THE CONFIGURATIONS OF SOCIAL NETWORK MEMBERS AND SOCIAL SUPPORT IN OLD AGE

Dynamics is one of the most fundamental features of social network throughout the life course. People continuously add and drop their network members by moving residential place, retirement, health decline, and bereavement. Network dynamisms in old age pay a particular attention as old age is physically and socially transitional period that may result in more loss of member with lesser replacement. Under these transitional conditions, some older adults become socially isolated and are more likely to face the depletion of social support resources, while some are resilient to those socially isolating events and do experience successful aging.

Even life events in old age, however, are *events* that occasionally take place. Adding and dropping members of social networks may take place within everyday social interactions (e.g., at the work place or with family). Yet, previous researches have rarely addressed the notion that the configuration of network members itself can be a micro-relational structure that favors some members to face more changes in network structure and supports. The mixture of members can be either a source of stress or a source of resources or both that propels an individual to adjust their network for better social environment.

In this paper, I argue that not only life events but also the configurations of social networks members are equally as important as for changes in social network structure and support. This paper examines (1) the effects of being embedded in one of the six types of network member configuration (or composition) on older adults' perceived support and strain over two time periods (2005 and 2010); (2) whether being embedded in a certain types of configuration in earlier year is associated with changes in the potential number of supporters (size) and examines whether these changes are associated with older adults' perception on

available social support in 2010. This paper describes some key features of types of member configuration that were driven by latent class analysis (LCA), and the association between member configuration and changes in network size, and the consequences for older adults' the perception on available support resources.

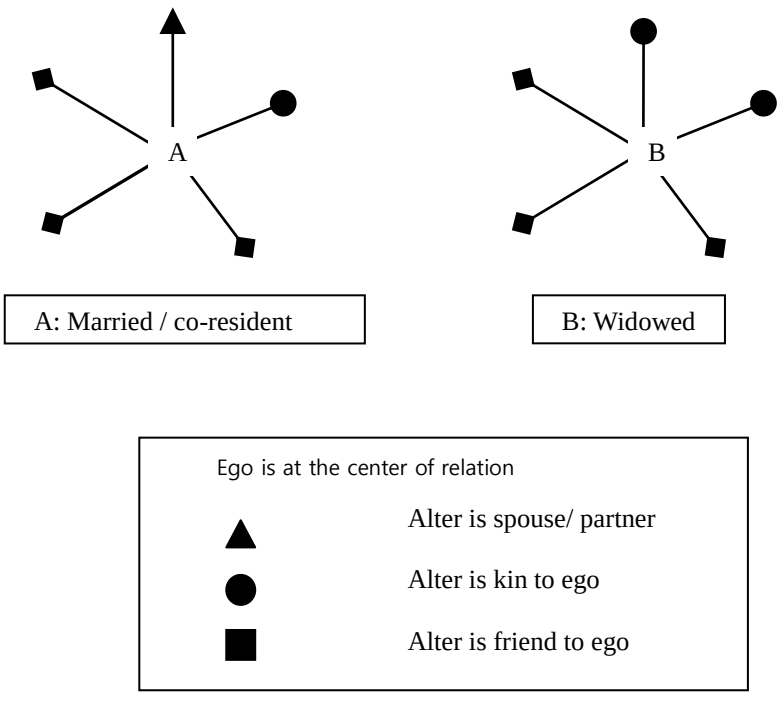
BACKGROUND

Previous research on social networks and support in older age mainly focused on the quantitative (e.g., size) or the qualitative (e.g., kin ties) aspect of social networks that buffers against stressful life events. While the dyadic approach of social networks emphasized a specific relationship that provides strong support (e.g., strong ties), it rarely addressed the structural aspects of social networks (e.g. Lin et al 1985). The network structural approach is able to identify stress inducing or reducing social network structure (e.g. size, density, diversity), but it is less effective in providing information about who (e.g. spouse, children) actually provides support. Moreover, even under both perspectives, it is less addressed which feature propels more changes. Such limitations from previous studies raise the question that there may be configurations (or compositions) of members that have qualitatively different meanings for older adults; being either a source of support or a source of strain, or both that induce more network dynamics. What, then, is better or at least a complementary approach for looking at the association between social contacts and social support and their dynamics?

Figure 1, for example, shows the different implications of network member configurations. Ego A, married/living with a partner, has a child and three friends in his network. Ego B, widowed, has a child and a sister and three friends in his network. Previous research suggests that kin (especially, spouses, children and parents) provide qualitatively better support (Choi, Jaccard, and Ramey 1996). Then, one of the questions that could be asked is who enjoys more benefits from these member configurations. At first snap shot, both

Ego A and B seems to be embedded in a similar network. The dyadic approach of network may suggest that A enjoys more support as A has additional strong supporter, a spouse; the structural approach may suggest that A and B share the similar feature of network structure in terms of size and composition (e.g., a sister and a child of B may be regarded as the same as a spouse and a child of A). Is the kin of widow B a successful alternative or a primary choice in the absence of a spouse/partner (in terms of receiving support)? Is the function of the kin of A the same as that of the kin of B? Such questions can be answered only after the configurations of social network members are identified and see subsequent changes. Therefore the first task of this paper is to reveal the underlying association patterns of core discussion networks.

