SOCIAL RELATIONSHIPS, INTEGRATION, AND LONELINESS

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In many languages the process of becoming old is proverbially connected to 'chagrin', dissatisfaction with life, burden, and loneliness: are these anxieties of young people fearing a vague future (Hohmeier & Pohl, 1978) or is this reality? Up until now, research findings are not consistent. Some researchers report a rising feeling of loneliness accompanied with aging, others emphasize that age in itself is not a reliable determinant of well-being and life satisfaction. In addition to age, other personal characteristics and indicators of the (social) environment of the elderly have to be taken into account to explain the variety in the attitudes and feelings of the elderly. This chapter provides an analysis of loneliness of older adults, starting with age as a determinant. The well-being and loneliness of older women and men are among the central topics in recent discussions about the consequences of an aging society. Differences in well-being as realized by the elderly require further exploration. Well-being as a broad phenomenon is defined as an aspect of quality of life. Subjective well-being refers to the subset of phenomena that relates to happiness, feelings of satisfaction, etc. (Hoff, 1995; Hox, 1986). In this chapter, subjective well-being is operationalized as the absence of loneliness. Whether the elderly can realize a situation of non-loneliness depends, among others, upon the personal and social resources at their disposal.

This chapter will examine the well-being of older women and men from the perspective of one of the central issues in the social sciences, that of *cohesion* within society. To study the degree of cohesion in a society, researchers must concentrate on the presence or absence of 'mediating structures' that can provide the individual members of society a more or less solid basis of

integration (Ultee, Arts, & Flap, 1992). Integration is directly connected to being involved in mediating structures and to accepting and living up to the same set of norms and values as the fellow members of the mediating structures. The focus in this chapter will be on the comprehensive effects of belongingness to different mediating structures for the well-being of older adults. The relationships in which older adults participate each serve a socially integrating function. The extent to which these different layers together prevent older adults from feeling lonely will be analysed in this chapter.

Mediating structures

In traditional and in modern societies, people are considered as (potential) members of several interlocking structures. The membership of some starts with birth (family membership); other memberships are acquired as one grows older. The borderline between membership from birth and membership that starts later on in life is not strict. People can decide to leave structures and to opt for others, or to opt for no bonds with structures at all (Carstensen, 1992). An example: in the past, the majority of children became church members as early as the moment of their baptism. A certain percentage of people, especially in North and West European countries, end their relationships with the church in a later phase of life. Membership of, the degree of participation in and commitment to (specific) mediating structures is more or less a matter of personal choice and is related to personal characteristics.

Whether the elderly can realize membership of specific mediating structures also depends on the personal and social resources at their disposal and the restrictions with which they are confronted. In this context, educational level as well as indicators of the state of health, age, and sex of older adults must be taken into account (see Chapter 2). The general research question in this chapter is: What is the effect of membership of and participation in mediating structures on the loneliness of older adults? In other words, the purpose of this chapter is to explore the effects of cohesion indicators on individual variability in the intensity of loneliness. More specifically:

- Which memberships of mediating structures are important for loneliness and which are not?
- Does participation in a larger number of structures result in less loneliness?

- What is the effect of different combinations of memberships of mediating structures?
- Are structures interchangeable as far as loneliness is concerned?

This chapter will examine the following mediating structures: the family, living arrangements, the social network, church, volunteer work, and voluntary associations.

The *family*, especially the *nuclear* family, used to be one of the major integrating structures of society. In modern societies, such as in West and North European, the nuclear family is sometimes replaced by other types of mediating structures, such as unmarried cohabitation, communes, group quarters, and so on. A rising proportion of people is living alone, forming a one-person household, and the percentage of elderly who live together with one (or more) of the children is rapidly decreasing in West and in East European countries (Klinger, 1992).

