

Social Exchanges and Subjective Well-being: Do Sources of Positive and Negative Exchanges Matter?

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Objectives. To decompose the effects of positive and negative social exchanges on well-being in terms of relationship type (vertically extended family, horizontally extended family, or nonfamily) and subjective closeness (close vs. peripheral).

Methods. One thousand and five Chinese older adults rated each network member on positive and negative exchanges, which were aggregated for each relationship type and closeness category. Regression analyses estimated the influences of positive and negative exchanges on well-being, controlling for network size, health, and demographic factors.

Results. Social exchanges with close and peripheral vertical family members as well as close horizontal family members were associated with well-being, whereas exchanges with nonkin did not contribute independent effects. These results were similar for both positive and negative exchanges.

Discussion. Well-being is determined not just by social exchanges but also by where they come from. In this regard, the vertical family, the horizontal family, and the nonfamily represent a hierarchy of preference for Chinese older adults, which, to some extent, reflects the influence of familism.

Key Words: Chinese older adults—Kinship—Negative exchanges—Positive exchanges—Social network—Subjective well-being.

SOCIAL relationships are not always supportive and pleasant as they can be problematic at times (Rook, 1984). One perspective, the domain-specific effect model (Ingersoll-Dayton, Morgan, & Antonucci, 1997), suggests that positive exchanges predict positive well-being, and negative exchanges predict negative well-being. However, the literature has generally supported a negativity effect model in which negative exchanges, though relatively infrequent (Rook, 2001), are more predictive of subjective well-being when they occur than positive exchanges (Newsom, Nishishiba, Morgan, & Rook, 2003; Rook, 2001), although other studies have found opposite results (Okun & Keith, 1998), including one study with a large sample of Chinese older adults (Li & Liang, 2007). For example, in a sample of older Americans, although domain-specific effects were found cross-sectionally, negative, but not positive, exchanges predicted positive (PA) and negative affect (NA) longitudinally, suggesting that negative exchanges may have more enduring effects than positive exchanges (Newsom et al., 2003).

The disproportionate impact on well-being due to the negative aspects of social interactions may be understood from a few theoretical propositions. Family and friends are expected to be supportive. Hence, negative exchanges may exert a greater impact because of the violation of this expectation (Rook & Pietromonaco, 1987). Others have suggested that greater arousal, cognitive processing, and emotional responses to negative interactions or life events

may be more adaptive socially and physiologically (e.g., Skowronski & Carlston, 1989; Taylor, 1991). Moreover, whereas positive and supportive behaviors from others may or may not be viewed favorably, negative interactions are always seen as undesirable (Newsom, Rook, Nishishiba, Sorkin, & Mahan, 2005), leading to a more consistent relationship between negative exchanges and well-being. Despite this burgeoning literature, an issue that remains unanswered is whether the influences of positive and negative exchanges depend on where they come from. In the present studies, we consider two dimensions of the source of exchange: (a) relationship type and (b) degree of closeness.

BACKGROUND

Social Exchanges in Family and Friends

Although no one would doubt that both family and friends play important support functions (Adams & Blieszner, 1995), some scholars have taken the view that friends may be more contributive to well-being in older adults than the family. A major reason has to do with the nature of activities spent with family and friends. Using experiences sampling method, Larson, Mannell, and Zuzanek (1986) found that the times spent with friends, which were characterized by activities of common interests and spontaneity, were more conducive to positive affective states in

Canadian older adults than the times spent, usually in mundane and routine daily activities, with family members. Similarly, Merz and Huxhold (2010) found that, among older Germans, instrumental support from kin undermined well-being, whereas instrumental support from nonkin enhanced well-being, although the hampering effect of instrumental kin support disappeared after controlling for health. Nonkin instrumental support might be particularly well-being enhancing in this German sample because of its voluntary rather than its obligatory nature.

Another potential reason for friends being more well-being enhancing than family members is that they are less likely to be the main source of negative interactions in daily life. Compared with family relationships, friendships are not bound by prescribed roles and are grounded on mutuality and reciprocity. Friendships loaded with negative exchanges would probably be discontinued. Indeed, research shows that negative interactions are more frequent among family members than among friends, whether in Western or Asian societies (Akiyama, Antonucci, Takahashi, & Langfahl, 2003; Krause & Rook, 2003). Moreover, a longitudinal study spanning over 10 years in a large sample of U.S. adults found that the degree of negativity decreased in friendship over time, owing to the discontinuation of problematic relationships (65% of respondents reported a change in best friend from T1 to T2), but negative exchanges with spouse or partner increased over time (except for the minority who changed spouse or partner), and those with children remained stable (Birditt, Jackey, & Antonucci, 2009). These findings suggest that, in previous studies that examined negative interactions and well-being, the effects might have been mainly driven by family relationships than by friendships. Nevertheless, this possibility was never directly tested in the literature.