Figure 1. An Illustration of the Different Implications of Network Member Configurations



I draw from resource theory, therefore view social support as a resource channeled through the structure of the interpersonal environment and demands as a burden generated from the same structure. What sets the specification of the model in this study apart, however, is that it attempts to map out the overall picture of composition of social network members using latent class analysis and attempts to reveal information about *who actually is at the end of each dyadic node*. Thus, this paper attempts to redefine the meaning of social network structure as *configurations of members* and complement previous approaches by providing a typology of the core discussion network. Further, utilizing resource theory, this study subsequently tests which sets of the member configurations (or sets of dyadic nodes) have abundant resources, and thus become micro-relational social structures that propel or prohibit mobilization of potential social supporter in older age.

MEMBER CONFIGURATIONS, MOBILIZATION, AND PERCEPTION ON SOCIAL SUPPORT

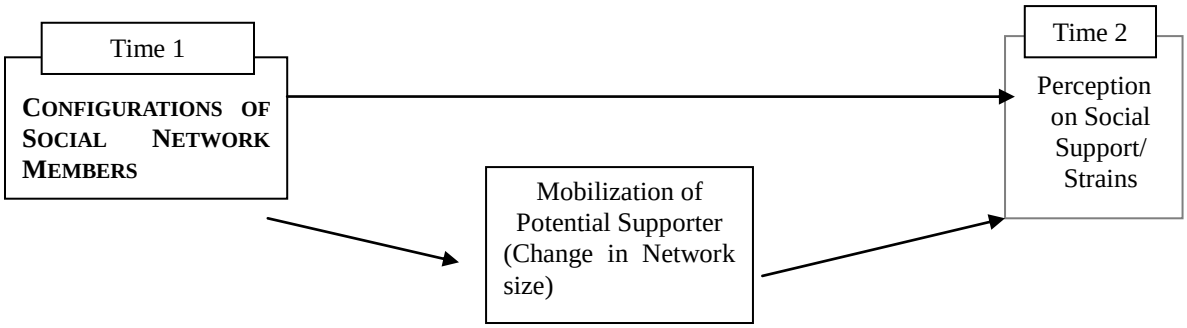
The notable features of core-discussion network in older age are homogeneity (Cornwell, Laumann, and Schumm 2008) and stability (Van Tilburg 1992; van Tilburg 1998). In homogeneous and stable relationship structures, respondents are more likely to have detailed knowledge of each other's needs such that the roles of individuals within those connections are more likely to be well-established with high expectations for reciprocity: individuals are expected to be involved not only as a support recipient but also as a support provider. This means that each composition (or configuration) of network members exchanges a distinctive mixture of resources needed and demands to be fulfilled, depending on the number and sources of support. For example, a household (or family) offers a very immediate social structure with very homogeneous and highly stable members that are associated with relatively well-defined expectations and obligations attached to family roles. The notable point here is that household composition structures the exchange patterns of reciprocity.

Depending on whether an older adult is a major support provider or recipient within a map of social connections, he or she may perceive imbalance in those relations. If those reciprocities are balanced, individuals are less likely to seek improving their relational environment; if imbalanced, they may reach out to improve their depleted resources. This implies some homogeneous networks, for example networks consisted of only kin, may exert pressures for older adults to adjust their network environment.

HYPOTHESIS AND THE CONCEPTUAL MODEL

This study builds on the structural network perspective and the social resource theory, therefore it regards social support as resources channeled through the structure of interpersonal environment and demands as burdens generated from the same structure. The conceptual model is presented in Figure 2. , followed by three hypotheses.

Figure 2. The Conceptual Model



Hypothesis 1: Each configuration of network members has a distinctive mixture of social resources and demands.

Hypothesis 2: Some configurations of network members form micro-relational structures that are positively associated with changes in network size.

Hypothesis 3: Older adults in disadvantaged networks that increased network size improve their perception of greater support and lower strain.

METHOD

Data and Measures

The data are drawn from two waves (2005and 2010) of the National Social Life, Health, and Aging Project (NSHAP).

