Differences Between Men and Women

Variables	Men Mean	Men S.D.	Women Mean	Women S.D.
Overall network size[a]	3.00	1.83	3.02	1.73
Absolute composition[b]				
# of kin	1.50	1.27	1.81**	1.34
# of nonkin[c]	1.70	1.49	1.40**	1.32
# of neighbors	.19	.58	.26*	.60
# of friends	1.41	1.40	1.27*	1.28
# of coworkers	.62	1.02	.36**	.75
# of group members	.32	.79	.29	.75
# of advisors	.31	.73	.18**	.52
# of others	.06	.33	.04	.23
Relative composition				
Proportion kin	.51	.38	.58**	.36
# of kin types	1.17	.88	1.43**	.95
# of nonkin types	1.56	1.31	1.41*	1.28

*$p < .05$, two-tailed t-test **$p < .01$, two-tailed t-test

[a] Network size is computed for all respondents except three for whom these data were missing (N = 1531). For persons with networks of size 6 or more, the number is recoded to the mean of 6.5.

[b] The absolute and relative composition measures are based on all persons with networks of size one or larger. Those naming no one are excluded (N = 1395). The range for absolute measures is 0 to 5.

[c] Respondents could report multiple relations with each network member. For example, one tie could be described as a brother who is also a neighbor. In the calculation of number of nonkin of each type, persons who are also described as kin are excluded.

RESULTS

Table 1 presents the means and standard deviations for men and women on the variables measuring network size and absolute and relative network composition.[7] While overall men and women cited the same number of persons in their networks, they differed in the predicted ways on most other network measures. In terms of absolute numbers of persons of varying relationships to respondents, men's networks, when

yer. When I read you a name, please tell me *all* the ways that person is connected to you." This question was followed by the probe: "What other ways?"

[5] After recoding, network size had a range of 0 to 6.5. NORC coded all responses of 6 or more ties as 6. This included a total of 84 persons, of whom just 17 named seven or more ties. Following the practice of Marsden (1987, p. 126), I recoded the category including all networks of size 6 and larger to its mean value of 6.5. Because few respondents reported networks of more than five persons, this truncation was unlikely to seriously bias the analyses.

[6] While the absolute composition measures included counts of the number of nonkin of various types (e.g., friends and coworkers), it was not logical to include such measures for kin since the number of specific types of kin (e.g., parents and spouses) is limited.

[7] The issue of selectivity bias has been raised as a potential problem in the analysis of network data when certain cases are systematically excluded on the basis of the dependent variable (Marsden and Hurlbert 1987). In this analysis persons with networks of size 0 were excluded from analyses *other than those of network size*. However, because these persons made up less than 10 per cent of the total sample, selection bias was not likely to be a serious problem here (Marsden and Hurlbert 1987, p. 345).

Table 2. Regression of Network Size and Composition on Gender and Structural Variables

