

# Social Network Type and Morale in Old Age

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**Purpose:** The aim of this research was to derive network types among an elderly population and to examine the relationship of network type to morale. **Design and Methods:** Secondary analysis of data compiled by the Israeli Central Bureau of Statistics ( $n = 2,079$ ) was employed, and network types were derived through K-means cluster analysis. Respondents' morale scores were regressed on network types, controlling for background and health variables. **Results:** Five network types were derived. Respondents in diverse or friends networks reported the highest morale; those in exclusively family or restricted networks had the lowest. Multivariate regression analysis underscored that certain network types were second among the study variables in predicting respondents' morale, preceded only by disability level (Adjusted  $R^2 = .41$ ). **Implications:** Classification of network types allows consideration of the interpersonal environments of older people in relation to outcomes of interest. The relative effects on morale of elective versus obligated social ties, evident in the current analysis, is a case in point.

**Key Words:** Network typology, Well-being, Social support, Israel

The personal social networks in which older people are embedded are related to several well-being outcomes in later life (Antonucci & Akiyama, 1987; Gallo, 1984; Wenger, 1996). One's social network can affect a range of feelings, such as sense of morale, notions of self-worth, and life satisfaction (Barrett, 1999; Lang & Baltes, 1997; Lee & Ishii-Kuntz, 1987; Wilson, Calsyn, & Orlofsky, 1994). Networks also influence a variety of behaviors, as, for example, older people's utilization of health and social services (Bass & Noelker, 1987; Bear, 1989; Logan & Spitze, 1994; Wan, 1987).

A summary network measure with significant potential for use by gerontological practitioners and researchers is the notion of network type (Wenger, 1991). This construct encompasses a set of key structural and interactional network variables that collectively distinguish major groupings in the population of interest. Initial investigations into this area indi-

cate, moreover, that one's network type can be quite predictive of several important outcomes (Bond et al., 1998; Litwin, 1998; Wenger, 1997). However, although study of network types and their impact is an area of inquiry with considerable potential for informing gerontological practice, there is still relatively little research available on this topic.

The current study addressed this gap in the literature. Based upon secondary analysis of data drawn from a national representative sample of persons aged 60 and older in Israel, the study had two primary aims. The first was to derive a collection of coherent and distinguishable network types among an elderly population. The second was to examine the relationship of the resultant network types to respondents' morale, a primary indicator of well-being in later life. A multiple regression analysis was thus conducted, in order to test how the independent contribution of network type impacts morale controlling for demographic and health characteristics.

## Literature Review

Social networks are the collection of interpersonal ties that people of all ages maintain in varying contexts. While such ties may or may not be supportive, the terms "support network" and "social network" are often used interchangeably in the gerontological literature to refer to the same social aggregate (Wenger, 1996). Also, a number of different approaches are employed by researchers for the derivation or mapping of social networks (Van der Poel, 1993). These methodological differences tend to produce varying foci in studies of the network phenomenon. Thus, while there is agreement regarding the importance of social networks to older people, the specific factors found to correlate with social network have been seen to vary according to the definition of social network adopted and the method of network analysis utilized.

In an attempt to focus gerontological network research on the most relevant of the network components in a parsimonious manner, Wenger (1991) has drawn attention to the concept of network type. This construct allows for the identification of differing meaningful interpersonal environments in later life, as measured by a collection of core social network variables. The notion of network type is thus represented in a series of unique characterizations of sets of social ties, often referred to as a network typology.

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The key network determinants that most frequently constitute the basis for network type delineation include both structural components, such as member counts and composition profiles, and interactional components, such as measures of contact frequency or tie duration. Wenger (1996) systematically derived a network typology of elderly people in Wales, based upon three differentiating criteria: the availability of local close kin; frequency of contact with family, friends, and neighbors; and levels of social integration in community groups.

Five network types were distinguished in that effort. The family-dependent network was a small grouping that relied primarily on close family members. The locally integrated network was a large grouping that included relationships with family, neighbors, and friends. The local self-contained network tended to be small and mostly neighbor-based. The wider-community-focused network was large and primarily friendship-centered. Finally, the private-restricted network was characterized by an absence of local kin, and only minimal ties with neighbors.