This study draws measures from the ego-centric network roster as delineating criteria for Latent Class Analysis. The NSHAP's network module concerns those persons with whom a respondent "discussed important matters" within the past twelve months ("name generators").[1] Respondents were allowed to name up to five persons. When discussants were identified, respondents were asked to describe the relationship ("name interpreter") between respondent and alters by selecting from eighteen categories.[2] Of the relations presented on the list, some of these relations were mentioned often (e.g. spouse or child), while some were rarely or almost never given (e.g. psychiatrist, psychologist, counselor, or therapist). This

[1] The wording of the question is: "From time to time, most people discuss things that are important to them with others. For example, these may include good or bad things that happen to you, problems you are having, or important concerns you may have. Looking back over the last 12 months, who are the people with whom you most often discussed things that were important to you? Please list these people in Section A of your roster."

This question elicits names of strong, frequently accessed, long-term contacts with prominent representation of kin among those cited (Cornwell, B., E. O. Laumann, and L. P. Schumm. 2008; Ruan, D. C. 1998).

[2] "Which of the following best describes [name]'s relationship to you?" Spouse; Ex-spouse; Romantic/ Sexual partner; Parent; Parent in-law; Child; Step-child; Brothers or sister; Other relative of yours; Other in-law; Friend; Neighbor; Co-worker or boss; Minister, priest, or other clergy; Psychiatrist, psychologist, counselor, or therapist; Caseworker/ Social worker; Housekeeper/ Home health care provider/ Other (*Specify*); Don't know; Refused.

study focuses on the seven most frequently indicated relations as delineating indictors, combining 18 categories into seven; (1) Spouse/ Partner (Spouse, Romantic/ Sexual partner), (2) Parent/ Child, (3) Siblings, (4) Extended kin (other relative of yours), (5) Affinal kin (parent in-law, step-child, other in-law), (6) Friends, (7) Others (all the other alters from neighbors to 'others' category).[3]

Table 1. shows that the parent and/or child is most frequently indicated as an important discussant. Considering the age of the population (57-85), this is reasonable. Spouses or partners are the next most frequently chosen, followed by friends and siblings.[4] Considering the hierarchical-compensatory model, it is a compelling and researchable challenge to find out the patterns that depict how respondents interact with others in their networks, depending on the existence or absence of a spouse or partner.

In addition to using the network roster as a delineating factor, I have used the core-discussion network size as another delineating factor. One purpose of this paper is to sort out the underlying latent network structure by using only role relationship types of the discussant

[3] Although this study focus on the most frequently indicated relations and redefined eighteen categories into seven, there are still some issues in this redefinition that need to be clarified. One is to clarify the reason why affinal kin and extended kin are separately defined even if their proportions are small; the other is why neighbors are categorized into 'others' rather than tied with 'friends' or used independently. From the resource competition perspective, all members in a network have to compete with each other in order to receive attention from the focal person, and from the perspective of alter in the ego's network, the same logic applies – the ego has to compete with other alters in the focal alter's network. Yet, legitimate claims of attention get more competitive when there is a mixture of own kin and in-laws. Especially if the focal person is a woman, a woman's own kin – her children, parents, and siblings – compete with her in-laws for social contact (Waite and Harrison 1992). Therefore, the proportion of affinal kin in the core discussant network may promote a competitive atmosphere within the network and, as a consequence, may influence individual health.

The position of neighbor, in terms of closeness and functionality of support, in social networks is ambiguous. This study categorized neighbor with other relationships. I have also tried categorizing neighbors into friend categories but overall patterns of older adults' social networks wasn't affected by this re-categorization, though there were minor proportional differences in 'friends' and 'others' categories.

[4] This is not an indicator of whether a respondent *has* a spouse/ partner. In fact, 20.3% of those who live with a spouse or romantic partner did not list their co-resident spouse or partner as core discussant (373 out of 1,835). It is also interesting to note that among those who don't have any core discussant (n=73), 56.2% (n=41) have either a spouse or partner.

members. However, there is one problem when size is not included; a person with one friend in the network may be sorted equally as those with five friends in the network. Since the NSHAP network module did not *fix* the number of discussants at a certain size[5], it is inevitable to include size as one of delineating factors in order to accurately capture the detailed picture of patterns.

[TABLE 1 ABOUT HERE]

Dependent Variables and Other Control Measures

Social Support and Demands. Social support assesses three potential providers of support: spouse/partner; family; and friends. Respondents were asked to rate how often they can open up to a spouse or partner, family member or friend if they need to talk about their worries, and how often they can rely on each person or group when they have problem. Each of the items score from "1" (hardly ever (or never)) to "3" (often). The standardized scale reliability score is .64. Demands were asked about three sources of demand: spouse/partner; family; and friends. Respondents were asked to indicate how often each person or group makes too many demands on him or her. Each of the items scored from "1" (hardly ever (or never)) to "3" (often). In the case of the demand measure, respondents who do not have a spouse/partner, family, and/or friend are coded zero and then all three sources of demands were standardized and averaged.