Category/ Independent Variable	Absolute Composition								Relative Composition		
	Network Size	# Kin	# Nonkin	# Ngbrs.	# Co-workers	# Friends	# Group	# Advisors	% Kin	# Kin Types	# Nonkin Types
Gender (male = 1)	-.248** (-2.62)	-.278** (-3.59)	.156* (1.97)	-.014 (-.39)	.016 (.32)	.049 (.63)	.030 (.65)	.141** (3.74)	-.042* (-1.99)	-.279** (-5.32)	.062 (.83)
Age											
Age (years)	-.015 (-.96)	-.043 (-3.40)**	.040** (3.06)	.005 (.92)	.017* (2.07)	.025* (1.97)	.004 (.56)	.015* (2.49)	-.013** (-3.73)	-.035** (-4.01)	.010 (.79)
Age^2 [a]	-.039 (-.25)	.397** (3.00)	-.481** (-3.55)	-.049 (-.79)	-.202* (-2.37)	-.354** (-2.68)	-.026 (-.33)	-.149* (-2.32)	.145** (3.97)	.290** (3.23)	-.176 (-1.38)
Education (years)	.134** (7.81)	.021 (1.50)	.065** (4.44)	.017** (2.62)	-.007 (-.73)	.048** (3.39)	.041** (4.86)	.026** (3.75)	-.011** (-2.75)	.011 (1.17)	.059** (4.32)
Employment											
Full-time employment[b]	-.158 (-1.21)	-.190 (-1.78)	.019 (.17)	-.093 (-1.88)	.305** (4.44)	-.010 (-.10)	.016 (.26)	-.061 (-1.19)	-.039 (-1.33)	-.116 (-1.61)	.094 (.92)
Part-time employment	.209 (1.36)	.072 (.57)	.165 (1.28)	.007 (.12)	.267** (3.31)	.166 (1.33)	.290** (3.90)	.044 (.72)	-.014 (-.39)	.034 (.40)	.453** (3.76)
Occupation[c]	.207 (1.85)	-.034 (-.38)	.299** (3.22)	-.017 (-.41)	.238** (4.07)	.200* (2.21)	.066 (1.23)	.111* (2.52)	-.043 (-1.72)	.031 (.51)	.334** (3.83)
Income[d]	.011* (2.41)	-.004 (-1.12)	.010** (2.83)	-.003 (-1.75)	.012** (5.37)	.008* (2.34)	-.002 (-.84)	-.000 (-.25)	-.002 (-1.66)	-.001 (-.49)	.004 (1.29)
Family											
Marital status (married = 1)	.161 (1.75)	.646** (8.53)	-.649** (-8.36)	-.045 (-1.27)	-.023 (-.48)	-.580** (-7.68)	-.041 (-.92)	-.023 (-.64)	.206** (9.85)	.690** (13.45)	-.318** (-4.35)
Children (# under 19)	-.093* (-2.32)	-.063 (-1.90)	.020 (.58)	.049** (3.17)	-.007 (-.33)	.019 (.57)	.041* (2.09)	.017 (1.03)	-.008 (-.82)	-.014 (-.62)	.062 (1.93)
Intercept	2.091** (5.25)	2.388** (7.38)	.092 (.28)	-.040 (-.26)	-.131 (-.63)	.545 (1.69)	-.405* (-2.11)	-.492** (-3.13)	.902** (10.11)	1.849** (8.43)	.562 (1.80)
R^2	.154	.078	.159	.027	.173	.120	.048	.050	.126	.154	.127

*$p < .05$ **$p < .01$

[a] Coefficient multiplied by 1000.

[b] Employment status is a set of dummy variables: full-time = 1, other = 0; part-time = 1, other = 0; not employed full-time or part-time is the omitted category.

[c] Managerial and professional occupations = 1, other occupations = 0.

[d] Personal income was originally coded in 17 categories. The midpoint of each, in thousands, is used.

Notes: Unstandardized coefficients, t-statistics are in parentheses.

compared to women's, consisted of fewer kin and more nonkin, and included fewer neighbors but more coworkers, advisors, and friends. In relative composition, women's networks, when compared to men's, incorporated a larger proportion of kin overall as well as more different types of kin, but fewer different types of nonkin. All but two of the mean differences in Table 1 are statistically significant at the .05 level or greater.

The remainder of my analysis focused on structural and gender determinants of network composition. Measures of network size, absolute network composition, and relative network composition were regressed on gender and social structural variables. The results are shown in Table 2.[8] Because past research has suggested that social structural variables and gender interact in the formation of networks, interactions were systematically tested in all equations. A global test was employed in each case by introducing a complete set of product terms between

[8] The "other nonkin" measure was not examined further, since, as a residual category, its meaning was unclear.

gender and all other independent variables. Adding interaction terms significantly improved R^2 for three of the 11 dependent variables: number of kin, number of kin types, and number of advisors. Models including all of the interaction terms are presented in Table 3. Because of collinearity, interpreting the individual coefficients for the interaction terms was somewhat difficult. Therefore, I tested models in which I included interactions with each group of variables separately and then combined those groups that produced significant increases in R^2. These are presented as the "trimmed" models shown in Table 3. Note that although none of the interactions with the individual employment variables had a significant effect on number of kin, for example, taken together they significantly improved the R^2 of the model as a whole.

