Benefits of Negative Social Exchanges for Emotional Closeness

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Negative exchanges in social relationships have traditionally been studied as having negative consequences. This study explored whether they might have positive effects for relationship closeness. The sample included 351 adults, aged between 18 and 91 years, residing in Hong Kong, China. Closeness of social partners to the participants was measured by the Social Convoy Questionnaire, and the levels of negative exchanges and social support from each social partner were assessed. Multilevel analyses revealed that more negative exchanges were associated with a more positive change in closeness over a 2-year period, even after statistically controlling for social support and sociostructural characteristics of the participant and the social partner. Findings extended our knowledge on the positive effects of negative exchanges and their moderating conditions.

Key Words: Chinese—Closeness—Negative social exchange—Social network—Social support.

SOCIAL support has traditionally been studied as having positive effects on well-being (see reviews by Cobb, 1976). Rook (1984) suggested that social interactions could sometimes be negative, and these negative social exchanges had adverse consequences for psychological well-being. Since then, there has been a growing interest in assessing the outcomes of negative social exchanges. This line of research almost exclusively focuses on the negative effects of negative social exchanges on well-being (Antonucci, Akiyama, & Lansford, 1998; Rook, 2001). However, in cases when individuals are not willing to or are unable to breakup a relationship, negative social exchanges may create ambivalence (Uchino, Holt-Lunstad, Smith, & Bloor, 2004). This ambivalence may motivate a reappraisal of the negative exchange: If I am not willing to give up on someone who annoys me, this person must be important to me. In this study, we attempted to explore the positive side of negative social exchanges by testing whether they could longitudinally contribute to emotional closeness. In this study, we employed a social network paradigm to examine whether more negative social exchanges in a relationship were related to a more positive change in emotional closeness of that relationship over a 2-year period. We also examined whether such a positive association would be stronger for older adults than for younger adults and stronger for kinship than for other relationships.

Negative Social Exchanges and Their Consequences

Negative social exchanges are defined as social interactions that are perceived as aversive by the individual. They usually involve interactions in which the social partner gives critical and undesired advice, breaks promises, and otherwise annoys or angers the individual (Antonucci et al., 1998; Rook, 1984). They are associated with lower psychological well-being (lower life satisfaction, higher loneliness, higher depression, and lower daily mood) and poorer physical health among both younger (Finch, Okun, Pool, & Ruehlman, 1999) and older adults (Antonucci et al.; Rook, 1984, 2001). Although more recent findings attribute this association to the mediating role of appraisal (Newsom, Rook, Nishishiba, Sorkin, & Mahan, 2005), these findings have nevertheless confirmed that negative social exchanges are negatively associated with positive appraisals (how satisfied the individual is with the social exchange) and positively associated with negative appraisals (how bothered the individual is with the social exchange), lowering well-being and heightening distress. In sum, there is almost unanimous consensus that negative social exchanges have negative consequences.

To the best of our knowledge, no study has directly examined whether negative social exchanges might have some positive consequences. Yet, some cross-sectional correlations have been observed, suggesting that negative social exchanges are more likely to occur in close relationships. For instance, Akiyama, Antonucci, Takahashi, and Langfahl (2003) found in two representative samples of Americans and Japanese that although negative social interactions for all relationships declined with age, this was not the case for spousal relationship. Fingereman, Hay, and Birditt (2004) directly asked Americans aged 13–99 years to classified social ties into close, problematic, or ambivalent (having both close and problematic elements). They found that people were more likely to classify ties within the family (e.g., spouse, son or daughter, parent, sibling) as more ambivalent than more distal ties. More relevant to the present study, they also found that relationships rated as closer were more
likely to be classified as ambivalent. Moreover, Fingerman (1998) asked middle-aged and older European American grandparents to each name a grandchild who was the most special (i.e., having a meaningful and special relationship to the participant), worrisome, or annoying. Many of these grandparents, who had more than one grandchild, classified the same grandchild as special, as well as worrisome and annoying.