[TABLE 2 ABOUT HERE]

ANALYTIC STRATEGY

The first step of the analysis is to get a more detailed picture of configurations of

[5] The NSHAP network module asked respondents to list *up to* five, which means the size of networks could be vary from zero to five.

core-discussant members. Latent class models (LCM) (Clogg and Goodman 1984; Hagenaars 1990; McCucheon 1987) were used to determine the minimum number of unique groups ("latent classes") needed to represent the association among role relationships.

The second step in the analysis is assigning the respondent to one of the latent classes based on the highest probability (modal probability) given the response pattern of the seven indicator items. The predicted latent classes are then used in models that characterize various features of social contact and such as demographics, network properties and social support.

In the final step, multiple regression analysis was used in order to estimate whether being in a specific configuration of network members involves differentials in resource availability and perception on social support in older age.

RESULTS

Model Fits

This paper used *l*EM (Vermunt, 1997) for model-fitting and parameter estimation. The procedure for choosing an adequate model from the data with different numbers of latent classes is sometimes problematic, because the maximum-likelihood estimates may not always represent the best possible solution (i.e. global maximum) but rather a local maximum (McCutcheon, 1987:25; Hagenaars, 1990: 108). To be sure that obtained L^2 is the smallest (i.e. global maximum) within the same number of class models, I repeated the analysis at least ten times with different random seed values. Even if a global maximum of the different number of classes is obtained, more than one set of conditional and latent class probabilities may exist (i.e., the identification problem). In order to reduce this problem, I compared whether those solutions with the smallest L^2 generate a stable latent class solution. In short, I have concluded that a six-class model is better than either a five- or a seven-class model. The reason is that both the five- and seven-class models, first, rarely reach the smallest L^2 and if they reached similar small L^2 values, secondly, they yield significantly different patterns of

association between latent classes and response variables (i.e., do not yield unique solutions). Table 3. gives the L^2, BIC and the statistical significance of L^2 for the latent class model.

[TABLE 3 ABOUT HERE]

Latent Class Structure of Core-Discussion Network

Table 4 displays the maximum-likelihood estimates of the latent class proportions for the six-class model, and the conditional probabilities for the number of network members for each latent class.

[TABLE 4 ABOUT HERE]

In general, the U.S. older adult population can be first divided into those who a have a spouse or partner as their core-discussant or those who do not If the conditional probability of the spouse/partner item exceeds sixty percent, they are first labeled as *spouse-*, followed by the next most distinctive feature in the network.

The distinctive feature of the first latent class is that all respondents have more than two friends in their discussant network and almost no one else. Since eighty percent of the respondents did not include a spouse or partner as a core discussant and since the size of network mostly is three (65%), class one is labeled as *the friend* network.

The second latent class consists of various relationship members. About twenty-one percent of older adults belong to this class, which is the second largest, and sixty-five percent of them included a spouse or partner as a core discussant. The interesting thing is that the respondent who belongs to this class is the one who has the largest proportion in every relationship. For example, this class has 54% of siblings, 25% of extended kins, 28% of affinal kin, and 39% of others. Considering the size of their network is not the largest, having an average number of members of 3.88 (see Table 5), a large proportion in every relationship

means that there are various possible combinations of the relationship patterns; e.g., spouse-children-sibling, spouse-extended kin-affinal kin – friends, spouse- sibling- friends –others and so on. Another notable thing for this class is that respondents in this group are the people who are more likely to interact with siblings; 24% of these respondents included more than two siblings in their core-discussant network. In this respect the second latent class is labeled as *the spouse-diversified* network.

The third class is labeled as *the children* network. The respondents of the third latent class all have at least one child in their discussant network. Considering eighty percent of respondents have two members in their network, interaction among ego-alter is very likely to be limited to the ego and his or her child.