Family and Friends in the Chinese Context

Not all Western findings show that friends are more contributory to subjective well-being than the family. Thompson and Heller (1990) found that perceived and structural support from the family, but not those from friends, were predictive of psychological well-being in a U.S. sample of older women, whereas friendship ties were important only for those with weak family ties, suggesting a possible compensatory function for friends (Cantor, 1979; Rook & Schuster, 1996). Research studies that focused on childless older adults in European countries have also shown similar compensatory effects (Albertini & Kohli, 2009; Wenger, 2009). This compensatory function may be more relevant for the Chinese person who has a tradition of espousing familism. Familism refers to the extent to which people identify themselves with their family (Bardis, 1959). According to Yang (2006, p. 300), familism in the Chinese context is characterized by “the emphases on one’s own family’s prolongation, harmony, solidarity, wealth, and

fame”; “the feelings of familial unity (being one), belongingness, concern and love, glory, responsibility, and safety”; and “the tendencies to engage in such behaviors as producing offspring, interdependence, forbearance, modesty, conformity, striving for family, respect for seniority, and in-group favoritism.” The widespread endorsement of these cognitive, affective, and behavioral attributes suggests that the family–nonfamily divide among Chinese people may be more prominent than those among Westerners, although this is an empirical question.

Furthermore, it is important to note that whereas in the West, the notion of the family refers usually to the immediate family, in Chinese and other Asian societies, the extended family is typically included. The demolition of the extended family in Chinese and Asian societies may be largely structural but not functional. Recently, Cheng, Lee, Chan, Leung, and Lee (2009) argued that not only are immediate kin important for the Chinese people, distant kin also play significant roles, particularly for those without immediate kin. They found that the vertically extended family (including parents, spouse, children, children-in-law, grandchildren, etc.), the horizontally extended family (siblings, cousins, distant in-laws, etc.), and the nonfamily (friends, neighbors, etc.) represented three distinct social circles in the lives of Chinese older adults. Whereas contact and support exchanges were highly correlated within each of the three relationship categories, they were uncorrelated across categories. Thus, the study of social exchanges and well-being needs to be placed within the broader context of the extended family. To the best of our knowledge, this is the first study that directly compares distant kin (horizontally extended family) to immediate kin (vertically extended family) in terms of their relationships to subjective well-being in older adults. Because Chinese people have greater or more established expectations for family than for friends (e.g., filial expectations for children; Cheng & Chan, 2006), we expect that the effects of positive and negative exchanges will be strongest if they come from immediate kin, less strong if coming from distant kin, and weakest when coming from nonkin.

In this connection, it is important to point out that an earlier study (Cheng et al., 2009), though examining similar issues, did not provide a direct comparison of the effects of the three relationship categories. That study found that Chinese older adults with family-focused networks (characterized by high contact and high support exchanges with the vertical family as well as low contact but high support exchanges with the horizontal family) or distant family networks (characterized by high support exchanges with the horizontal family) were comparable to those with friend-focused networks across a variety of well-being indicators. However, network types are constellations of support resources (i.e., a distant family network may also include some immediate kin and friends and so on), they could not isolate the effects coming from different sources. It is

therefore important to find ways by which the effects of different relationship types can be compared within the same person.

Social Exchanges by Degree of Closeness

Another related issue, also untapped by the literature, is whether the effects of positive and negative exchanges depend on whether they occur in interactions with close or peripheral network members. A common approach by gerontologists defines *close network members* as those who are considered “so close that it would be hard to imagine life without them” (Lang & Carstensen, 1994, p. 317)—that is, the inner circle in the social convoy model (Kahn & Antonucci, 1980). In contrast, *peripheral network members* are taken as those placed in the middle (very important but less close) and the outer (even less close but still important) circles (Lang & Carstensen, 1994). This being the case, it is likely that the close network members, so essential to self, would have more impact than peripheral members on one’s well-being, whether the interactions were positive or negative. On the other hand, it is possible that negative interactions with close network members are more easily forgiven (Tse & Cheng, 2006) in order to maintain emotionally meaningful relationships in old age (Cheng & Yim, 2008). Furthermore, caring behaviors by someone less close may be felt with more gratitude than the same behaviors from a very close person because one feels less deserving of the former (see Emmons & McCullough, 2004). Thus, it is not clear in what way closeness would influence the relationships between social exchanges (especially negative exchanges) and well-being. The issue is further complicated by the fact that universally kin are, in general, regarded as closer than nonkin (Neyer & Lang, 2003). Hence, the only way to disentangle the effects of relationship type and closeness is to study the relative impact of the vertical family, the horizontal family, and the nonfamily broken down by levels of closeness.