These associations between not entirely positive or even negative social exchanges and closeness are generally taken as an additional reason to believe that negative social exchanges are particularly harmful to well-being (Newsom et al., 2005): It hurts to have negative social exchanges; it hurts even more when they come from someone close. However, there are reasons to hypothesize that this relationship may, at least in part, run in the opposite direction: It may be the case that the existence of negative social exchanges increases the emotional closeness of the relationship. In fact, conflicts being an integral part of human life, leading to growth and development, has been a main theme in the psychodynamic tradition (A. Freud, 1966; S. Freud, 1962) and the neo-analytical tradition (Erikson, 1968, 1982). In addition, in social psychology, there has been a long tradition in studying how people are motivated to maintain consistency between beliefs, attitudes, and behaviors (known as cognitive consistency; Abelson et al., 1968). Applying this theoretical tradition to the case of negative social exchanges, individuals may ask themselves why they have been willing to put up with the negative exchanges with this particular social partner. This ambivalence (Uchino et al., 2004) may lead to distress in the short run. But in the long run, to the extent that the relationship does not get broken up, individuals may be motivated to reduce the cognitive dissonance (Festinger, 1957) by emphasizing the emotional closeness of the relationship. Alternatively, they may infer their attitude toward this social partner from their own behaviors (self-perception; Bem, 1965) and conclude that the person must be emotionally close to them for them to tolerate the negative social exchanges.

The Moderating Roles of Kinship and Age

To the extent that negative social exchanges indeed contribute to the emotional closeness of a relationship, this association is more likely to occur among kin than among non-kin. There are both sociological and biological rationales for this hypothesis. From the sociological perspective, contact frequency is generally higher among kin than among non-kin, leaving more room for negative social exchanges to occur in kinships (Akiyama et al., 2003). Yet, kinships are generally longer lasting and are more difficult to replace than are non-kin relationships (Litwak, 1981), making kinships harder to disband in the face of negative social exchanges. Individuals may thus be more motivated to reduce the cognitive dissonance of having negative exchanges by emphasizing the emotional closeness of the relationship. They may also be more likely to infer from the maintenance of a kinship that the social partner must be important to them for them to tolerate the negative exchanges. From the biological perspective, Hamilton (1964) identified kin selection as a key mechanism for inclusive fitness. Because individuals may not be able to identify copies of their genes readily, “love” was created to motivate individuals to “invest in kin” (Davis & Daly, 1997, p. 413). Confirming this postulate, Neyer and Lang (2003) found among five samples that kinship was associated with emotional closeness such that the genetic relatedness with relationship partners predicted emotional closeness. Because kin is so important for inclusive fitness, and emotional closeness within kin exists to motivate investment in kin, it follows that the desire to maintain cognitive consistency will be stronger when negative exchanges occur among kin than among non-kin. As a result, to the extent that cognitive consistency can be restored by increasing emotional closeness in the face of negative exchanges, this effect should be stronger among kin than among non-kin.

Moreover, such an effect should also be stronger with age. Socioemotional selectivity theory (Carstensen, Isaacowitz, & Charles, 1999) postulates that as we age, we perceive future time as increasingly limited. We thus shift our focus from long-term future-oriented goals to emotionally meaningful goals that have more immediate payoffs. Although prior studies that tested the theory in social relationships have revealed that individuals select out less close social partners from their social networks as they age (e.g., Carstensen, 1992; Lang, 2000), it remains unclear how aging individuals may treat social partners who provide them with negative social exchanges.

Given that older adults (Carstensen, Pasupathi, Mayr, & Nesselroade, 2000) are more likely to experience emotion poignancy—the coexistence of positive and negative emotions, one may argue that the coexistence of negative social exchanges and emotional closeness may be more tolerable to them. Indeed, compared with younger and middle-aged adults, older adults have better emotion control and greater mood stability (Gross, Carstensen, Tsai, Skorpen, & Hsu, 1997; Lawton, Kleban, Rajagopal, & Dean, 1992). Furthermore, aging also comes with the abilities to integrate different aspects of life (Erikson, 1982) and to recognize and appreciate the complex interplays between cognition and emotion (Labouvie-Vief, DeVoe, & Bulka, 1989). The degradation of cognitive capacity in old age may also prevent older adults from processing the more difficult negative information and thereby enable them to experience affect that is less negative and more positive (Labouvie-Vief, 2003). All these age-related processes may make older adults more likely than their younger counterparts to increase emotional closeness in the face of negative social exchanges.
In this study, we employed a social network paradigm to examine the longitudinal relationship between negative social exchanges and emotional closeness among Chinese aged 18–91 years. We predicted that negative social exchanges in a relationship would be related to a more positive change in emotional closeness of that relationship over a 2-year period. We also explored whether such a positive association would be stronger for kin than for non-kin and for older adults than for younger adults.