Research has shown a protective effect of marriages on both the physical and mental well-being of men and women (Gove, 1972). Intimacy, however, can also be provided by non-married partners (Van Tilburg, 1988). Persons with a (marriage) partner are happier on average than persons without a partner (see De Jong Gierveld, 1986, 1987; De Jong Gierveld & Van Tilburg, 1989). As a consequence, men and women with a partner are less prone to early mortality and to suicide than people without a partner (Gove, 1972; Kobrin & Hendershot, 1977; Veenhoven, 1983). The 'protection' or 'integration' idea provides a possible explanation for the relatively high degree of well-being of women and men with a partner (Dykstra, 1990; Gove & Hughes, 1980; Van Tilburg, 1988). It suggests that people need satisfying, intimate relationships from which they obtain satisfaction in the realms of affection, identity, and care. When this is realized, they are protected from unhappiness and feelings of loneliness.

To the extent that the partner bond is able to provide such intimacy, individuals with a partner are more likely to be happy and not to be lonely than individuals without a (marriage) partner. Thus, living arrangements, with special attention for the presence or absence of a (marriage) partner in the household, will be examined as a first factor in the prediction of loneliness among the elderly. But there is more to be taken into account as far as older adults' living arrangements are concerned. Within the category of elderly without partners, we must differentiate between those elderly who have never

been married or never lived in cohabitation, and those elderly that have been married but whose partners (or spouses) died. The former were forced to organize their lives as singles when they were relatively young. The widows and widowers had to *re*organize their lives after a (long) period of living together as a couple. This process of *re*organization after the loss of the spouse requires much energy, and comparisons with the past may give rise to more intense feelings of isolation, loneliness, and dissatisfaction with life than recognized among the never-married elderly (Dykstra, 1990).

The network of intimate *relationships* is also to be considered as a major mediating structure, providing cohesion, feelings of belongingness, and protection against loneliness. The concept of the social network concentrates on all those people with whom one interacts regularly, and with whom one has close ties. The number of relationships in the social network seems to be important: the larger the number of others with a common interpretation of reality, feelings of acceptance, etc., the more likely it is that the elderly's needs for well-being are met. Dykstra (1990, p. 47) argues that network *size and composition* should not be considered in isolation:

> *Solely on the basis of differences in the availability of a partner and the availability of kin relationships, one can expect the following differences in personal network size: the never married are likely to nominate the smallest number of relationships, the formerly married are likely to nominate an mediating number of relationships, while the cohabiting and married are likely to nominate the largest number of relationships. However, the more the absence of a partner and the lack of kin relationships such as children and in-laws are compensated by the involvement in alternative relationships, the less pronounced the differences in overall network size are likely to be.*

Non-kin relationships are generally activated in the absence of kin relationships, and furthermore, the composition of the network also depends on the personal preferences of the people involved. The cohesive functions of the size and composition of the network for protection against loneliness, in addition to the importance of living arrangement characteristics is another purpose of this study.

Realizing a large network is generally considered to guarantee the elderly all the benefits of belonging to a set of interlocking social structures. However, especially in the realm of the network, there may be large differences among

specific types of relationships as far as their functioning is concerned. Exchange of support is a crucial additional indicator of the functioning of the network as a cohesive mediating structure. In concentrating on the effects of cohesive mediating structures, the *exchange of emotional and instrumental support* between the elderly and the network members will be investigated, to find out whether these support exchanges add to the prediction of the intensity of loneliness, once living arrangement and size and composition of the network have been taken into account.

Other types of integrating structures are *church affiliation, volunteer work,* and *memberships of voluntary associations*, including attendance of the activities of these organizations (see Chapter 4). Is participation in these types of activities important for the well-being of the elderly? Does this participation provide protection against loneliness, in addition to the effects of the factors already mentioned?

In principle, more structures are available for inclusion in this research project, for example, participation in the labour force. However, in the Netherlands, the number of people aged 55 and over who are still active on the labour market is very low.