The Study

In this study, we tested the simultaneous associations of positive and negative exchanges with subjective well-being, broken down by relationship type and closeness in a large sample of Hong Kong Chinese older adults. Consistent with the literature, we hypothesized that positive exchanges enhance well-being, whereas negative exchanges undermine well-being, across relationship types and levels of closeness. However, because of previous inconsistent findings, we did not hypothesize the relative effects of positive and negative exchanges but would nonetheless test whether their associations with well-being are equivalent. Additionally, for reasons mentioned earlier, we did not make a specific hypothesis concerning the effect of closeness, but we expected that the effects of positive and negative exchanges

decrease from vertical family to horizontal family, and further to nonfamily, across levels of closeness.

METHODS

Participants and Procedure

Participants were 1,005 community-dwelling older persons in Hong Kong ($M_{\text{age}} = 72.2$ years [$SD = 7.15$, range = 59–98]; 51% women) who were recruited on a convenience basis by placing advertisements in social service agencies or through referrals by agency staff. Participants were interviewed face to face either at their home or at a social center. All scored ≥ 20 on the Mini-Mental State Examination (Folstein, Folstein, & McHugh, 1975) and provided informed consent to participate. This study was approved by the Ethics Subcommittee of the Research Committee of the City University of Hong Kong.

Mirroring the general older population in Hong Kong (Census and Statistics Department, 2007), this sample was a low-income group with low educational level (36% with no formal education, 38% primary education, 21% secondary education, and 5% tertiary). Most of the participants (84%) reported a monthly income of less than 6,000 Hong Kong dollars (about US\$770), and 42% of the participants were recipients of the Comprehensive Social Security Assistance (CSSA) Scheme, a subsistence support provided by the government to low-income persons. About half of the participants lived alone (51%). Those divorced, separated, and single were oversampled. Participants had an average of 2.45 children ($SD = 2.16$). More details about the sample can be found in Cheng and colleagues (2009).

Measures

Degree of closeness and relationship types.—Participants responded to the social convoy questionnaire by Kahn and Antonucci (1980), which shows three concentric circles drawn around a center labeled “me.” They were asked to place network members into the circles depending on how important these persons were in their lives. Following Lang and Carstensen (1994), those placed in the inner circle (so important that it is difficult to imagine life without them) were classified as close network members and those in the middle (very important but not as close) and outer (close enough and important enough but have not yet been included) circles as peripheral network members. Participants also reported their relationships with each of the network members, which were used to classify network members into vertically extended family (parents, spouse, children, children-in-law, grandchildren, and great grandchildren), horizontally extended family (including siblings, cousins, and all other distant kin and in-laws), and nonfamily (friends, neighbors, and other nonfamily network members). Hence, six subgroups including close vertical family,

peripheral vertical family, close horizontal family, peripheral horizontal family, close nonfamily, and peripheral nonfamily were created by combining these two dimensions.

Positive and negative exchanges.—Participants provided ratings on a 5-point scale of 1 (*never*) to 5 (*always*) the degree to which he or she had received emotional support (four items), instrumental support (four items), and companionship (two items) from each network member. The participants also rated their provision of emotional (two items) and instrumental support (two items) to each network member. Following Rook (2001), these 14 items were summed to produce a measure of positive exchanges ($\alpha = .88$). Negative exchanges were measured by four items (conflicts, excessive demands, annoying attitudes and behaviors, and unfulfilled promises) on the same 5-point scale ($\alpha = .71$). Both measures were aggregated and averaged across all network members by relationship type (horizontal, vertical, and nonfamily) and level of closeness (close and peripheral).

Subjective well-being.—Referring to “people’s evaluations of their lives and encompasses both cognitive judgments of satisfaction and affective appraisals of moods and emotions” (Kesebir & Diener, 2010, p.18), subjective well-being is usually operationalized in terms of life satisfaction, PA, and lack of NA (Kesebir & Diener, 2010). Because NA is characteristically low in older adults (Cheng, 2004), Cheng and Chan (2006) introduced depressive mood as a fourth measure so as to provide an alternative measure of negative well-being as well as a more balanced assessment of subjective well-being as a whole. Hence, we measured subjective well-being by (a) the Satisfaction With Life Scale (Diener, Emmons, Larsen, & Griffin, 1985), rated from 1 (*strongly disagree*) to 7 (*strongly agree*; $\alpha = .78$), (b) the PA (six items; $\alpha = .87$) and NA (six items; $\alpha = .85$) subscales of the Chinese Affect Scale (Cheng, 2004), rated on a 5-point scale of 1 (*rarely*) to 5 (*often*) against the past week, and (c) a 4-item version of the Geriatric Depression Scale (rated on a *yes/no* basis; $\alpha = .78$) that has been shown to be equally predictive of psychiatrist ratings of depression compared with the 15- and 30-item versions (Cheng & Chan, 2004; Cheng, Yu, et al., 2010). A maximum likelihood confirmatory factor analysis (correcting for nonnormality) was conducted on the covariance matrix of all these items as indicators for four first-order factors (life satisfaction, PA, NA, and depression), which were then specified to be the result of a common second-order factor of subjective well-being. Results showed that the items from the four measures tapped a common construct of well-being: Satorra–Bentler scaled $\chi^2(179) = 594.49, p < .001$; comparative fit index = .98; nonnormed fit index = .97; standardized root mean square residuals = .05; and root mean square error of approximation = .05. All factor loadings (first- and second-order) were $\geq .40$.