These network types were subsequently replicated in England, Germany, and The Netherlands (Scharf & Wenger, 1995). Other network typologies, each using unique criteria, have been noted in Australia (Mugford & Kendig, 1986), Canada (Stone & Rosenthal, 1996), and Finland (Melkas & Jylhä, 1996). The network types identified in the various typologies exhibit several similarities, especially in regard to composition, along with some characteristic differences.

Social network variables in general, and network type in particular, are highly correlated with a range of sociodemographic variables. The nature of these relationships may differ across populations, however (Wenger, 1995). Thus, it has been generally established that people with higher education and those with higher incomes have larger networks (Fischer, 1982). These same traits tend to be associated with networks composed of larger proportions of non-kin (Wenger, 1996).

As for marital state, currently married older persons tend to have larger networks than the unmarried (Van Tilburg, 1995). Unmarried elderly men who live alone tend to have the smallest networks of all, on average. Age and functional status are also associated with network characteristics. The old-old tend to have smaller networks than the young-old (Litwin & Landau, 2000). Physical impairment is similarly related to network reduction. For example, impaired older adults in a national sample in the United States were found to report both fewer friendship contacts and fewer family contacts (Newsom & Schulz, 1996).

Social networks are particularly important, given their observed associations in numerous studies with well-being outcomes, in general, and with morale, in particular. In an analysis of subjects aged 60 and older from Fischer's (1982) Northern California data, for example, Baldassare, Rosenfield, and Rook

(1984) found that a sizable proportion of the variance in respondents' unhappiness scores was predicted by their social relations, even after controlling for background and health characteristics. In a more recent German study, Lang and Baltes (1997) found that social contact was positively associated with life satisfaction among nonimpaired elders. This was not the case, however, for elderly persons who experienced difficulties in performing activities of daily living.

Lee and Ishii-Kuntz (1987) found that the morale of persons aged 55 and older in Washington State increased as their interaction with friends increased. This was also true, but to a lesser degree, regarding their interaction with neighbors. No relationship was found, on the other hand, between interaction with adult children and morale. In regard to this last point, in fact, Snell and Matthews (1986) found that very frequent family interactions among retired residents of Ontario actually lowered their morale level, even when controlling for health and income.

In a later study of widowed and never-married Canadian elders, Matthews (1991) found a relationship between perceived support and morale. However, that same analysis found no relationship between the availability of family and friends, on the one hand, and respondents' morale, on the other. In fact, morale was found to be higher in selected cases among persons who relied more on themselves than upon their social support networks.

In research that specifically examined the relationship of network type and morale, significant associations were uncovered. Bond and colleagues (1998) employed the Wenger network typology in a study of long-term stroke and hip fracture patients in six hospitals in England. They found that social support network type was indeed strongly associated with anxiety, but not with depression. In an attempt to isolate the variables most predictive of morale in old age, Wenger, Davies, and Shahtahmasebi (1995) applied multivariate regression analysis to a wide set of predictor variables. Their results showed that the variable of network type was one of the few factors retained in the refined predictive model.

Morale in old age is also related to sociodemographic variables and to health characteristics. A brief review of selected sources reveals some characteristic correlations. First, educational level is consistently associated with morale: The higher the education, the better one's morale among a range of populations (McKenzie & Campbell, 1987; Moon, 1996). Income is similarly associated (Scott & Kivett, 1985; Wenger, 1995). Gender is also considered to be predictive, with women being at greater risk of having poorer psychological well-being (Smith & Baltes, 1998). However, the gender variable is frequently found to be secondary in its predictive value when other factors are taken into account. In contrast, the literature clearly underscores the predictive strength of disability vis à vis morale. The greater the disability among elderly respondents, the lower their reported morale (Kisely & Shannon, 1999; Lamb, 1996).

This review suggests that different social network types in later life may be discerned and that they are associated with different levels of morale. Given the association of network type with variables that impact directly upon morale, such as sociodemographic and health characteristics, the question remains whether social networks have an independent effect on morale, above and beyond that of the other predictive factors. This question is examined in the research that unfolds in the following sections.