**Method**

**Participants**

The initial phase of this study was conducted between 2003 and 2004, with a baseline sample of 596 participants (66% women). The mean age was 42.26 years ($SD = 19.33$). Participants were recruited by convenience sampling from universities, community centers, and other public places and stratified by age group (young, middle-aged, and old) and sex. The demographic characteristics of this sample were generally representative of the Hong Kong population (United Nations Statistics Division, 2007a, 2007b). Two years after the initial phase, 360 participants were successfully followed up, with a response rate of 60.4%. The response rate was comparable to those of similar studies conducted in Hong Kong (e.g., Yeung & Fung, 2007). Nine participants with incomplete responses were excluded in the analysis, resulting in a final sample of 351 participants, aged 18–91 years ($M = 42.83, SD = 20.98$) with 69% women. Sixteen percent of the participants had no formal education, 15% had primary education, 26% attained secondary education, and more than 40% attained tertiary education or above. Almost 40% of the participants were married and the remaining were single (41%), separated or divorced (2%), or widowed (17%). These participants did not differ from the baseline sample in terms of age, $t(594) = .32, ns$ or perceived health, $t(594) = .71, ns$. However, those who participated in both phases of the study were more likely to be women, $\chi^2 (1) = 7.40, p < .01$ and single or widowed, $\chi^2 (3) = 21.06, p < .001$ and were less educated, $t(588) = 2.02, p < .05$, than those who only participated in Phase 1.

**Procedure**

Participants first completed the Wechsler Digit Symbol Test (Wechsler, 1983) by matching symbols with digits in a 90-s period. The total number of matches successfully made during the time period was taken as a rough estimate of non-verbal cognitive ability. Participants were screened out from the study if they demonstrated difficulties in completing the test. The remaining participants completed the measures described subsequently. The measures were identical in both phases of the study.

**Measures**

Participants responded to questions concerning themselves (the participant level) and each of their social partners (the social partner level).

**Participant level measures.**—Age, sex, education level, and marital status of the participants were reported. **Perceived health** was measured by the Wahler Physical Symptoms Inventory (Wahler, 1983). Participants reported whether they had any of 42 physical symptoms, on a 6-point scale ranging from 1 (*none*) to 6 (*almost every day*). A mean score of the ratings was computed, with higher score indicating more perceived health symptoms. **Network size**, defined as the total number of social partners in Phase 1, was also measured (see next section).

**Social partner level measures.**—**Emotional closeness** was measured by the Social Convey Questionnaire (Kahn & Antonucci, 1980). Participants were asked to nominate social partners to one of the three concentric circles that surrounded the word “I.” The inner circle indicates very close social partners that “one cannot imagine life without.” The middle and outer circles indicate rather close social partners and less close social partners, respectively. The total number of social partners nominated in these circles in Phase 1 represented the network size. When participants nominated social partners to the circles, they provided us with the names of the social partners. We then matched social partners across the two phases based on these names. Although participants were informed that they could provide us with first names or nicknames of their social partners, many of them provided us with full names, allowing us to fully match most of the social partners. In cases when a name provided in one phase might be the derivative of a name provided in the other phase (e.g., Fung Hoi Lam vs. Hoi Lam, Ah Lam vs. Sister Lam, or a full name vs. its initials), we checked the age, sex, and the type of relationship reported in the two phases. We considered the names to represent the same social partner if all the demographic information fully matched across the phases.

In both phases, social partners nominated to the outer circle were given a closeness score of 1, and those nominated to the middle and inner circles were scored 2 and 3, respectively. A score of 0 was assigned to each social partner who was nominated in Phase 1 but no longer remained in any circle in Phase 2. Social partners who were newly introduced in Phase 2 were not included in the current analysis, as information on social interaction and closeness in Phase 1 was not available. **Change in emotional closeness** was computed by subtracting the closeness score in Phase 1 from that in Phase 2. We used change scores on emotional closeness over time as our dependent variable because (a) using change scores is consistent with the data analytical procedure of a prior study (Lang, 2000); (b) an analysis using closeness at Phase 2 as the dependent variable and
controlling for closeness at Phase 1 yielded a similar pattern of results. The change scores were then multiplied by a factor of 10. This transformation ensured that the magnitudes of the regression coefficients were clearly shown within two decimal places. A score of 0 signified no movement among social circles over time, whereas each increment of 10 reflected moving one circle toward the inner circle.