Covariates.—Age, sex (1 = *female* and 0 = *male*), marriage (1 = *married* and 0 = *not married*), socioeconomic status (SES; a composite score combining the standardized scores of educational level and whether the participant received CSSA, with higher scores indicating higher SES levels), and living arrangement (1 = *living alone* and 0 = *not living alone*) were included as covariates. In addition, number of chronic illnesses (range = 0–21), instrumental activities of daily living (IADL; Lawton & Brody, 1969), and network sizes (broken down by relationship type and closeness) were also statistically controlled. IADL was coded as 0 (*no impairment*) and 1 (*some impairment*) because only 7% of the participants reported some degree of IADL impairment.

Data Analysis

In order to examine the relative effects of different types and sources of social exchanges, positive and negative exchanges were each broken down by two dimensions, namely relationship type (3) and closeness (2), which resulted in six measures each for positive and negative exchanges. These 12 measures were used to predict simultaneously each of the 4 measures of well-being by multiple regression analyses with robust standard errors (StataCorp, 2009), which computes the Huber–White estimates of the standard errors that are robust to the violation of normality and homoscedasticity assumptions (White, 1980). This estimator was deemed the most appropriate because the distributions of measures of negative exchanges were skewed, which might lead to heterogeneity of residual variance. Age, sex, marriage, SES, living arrangement, number of chronic illnesses, IADL, and network sizes were controlled in the analyses.

For the measures of positive and negative exchanges, the minimum possible value was replaced (i.e., 1 = *never*) if there was no network member in that category (the numbers of cases with zero network members were 323 for close vertical family, 789 for peripheral vertical family, 662 for close horizontal family, 563 for peripheral horizontal family, 869 for close nonfamily, and 295 for peripheral nonfamily). Those who scored 0 on a network size measure also scored 1 in the corresponding positive and negative exchange measures. Thus, the effects of the missing value replacement on the well-being variables would be eliminated by the presence of the network size variables, whereas the missing value replacement allowed the use of the whole sample for examining the simultaneous effects of positive and negative exchanges across relationship type and closeness categories. Predictors and outcomes were standardized before entering the regression models.

In addition, to provide more empirical evidence for the negativity effect or the domain-specific effect model, the overall effects of positive and negative exchanges were compared. The difference in the overall effects of positive and negative exchanges was tested by comparing models

with and without constraints on their regression coefficients using an *F* test (Chatterjee & Hadi, 2006, p. 70; see Appendix). An equality constraint was applied such that the sum of the six coefficients (β s) regarding positive exchanges was equal to the sum of the six coefficients regarding negative exchanges (the signs of which were reversed) for each of the measures of well-being. The standardization of the variables created a common metric for combining the coefficients.

RESULTS

Descriptive Results

Across the 1,005 participants, 11,200 network members were reported, including 3,986 vertical family members (78% close), 3,234 horizontal family members (38% close), and 3,980 nonkin (8% close). At the network member level, relationship type and closeness were strongly related, $\chi^2(2) = 3,951.52, p < .001$; Cramer's $V = .59$, indicating that vertical family members were more likely considered as close and nonkin as peripheral. This is consistent with cross-cultural findings (e.g., Japan, Germany, and the United States) on the social network composition of older adults (Antonucci & Akiyama, 2004; Neyer & Lang, 2003).

Descriptive statistics and correlations of the major study variables are presented in Table 1. Correlations among the social exchange variables, both within and across relationship types and levels of closeness, were weak, ranging from $-.28$ to $.28$. However, the correlations between network size and positive exchanges were moderate ($r_s = .32$ – $.63, p_s < .001$). Thus, the variance inflation factors (VIFs) were examined in regression analyses for possible multicollinearity problems.