Network Size and Absolute Network Composition

On the whole, gender differences in network composition were considerably reduced when structural variables were controlled. About half of the differences that were statistically significant in Table 1 were not significant in Table 2. One of the remaining differences, the naming of nonkin as network members, had its magnitude reduced by half. The main exceptions to this pattern were network size, where gender differences were significant only in Table 2, and the number of kin. Women apparently maintain close ties to a larger number of persons, especially kin, than do similarly situated men.[9] On the other hand, men in general have more ties to advisors and to nonkin.

Equally telling is the limited number of interaction effects involving gender. Significant interactions occurred only in the equations for kin, kin types, and advisors. Such results largely refute the expectation that similar social structural positions have different impacts on women's and men's networks. For example, the prediction that marriage would, in general, increase men's nonkin ties while decreasing women's was not supported (with the modest exception of the number of advisors). Nor did the presence of children have a differential impact on the absolute composition of men's and women's networks. Of the interactions that were significant, the most important had to do with the number of kin. One significant interaction was between gender and the category of employment-related variables ($F_{4,1331} = 2.763$, $p < .05$). More refined analysis (not presented) suggests that this difference had to do with employment status: Full-time employment among women reduced the number of kin ties named; no similar effect was found among men. Another significant interaction involved age ($F_{2,1331} = 4.698$, $p < .01$) which affected the number of kin named among men, but not among women. The interaction of gender and family variables in the advisors equation indicated that married men and those with children (but not women with the same family statuses) named more advisors among their close ties.

Social structural variables clearly had more important overall effects than gender. Earlier research found that family, employment, and age variables have zero-order relationships to network structures (e.g., Fischer 1982; Fischer and Oliker 1983; Marsden 1987; Gerstel 1988). Each of these structural variables played an important role in some of the equations. For instance, age had rather consistent and nonlinear effects. Nonkin ties tended to rise during the young-adult years and then fall after that point, while kin ties (only among men) displayed the opposite pattern. Marital status had especially large effects. Compared with currently unmarried persons, married persons included more kin and fewer nonkin (particularly friends) in their networks (see Hurlbert and Acock 1990 for similar findings using the same data set). The expectation that children in the household would have an effect similar to marriage — increasing ties to kin and neighbors while decreasing those to nonkin who are not neighbors — was not confirmed. Children *did* increase their parents' ties to neighbors (and group members), but their presence led to fewer kin ties and smaller networks overall.

Net of other variables, paid employment had little impact on absolute network composition other than increasing the number of ties to group members, the unremarkable effect of increasing ties to coworkers, and the previously noted decrease in kin ties among women. But the related variables of education, occupation, and income had stronger effects, generally being

[9] This statement is not affected by the reversal of gender's sign between the kin equations with and without interactions. The positive gender coefficient in the equation with interactions (Table 3) does not indicate that men named more kin; it only partly counterbalances the negative impact of the age interactions that apply to men but not women.

Table 3. Regression of Network Composition on Gender and Structural Variables with Interaction Terms