Perceived social interaction, including received social support and negative exchanges, was assessed by a measure used in Lang and Schütze (2002). Participants rated each social partner on nine items, on a 5-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). Two orthogonal factors, with eigenvalues of 3.81 and 1.73, were extracted from a principal component factor analysis using the nine items. The two factors explained 61.60% of the variance. Six items loaded on one factor and were taken as the items measuring social support. The remaining three items loaded on another factor and were taken as items measuring negative exchanges. They included whether the social partner (a) was willing to help with chores, (b) provided assistance in difficult situations, (c) gave good advice, (d) showed appreciation of the participant, (e) cheered the participant up when he or she is down, and (f) could be confided in about personal matters. The remaining three items loaded on another factor and were taken as items measuring negative exchanges. They included whether the social partner (a) gave critical, undesired advice, (b) failed to keep promises, and (c) let the participant down. Mean scores of social support and negative exchanges were computed for each social partner of each participant, with higher scores indicating greater support/negative exchanges. The internal reliabilities of the subscales, as indexed by alpha, were .88 for social support and .63 for negative exchanges. Although the reliability for negative exchanges was not high, conducting the analyses with each individual item yielded the same pattern of results as the analysis conducted with the mean score.

Age and sex of each social partner, duration of the relationship, and the type of relationship of the social partner to the participant were also reported. Following the practice of Neyer and Lang (2003), a kinship coefficient was developed to indicate the strength of kin relatedness (known as genetic relatedness in Neyer & Lang), with a larger coefficient representing a stronger blood relationship. Specifically, parent, sibling, and child were scored 0.5; grandparent and grandchild were scored 0.25; other types of kinship were scored 0.125; and non-kin relationships (i.e., no blood relation) were scored 0.

**Results**

**Descriptive Statistics**

The means or percentages, standard deviations, and correlations between variables in Level 1 (social partner level) and variables in Level 2 (participant level) are presented in Table 1. Characteristics of social partners who remained in or were excluded from the social circles by Phase 2 are presented in Table 2. More than half of the social partners who were reported in Phase 1 remained in the social circles in Phase 2 (52.71%). Social partners who were excluded from the social circles in Phase 2 had weaker kinship (unstandardized coefficient ($\beta = -.18$, $p < .001$) and shorter duration of relationship ($\beta = -4.25$, $p < .001$) and provided less social support ($\beta = -.23$, $p < .001$) and fewer negative exchanges ($\beta = -.23$, $p < .001$) than did those who remained.

<table>
<thead>
<tr>
<th>Table 1. Descriptive and Correlation Analyses between SP-Level Variables (Level 1, $N = 5,067$) and Participant-Level Variables (Level 2, $n = 351$)</th>
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</thead>
<tbody>
<tr>
<td><strong>SP-level variables</strong></td>
</tr>
<tr>
<td><strong>M</strong></td>
</tr>
<tr>
<td>1. Age of SP (Years)</td>
</tr>
<tr>
<td>2. Sex of SP (% women)</td>
</tr>
<tr>
<td>3. Kinship coefficient (0.0–0.5)</td>
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<tr>
<td>4. Duration of relationship (years)</td>
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<tr>
<td>5. Social support (1–5)</td>
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<tr>
<td>6. Negative exchanges (1–5)</td>
</tr>
<tr>
<td>7. Change in emotional closeness (−30 to 20)</td>
</tr>
<tr>
<td><strong>Participant-level variables</strong></td>
</tr>
<tr>
<td><strong>M</strong></td>
</tr>
<tr>
<td>8. Age of participant (years)</td>
</tr>
<tr>
<td>9. Sex (% women)</td>
</tr>
<tr>
<td>10. Education level (1–5)</td>
</tr>
<tr>
<td>11. % Married</td>
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<tr>
<td>12. Perceived symptoms (1–6)</td>
</tr>
<tr>
<td>13. Network size (number of people)</td>
</tr>
<tr>
<td>14. WPM of social support (1–5)</td>
</tr>
<tr>
<td>15. WPM of negative exchanges (1–5)</td>
</tr>
</tbody>
</table>

**Notes:** SP = social partner; WPM = within-participant mean (average across the associated values among SPs within each participant). *$p < .05$; **$p < .01$; ***$p < .001$. 

