

Intergenerational Relationships and Marriage in China: Within-Family Longitudinal  
Associations and Between-Family Differences

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### Abstract

Marriage is embedded in the web of spouses' broader social ties, and relationship quality with parents and parents-in-law is associated with marital quality. Guided by Family Systems theory and using three waves of dyadic data from 268 Chinese different-sex couples across the first three years of marriage, we first conducted a Random-Intercept Actor-Partner Interdependence Cross-lagged Panel Model (RI-APIM-CLPM) to examine the within-family longitudinal associations among husbands' and wives' relationship quality with parents, parents-in-law, and spouse. Then, husbands' and wives' filial obligations were added as a predictor of between-family differences in their own and their partner's relationship quality in the three social ties. Among husbands, increased relationship quality in one social tie (e.g., with parents) predicted reductions in relationship quality in the other social ties (e.g., relationships with parents-in-law and marital quality). Our examination of between-family differences demonstrated that high levels of filial obligations predicted higher intergenerational relationship quality and marital quality. By simultaneously considering the within-family associations of multiple social ties and how filial obligations account for between-family differences in relationship quality, we contribute a nuanced understanding of how Chinese couples' romantic partnerships are embedded in their broader family system.

*Keywords:* Between-family differences, filial obligations, intergenerational relationship quality, marital quality, within-family longitudinal associations.

### Statement of Relevance

No couple is an island. Using dyadic, longitudinal data, we strived to understand how marital quality, relationship quality with parents, and relationship quality with parents-in-law evolve together over time. We also examined how each spouse's filial obligations are associated with their own and their partner's relationship quality in different social ties. Building on results in our study, future researchers can continue examining how partners in a couple relationship simultaneously manage multiple important social ties.

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Marital quality is embedded in the web of each partner's broader social ties (Huston, 2000). As one of the most enduring and meaningful human social ties, adult children's relationships with their parents continue to be associated with adult children's marital quality (Johnson et al., 2014; Reczek et al., 2010). Relationships with parents-in-law, albeit formed involuntarily, are also closely linked to marital quality (Cao et al., 2019, Lau et al., 2020; Serewicz et al., 2008). As such, intergenerational relationship quality with parents and parents-in-law—the overall evaluation of how rewarding the relationships with parents and parents-in-law are (Orbuch et al., 2013)—changes alongside marital quality across time. During the newlywed stage, husbands and wives may face difficulties balancing relationships with their parents and their new parents-in-law while prioritizing the developing spousal relationship (Hall & Adam, 2011; Silverstein et al., 1992). As time passes, some couples achieve close relationships with their parents and their parents-in-law, and marital quality will be of the highest levels when husbands and wives simultaneously build close relationships with their parents and parents-in-law (Choi et al., 2019). To better understand the interrelatedness among multiple social ties across time, researchers have examined longitudinal associations between marital quality and intergenerational relationship quality with parents (Johnson et al., 2017) or parents-in-law (Bryant et al., 2001; Lau et al., 2020). Yet limitations exist.

**First**, it has been long proposed that relationships with parents and relationships with parents-in-law share similarities (Silverstein, 1992, p. 403). Thus, individuals' higher relationship quality with parents can be associated with higher relationship quality with parents-in-law (Fingerman et al., 2012). Moreover, individuals' relationships with parents-in-law are

likely influenced by their partners' relationships with parents (Serewicz, 2006). Despite these theoretical foundations (i.e., the Family System Theory perspective that highlights the interrelatedness between couple relationships and their extended family; Cox & Paley, 1997), few studies have taken a dyadic perspective to examine whether and how the two partners' relationship quality with parents and parents-in-law are related. Understanding of the interrelatedness of couple relationships and the social networks around them remains incomplete.

**Second**, when examining family relationships across time, an accurate understanding requires the distinction between within-family involvement across time and between-family differences (Curran & Bauer, 2011; Lerner et al., 2015). For our topic— interrelatedness among marital quality, relationship quality with parents, and relationship quality with parents-in-law—the within-family involvement across time can be understood as (a) how each social tie may fluctuate from time to time, and (b) how fluctuations occurring in one social tie may link to fluctuations in another (Cox & Paley, 1997). Yet, existing studies (for the only exception, see Johnson et al., 2017) have focused on a different topic: Whether couples with higher relationship quality in one social tie—in comparison to their counterparts who reported lower relationship quality—also experience more closeness in another social tie (i.e., the associations among multiple social ties at the between-family level). As between-family associations are neither necessary nor sufficient to speak to within-family processes (Curran & Bauer, 2011; Hamaker et al., 2015), we still have limited knowledge of how multiple social ties within each family (i.e., couple relationships, each partner's relationships with parents, and each partner's relationships with parents-in-law) evolve and develop together as time passes.

**Third**, and regarding the explanation of between-family differences, researchers have called for continued efforts to examine how intergenerational relationships vary based on

people's belief systems about family relations (e.g., Fingerman et al., 2020). The levels of filial obligations—the moral obligation to care, respect, and obey parents (Cheung & Kwan, 2009)—and how they related to between-family differences in relationships quality with parents, with parents-in-law, and/or with spouse are well-documented in Eastern (e.g., China; Chen & Wu, 2017) and Western societies (e.g., the United States, Central and East Europe; Muresan & Hărăguș, 2015; Polenick et al., 2017). Yet in this growing body of literature, husbands' and wives' filial obligations were rarely analyzed at the same time (for an exception, see Polenick et al., 2017). This is another limitation because—given the interdependent nature of couple relationships—one partner's social ties may depend not only on their own but also on the other's belief in filial obligations (Rusbult & Van Lange, 2008).