Category/ Independent Variables	# Kin		# Kin Types		# Advisors	
	Full Model	Trimmed Model	Full Model	Trimmed Model	Full Model	Trimmed Model
Gender	1.295*	1.097*	.862	.647	.090	.024
	(2.00)	(2.03)	(1.96)	(1.77)	(.28)	(.42)
Age						
Age	-.019	-.018	-.017	-.017	.013	.016**
	(-1.19)	(-1.10)	(-1.57)	(-1.58)	(1.68)	(2.61)
Age^2	.192	.165	.134	.127	-.122	-.166*
	(1.14)	(1.01)	(1.18)	(1.15)	(-1.49)	(-2.57)
Education	.027	.018	.018	.009	.028**	.026**
	(1.32)	(1.28)	(1.26)	(.93)	(2.81)	(3.70)
Employment						
Full-time employment	-.233	-.245	-.164	-.168	.051	-.080
	(-1.57)	(-1.67)	(-1.63)	(-1.68)	(.70)	(-1.54)
Part-time employment	.217	.218	.146	.150	.118	.044
	(1.40)	(1.42)	(1.40)	(1.44)	(1.57)	(.73)
Occupation	-.050	-.025	.001	.023	.090	.116**
	(-.40)	(-.21)	(.01)	(.29)	(1.48)	(2.65)
Income	-.011	-.010	-.005	-.005	-.007*	-.001
	(-1.51)	(-1.46)	(-1.07)	(-.97)	(-1.99)	(-.50)
Family						
Marital status	.680**	.654**	.684**	.691**	-.067	-.082
	(6.87)	(8.49)	(10.21)	(13.26)	(-1.39)	(-1.74)
Children	-.061	-.071*	-.016	-.020	-.009	-.014
	(-1.30)	(-2.11)	(-.49)	(-.87)	(-.38)	(-.66)
Interaction of gender (male) with:						
Age						
Age	-.063*	-.067**	-.047**	-.046**	.008	—
	(-2.41)	(-2.66)	(-2.62)	(-2.72)	(.62)	
Age^2	.562*	.612*	.426*	.434*	-.119	—
	(2.05)	(2.33)	(2.30)	(2.45)	(-.89)	
Education	-.017	—	-.017	—	-.006	—
	(-.61)		(-.86)		(-.43)	
Employment						
Full-time employment	.230	.244	.182	.192	-.255*	—
	(1.02)	(1.09)	(1.19)	(1.26)	(-2.32)	
Part-time employment	-.354	-.350	-.291	-.293	-.182	—
	(-1.33)	(-1.32)	(-1.62)	(-1.63)	(-1.41)	
Occupation	.085	.036	.101	.054	.062	—
	(.47)	(.22)	(.82)	(.49)	(.70)	
Income	.010	.009	.006	.005	.008*	—
	(1.14)	(1.04)	(.98)	(.83)	(1.98)	
Family						
Marital status	-.063	—	.019	—	.125	.139
	(-.39)		(.17)		(1.62)	(1.89)
Children	-.014	—	-.007	—	.043	.055
	(-.21)		(-.16)		(1.30)	(1.82)
Intercept	1.739**	1.853**	1.394**	1.500**	-.450*	-.415**
	(4.06)	(4.79)	(4.80)	(5.73)	(-2.16)	(-2.61)
R^2	.092	.091	.168	.167	.062	.056
F for interaction set	2.264	3.306	2.451	3.552	1.915	4.344
d.f.	9,1328	6,1331	9,1328	6,1331	9,1328	2,1335
Significance level	.016	.003	.009	.002	.046	.013

*$p < .05$ **$p < .01$

Notes: Unstandardized coefficients, t-statistics are in parentheses. For variable descriptions see Table 2.

positively associated with network size and ties to nonkin overall as well as to coworkers, advisors, and friends. The number of kin ties, however, was not dependent on education, income, or occupation. The general pattern of these variables indicates that, as expected, persons who are more economically, educationally, and occupationally privileged form larger networks and establish more close ties to nonkin of various types than do less privileged persons.

Relative Network Composition

Broadly similar patterns were found for the measures of relative network composition (Tables 2 and 3). Gender was a significant factor only for kin ties, with women's networks being comprised of larger proportions of kin and more types of kin than were the men's. There were also a few significant interaction effects involving gender, but only in the equation for kin types. As before, these were with employment status ($F_{4,1331} = 3.448, p < .01$) and age ($F_{2,1331} = 4.458, p < .05$). The role of gender in the kin equations indicates that women, especially those who are not employed full time, not only maintained close ties to more kin, but also maintained more diverse kin ties than did similarly placed men. This result is consistent with women's roles as "kinkeepers," persons who keep members of the extended family in touch with one another (Rosenthal 1985, p. 965; di Leonardo 1987, p. 443).

Some social structural variables had stronger effects than gender on relative network composition. Marital status had the strongest and most consistent effect; being married led to a higher proportion and greater variety of kin types while having the opposite effect on ties to nonkin. The effects of education, employment status, and occupation were also noteworthy for the diversity of nonkin types. In addition, education reduced the proportion of close ties involving kin.