Table 2. Characteristics of SPs Who Remained in or Were Excluded From the Social Network (N = 5,067)

<table>
<thead>
<tr>
<th>Characteristics of SP at Time 1</th>
<th>SPs remained in the social network (n = 2,671)</th>
<th>SPs excluded from the social network (n = 2,396)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Closeness increased</td>
<td>393 (7.76)</td>
<td>2,396 (47.29)</td>
</tr>
<tr>
<td>Closeness remained</td>
<td>1,917 (37.83)</td>
<td></td>
</tr>
<tr>
<td>Closeness decreased</td>
<td>361 (7.12)</td>
<td></td>
</tr>
<tr>
<td>Characteristics of SP at Time 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age of SP (years)—M (SD)</td>
<td>36.58 (18.11)</td>
<td>35.11 (18.81)</td>
</tr>
<tr>
<td>Sex of SP (0 = men, 1 = women)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 = women—%</td>
<td>54.21%</td>
<td>56.34%</td>
</tr>
<tr>
<td>Kinship coefficient</td>
<td>0.27 (.23)</td>
<td>0.08 (.15)</td>
</tr>
<tr>
<td>(0.0-0.5)—M (SD)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relationship duration (years)—M (SD)</td>
<td>24.09 (16.23)</td>
<td>16.34 (16.14)</td>
</tr>
<tr>
<td>Social support (1–5)—M (SD)</td>
<td>3.45 (.86)</td>
<td>3.28 (.80)</td>
</tr>
<tr>
<td>Negative exchanges</td>
<td>2.31 (.70)</td>
<td>2.11 (.71)</td>
</tr>
</tbody>
</table>

Notes: SP = social partner.

*a* The percentages were based on the total sample of 5,067 SPs.

*b* Using the characteristics of the SPs as the dependent variables, significant differences were found between SPs remaining in and those excluded from the social network using a multilevel model that took the nested structure into account. All p values were less than the .001 level.

**Multilevel Models**

A series of four models was examined and compared using multilevel analyses. The dependent variable was the change in emotional closeness across the phases. All other variables were entered into the following models using their scores in Phase 1. All nonbinary variables were centered at their grand means in the analyses. The first model (Model 0) was the unconditional model, which partitioned the variance between Level 1 and Level 2. The intraclass correlation (i.e., the ratio of level-2 variance to total variance) showed how much variance of change in emotional closeness (i.e., dependent variable) was explained by the participants regardless of the predictors. Then, Model 1 included characteristics of the social relationships (i.e., age and sex of the social partner, the level of kinship, and duration of the relationship) and characteristics of the participants (including age, sex, education level, marital status, perceived symptoms, and network size). It served as the basis of comparison for the added predictors in the subsequent models. Model 2 tested whether negative exchanges predicted changes in emotional closeness (i.e., Hypothesis 1). The level of negative exchanges was included in the model. Social support was included as a covariate. The within-participant means of social support and negative exchanges (i.e., averaged score of social support/negative exchanges across all social partners within a participant) were also included to control for possible contextual effects, as suggested for multilevel models (Snijders & Bosker, 1999, p. 122). Finally, to test the second hypothesis of whether age of participant and the level of kinship of the social relationship moderated the effect of negative exchanges on changes in emotional closeness, all the two-way interactions (negative exchanges by age interaction, negative exchanges by kinship interaction, and kinship by age interaction) and the three-way interaction (negative exchange by age by kinship) were entered in Model 3. Because no prior knowledge on the sampling distributions of the regression coefficients of the interactions is available, a nonparametric bootstrapping technique was used to derive the bias-corrected and accelerated (BCa) bootstrap confidence intervals (Efron, 1987; Efron & Tibshirani, 1993) for the significance tests in the final model (1,000 resamples), in addition to the use of the probability theory assuming a normal distribution of the estimates. Due to the multilevel structure of the present study, bootstrapping was conducted at the participant level only because the social partners within a participant represented all observations of interest rather than a random sample (van der Leeden, Meijer, & Busing, 2008). The equations for the final multilevel model are shown below:

**Level 1 (Participant level):**

\[ Y_{ij} = \beta_0 + \beta_1 (\text{Age of } SP_{ij}) + \beta_2 (\text{Sex of } SP_{ij}) + \beta_3 (\text{Kinship of } SP_{ij}) + \beta_4 (\text{Duration of Relationships}_{ij}) + \beta_5 (\text{Social Support}_{ij}) + \beta_6 (\text{Negative Exchange}_{ij}) + R_{ij} \]

**Level 2 (Participant level):**

\[ \beta_0 = \gamma_{00} + \gamma_{01} (\text{Age of } P_j) + \gamma_{02} (\text{Sex of } P_j) + \gamma_{03} (\text{Education}_i) + \gamma_{04} (\text{Marital Status}_i) + \gamma_{05} (\text{Symptoms}_i) + \gamma_{06} (\text{Network Size}_i) + \gamma_{07} (\text{Social Support}_i) + \gamma_{08} (\text{Negative Exchange}_i) + U_{0i} \]

\[ \beta_1 = \gamma_{10} + \gamma_{11} (\text{Age of } P_j) + U_{1i} \]

\[ \beta_2 = \gamma_{20} + \gamma_{21} (\text{Age of } P_j) + U_{2i} \]

\[ \beta_3 = \gamma_{30} + \gamma_{31} (\text{Age of } P_j) + U_{3i} \]

\[ \beta_4 = \gamma_{40} + \gamma_{41} (\text{Age of } P_j) + U_{4i} \]

where \( j \) is the index for the participants \( (j = 1, \ldots, N) \) and \( i \) is the index for the social partners within the participants \( (i = 1, \ldots, n_j) \). \( Y_{ij} \) is the dependent variable. The \( \beta \)s are the regression parameters at the social partner level and the \( \gamma \)s are regression coefficients at the participant level. \( R_{ij} \) is the random effect (residual variance) at the social partner level; \( U_{0i} \) is the random effect for the random intercept at the participant level; and \( U_{1i}, U_{2i}, U_{3i}, U_{4i}, U_{5i}, U_{6i}, U_{7i}, U_{8i} \) are the random effects for the three random slopes of kinship, negative exchanges, and the interaction between kinship and negative exchanges, respectively, at the participant level. Six covariances among the four random effects at level 2 were also estimated but were not presented in the equations.

Results of Model 0 (i.e., the 2-level model without any explanatory variable) showed an intraclass correlation (ICC) of .19, which suggests that a considerable variance of
change in emotional closeness can be attributed to the between-participant differences (Level 2), compared with the within-participant differences (Level 1). ICC of Model 0 and conditional ICCs of the subsequent models are shown in Table 3.

A significant change in the likelihood ratio chi-square values between Model 0 and Model 1 revealed that including the demographic characteristics of the participants and the social partners improved the prediction of change in emotional closeness (Likelihood ratio $\chi^2 = 418.48$, $\Delta df = 10$, $p < .001$). Likewise, including the negative exchanges and social support variables also improved the model fit (change in likelihood ratio of Model 2 from Model 1: $\chi^2 = 23.59$, $\Delta df = 4$, $p < .001$). Finally, adding the two-way and three-way interactions among negative exchanges, kinship, and age of participant, as well as the associated random coefficients, improved the model fit significantly (change in likelihood ratio of Model 3 from Model 2: $\chi^2 = 111.96$, $\Delta df = 13$, $p < .001$). Therefore, we presented the significant predictors of the final model (Model 3) subsequently. The predictors of the final model explained 15% and 31% of variance at Level 1 and Level 2, respectively (Snijders & Bosker, 1999, p. 103). The tests of significance described in the following section were based on the BCa bootstrap confidence intervals.

Main effects.—In Model 3, a stronger kin relationship ($\beta = 14.08$, $p < .001$), shorter duration ($\beta = -0.09$, $p < .001$), older participant ($\beta = 0.08$, $p < .001$), female participant ($\beta = 1.00$, $p < .05$), being married ($\beta = 1.54$, $p < .001$), more social support ($\beta = .64$, $p < .01$), and less negative exchanges ($\beta = .89$, $p < .01$) predicted a more positive change in emotional closeness (Table 3). Specifically, a social relationship that was perceived as providing more social support and had
more negative exchanges was more likely to advance into an emotionally closer social circle over a 2-year period. Although contact frequency moderately correlated with negative social exchanges (r = .21, p < .001), its association with emotional closeness was very weak (r = .05, ns). We thus did not include it as a covariate in the analysis.