## Methods

This study employed secondary analysis of data compiled in a comprehensive survey executed by the Israeli Central Bureau of Statistics (CBS). The survey, carried out in 1997, queried a representative national sample of people aged 60 and older on a wide range of topics, including the nature of their interpersonal relations and selected measures of well-being. The data allowed subsequent focused examination of several key social network components and the identification of network types. These data also made it possible to examine the hypothesis that network type is related to morale in old age.

The sample addressed in the current analysis comprised community-dwelling older Jewish persons who had resided in Israel from 1990 and earlier. This cutoff date was selected so as to exclude from the study sample immigrants from the former Soviet Union who began arriving in large numbers that year, and whose social networks were unique in several ways, due to the dynamics of migration (Litwin, 1995). The population of elderly Arabs, who compose a minority of the elderly cohort in Israel, was also excluded from the analysis, because of its culturally unique social network attributes (Litwin & Haj-Yahia, 1996).

In cases in which more than one elderly person in the original survey sample had been drawn from the same household unit, one elder was randomly selected for analysis. This was done in order to guarantee independent observations among respondents. The resultant study sample stood at  $N = 2,079$ .

### Study Variables

The principal independent variable of interest in the analysis was network type. The network type construct was derived through the use of K-means cluster analysis in which designated criterion variables are employed to identify relatively homogeneous groupings in a given population. The procedure uses an algorithm that can handle a large number of cases. Initial cluster centers are assigned for each of the criterion variables and are then iteratively updated until optimal groupings are achieved based upon Euclidean distance. (For a further review of the recommendations used for running the K-means cluster analyses in the current study, see Milligan & Cooper, 1987, and Rapkin & Luke, 1993.)

This statistical procedure is essentially an exploratory one, insofar as the researcher selects the number of clusters to be derived in each trial. In the current analysis, cluster combinations of 4, 5, and 6 were tested, based upon the number of cluster solutions obtained in previous research on network types in three different countries (Litwin & Landau, 2000; Melkas & Jylhä, 1996; Stone & Rosenthal, 1996). After considering the various cluster combinations, the 5-cluster solution was deemed the most robust and the most reflective of trends found in the literature.

Seven variables identified as among the principal structural and interactional components of social networks of older people served as the differentiating criteria for the derivation of the network types (Berkman & Syme, 1979; Lubben, 1988; Wenger, 1991). They included: respondents' current marital status; the number of adult children residing in the elder's vicinity, hereafter referred to as proximate children; frequency of contact on the part of the elder with his or her adult children; frequency of contact with friends; frequency of contact with neighbors; frequency of attendance at a synagogue; and frequency of attendance at a social club.

Current marital status was considered in dichotomous terms: (0 = widowed, divorced, separated, or never married; 1 = married). The variable thus essentially reflects whether the respondent was living with a spouse at the time of the survey. The number of proximate children was obtained through a simple count (0–10). Frequency of contact with children, friends, and neighbors was measured on a scale of 0–5, the highest score reflecting daily or almost daily contact, and the lowest score, no contact. Frequency of attendance at a synagogue and at a social club was measured on a scale of 1–5, the highest score reflecting daily or almost daily attendance, and the lowest score, no attendance. All frequency ratings were measured on the CBS survey instrument as general assessments and were not linked to a specific time frame.

The characteristics of the five distinct network types and the relative frequencies of each of the network types are presented in Table 1. The network types in this study sample all included a familial base, that is, at least one proximate adult child was present, on average, in each of the network types. This finding is supported by comparative network research by Fischer and Shavit (1995), who found that social networks in Israel are denser and composed more frequently of family ties than are social networks in California. Nevertheless, clear network variations above and beyond the common familial base became evident in the analysis.