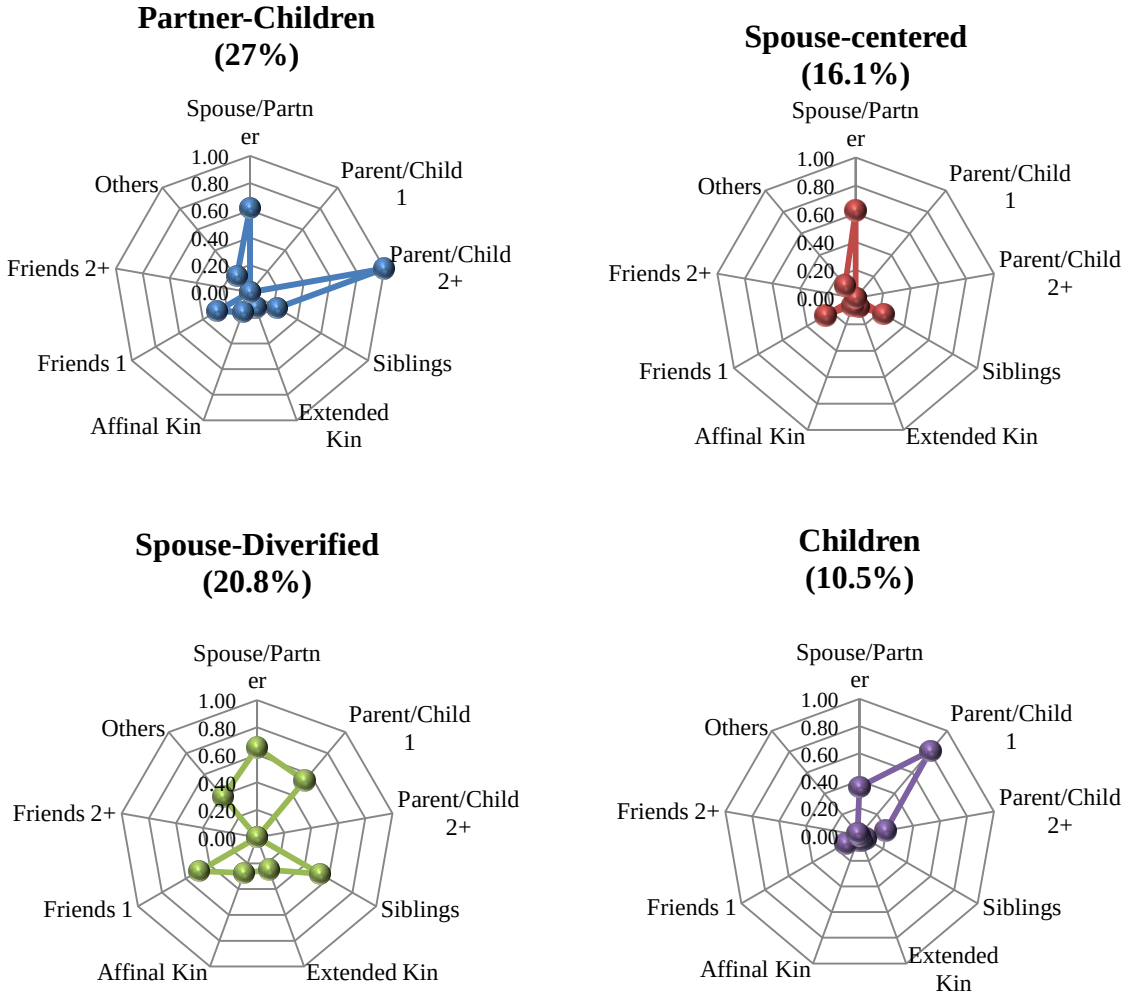
The fourth latent class is labeled as *the kin-friend* network. Like *the friend* network (class 1) all respondents have more than two friends in their discussant network. Unlike *the friend* network, however, fifty-three percent of the respondents have children, twenty-seven percent have siblings, twelve percent have extended and/or affinal kin as their core-discussants. Large network size also distinguishes this class from *the friend* network.

Twenty-seven percent of the U.S. older adult population belongs to *the spouse-children* network, the fifth latent class. All of those who belong to this class discuss important matters with their children, in addition to their spouse or partner. Fifty-two percent of people who belong to this class have five core-discussant members, which show that this class is basically an immediate family group.

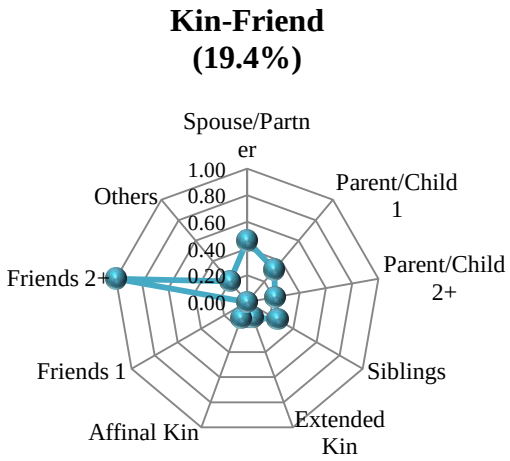
Lastly, the sixth latent class is the *spouse-centered* network. It is because sixty percent of respondents have only one network member and sixty-two percent have a spouse or partner as a core-discussant.

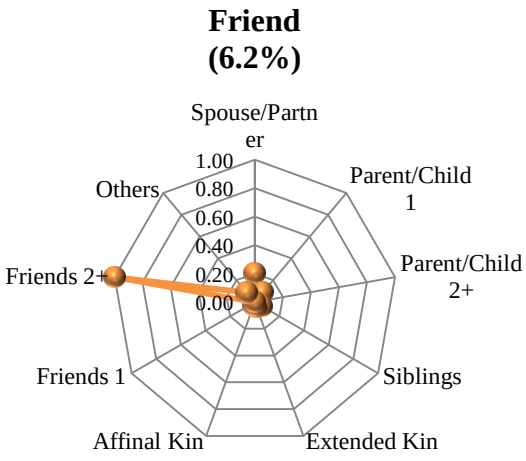
Figure 3[6] graphically shows the patterns of social network of these older adults. In sum, the latent class structure reveals the arrangement patterns of core-discussant network members that are not obvious from the simple frequencies or the number of relation members in Table 1. In addition, the above description shows the reducibility of patterns of discussant network into types by numbers of role relations. By looking at the proportion of respondents who did not include a spouse/partner as their core discussant, people tend to rely on children more than friends.