Restrictions

In general, for elderly people, we have to take into account that growing older goes hand in hand with *decreasing possibilities and increasing restrictions* for participating in all kinds of social activities. Participation is directly or indirectly connected to the state of health of the elderly. Nowadays, the elderly are generally in better health than a few decades ago (Dooghe, 1992; Suzman, Manton & Willis, 1992). Nevertheless, the incidence of disability rises sharply with age. Less than five per cent of people aged 65-69, but 11% of those aged 75-79 and 41% of those aged 85 and over are severely disabled, according to data based on the 1980 General Household Survey in Britain (Gilbert, Dale, & Arber, 1989). Data from the US National Long-Term Care Survey show

> *that the oldest old (85 and over) in the United States were more likely*
> *than those age 65-74 to be disabled by a factor of almost four; were*
> *more likely to be institutionalized in the subsequent two years by a*

factor of ten and were more likely to die by a factor of four (Maddox, 1992, p. 174).

In our study, we suggest taking the age of 75 as a global turning-point between the young healthy elderly and the older elderly characterized by increasing chances of health problems (see Chapter 2 for supportive evidence). And although scientists are involved in a debate about the 'real' determinants of these age-related risks (are these age, cohort, or period effects?), more and more suggest that these differences can probably be interpreted as both age and cohort differences. Especially, the current oldest old (85 years and over) and to a lesser degree the current very old (75-84 years of age) did not have the same access to education as younger generations (Maddox, 1992; Timmermans, 1992). Given the links between educational attainment and health-related restrictions, the former factor must also be taken into consideration when investigating the relationship between participation in mediating structures and loneliness.

Moreover, it is expected that educational level per se functions as an independent factor in delineating the set of older adults' possibilities and restrictions, as do financial characteristics. Consequently, these factors will be integrated in the analysis to be presented in this chapter.

Design of the study

Respondents

In 1992, face-to-face interviews were conducted with 4494 respondents. They constituted a stratified random sample of men and women born in the years 1903 to 1937. The random sample was taken from the registers of 11 municipalities: the city of Amsterdam and two rural communities in the west, one city and two rural communities in the south, and one city and four rural communities in the east of the Netherlands. The response was 61.7%. The data were collected by 88 interviewers.

The average age of the respondents was 72.8. Most were living in their own homes: 1298 (28.9%) were not married and lived alone, 2582 (57.5%) lived with a partner, and 206 (4.6%) lived in another kind of multi-person household. Finally, 351 (7.8%) lived in an institution of some sort, such as

a nursing home, a home for the aged, psychiatric hospital, or shelter for the homeless.

Questionnaire

Loneliness. In this study loneliness is defined as a situation experienced by the individual as one of an unpleasant or unacceptable discrepancy between the amount and quality of social relationships as realized, compared to the social relationships as desired. This description includes situations in which the number of existing relationships is smaller than is considered desirable or admissible, as well as situations where the intimacy one wishes for has not been realized. Thus loneliness is seen to involve the manner in which the person perceives, experiences, and evaluates the degree of his or her lack of communication with other people (De Jong Gierveld, 1987).

To measure the degree of loneliness, a measuring instrument has been developed that meets the criteria of a Rasch model, and consists of five positive and six negative items (De Jong Gierveld & Kamphuis, 1985). The positive items assess feelings of belongingness, whereas the negative items apply to aspects of missing relationships. An example of a negatively formulated scale item is: I experience a sense of emptiness around me. An example of a positively formulated item is: I can rely on my friends whenever I need them. The loneliness scale has a range of 0 (not lonely) to 11 (extremely lonely). The scale has been used in several surveys and proves to be a rather robust, reliable, and valid instrument (De Leeuw, 1992; Van Tilburg & De Leeuw, 1991).

Network size. The networks of persons with whom the respondents maintained an important and frequent relationship were stipulated by using a procedure based upon Cochran, Larner, Riley, Gunnarson, & Henderson (1990). The following seven categories were distinguished: people who live in the same household, children and children-in-law, other relatives, neighbours, colleagues or fellow students, contacts in organizations, and other contacts (e.g. friends and acquaintances). In each of these categories, the respondents were asked to name people above the age of 18 with whom they had important and regular contact. The size of the network was determined by the number of people who were named in the seven various categories.