Interaction effects. — However, these main effects were qualified by interactions. The negative exchanges by age of participant interaction (β = .05, p < .001), the kinship by age of participant interaction (β = −.11, p < .01), and the three-way interaction between negative exchanges, kinship, and age of participant (β = −.11, p < .05) all predicted changes in emotional closeness. Because the two-way interactions were qualified by the three-way interaction, only the pattern of the three-way interaction was further explored. Figures 1a–1d are plotted to illustrate how age of participant (by multiple graphs) and kinship (by separate lines) moderated the relationship between negative exchanges (x-axis) and changes in emotional closeness. Because the two-way interactions were qualified by the three-way interaction, only the pattern of the three-way interaction was further explored. Figures 1a–1d are plotted to illustrate how age of participant (by multiple graphs) and kinship (by separate lines) moderated the relationship between negative exchanges (x-axis) and changes in emotional closeness (y-axis). Mean (age 43), 1 SD below the mean (age 22), 1 SD (age 64), and 2 SDs above the mean (age 85) were used to illustrate the possible range of the current data. Kinship coefficients of 0.5 (parents, children, and siblings) and 0 (non-kin relationships) were selected for the separate lines. Across the four figures, we note that most data points are below the change score of 0, suggesting that there was a general decline in emotional closeness over the 2-year period. In fact, the mean change in emotional closeness for the entire sample was −7.90 (SD = 10.42), which indicated an average movement of 0.79 circle away from the inner circle over the period. Nevertheless, against this background of general decline, more negative exchanges predicted a more positive change in emotional closeness over the 2-year period, for kin across age. For non-kin, their emotional closeness was never as high as that of kin. Yet, although negative exchanges were unrelated to emotional closeness among younger adults, the association between negative exchanges and emotional closeness became more positive for increasingly older age, to the point that the emotional closeness for kin and non-kin were of a similar level for the oldest group with the highest level of negative exchanges.

Discussion

In this study, we employed a social network paradigm to examine whether negative social exchanges in a relationship were related to positive changes in emotional closeness of that relationship over a 2-year period. We also explored whether such a positive association would be stronger for kinship than for other relationships and stronger for older adults than for younger adults.

Negative Exchange and Emotional Closeness

Findings revealed a positive association between levels of negative exchanges and changes in emotional closeness. For any given social relationship, more negative exchanges in general were associated with a more positive change in emotional closeness over a 2-year period. It is important to note that this relationship was found after statistically controlled for received social support and many sociostructural variables at the participant level and the social partner level. Moreover, the longitudinal nature of this relationship enables us to have greater confidence in concluding that negative exchanges predicted emotional closeness, not the other way round. (Further analyses were conducted to assess whether the relationship between negative exchanges and emotional closeness also occurred in the reverse direction. A hierarchical regression analysis was conducted, regressing the level of negative exchanges at Phase 2 on emotional closeness at Phase 1, after statistically controlling for the level of negative exchanges at Phase 1. Emotional closeness at Phase 1 did not significantly predict negative exchanges at Phase 2. This suggests that the relationship between negative exchanges and emotional closeness described earlier should be interpreted as negative exchanges predicting emotional closeness, not the other way round).

This finding allows us to interpret prior cross-sectional associations between negative social exchanges and close relationships (Akiyama et al., 2003; Fingerman, 1998;
Fingerman et al., 2004) from a new perspective. These cross-sectional associations have traditionally been interpreted as reflecting the emotional ambivalence within close relationships (Fingerman et al.; Uchino et al., 2004) or as an explanation for the harmful effects of negative social exchanges on well-being (Newsom et al., 2005): Those whom you do not care about can never hurt you; negative social exchanges are detrimental to well-being particularly when they occur in close relationships. Our finding, in contrast, suggests that negative social exchanges can longitudinally predict positive change in emotional closeness. Fingerman (1998) observed that grandparents often classified the same grandchild as special, worrisome, and annoying. Our findings suggest that this may be the case precisely because worry and annoyance, to a certain extent, assure both parties that the social relationship is genuine and special and that it has gone beyond impression management social norms (Baumeister, 1982).