Figure 3. The Configurations of Social Network Members



[6] '2 or more' categories of sibling, extended kin, affinal kin, and others have been combined with category '1' since their proportions are almost zero in most of classes in Table 4.





Group Differentials in the Core-Discussion Network

In the previous section, latent class analysis assigned each respondent to the latent class that is modal for his or her pattern of responses to the network roster. In Table 5, the distribution of respondents grouped by various features of basic demographics, social support/ strains, and network properties across these latent classes of network types indicates key differentials in the structure of core-discussant network.

[TABLE 5 ABOUT HERE]

In regard to age, those who belong to the children network, on average, are the oldest (average age = 70), whereas those in the spouse-diversified network are the youngest (average age = 67). In the case of gender, women are more represented in the children and the kin-friends network, whereas men are overwhelmingly represented in the spouse-centered network. The major observation of note is that the large proportion of the children network is composed of non-white respondents. A comparison of college attendance reveals that 62 percent of members of the kin-friends network received at least some college education whereas only 33 percent of those in the children network received the same amount of education. Bivariate comparison of socio-demographic characteristics indicates that members

of the children network are mainly the oldest, ethnic-minority women with less college education, whereas those in the kin-friends network are largely highly educated, younger, white women. Members of the spouse-centered network are comparably young, less educated, ethnic-minority men.

In short, by looking at group average scores, the children network members are the most disadvantaged group in terms of social support, while those in the kin-friends network are the most advantaged group. The interesting point here is that the most advantaged network and the most disadvantaged network are both highly composed of women who are less likely to be partnered. This leads us to the next question of which arrangement type of network members is more likely to be an advantaged group and which type becomes disadvantaged, when basic demographic backgrounds are controlled. Figure 4 shows the difference in receiving social support and demands in 2005/06 by the member arrangement types. Table 7. presents the analysis of perception on receiving social support and demand in 2010/11.. The children network is the reference group.

Configurations of Social Network Members and Changes in Size of Network Member

Have there been changes in network size between 2005-06 and 2010-2011? Some types of member configurations are more vulnerable to changes that are more affected by everyday interactions, in additions to life course, social, and economic factors. Table 6 presents changes of network size between 2005-06 and 2010-11 depending on the types of member configuration.

[TABLE 6 ABOUT HERE]

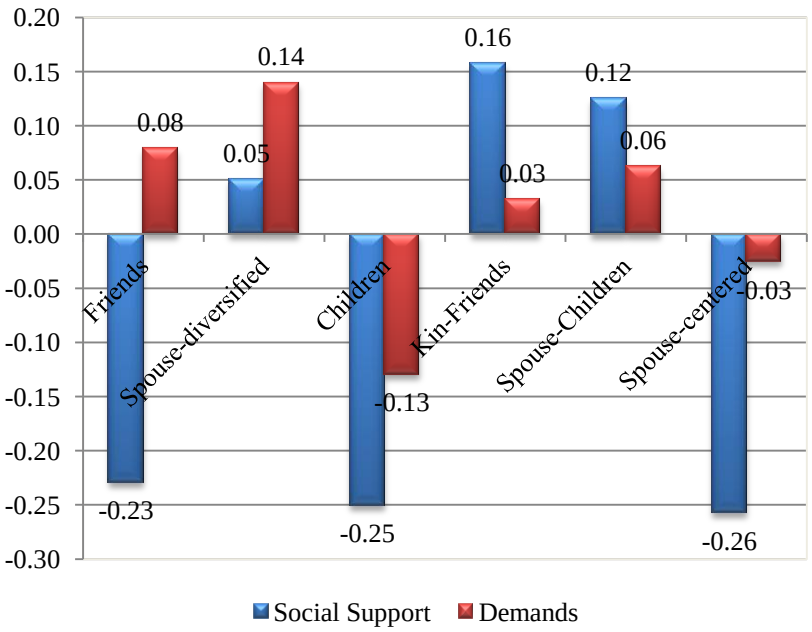
Table 6 shows whether those in each types of member configuration in 2005-06 changed network size in 2010/11 and, if so, whether they have moved toward either

increasing or decreasing size. In general, older adults' network showed dynamic changes in size depending on the types of member configuration they were embedded in 2005/06. The kin-children and the spouse-children are the two groups with the highest stability. About 72 % the children network and the spouse-centered network in 2005/06 increased their network size. On the other hand, the networks that contained wide range of members were more apt to decrease size. 34.3% of the spouse-diversified network, 37.9 % of the kin-children network, and 33.4% of the spouse-children network shifted toward reducing the size.