Social support. Questions about support were posed on a maximum of twelve of the relationships. These were the relationships with the highest contact frequency, whereby people who lived in the same household were assumed to have daily contact. Four questions were posed: about giving and receiving, and about instrumental and emotional support. The mean frequency of support within the eleven (or fewer, if fewer available) relationships other than with the partner relationship enabled us to assess the amount of instrumental and emotional support given and received by the respondent in the network, with a range from 0 to 3, in addition to the network size.

Organizational activities. Three types of organizational activities were distinguished. The first is church affiliation, as indicated by the frequency of church attendance (with feve answer categories ranging from one, 'yearly or less often', to five, 'at least weekly'. The second is engagement in volunteer work (a dichotomous measure: performing at least one type of volunteer work, no or yes). The third is the active membership of voluntary associations (a dichotomous measure: active member of at least one voluntary association, no or yes).

Health. Regarding the aspect of health, three instruments were used. The first instrument contained four questions about experiencing difficulties with the following personal activities of daily life (ADL): 'Can you walk up and down stairs, ... walk for five minutes outdoors without resting, ... get up from and sit down in a chair, .. dress and undress yourself (including putting on shoes, doing up zippers, fastening buttons)?'. The five answers to choose from were: not at all, only with help, with a great deal of difficulty, with some difficulty, and without difficulty. The four ADL items formed a hierarchically homogeneous scale ($H = .68$) which was reliable ($\rho = .87$). The scale ranged from four (numerous problems) to twenty (no problems). Four questions were posed about problems with instrumental activities of daily life (IADL), i.e. preparing hot meals, changing the sheets on the bed, doing the laundry, and cleaning the house. The scale was hierarchically homogeneous ($H = .64$) and reliable ($\rho = .87$). The scale ranged from four (numerous problems) to twenty (no problems). All institutionalized respondents were assigned the score of four. ADL differs from IADL in that ADL involves personal care activities that cannot be taken over by other persons, and IADL involves activities that can. There was a strong correlation between the occurrence of problems in the two fields ($r = .50$). The third instrument pertained to a question about the respondents' perception of their own health: 'How is your health in general?' Answers could be given on a

five-point scale. Subjective health correlated with ADL ($r = .43$) as well as IADL ($r = .26$).

Procedure

First, univariate associations are investigated between sex, age, and living arrangements (household composition in combination with marital status) on the one hand and loneliness on the other hand. Second, a stepwise hierarchical regression analysis is used to determine the multivariate associations between cohesion in several domains and loneliness. In this analysis, the independent variables are the availability of a partner relationship, network size, the size of a number of parts of the network, the intensity of the supportive exchanges, and participation in church, volunteer work, and other voluntary associations. In a backwise procedure, non-significant variables are removed. Next, the significance of a number of control variables is tested by a stepwise procedure.

Finally, the association between network composition and loneliness is analysed in a two-step procedure. A typology of network composition is developed using cluster analysis. The meaning of different network compositions in relation to participating in church, volunteer, and other organizational activities is analysed using multiple classification analysis, in order to investigate the contributions of each mediating structure in explaining the variation in loneliness among the elderly respondents.

Results

General data about loneliness

About 34% of the elderly were characterized by no loneliness at all (zero score on the scale). Another 30% of the interviewed elderly endorsed one or two of the scale items, indicating minor or very moderate feelings of loneliness. In total, 36% of the elderly are characterized by more intense feelings of loneliness. The mean score on the loneliness scale (with a range from 0 to 11) for the elderly is 2.3 ($N= 4046$, $SD= 2.7$). When we weight the data to make them as representative of the Dutch population as possible, the mean is 2.1 ($N= 4082$, $SD= 2.6$). We can state that *in general* the elderly

are not characterized by extreme feelings of loneliness but by moderate feelings of loneliness.