Well-being as a Function of the Source of Social Exchanges

Results of the regression analyses are presented in Table 2. Altogether, the predictors accounted for 12%–22% of the variances in the measures of well-being. The VIFs of the predictors ranged from 1.03 to 1.89, which were well within acceptable limits. The standardized regression coefficients revealed that older and female participants reported better well-being. As expected, fewer chronic illnesses, no difficulty in IADL, and more network members (especially of peripheral nonfamily and close vertical family) were associated with better well-being. Regarding positive and negative exchanges, those from close vertical family and close horizontal family members were associated with well-being in the predicted directions. Moreover, positive and negative exchanges with peripheral vertical family members were related to well-being, whereas only positive exchanges (but not negative exchanges) with peripheral horizontal family members were related to well-being. The effects of social exchanges within the peripheral network were less consis-

tent across the various measures of well-being. Finally, there were no significant effects coming from the nonfamily.

Sensitivity checks.—Sensitivity analyses were conducted to examine whether the results were affected by missing value replacement (i.e., by 1 = *never*). Because no participants have reported all six categories of social relationships, a full analysis without value replacement was not possible. Alternatively, separate analyses were conducted with positive and negative exchanges aggregated (a) within relationship types only (without regard to closeness so as to ensure a subsample without zero network member in any category; $n = 351$) and (b) within closeness categories only (without regard to relationship type; $n = 829$). After controlling for the covariates, the regression coefficients were slightly attenuated as compared with the analysis based on the whole sample, probably due to decreased variability in the variables. However, statistical significance and the relative effect size of the predictors remained essentially the same. Thus, the results were not affected by missing value replacement.

Supplementary analyses.—To strengthen the interpretation of the findings, two sets of supplementary analyses were conducted. First, it was not clear to what extent the findings were influenced by the characteristics of the sample (e.g., marital status and health status). To examine whether the effects of social exchange might be moderated by health and sociodemographic factors, we extended the preceding analyses by including interaction terms between social exchange variables and age, sex, marriage, SES, living arrangement, chronic illnesses, and IADL. Each moderator, being associated with 12 interaction terms, was tested in a separate regression model. Across all the analyses, the only significant interactions were found in negative exchanges with peripheral nonfamily members in which the relationship between negative exchanges and well-being was generally more negative in older participants and women. Both of these effects were small. Thus, the study findings generally held regardless of health and sociodemographic characteristics.

Second, the findings might be due, in part, to the fact that most of the close network members were also vertical family members. Thus, the contributions of horizontal family and nonfamily members might have been underestimated when their effects were estimated together with the greater number of vertical family members. Therefore, the regression analyses were repeated in a subsample of those without any vertical family member. Of this subsample ($n = 295$), 984 horizontal family members (64% close) and 1,158 nonkin (21% close) were reported. Controlling for the covariates, positive and negative exchanges with close horizontal family members were associated with virtually all measures of well-being, and negative exchanges with peripheral horizontal family members were also associated with PA (Table 3). These results were similar to those reported in Table 2 for

Table 1. Descriptive Statistics of Well-being Measures and Social Exchanges (broken down by relationship category and closeness; $N = 1,005$)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
1. Depression																						
2. Life satisfaction	-.51																					
3. Positive affect	-.62	.59																				
4. Negative affect	.69	-.49	-.58																			
5. Net. size (VF-C)	-.10	.20	.17	-.07																		
6. Net. size (VF-P)	-.05	.07	.04	-.08	-.01																	
7. Net. size (HF-C)	-.07	.03	.00	.02	.16	-.15																
8. Net. size (HF-P)	-.09	.11	.11	-.08	.16	-.02	-.07															
9. Net. size (NF-C)	.03	.06	.01	.05	.19	-.06	.03	.10														
10. Net. size (NF-P)	-.19	.09	.22	-.07	.07	-.15	.11	-.13	.04													
11. Pos. exch. (VF-C)	-.18	.22	.21	-.14	.32	.22	-.14	.18	-.25	.10												
12. Pos. exch. (VF-P)	-.06	.02	.07	-.07	-.05	.63	-.15	.07	-.08	-.14	.28											
13. Pos. exch. (HF-C)	-.01	.01	.01	-.02	-.22	-.18	.51	-.03	-.03	.01	-.22	-.17										
14. Pos. exch. (HF-P)	-.14	.14	.11	-.09	.16	.03	-.11	.53	-.09	-.08	.28	.10	-.06									
15. Pos. exch. (NF-C)	.03	-.11	-.01	.04	-.23	-.07	.02	-.14	.62	-.02	-.28	-.10	.03	-.13								
16. Pos. exch. (NF-P)	-.07	.07	.14	-.01	.06	.09	.07	-.02	-.06	.44	.13	-.05	.06	.12	-.03							
17. Neg. exch. (VF-C)	.12	-.16	-.12	.12	-.02	.15	-.10	.06	-.09	.02	.21	.15	-.15	.03	-.10	.04						
18. Neg. exch. (VF-P)	.07	-.11	-.05	.12	-.01	.11	-.06	-.01	-.03	-.02	.07	.22	-.05	-.04	-.04	.01	.22					
19. Neg. exch. (HF-C)	.12	.12	.10	.08	.12	.05	.13	-.05	-.03	-.01	-.08	-.05	.22	-.04	-.03	.02	.04	-.02				
20. Neg. exch. (HF-P)	.01	-.05	-.02	.01	-.04	.00	-.04	.02	-.02	-.03	-.01	.02	-.05	.09	-.02	-.01	.09	.02	-.01			
21. Neg. exch. (NF-C)	-.01	.02	.01	-.02	-.03	-.02	.04	.01	.08	.00	-.06	-.02	-.02	-.01	.23	.00	-.02	-.01	.00	-.01		
22. Neg. exch. (NF-P)	.08	-.05	-.05	-.05	-.02	-.02	.00	-.02	-.04	.01	.02	-.03	.04	-.01	-.04	.10	.11	.01	.26	.00	-.01	
<i>M</i>	0.85	4.54	3.10	1.78	3.07	0.89	1.22	2.00	0.33	3.63	2.00	1.21	1.40	1.41	1.19	1.81	1.14	1.02	1.02	1.01	1.01	1.01
<i>SD</i>	1.26	1.18	0.94	0.80	3.76	2.30	2.60	3.37	1.14	4.00	0.86	0.47	0.64	0.56	0.53	0.65	0.32	0.17	0.12	0.13	0.13	0.09