Configurations of Social Network Members and Access to Social Support and Demands

Figure 4 illustrates the estimated value of perceived social support and demands in 2005/06 when we control for socio-demographic characteristics. The interesting point here is that the two most disadvantaged types of networks in fact show different patterns of resource flow. Older adults who are embedded in the children network are less likely to receive supports but, at the same time, they are less likely to receive demands as well. On the other hand, those who are embedded in the friends network are less likely to receive support but more likely to receive demands. One possible explanation for the latter may be that older adults in the friend network may have a demanding spouse or partner who rarely provides support, thus, they seek interactions with casual friends and exclude their spouse as their core-discussant. The different levels of support and demands by the arrangement type of social network members implies that in certain social connection structures, individuals are more likely to perceive that the demands made on them outweigh the resources available to them.

Figure 4. Adjusted Mean Level of Social Support and Demand in 2005-06



[TABLE 7 ABOUT HERE]

DISCUSSION

Table 1. Frequency and Percentage of the Respondent Who S

		Freq.	Percent
Number of			
Spouse/Partner	0	1,346	45.9
	1	1,586	54.1
Parent/Child	0	1,184	40.4
	1	775	26.4
	2 or more	973	33.2
Siblings	0	2,141	73.0
	1	557	19.0
	2 or more	234	8.0
Extended Kin	0	2,563	87.4
	1	277	9.5
	2 or more	92	3.1
Affinal Kin	0	2,526	86.2
	1	333	11.4
	2 or more	73	2.5
Friends	0	1,510	51.5
	1	671	22.9
	2 or more	751	25.6
Others	0	2,385	81.3
	1	404	13.8
	2 or more	143	4.9

Table 2. Summary Statistics for Covariates and Dependent Variables

	2005-06			2010-11		
	Mean or Proportion	**Standard Deviation**	**n**	**Mean or Proportion**	**Standard Deviation**	**n**
Covariates and Dependent Variables						
Social Support (Cronbach's alpha = .64)	**.02**	**.98**	**2,934**			
How often can you… {1 = "hardly ever (or never)," 2 = "some of the time," 3 = "often"}						
Open up to your spouse or partner?	2.73	.52	2,012			
Rely on your spouse or partner?	2.84	.43	2,007			
Open up to members of your family?	2.30	.73	2,815			
Rely on members of your family?	2.59	.64	2,793			
Open up to your friends?	2.03	.73	2,704			
Rely on your friends?	2.32	.69	2,680			
Demands	**.05**	**.97**	**3,005**			
How often do … {0 = No one, 1 = "hardly ever (or never)," 2 = "some of the time," 3 = "often"}						
spouse or partner make too many demands on you?	1.08	.88	3,003			
members of your family make too many demands on you?	1.35	.61	2,812			
freinds make too many demands on you?	1.09	.42	2,813			
Demographics						
Age	68.0	7.69	3,005			
Attended college {1 = at least some college; 0 = no college attendance}	.51	.50	3,003			
Female	.52	.50	3,005			
Race/Ethnic Group						
Black	.10	.30	2993			
Hispanic, non-black	.07	.25	2993			
Others	.02	.16	2993			
Social Network Characteristics						
Social network size {range = 0-5}	3.48	1.47	3,005			

[a] Survey-adjusted and weighted to account for the probability of selection, with post-stratification adjustments for non-response.

Table 3. Test Results of Latent-Class Models (2005-06)

	L^2	BIC	df	P
1 class	8027.7757		7272	0
5 class	5397.0146	36723.3843	7200	>.100
6 class	5018.5497	36488.6213	7182	>.100
7 class	4720.7532	36334.5267	7164	>.100

Table 4. The Proportion and Conditional Probabilities of Response of Latent Class (2005-06)