SUMMARY AND CONCLUSION

In the aggregate, women and men differed considerably in their network compositions though not in network sizes. Compared to men, women's networks were comprised of more kin and fewer nonkin (except neighbors). Most of these gender differences disappeared or were reduced, however, when structural variables were controlled. In particular, men and women had networks that contained similar numbers of nonkin of various types when variables related to work, family, and age were controlled. However, some gender differences remained, primarily in ties to kin where women's networks contained more and larger proportions of kin as well as more types of kin.

Contrary to expectations, gender and structural variables rarely interacted in their impact on network composition. Marriage and parenthood, for instance, did not impact negatively on nonkin network formation for women. However, a few gender-specific effects occurred, particularly for employment-related variables and age. Full-time employment decreased the number and diversity of kin only in women's networks. Also, increasing age had a stronger impact on men's than on women's kin ties. Several structural variables connected with employment, marital status, and age were more important than gender in their impact on network composition. Ties to nonkin, for instance, were less numerous among married and older persons, but more common among persons who were highly educated or in professional and managerial occupations. The structural variables often had the opposite effects for ties to kin.

Overall, these analyses offer considerable support for the structural perspective. Net of other variables, gender had little impact on the absolute and relative nonkin measures, indicating that men and women with similar family- and work-related characteristics have nonkin networks that are also similar.

On the other hand, structural variables did not fully eliminate the effect of gender on kin ties. In their personal networks, women included more and larger proportions of kin as well as more diverse kin types than did similarly situated men, although the disparities were reduced to some degree when women worked full-time. Women may be disposed to focus more of their close ties on family members, men more on ties to nonkin. These results are consistent with studies of caregiving, which typically have found that women are expected to be and are more active than men in the maintenance of kin ties and in the care of dependent relatives, such as an aged parent (e.g., Leigh 1982; Rosenthal 1985; Sherman, Ward, and LaGory 1988). But a structural factor, proximity, may also be important: Older women have been found to live nearer to their geographically closest child than do men of the same age (Spitze and Logan 1989, Table 3). The proximity factor may also be

important to younger women (perhaps in relation to their parents); it could offer the opportunity to maintain strong ties to relatives, since, in spite of the telephone, frequency of kin interaction is often found to depend most strongly on geographic distance (Lee 1980, pp. 928-929).

In balance, the evidence here supports the structural perspective: Most gender differences in networks were due to opportunities and constraints arising out of women's and men's different locations in the social structure. Men's and women's networks differed more as a result of that fact and less because they were predisposed to form and maintain differing networks. Blau's work is important in understanding that networks form within an opportunity context that facilitates or impedes the formation of social ties (1977; see also Marsden forthcoming). The social structure shapes opportunities to form relationships of various sorts (Blau 1977). If women do not work for pay, they cannot have coworkers in their personal networks. Unmarried persons cannot form ties to spouses or in-laws. These structural factors provide the context within which personal ties form.

The structural perspective has implications beyond the realm of the personal networks investigated here. Kanter (1977) used it to explain gender differences in networks and behavior in organizations. She contended that it is not the *dispositions* of men and women, but the small number of women in high-level positions and their relative lack of opportunity and power in male-dominated organizations that explain the higher performance and mobility of men in work organizations. Larger numbers and proportions of women in high-level organizational positions would decrease women's disadvantage. Kanter's work on gender in organizations has pointed to the power of structural effects on behavior that was previously ascribed to individual predispositions.

This examination of strong network ties confirms previous findings of gender differences in networks while also illuminating their origins. These results support Blau's and Kanter's conclusions: If men and women were in similar social structural positions their behavior would differ little. As more women move into paid employment, the genders' network compositions can be expected to become more alike, with more close ties to nonkin, especially coworkers, and fewer ties to kin. Women may still maintain a larger number of ties to kin than do men, however, as long as they remain the primary caretakers and kinkeepers in most families.

This research also offers clear support for Epstein's more general claim, that "the overwhelming evidence created by the past decades of research on gender supports the theory that gender differentiation . . . is best explained as a social construction rooted in hierarchy, not in biology or in internalization . . ."(1988, p. 15).

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