Notes: C = close; exch. = exchanges; HF = horizontal family; neg. = negative; NF = nonfamily; Net. = network; P = peripheral; pos. = positive; VF = vertical family. Correlations $\geq |0.071, 0.081, \text{ and } 0.111$ were significant at alpha levels of .05, .01, and .001 respectively.

Table 2. Regression of Sociodemographics, Health, Network Sizes, and Social Exchanges (broken down by relationship category and closeness) on Well-being Measures ($N = 1,005$)

	Depression	Life satisfaction	Positive affect	Negative affect
Age	-.06	.21***	.07*	-.14***
Women	-.04	.14***	.08**	-.00
Married	-.04	-.02	-.02	-.00
Socioeconomic status	-.01	-.05	-.02	-.02
Living alone	-.00	-.05	.03	.03
Chronic illnesses	.11***	-.09**	-.17***	.11***
IADL	-.14***	.07*	.07*	-.10**
Network sizes				
VF-C	-.03	.08**	.12***	-.00
VF-P	-.04	.07*	.03	-.06*
HF-C	-.07**	.04	-.00	.04
HF-P	-.03	.05	.09**	-.05
NF-C	.03	.02	.03	.05
NF-P	-.21***	.09**	.22***	-.11***
Positive exchanges				
VF-C	-.15***	.22***	.20***	-.14***
VF-P	-.05	-.02	.08*	-.04
HF-C	-.05	.08*	.10**	-.10**
HF-P	-.08*	.04	-.00	-.02
NF-C	-.05	-.06	.05	-.02
NF-P	.06	.01	.02	.04
Negative exchanges				
VF-C	.13**	-.15***	-.13***	.11***
VF-P	.05	-.07***	-.03	.10**
HF-C	.09**	-.11***	-.07**	.06*
HF-P	-.01	-.02	.01	-.01
NF-C	-.00	.04	.00	-.02
NF-P	.05	.00	-.01	.02
R ²	.17	.22	.19	.12

Notes: C = close; HF = horizontal family; IADL = instrumental activities of daily living; NE = negative exchanges; NF = nonfamily; P = peripheral; PE = positive exchanges; VF = vertical family. Standardized regression coefficients of the predictors are shown.

* $p < .05$; ** $p < .01$; *** $p < .001$.

horizontal family members. In contrast, negative exchanges with peripheral nonfamily members were associated with depression, but there were no other effects related to nonfamily members. Thus, distant kin, who were more likely to be placed in the inner circle, were more important than nonkin to those without immediate kin.