Although, as far as we know, no one before us has directly examined the longitudinal relation between negative social exchanges and emotional closeness, the idea that “things that do not kill us make us stronger” is not new in the psychological literature. In the caregiving literature, for instance, some scant but growing evidence shows that the often stressful social interactions between caregiver and care recipient can sometimes lead to positive changes in the relationship (Lopez, Lopez-Arrieta, & Crespo, 2005). This phenomenon is known as benefit finding (Affleck & Tennen, 1996; Kim, Schulz, & Carver, 2007), stress-related growth (Park, Cohen, & Murch, 1996), or posttraumatic growth (Tedeschi & Calhoun, 2004). Moreover, in the physical activity literature, Cotter and Lachman (2009) have recently found in a large nationally representative sample of Americans aged 32–84 years that more social strain was positively associated with more physical activity across adulthood. Our finding contributes to these literatures by showing that even when we took social relationships out of their specific contexts (i.e., not specifically about caregiving or physical activity) and examined all important social relationships of a given individual (i.e., using the Social Convoy Questionnaire), we found that negative social exchanges longitudinally predicted a more positive change in emotional closeness.

The Moderating Roles of Kinship and Age

Before we discuss the moderators to the relationship between negative social exchanges and emotional closeness, we should note that the main effect of negative exchanges remained significant even when the two-way and three-way interactions between negative exchanges, kinship, and age were entered into the equation (see Table 3). This suggests that the positive relationship between negative social exchanges and emotional closeness is robust even when the moderating roles of kinship and age have been taken into consideration. Against this robustness, kin seem to be strongly favored over non-kin. Figure 1 reveals that across age and levels of negative exchanges, the emotional closeness of non-kin was never as high as that of kin. The emotional closeness of kin was fairly consistent across age, with more negative exchanges in the relationship predicting a more positive change in emotional closeness over the 2-year period. For non-kin, an interaction was found: Although negative exchanges were unrelated to emotional closeness among younger adults, the association between negative exchanges and emotional closeness was more positive with successive age groups, to the point that the emotional closeness for kin and non-kin were similarly high for the oldest group with the highest level of negative exchanges. Socioemotional selectivity theory (Carstensen et al., 1999) has long been proposing that people increasingly prioritize emotionally meaningful goals as they age. In fact, prior studies testing the theory have found that older people have more emotionally close social networks than do younger people (e.g., Fung, Carstensen, & Lang, 2001; Lang & Carstensen, 1994). Our findings suggest that this increase in emotional closeness in social networks with age may be driven by older adults being better able to benefit from negative social exchanges, for both kin and non-kin relationships, than do younger adults.

In closing, we acknowledge several limitations of the study. Our decision to study social relationships through analyzing the entire social network of each participant has given us the advantage of comparing and contrasting the various types of relationships. However, it has prevented us from examining any given relationship in great detail. Because of this, we were unable to tell exactly why or how negative social exchanges contributed to a more positive change in emotional closeness. Future studies should explore the mechanisms that underlie this association.

In addition, our participants are Chinese whereas those in the mainstream literature are mostly Americans or Europeans. Our prior work has revealed that older Chinese may be more sensitive to negative information, particularly negative social information, than do their American counterparts (Cheng, Fung, & Chan, in press; Fung, Isaacowitz et al., 2008). Moreover, kinship seems to be more important to Chinese with age than to Germans (Fung, Stoeber, Yeung, & Lang, 2008). Future studies should examine the cultural generalizability of our findings. Finally, we measured negative social exchanges with items used in a prior German study of adult children and their older parents (Lang & Schutze, 2002). Future studies should examine whether the definition of negative social exchanges varies by age and culture.

In sum, we found evidence suggesting that negative social exchanges predicted a more positive change in emotional closeness. Although moderating effects were found, this association generally occurred similarly across age and types of relationship. The literature on social relationships
across adulthood has gone through many phases, from believing that all social support is beneficial (Cobb, 1976) to arguing that some social interactions, known as negative social exchanges, have adverse consequences for well-being (Antonucci et al., 1998; Rook, 1984, 2001). Our findings further advance the literature by pointing out that, just as Rook (1984) found 20 years ago that not all social interactions were positive, we now find that negative social exchanges are not all negative.

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