The network type termed the “diverse” network was the most relatively endowed with a variety of sources of potential support (Table 1). Its members were largely married, had one proximate child on average, enjoyed very frequent contact with children, friends, and neighbors, and attended the synagogue to a moderate degree. The diverse network was also

Table 1. Network Type by Delineating Characteristics and Frequencies

Network Type	Delineating Characteristic							Frequency
	Married	Proximate Children	Contact With Children <sup>a</sup>	Contact With Friends <sup>a</sup>	Contact With Neighbors <sup>a</sup>	Synagogue Attendance <sup>b</sup>	Social Club Attendance <sup>c</sup>	%
Diverse	.55	1.1	3.7	4.1	4.4	2.7	1.6	30.2
Friends	.59	1.0	3.7	3.6	0.2	2.5	1.5	23.7
Neighbors	.46	1.2	3.8	0.5	4.4	2.5	1.2	17.1
Family	.59	4.9	4.4	0.8	1.3	3.4	1.3	9.2
Restricted	.44	1.1	3.4	0.1	0.1	2.3	1.4	19.9

<sup>a</sup>Measured on a scale of 0–5: 0 = no contact, 1 = less than monthly, 2 = once or twice a month, 3 = weekly, 4 = once or twice a week, and 5 = daily.

<sup>b</sup>Measured on a scale of 1–5: 1 = does not go at all, 2 = goes only for family celebrations, 3 = goes only on holidays, 4 = goes on sabbath and holidays, and 5 = goes daily or almost daily.

<sup>c</sup>Measured on a scale of 1–5: 1 = does not go at all, 2 = goes once or twice a month, 3 = goes weekly, 4 = goes once or twice a week, and 5 = goes daily.

the most prevalent among the network types in the sample.

The friends network is somewhat similarly endowed as its predecessor. However, it is different in one important way: Its members reported having only minimal contact with neighbors. The friends network type was also quite prevalent.

The defining characteristics of the neighbors network show that fewer of its members had a spouse compared to the elders in the two preceding network types. Moreover, elders in this network reported frequent contact with adult children and with neighbors, but not with friends. The neighbors network was thus a slightly less endowed grouping. It was also somewhat less prevalent in the sample.

The family network was the least prevalent of all the network types. It was unique, moreover, in that its members reported having an average of five proximate children, very frequent contact with them, and frequent synagogue attendance. On the other hand, elderly people in the family network had only minimal ties with neighbors and friends.

The last of the network types is termed the restricted network, insofar as its members cited the most relatively limited extent of social ties. The focal elder in this network type was most likely to be without a spouse, had the least relative contact with adult children, and almost no contact at all with friends or neighbors. The restricted network type characterized about a fifth of the sample.

The dependent variable in the analysis was respondents' reported morale, as measured by the scores obtained upon a 12-item scale constructed for the CBS survey. The measure included positive probes, such as "Do you feel happy, on the whole?" and negative probes, such as "Do you ever feel there is little reason to live?" Respondents indicated agreement (1) or lack of agreement (0) with each probe. Scale scores ranged from 0–12: the higher the score, the higher the reported morale. The measure obtained a Cronbach's alpha score of  $\alpha = .87$ , indicating high internal reliability. Respondents in this sample obtained an average scale score of 8.8 ( $SD =$

3.2), indicating that they were in fairly good spirits, on the whole.

As alluded to earlier, the analysis also took into account background characteristics that were potentially related to morale scores, to network type, or to both. Age was measured in the original survey on a 7-stage ordinal scale that reflected six 5-year categories from 60–64 through 85–89, and one additional category for those aged 90 and older. According to the planners of the CBS survey, exact birth years were not solicited in order to prevent subsequent identification of specific respondents by unauthorized authorities, and to guarantee confidentiality. The median age of respondents in the study sample fell within the category of 70–74 years old (range = 1–7, mean = 3.2,  $SD = 1.7$ ).

As for ethnicity, almost 90% of the elderly respondents in the sample were born outside Israel. The elderly Jewish cohort in Israel is split mainly between people of European immigrant background and persons originally from Asia or Africa, who are known as Easterners. Accordingly, respondents' country of origin was collapsed into categories reflecting the major ethnic divisions in Jewish Israeli society: Europe or America (European), Asia or Africa (Eastern), and Israel (persons born in the area that now constitutes the State of Israel). About one half of the current sample comprised European immigrants (51.9%); more than one third, Eastern immigrants; and about one tenth, Israeli-born.