Age differences in loneliness

Differences in loneliness will be explored, taking into account the years of birth of the interviewed elderly. *Table 9.1* presents mean loneliness scores of elderly according to their belonging to different five-year age cohort categories. Inspection of Table 9.1 points out that there is an association between birth cohort and loneliness. The highest mean loneliness scores (3.3) are to be found among the very old, aged 85 to 89 at the moment of interviewing. The young elderly, aged 55 to 59 at the time of interviewing, are characterized by a relatively low mean loneliness score (1.8). A pairwise test showed that the differences between the older elderly (75 and over) and the younger categories of interviewed elderly (55 to 74) and the differences between the oldest (85 and over) and the old (75 to 84) are significant with $p < 01$. According to these data, one can state that with respect to loneliness the age of 75 is more or less a turning-point.

Gender differences in loneliness

The data point out that older females are more lonely than older males. The mean scores on the loneliness scale are 2.2 for men and 2.4 for women ($SD = 2.5$ and 2.8). However, the differences are small and only significant at the .05 level ($t_{(4017.1)} = -2.3, p < .05$).

Table 9.1. Age differences in feelings of loneliness

Birth cohorts (age)	*n*	*M*	*SD*
1903-1907 (85-89)	521	3.3	2.8
1908-1912 (80-84)	672	2.8	2.8
1913-1917 (75-79)	646	2.6	2.7
1918-1922 (70-74)	541	2.2	2.6
1923-1927 (65-69)	570	1.9	2.5
1928-1932 (60-64)	559	1.8	2.4
1933-1937 (55-59)	537	1.8	2.5
Total	4046	2.3	2.7

$F_{(4039,6)} = 24.4, p = .000$

Living arrangements and loneliness

In investigating the effects of living arrangements, we differentiate between elderly living with their spouses (or partners), elderly living alone (in a one-person household), those living in institutions (e.g. homes for the elderly), and a category of elderly living in a multi-person household without a partner. Within the category of living alone, we further differentiate between never-married, divorced, and widowed elderly. The mean scores on the loneliness scale are shown in *Table 9.2*. As can be seen, the loneliness scores of elderly differ significantly according to their living arrangements. As was expected, the elderly living with a partner are in general less lonely than the others. The differences in mean scores between those in one-person households, in institutions, and other types of living arrangements in contrast to those living with their partners are significant and correspond with the ideas about the cohesive functions of nuclear family and partnership bonds in particular as mediating structures. *Within* the category of people living alone, the mean scores of widows, widowers, and divorcees is higher than the mean scores of those elderly that have never been married. This finding is in line with the idea that the loss of a spouse gives rise to a difficult process of *re*organizing life and to (painful) comparisons with the past, ending up in more intense feeling of loneliness. The differences in scores on the loneliness scale between the never-married and the widowed and divorced elderly are not significant, however.

Table 9.2. Feelings of loneliness according to living arrangements

	n	M	SD
with partner (and others)	2424	1.7	2.3
alone, never-married	147	3.2	2.9
alone, divorced	132	3.4	3.3
alone, widowed	905	3.3	2.9
multi-person without partner	177	2.7	2.7
institutionalized	217	3.7	2.8
Total	4002	2.3	2.7

$F_{(3996,5)} = 79.4, p < .000$

Regression on loneliness

Table 9.3 provides means and standard deviations for the different determinants of loneliness used in this study, as well as the correlations with loneliness. Table 9.3 points out that a larger network, larger numbers of network members contacted daily or a few times a week, and larger numbers of

Table 9.3. *Results of a hierarchical regression of variables of cohesion on loneliness (3948 ≤ N ≤ 4046)*