Equivalence Between Positive and Negative Exchanges: Overall Effects

Results of the model comparisons revealed that the overall effects of positive exchanges on well-being were not different from those of negative exchanges (for which the signs of the coefficients were reversed before summation) across all measures of well-being except PA, summed β s = .46 vs. .22 for positive and negative (signs reversed) exchanges, respectively; $F(1, 979) = 4.52, p < .05$. However, the asymmetry of the two measures might introduce bias into the analysis, favoring positive exchanges that had more items. We selected all possible two-item combinations of the received emotional support items and all possible two-item

Table 3. Regression of Sociodemographics, Health, Network Sizes, and Social Exchanges (broken down by relationship category and closeness) on Well-being Measures for Participants Without Vertical Family Members ($n = 295$)

	Depression	Life satisfaction	Positive affect	Negative affect
Age	-.12*	.22***	-.02	-.14*
Women	-.03	.16**	.09	-.01
Married	.01	-.00	.03	.02
Socioeconomic status	.05	-.05	-.08	.01
Living alone	-.03	-.08	-.02	.05
Chronic	.06	-.14**	-.13**	.05
IADL	-.17**	.04	.04	-.09
Network sizes				
H, C	-.05	.04	.05	.06
H, P	.01	.07	.10	-.07
N, C	.05	.04	.02	.06
N, P	-.23***	.10	.30***	-.14**
Positive exchanges				
H, C	-.13*	.10*	.11*	-.11*
H, P	-.08	.06	.05	-.06
N, C	-.07	-.07	.08	-.06
N, P	.03	.05	.02	.01
Negative exchanges				
H, C	.10	-.13*	-.12*	.10*
H, P	-.00	-.02	-.06**	.02
N, C	.01	.05	.01	-.00
N, P	.10*	.01	-.07	.03
R ²	.13	.19	.17	.08

Notes: Chronic = number of chronic conditions; C = close relationships; IADL = instrumental activities of daily living; H = horizontal family; N = nonfamily; NE = negative exchanges; P = peripheral relationships; PE = positive exchanges. Standardized regression coefficients of the predictors are shown.

* $p < .05$; ** $p < .01$; *** $p < .001$.

combinations of the received instrumental support items in order to create measures of positive exchanges that were comparable to that of negative exchanges. In none of these analyses were the overall effects between positive and negative exchanges different.

DISCUSSION

The present findings suggested that relationship type and closeness need to be considered together when trying to make sense of the relationship between social exchanges and well-being. Other than nonkin, close partners tended to have more effects on well-being than peripheral partners, and social exchanges with close vertical family members were most strongly associated with well-being. In addition, partially supporting the domain-specific effect, but not the negativity effect, model (Ingersoll-Dayton et al., 1997), the overall effect of positive exchanges on PA was greater than that of negative exchanges. However, similar patterns were not found for other measures of well-being. For this reason, subsequent discussion will generally not make distinction between the two kinds of exchanges.

Consistent with our expectations, social exchanges with vertical and horizontal family members, but not those with nonfamily members, were associated with well-being. Moreover, between vertical and horizontal family members,

the former were more consistently and strongly related to well-being than the latter. On the whole, the effects of social exchanges with horizontal family members were between those of the other two relationship types, and the importance of the horizontal family became more pronounced when vertical family members were not present. Thus, for Chinese older adults, having good relationships, in terms of the quality of social exchanges, with family members is much more important than the same with friends. Unlike friendships, blood ties cannot be discontinued easily, and this is especially true for Chinese and Asian societies. Hence, the quality of interactions with family members, whether positive or negative, is crucial to the daily well-being of Chinese older adults. Moreover, under the context of familism, Chinese family members tend to live close to each other, making them more physically available for mutual support (Bian, Logan, & Bian, 1998). Thus, it should not be surprising that relationships with kin carry more weight on well-being than those with nonkin. On the whole, the vertical family, the horizontal family, and the nonfamily represent a hierarchy of relationship preference for Chinese older adults. Although more research in other cultures is needed, we expect that similar findings will be observed in cultural groups, such as Hispanic, African, and African-American, which similarly value the family and extended kinship (Cheng & Siankam, 2009; de Vos, 1990; Dilworth-Anderson, 1992).

The Value of Friendship in Later Life

According to the present findings, the quality of interactions with friends does not contribute to well-being beyond that with family members. The only exception was found in depression but only when vertical family members were not in the network. These findings echo the observation even among Western scholars about the declining significance of friends in midlife due to responsibilities and intimacies within the family and perhaps also in old age when physical and financial constraints may limit interactions outside the family (Blieszner & Roberto, 2004; Carbery & Buhrmester, 1998). Within Chinese (and generally Asian) cultures, Cheng and colleagues (2009) further suggested that interactions with friends might be less well-being enhancing than those in Western contexts because of the norm of reciprocity and social harmony in these cultures. These collectivistic norms regulate all social behaviors but are more applicable to nonkin than to kin. Under these norms, one is discouraged from expressing one's personal concerns that may signify problems in the group or may disrupt harmony and to reciprocate when favors, whether wanted or desirable, are received. The costs of seeking help from friends are therefore higher in Chinese and Asian societies than in Western societies. Thus, on the whole, the quality of friendship may not have any significant impact on the well-being of Chinese older persons.