		Friends	Spouse-diversified	Children	Kin-Friends	Spouse-Children	Spouse-centered
		Class 1	Class 2	Class 3	Class 4	Class 5	Class 6
Proportion		0.062	0.208	0.105	0.194	0.270	0.161
Number of							
Spouse/Partner	0	0.80	0.35	0.65	0.54	0.38	0.38
	1	0.20	0.65	0.36	0.46	0.62	0.62
Parent/Child	0	0.91	0.46	0.00	0.47	0.00	1.00
	1	0.09	0.54	0.80	0.32	0.00	0.00
	2 or more	0.00	0.00	0.20	0.21	1.00	0.00
Siblings	0	0.94	0.47	0.95	0.74	0.77	0.77
	1	0.06	0.30	0.05	0.21	0.18	0.19
	2 or more	0.00	0.24	0.00	0.06	0.05	0.04
Extended Kin	0	0.96	0.75	0.95	0.88	0.88	0.93
	1	0.04	0.16	0.05	0.10	0.09	0.06
	2 or more	0.00	0.09	0.00	0.02	0.02	0.01
Affinal Kin	0	0.98	0.73	0.96	0.87	0.84	0.94
	1	0.02	0.20	0.04	0.11	0.13	0.06
	2 or more	0.00	0.08	0.00	0.01	0.02	0.00
Friends	0	0.00	0.51	0.88	0.00	0.72	0.75
	1	0.00	0.49	0.12	0.00	0.28	0.25
	2 or more	1.00	0.00	0.00	1.00	0.00	0.00
Others	0	0.91	0.62	0.98	0.80	0.85	0.88
	1	0.09	0.23	0.02	0.16	0.13	0.10
	2 or more	0.00	0.16	0.00	0.04	0.02	0.01
Size	1	0.00	0.00	0.17	0.00	0.00	0.60
	2	0.30	0.00	0.83	0.00	0.00	0.40
	3	0.65	0.44	0.00	0.00	0.23	0.00
	4	0.06	0.24	0.00	0.25	0.25	0.00
	5	0.00	0.32	0.00	0.75	0.52	0.00

Table 5 Group Differentials in the Type of Core-discussant Network[a]

	Friends (6%)	Spouse-diversified (21%)	Children (10%)	Kin-Friends (19%)	Spouse-Children (27%)	Spouse-centered (16%)	*Statistics* F	*Comparison of* Means[b]
Age	68.4	67.1	69.9	67.7	68.3	67.8	5.64***	3>2, 4, 5, 6; 5>2
Female	0.54	0.50	0.60	0.61	0.55	0.31	23.03***	6 < 1, 2, 3, 4, 5
Nonwhite	0.20	0.18	0.29	0.11	0.19	0.24	10.46***	3>2, 4, 5; 6> 2, 4
Attend College	0.52	0.53	0.33	0.62	0.51	0.44	15.19***	3<1, 2, 4, 5, 6; 6<2
Social Support	-0.25	0.10	-0.29	0.27	0.18	-0.30	32.65***	1,3,6 < 2,4,5; 2<4
Demands	0.07	0.16	-0.20	0.03	0.09	0.03	5.54***	3< 1,2,4,5,6
Size	2.68	3.88	1.81	4.75	4.32	1.41	2020***	

[a] Survey-adjusted and weighted to account for the probability of selection, with post-stratification adjustments for non-response.

[b] 3>2, 4: indicates the value of the third class is higher than the second class and the fourth class

Table 6. Changes in Network Size between 2005-06 and 2010-11 (N = 2,223)

	No Change	Decreased	Increased	Total
Friend	24.1	17.3	58.7	100
(unweighted N)	32	23	78	133
Spouse-diversified	32.2	34.3	33.5	100
(unweighted N)	154	164	160	478
Children	18.4	9.6	72.1	100
(unweighted N)	40	21	157	218
Kin-Friend	50	37.9	12.2	100
(unweighted N)	230	174	56	460
Spouse-Children	43.2	33.4	23.4	100
(unweighted N)	264	204	143	611
Spouse centered	23.2	5	71.8	100
(unweighted N)	75	16	232	323
Total	35.8	27.1	37.2	100
(unweighted N)	795	602	826	2,223

Table 7.

	Social Support in 2010
Friends	-0.291
	(0.25)
Spouse-diversified	-0.149
	(0.10)
Children	-0.762**
	(0.20)
Spouse-children	-0.200*
	(0.09)
Spouse-centered	-0.985**
	(0.16)
Decreased in Size	-0.283**
	(0.09)
Increased in Size	-0.100
	(0.09)
Interactions with Changes in Size	
Friends * Decreased	-0.234
	(0.40)
Friends * Iecreased	0.150
	(0.31)
Spouse-diversified * Decreased	-0.048
	(0.16)
Spouse-diversified * Increased	0.167
	(0.15)
Children * Decreased	0.034
	(0.43)
Children* Increased	0.519*
	(0.22)
Spouse-children* Decreased	0.038
	(0.12)
Spouse-children* Increased	0.188
	(0.12)
Spouse-centered* Decreased	0.613**
	(0.18)
Spouse-centered* Increased	0.719**
	(0.19)
Perceived Sociao Support in 2005	0.343**
	(0.03)
Perceived Social Strains in 2005	-0.025
	(0.03)
self-rated physical health in 2005	0.056*
	(0.02)
Declined self-rated physical health	-0.088
	(0.05)
Age	0.012**
	(0.00)
Female	0.092*
	(0.04)
Black	-0.241**
	(0.06)
Hispanics, non-white	-0.260**
	(0.08)
Others	-0.352*
	(0.14)
Attend College	0.071*
	(0.03)
Constant	0.174
	(0.12)
Observations	2,170

* significant at 5%; ** significant at 1%