| | M | SD | r | entered/removed in step | | | | | | |
				1	2	3	4	5	6	7
partner available (no, yes)	.64	.48	-.28	-.28	-.23	-.22	-.22	-.22	-.23	-.14
network size	13.44	9.41	-.30		-.26	-.18	-.17	-.16	-.16	-.15
# frequent contacts in network	4.15	3.41	-.27			-.12	-.11	-.11	-.12	-.12
# household members in network	.20	.56	-.08			-.04	-.03	-.02		
# children (-in-law) in network	3.59	3.15	-.19			-.05	-.05	-.04	-.03	-.04
# other kin in network	3.81	4.25	-.20			-				
# neighbours in network	1.66	2.20	-.14			-				
# others in network	3.55	4.84	-.19			-				
mean instrumental support received (0-3)	.71	.71	.00				-			
mean instrumental support given (0-3)	.53	.67	-.16				-			
mean emotional support received (0-3)	1.40	.88	-.17				-.06	-.06	-.06	-.05
mean emotional support given (0-3)	2.63	.91	-.14				-.07	-.06	-.06	-.07
frequency of church attendance (1-5)	2.63	1.80	-.13					-.08	-.08	-.06
active in associations (no, yes)	.25	.43	-.08					-		
volunteer work (no, yes)	.26	.44	-.14					-		
control variables										
sex (male, female)	.51	.50	.04							-
age	72.10	9.88	.19							-
educational level (1-8)	3.32	1.96	-.08							-
region (South or East vs. West)	.45	.50	.09							-
urbanization (1-5)	3.01	1.45	.11							-
subjective health (1-5)	3.65	.89	-.23							-.16
ADL-capacity (4-20)	18.64	2.65	-.21							-.07
IADL-capacity (4-20)	15.22	5.78	-.11							-
living alone (no, yes)	.29	.46	.24							.08
living in institution (no, yes)	.04	.20	.11							-
# children alive	2.81	2.17	-.12							-
# brothers and sisters alive	2.79	2.50	-.10							-
Total adjusted R²				.080	.145	.161	.174	.180	.179	.215

- = variable did not enter the equation (*p* > .01)

specific types of network members (houshold members, adult children, 'other' kin, neighbours, and 'other' non-kin) are all associated with lower loneliness scores, as expected. As far as the exchange of support with network members is concerned, a negative correlation is expected and empirically proven for the amount of emotional support received by the elderly, as well as the amount of support given. These two variables probably indicate a mutually rewarding relationship between the network members. The measures of participating in church, volunteer work, and voluntary associations all proved to be negatively associated with the loneliness score. Health indicators (subjective health, ADL, and IADL) are significantly correlated with loneliness: a better state of health is associated with lower loneliness scores.

Hierarchical regression analysis is performed to assess whether variables indicating belongingness to mediating structures contribute to the explanation of the variance in loneliness scores of the elderly. Variables are entered in steps according to being more intimately or more distantly connected to the personal life domain. In the final step, a set of control variables is entered. Table 9.3 shows that cohesion within the realm of partner bonds explains 8.0% of the variance in loneliness of the elderly. The size of the network offers an additional 6.5% explanation. The composition of the network is responsible for another 1.6%, and the exchange of emotional support within the personal network add another 1.3% to the body of explanation. Church affiliation explains an additional 0.6%. Membership of mediating structures explains a total of 17.9% of the variance in the loneliness scores. Of the control variables, subjective health, ADL, and the dummy variable living alone explained an additional 3.6% of the variance (total adjusted R^2 = 21.5%), while age, sex, living in an institution, educational level, region of residence, the level of urbanization of the municipality of residence, and the number of children and siblings do not contribute significantly to the explanation of loneliness.

Network composition and loneliness

Up until now, a rather straightforward indicator of the composition of the social network was used: the number of available, specific types of relationships, e.g. number of children. In the next part of the analysis, another indicator of the composition of the network will be introduced: a typology of network compositions based on a cluster analysis of the characteristics of the network, the network members, and the relationships. The composition

of each of the clusters is presented in *Table 9.4*. This table points out that the network composition of the majority of the elderly is to be found in the fourth cluster (*n* = 2255 or 56% of all respondents). This cluster is characterized by a relatively small number of network members. A second characteristic of this cluster is the low number of network members of *each* of the types of relationships. The first cluster, that embraces about 18% of the respondents, is primarily composed of elderly with relatively many children and children-in-law in their networks. The second cluster is characterized by the very high number of other kin mentioned as members of the personal network. Most striking in the composition of the third cluster is the extremely high number of relationships mentioned, including other relationships, as well as the high number of frequent contacts with network members. 'Frequent' means daily contact or contact several times a week. However, this cluster is only recognizable among three per cent of the elderly respondents. The fifth cluster is characterized by a relatively high number of 'other' non-kin, including neighbours, friends, and acquaintances.