Respondents' education and income levels were recorded in the CBS survey in ordinal fashion. Education was measured on a 5-category scale, from 1–4 years of schooling to 16 years or more. The median level of schooling of respondents in this sample was secondary school or less (range = 0–5, mean = 2.5,  $SD = 1.4$ ). Income was recorded on a 9-category scale, ranging from a minimal annual income level of about \$4,200 (in Israeli shekels) to over \$33,000. The median income level in the sample fell in the third category, reflecting a fairly low annual income on the whole (range = 1–9, mean = 3.7,  $SD = 2.2$ ). Respondents' gender was also taken into account as

a background variable (0 = women; 1 = men). Male respondents in the study sample were slightly over-represented (51.6%).

The health status of respondents was measured on a disability scale similar to the 5-item Physical Activity Scale employed in the Yale Health and Aging Project (Cornoni-Huntley et al., 1985). Respondents indicated the degree of difficulty they had in carrying out five activities: pushing a large object, stooping, lifting, reaching, and using a delicate instrument. Unlike the original Yale measure, the scale in use by the CBS solicited a 3-level response: (1) able to perform the task with no difficulty whatsoever; (2) able to perform the task, but with difficulty; and (3) unable to perform the task. The resultant scale score ranged from 5–15: the higher the score, the greater the disability (Cronbach's  $\alpha = .87$ ). The average disability score in the sample was 8.5, reflecting a low to moderate degree of physical difficulty, on the whole ( $SD = 3.1$ ).

### Analysis

The aim of the analysis was to clarify the nature and the extent of the assumed relationship between network type and morale. Toward this end, bivariate associations between the network type variable and the morale measure were examined by means of one-way analysis of variance (ANOVA) and Scheffé group mean comparisons. Bivariate associations were also examined between the background variables and both network type and morale scores, in order to identify the characteristics to be controlled for in the final stage of the analysis. Cross-tabulations, one-way ANOVA, and correlations were performed in this regard, as appropriate to the respective levels of measurement.

In the final stage, multivariate regression analysis was executed. The morale score served as the dependent variable in this analysis. Categorical background variables and network types were entered as

dichotomous dummy variables. The last of the five network types, the restricted network, was chosen as the base for the network comparisons. Thus, it is not included in the regression procedure.

### Results

The first round of results to be reported is the relationships between the background variables and network type. As shown in Table 2, the different network types were characteristically different on all of the background variables. First to be noted are the categorical variables, gender and ethnicity. The percentages show that the focal elders in almost two thirds of the neighbors networks were women. A majority of the focal elders in the diverse and friends networks, on the other hand, were men. The family and restricted network types revealed only slight gender differences.

Comparisons by ethnicity revealed additional differences across network type. The vast majority of respondents located in a family network type were Easterners. On the other hand, this ethnic grouping was underrepresented in the friends and diverse network types, in which both European immigrants and Israeli-born older persons were overrepresented. The composition of the neighbors and restricted network types was similar to the general distributions concerning country of origin, except for a somewhat lower relative proportion of members who were born in Israel.

Also presented in Table 2 are the results of the ANOVA of the ordinal variables, with network type employed as the discriminating variable. The average age, education, income, and disability level of respondents differed significantly by network type. The results of the Scheffé mean comparisons (not shown in the table) reveal just how the network types differed.

First, in terms of age, the mean comparisons revealed two major divisions. People in family, diverse,

Table 2. Sociodemographic Characteristics, Disability, and Morale by Network Type: Cross-tabulations and One-way Analysis of Variance