Does it mean that friends, for the most part, do not matter to Chinese older adults? This is apparently not the case. Although the quality of interactions with friends was unrelated to well-being, the number of friends was significantly related to all well-being measures. Although this relationship was specific to friends in the middle and outer circles, because there were so few friends placed in the inner circle, the effect could be said to apply to friends in general. A larger circle of friends is important to provide socializing functions, and social activities have been found to be a robust predictor of well-being (Okun, Stock, Haring, & Witter, 1984). Because social activities are usually emotionally arousing (Larson et al., 1986), it was not surprising that the effects of the friendship network were stronger for measures of affect and depression than for life satisfaction (see Table 2). Thus, the importance of friendship may depend on the specific research focus and operationalization of friendship support. It appears that universally, researchers who focus on activities will likely find friendship to be quite rewarding (see, e.g., Larson et al., 1986; Wood & Robertson, 1978 for studies on Western samples), and the number of friends may just be a proxy for the range and frequency of social activities. Those who study the quality of social exchanges or support functions, however, may not find robust and consistent effects across cultures. In general, studies of Asian older populations have found that friends and neighbors are not considered to be reliable or effective sources of support when needs arise (Koyano, Hashimoto, Fukawa, Shibata, & Atsuaki, 1994; Yeung & Fung, 2007).

Close Versus Peripheral Partners

This is the first study examining the effect of social exchanges by degree of closeness. As expected, positive and negative exchanges with close relationship partners, those most central to one's life, were more impactful than peripheral partners on one's well-being. However, closeness per se was not sufficient to differentiate the importance of different relationship partners. One must take into account the nature of the relationship. The order of influence, from strongest to weakest, was close vertical family, close horizontal family, peripheral vertical family, peripheral horizontal family, and nonfamily (regardless of closeness). Thus the idea of close versus less close appears to be a more important distinction for family members than it is for friends. Across cultures (e.g., Antonucci & Akiyama, 2004), immediate kin tend to be placed in the inner circle. Neyer and Lang (2003) believe that this is due to the evolutionary adaptiveness of investment in kin that enhances continuation of the family line. At the same time, when an immediate kin member is "excluded" from the inner circle, it might signal a certain degree of detachment from the relationship. The opposite may be true for distant kin. Distant kin tend to be placed in the middle or even outer circle due to decreasing genetic relatedness (Neyer & Lang, 2003) or functional

significance (Cheng et al., 2009), but the most intimate ones are nonetheless placed in the inner circle. Thus, network circle placement might carry different meanings that are beyond subjective closeness for different blood ties, a question that has yet to be explored in the literature. Because there were so few friends in the inner circle, there might not be sufficient statistical power to render a firm conclusion on the importance of subjective closeness with friends. On the whole, on top of the hierarchy of relationship preference, the influences of vertical and horizontal family members were moderated by subjective closeness. Thus, a strong safety net for Chinese older adults may not be formed exclusively by immediate family members but by a broader network of kin, including distant and immediate family, who are emotionally close.

Study Limitations and Future Research Directions

The present studies suffered from several limitations. First, we did not distinguish between network members placed in the middle circle versus those in the outer circle. However, had we done so, missing values would dominate a number of relationship categories (e.g., vertical family, outer circle) in ways that create more intractable problems for data analysis. In the present analyses, the low number of nonfamily members in the inner circle was a case in point, making it difficult to yield reliable estimates of the effects for this category of network members. Second, future research should adopt longitudinal designs to investigate possible causal relations between social exchanges and subjective well-being, which is not possible in the present cross-sectional design.

Lastly, the centrality of kinship needs to be further investigated in populations with significant frailties. As an older person becomes more physically dependent, family members who are more suited to provide day-to-day assistance (Felton & Berry, 1992) may become even more important, and the roles of friends may be further diminished. For those without immediate kin, the supportiveness of distant kin under such circumstances remains unclear. These are important questions, but they apply only to community-dwelling persons. Once a person moves to an institution, the roles of network members, and even relationships with them, are redefined (for a discussion, see Cheng, 2009; Cheng, Lee, & Chow, 2010). The desirability of different social ties may change as a result of changing health and environmental contexts.

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APPENDIX

The F test for model comparison can be expressed in terms of the variances explained and the degrees of freedom of the full and constrained models, where R_p^2 is the variance explained in the full model and R_q^2 is the variance explained in the constrained model, p is the degrees of freedom of the full model and q is the degrees of freedom of the constrained

model. The F value and the degrees of freedom for testing the hypothesis are

$$F = \frac{\frac{R_p^2 - R_q^2}{p - q}}{\frac{1 - R_p^2}{n - p - 1}}, \quad df = p - q \cdot n - p - 1$$