The network composition clusters are used in a multiple classification analysis, together with the indicators of church afiliation, volunteer work, and voluntary associations, and with network size as a covariate, in order to investigate the contributions of each mediating ·structure in explaining the variation in loneliness among the elderly respondents (*Table 9.5*). As can be concluded from this table, the *composition* of the network of personal relationships explains a significant and interesting facet of loneliness, in addition to other cohesive life domains, such as having a partner, the size of the network, and church attendance. For example, an elderly person, who attends church weekly, has a large network of personal relatioships, as well as a network that includes either relatively many contacts with children (cluster 1 and 2), or contacts with a large number of other kin and/or friends, etc. (e.g. cluster 2 and 5) has a much smaller chance of becoming lonely than others. The data indicate that the absence of cohesive bonds in one domain (e.g. children and kin) can be compensated by the realization of cohesive bonds in other domains (e.g. non-kin or via active participation in church).

Conclusion

It is a stereotype that the elderly should be described as *the* lonely category of society. There is great variation in the intensity of loneliness among the elderly: the majority are not lonely at all. This study started with a correlation

Table 9.4.   Clusters of network compositions

	cluster	1	2	3	4	5
	N	706	392	123	2255	528
# children (-in-law) in network		7.3	4.6	4.0	2.4	3.1
# other kin in network		3.5	12.8	9.5	2.0	3.8
# neighbours in network		2.2	3.1	3.8	1.0	2.4
# other non-kin in network		2.6	4.3	21.3	1.4	9.4
# frequent contacts in network		7.2	5.8	9.4	2.5	4.5

Table 9.5.   Results of multiple classification analysis of variables of cohesion
             on loneliness

	n	adjusted for other independent variables		adjusted for other independent variables and network size	
		deviation*	eta	deviation	beta
network composition clusters			.28		.11
1	706	-.80		-.47	
2	392	-.97		-.07	
3	123	-1.29		.45	
4	2255	.66		.20	
5	528	-.72		-.28	
frequency of church attendance			.13		.10
yearly or less	1942	.33		.22	
several times per year	397	-.13		.00	
monthly	159	.21		.31	
2-3 times per month	224	-.14		.08	
weekly or more	1283	-.46		-.38	
availability partner in or outside the household			.28		.24
no	1458	1.00		.83	
yes	2547	-.57		-.47	

$R^2 = 16.7\%$
* deviation from grand mean (2.33)

between age categories and loneliness, and the analyses showed an increase
in loneliness with increasing age. However, further analysis revealed that

factors such as membership of and participation in mediating structures are more decisive for loneliness intensity than age per se.

The positive effects of the degree of involvement in different mediating structures for the prevention and alleviation of loneliness is confirmed (Antonucci & Knipscheer, 1990; Baltes & Baltes, 1988; Taylor & Brown, 1988). Most important are having a partner relationship, having a large network of frequent and close personal relation-ships, especially with children and children-in-law and with friends and acquaintances, having many emotional supportive exchanges (receiving as well as giving support) within the network of relationships, frequent church attendance, and living with others in a household. Age and health are related to most of these determinants of loneliness; age has no direct effect on loneliness, but health, especially subjective health, has a direct effect. Being in good health shapes the conditions to develop and maintain involvement in mediating structures, and poor health is directly and positively associated with feelings of loneliness (Penninx, 1994).

From the data presented, we cannot deny the importance of being involved in *one* specific mediating structure, such as the family (Hagestad, 1992). Being in contact and staying in close contact, and —if necessary— developing new personal relationships with a *broader* scala of others is *crucial* in the prevention and alleviation of loneliness. It has to be recognized that, additionally, the absence of cohesive bonds in one domain can be compensated for by the realization of cohesive bonds in others. This brings us to the insightful ideas of Carstensen (1992) about the socially integrating functions of relationships; by means of older adults' abilities to *selectively choose* and rely on enriching, stable, supportive, social relationships, they can derive well-being and avoid loneliness.

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