Characteristic	Network Type					Statistic
	Diverse	Friends	Neighbors	Family	Restricted	
<b>Gender</b>						
Men, <i>n</i> (%)	352 (56.1)	280 (56.8)	133 (37.5)	92 (48.2)	214 (51.8)	$\chi^2 = 39.8^{***}$
Women, <i>n</i> (%)	275 (43.9)	213 (43.2)	222 (62.5)	99 (51.8)	199 (48.2)	
<b>Ethnicity</b>						
European, <i>n</i> (%)	373 (59.5)	289 (58.6)	188 (53.0)	13 (6.8)	218 (52.8)	$\chi^2 = 273.3^{***}$
Easterners, <i>n</i> (%)	169 (27.0)	130 (26.4)	143 (40.3)	165 (86.4)	168 (40.7)	
Israeli, <i>n</i> (%)	85 (13.6)	74 (15.0)	24 (6.8)	13 (6.8)	27 (6.5)	
Age <sup>a</sup> , <i>M</i> ( <i>SD</i> )	3.1 1.6	2.9 1.5	3.3 1.6	2.7 1.4	3.8 1.8	$F = 25.9^{***}$
Education <sup>a</sup> , <i>M</i> ( <i>SD</i> )	2.7 1.3	3.0 1.2	2.2 1.3	1.4 1.3	2.2 1.3	$F = 66.4^{***}$
Income <sup>a</sup> , <i>M</i> ( <i>SD</i> )	4.1 2.2	4.5 2.4	3.2 2.0	3.0 1.7	3.0 1.8	$F = 42.3^{***}$
Disability <sup>a</sup> , <i>M</i> ( <i>SD</i> )	7.5 2.8	7.6 2.7	8.9 3.2	9.6 3.1	10.0 3.2	$F = 62.0^{***}$
Morale <sup>a</sup> , <i>M</i> ( <i>SD</i> )	9.7 2.6	9.7 2.7	8.5 3.3	7.6 3.4	7.1 3.6	$F = 60.6^{***}$

<sup>a</sup>Scale ranges: age (1–7), education (0–5), income (1–9), disability (5–15), morale (0–12).

\*\*\* $p < .001$ .

and friends networks were much younger than those located in restricted networks, in general. Two major divisions also emerged in regard to income. Respondents in the diverse and friends networks had higher incomes, and those in the three remaining network types had lower incomes.

More subtle variations were observed in regard to education, a variable in which three subgroups were discerned. The lowest educational attainment was recorded among people in the family network, who had partial primary schooling only. The next schooling level, some secondary school on average, was noted among persons in the neighbors and restricted networks. The highest average educational level was observed among members of the diverse and friends network types, who reported at least a secondary school education.

Finally, three subgroups emerged when comparing disability level. The least degree of disability was observed among persons in the diverse and friends networks. A middle level of disability was recorded among the members of the neighbors network. Those in the family and restricted network types, on the other hand, had the greatest reported difficulty in carrying out basic physical tasks.

In summary, people in diverse networks were more likely to be elderly men of European background with higher incomes, higher education, and little disability. Those in the friends network shared these same characteristics, but tended to be younger. The neighbors network type was composed most frequently of lower income women. People in the family network were more likely to be Easterners and to have lower incomes, less education, and greater disability despite their younger age. Those in the restricted network were likely to have lower incomes, less education, and greater disability, and were likely to be older as well.

Table 2 also presents the examination of the bivariate relationship between network type and morale—the dependent well-being outcome measure of interest in this analysis. The table shows that there are significant differences by network type. In addition, the Scheffé mean comparisons point to three distinctive subgroupings. Respondents in the restricted and family networks had the lowest average morale among all the people in the study sample. Members of the neighbors network reported a middle range of morale scores. The highest morale was observed among persons in the diverse and friends network types.

Insofar as morale in later life is also generally related to sociodemographic background characteristics of older people, it was necessary to consider these relationships in the current analysis. Bivariate associations between morale scores and the background variables were examined by means of Pearson correlations. For this purpose, the ethnicity variable was converted into two dummy dichotomous measures, (1 = Europeans, 0 = others; 1 = Easterners, 0 = others). The third ethnic grouping, Israeli-born elders, was chosen as the base for comparisons

and is not included in the correlations or in the regression procedure. As shown in Table 3, all the background variables were significantly related to morale. Table 3 shows a negative relationship between age and morale. As for gender, the men in this sample had higher average morale scores than the women. It is also evident that European immigrants had slightly higher morale, and Easterners had significantly lower morale. A positive relationship emerged, on the other hand, between morale and both income and education. Finally, disability level was negatively correlated with the morale score.

Given that the background characteristics addressed in this analysis were significantly related to both network type and to morale, multivariate regression analysis was required in order to consider further the nature of the observed relationship between network type and morale. The results of the procedure are displayed in Table 4. The variable that explained the greatest amount of the variance in the morale scores, as reflected in the weight of the beta statistic, was respondents' level of disability. However, second among all the variables in predictive strength were two network types, the diverse and friends networks; that is, the kind of interpersonal environment in which the older people in this sample were embedded accounted for greater explained variance in their morale than such factors as age and income. Neighbors network types were also positively associated with morale, but less so, and family networks much less so. When all the variables were taken into consideration, neither gender, ethnicity, nor education had an observed independent effect on morale. The model examined in this analysis was statistically significant and explained a considerable amount of the variance in respondents' morale scores.

## Discussion

The results of the study demonstrate that it is, indeed, possible to identify meaningful social network types in a large probability sample of elderly persons. The statistical procedure employed in this effort—

Table 3. Morale Scores by Sociodemographic and Background Characteristics: Pearson Correlations<sup>a</sup>

Variable	R
Age	-.19***
Men <sup>b</sup>	.16***
European <sup>b</sup>	.07**
Easterners <sup>b</sup>	-.18***
Income	.36***
Education	.30***
Disability	-.61***

<sup>a</sup>*n* = 1936 for age, men, European, and Easterners; *n* = 1930 for education; *n* = 1925 for disability; and *n* = 1861 for income.

<sup>b</sup>Dummy variables: gender – men = 1, women = 0; ethnicity – European = 1, other = 0; Easterners = 1, other = 0.

\*\**p* < .01; \*\*\**p* < .001.

**Table 4. Morale by Background Characteristics and Network Type: Multiple Regression Analysis ( $n = 1,825$ )**

Variable	<i>b</i>	<i>SE</i>	<i>Beta</i>
Age	.14	.04	.07**
Men	-.07	.12	-.01
European	-.11	.20	-.02
Easterners	-.24	.21	-.04
Education	.09	.05	.04
Income	.17	.03	.12***
Disability	-.57	.02	-.53***
Diverse network	1.18	.17	.17***
Friends network	1.22	.18	.16***
Neighbors network	.75	.20	.09***
Family network	.64	.24	.06***
<i>F</i> score			118.44***
Adjusted $R^2$			0.41

\*\* $p < .01$ ; \*\*\* $p < .001$ .

cluster analysis—allowed classification of five major social network groupings in the population of elderly Jews in Israel. Moreover, these network types bear several similarities to the major social network types derived in other cultures.

The similarities are particularly evident when comparing the network types derived in this analysis with those disclosed in the work by Wenger and colleagues (Scharf & Wenger, 1995). For example, the diverse network identified in the current analysis is quite comparable to Wenger's locally integrated network type, a similarly large grouping reflecting relationships with family, neighbors, and friends. The friends network derived in the current effort recalls the wider-community-focused network found in the British context. Both are largely friendship-centered. The Israeli neighbors network is similar, in turn, to the local self-contained network in the Wenger typology, which is small and mostly neighbor-based.

While the family network that emerged from the Israeli data seems, at first, to be a culturally unique grouping, it is nevertheless comparable to Wenger's family-dependent network. Both rely primarily on close family members. Finally, the restricted network in Israel recalls the private-restricted network in the Wenger typology, both of which are characterized by minimal ties only.

Comparison of the relative frequencies of the network types in the different contexts reveals some similarities and some differences. As recalled, the diverse and friends networks constituted over half the Israeli sample. The comparative network types in Wenger's studies had a similar joint frequency, although the internal distribution of the two types differed (Wenger, 1996). Another British study underscored the prevalence of the locally integrated network, the type most similar to the dominant diverse network type in the current analysis (Wilcox, Jones, & Alldrick, 1995). On the other hand, neighbors and restricted networks were found in the current study to be more relatively prevalent in Israel, whereas family net-

works in the Israeli sample were less prevalent than those reported in the United Kingdom.

A second contribution of this study was confirmation of the relationship of the construct of network type to morale in later life, even when controlling for sociodemographic and health characteristics. In fact, selected network types were second in predictive power among all the study variables. The most predictive factor of morale was respondents' disability, a point that will be addressed.

The analysis underscored the positive association of two particular network types with morale—the diverse and friends networks. These findings match results reported by Wenger and colleagues, in which the locally integrated and the wider-community-focused network types were among the variables most associated with high morale (Wenger, 1995). Additional support for these findings can be cited from the research literature.

Lee and Shehan (1989) maintain, for example, that friendship interaction is positively related to self-esteem. Interaction with kin, on the other hand, is not. Lee and Ishii-Kuntz (1987) explain that friendship interaction impacts positively upon morale because such kinds of exchange stem from choice. Family interaction, in contrast, is guided by norms of obligation and does not necessarily constitute a means for positive morale in old age.

Viewing the results in the present study, one can discern the above-mentioned trends. The diverse and friends network types are the only two of the network types to include friendship ties. Correspondingly, respondents in these two networks had the highest relative morale scores. The neighbors network reported a middle-range morale score, on average. Although relations with neighbors are based less upon choice than friendship ties, they nevertheless reflect lesser obligation than do family relations. Indeed, respondents in the two kin-based networks in the current study—the family and the restricted networks—achieved the lowest average morale scores.

Classification of network types allows comprehensive consideration of the interpersonal environments of older people in relation to outcomes of interest. The composite network type construct employed in this study permits both overall assessment of network differences, as well as specific consideration of given network factors. The relative effects on morale of elective versus obligated social ties, as became evident in the current analysis, is a case in point.

A word is required regarding the other findings in the study, and principally, the dominant influence of health and disability on morale in old age. The current analysis emphasized, once again, that disability in later life tends to correlate with lower morale (Kisely & Shannon, 1999; Lamb, 1996). Given the strength of the relationship between disability and morale, the fact that network type was found, after all, to maintain an independent relationship with morale must be stressed. Even after controlling for the effect of disability, the personal social network constituted a significant influence upon the subjec-

tive well-being of the elderly respondents in this study.

Surprisingly, in the current analysis the gender variable did not prove to maintain an independent influence on respondents' morale, as may have been expected (Smith & Baltes, 1998). The lack of observed gender differences in relation to morale reflects earlier findings of Scott and Kivett (1985). In a study of morale among widows and widowers, they found that perceived financial status and health outweighed the influence of gender.

The lack of ethnic differences in this same regard finds some support in work by McKenzie and Campbell (1987). In examining the relationship between race and subjective well-being among older Americans, they considered two well-being measures: happiness and morale. The results of their inquiry showed that most of the effects of race on well-being were mediated by health status and by the problems experienced by respondents.

A limitation of the survey on which the current analysis is based was its cross-sectional nature. Given the single point of data collection, it was not possible to consider the phenomenon of network shifts among respondents or the potential impact of such shifts upon morale in old age. Indeed, network stability has been a target of some recent network research, within the framework of life-course related inquiry (Van Tilburg, 1998). Nevertheless, examination of the association of network type and subjective well-being is of value, even if it is limited to a particular period in respondents' lives. Moreover, the large probability sample employed here allowed simultaneous consideration of a wide range of factors. This analytic latitude might not have been possible in an extended longitudinal design, given the possibility of age-related attrition in such samples.

Beyond the importance of network type as a predictor of morale in later life, the use of this construct can contribute to policy development and to gerontological service planning. Estimation of the number of persons in restricted networks, for example, can serve in assessing the extent of need for formal support services. In addition, identification of particular individuals in restricted networks can alert service personnel to older people at risk. Further research is needed, therefore, both in regard to the various correlates of network type and to the implications of network type for social policy planning and service delivery to older people.

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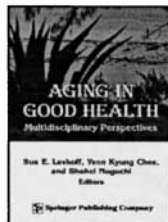
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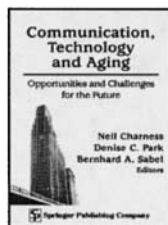
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