Collectively, this study will contribute to a comprehensive understanding of how relationship quality in three important social ties co-vary across time. Using three-wave, dyadic survey data from 268 couples, we examined the within-family longitudinal associations among husbands' and wives' relationship quality with parents, parents-in-law, and each other (**Research Question 1**). We also examined how husbands' and wives' filial obligations can predict the between-family differences in their own and their partner's intergenerational relationship quality (with parents and parents-in-law) and marital quality (**Research Question 2**).

Notably, couples in the present study were in the first several years of their first marriage and typically reported high levels of marital quality (Williamson & Lavner, 2020). Yet couples may also constantly re-evaluate their marital quality during the early years of marriage (Williamson & Lavner, 2020). Moreover, husbands and wives in the current sample were mostly in their late 20s and early 30s, which is an important developmental period when young adults transition into adulthood (Tanner, 2006). Additionally, participants in the present study are

generally well-educated and live in urban areas, indicating they are more likely to have experienced social changes in China and endorse less traditional beliefs (compared to those who are less educated and live in rural areas; Xu & Xia, 2014). Collectively, our data offered the opportunity to examine how Chinese husbands and wives simultaneously adjust to three important social ties (with parents, parents-in-law, and spouse) during important personal and relational transitions (i.e., transition to adulthood and transition to marriage) and in the social cultural context of modern China.

### **Theoretical Framework**

Our study is motivated by Family Systems Theory (Cox & Paley, 1997). *For within-family longitudinal associations* among multiple social ties, family systems theory regards the extended family (e.g., relationships with parents and parents-in-law) and the nuclear family (e.g., marriage) as subsystems of a larger family system (Minuchin, 1974). Within each family, transitions prompt changes and adjustments in all subsystems (the self-organization of the family system; Sameroff 1983), and changes in different subsystems exert *continuous, reciprocal influence* on each other across time (i.e., the wholeness and interrelatedness of the family system; Cox & Paley, 1997). Specific to this study, the transition to adulthood likely initiated within-family changes such as the separation from parents and the prioritization of couple relationships, and the transition to marriage may have initiated within-family changes such as strengthened connections with in-laws (Aarskaug Wiik & Bernhardt, 2017; Tanner, 2006). The within-family changes in each subsystem then become *mutually influential*, and within-family changes in one subsystem (e.g., relationships with the partner) would predict subsequent within-family changes in other subsystems (e.g., relationships with the parents and parents-in-law). That is, the within-family longitudinal associations among multiple social ties should be bidirectional.

*For the between-family differences* in relationship quality with parents, relationship quality with parents-in-law, and marital quality, family systems exist in a larger social context, and adjustment and adaptation in different families cannot be fully understood without considering the social-cultural context in which the family is embedded (Cox & Paley, 1997). Specific to modern China as the social cultural context in our study, the traditional culture emphasizes filial obligation as the expectation for how husbands and wives manage intergenerational relationships and marriage (Chen, 2017; Qi, 2015). For example, adult children are highly encouraged to obey and respect their parents, even if it is at the cost of the adult children's own well-being (Qi, 2015). Meanwhile, drastic social changes in the last several decades put modern China at crossroads. The extent to which individuals believed in traditional cultural norms— such as filial obligations—varies considerably, and the associations from filial obligations to intergenerational relationships or marital quality are also getting complicated (Deutsch, 2006; Qi, 2015). Thus, we included husbands' and wives' filial obligations as predictors of between-family differences in relationship quality in three social ties (with parents, with parents-in-law, and with spouse).

### **Relationship Quality with Parents and Marital Quality**

Associations at the between-family level have been well-established such that those with higher-quality relationships in one subsystem (e.g., with parents) have higher-quality ties in the other subsystem (e.g., marriage) compared to those with lower-quality relationships (Birditt et al., 2010; Greenfield & Marks, 2006). These findings also suggest bidirectionality in longitudinal links between relationship quality with parents and marital quality, with some studies showing associations from relationship quality with parents to marital quality (Johnson & Galambos, 2014; Reczek et al., 2010) yet others showing the reverse (Birditt et al., 2010; Greenfield &



Marks, 2006). At the within-family level, the only study we can locate suggests unidirectional links from marital quality to future relationship quality with parents: Increased marital quality predicted increased relationship quality with parents one year later (Johnson et al., 2017).

### **Relationship Quality with Parents-in-law and Marital Quality**

Only between-family associations have been examined for relationship quality with parents-in-law and marital quality (Cao et al., 2019, Serewicz et al., 2008; Yuan et al., 2019). In comparison to their counterparts reporting lower relationship quality with parents-in-law, those who reported higher relationship quality with parents-in-law also reported higher marital quality (Cao et al., 2019). Compared to those partnered with someone with lower in-law relationship quality, those whose partner experienced higher in-law relationship quality also reported higher marital quality (Yuan et al., 2019). For studies that have demonstrated the bidirectionality in longitudinal associations between relationship quality with parents-in-law and marital quality, Bryant et al. (2001) found that higher marital quality predicted higher in-law relationship quality in the future. Lau et al. (2020), on the other hand, found higher in-law relationship quality predicted higher marital quality in the future.

### **Relationship Quality with Parents and Relationship Quality with Parents-in-Law**

Empirical studies on this topic are relatively sparse, and only between-family associations were identified given the utilization of cross-sectional data in all available studies (Fingerman et al., 2012; Woolley & Greif, 2019; Yuan, 2019). Despite this limitation, interesting patterns have emerged. Specifically, those who reported high relationship quality with parents—in comparison to those who did not — are more likely to experience high in-law relationship quality (Fingerman et al., 2012). Additionally, individuals whose partners reported high relationship quality with parents — in comparison to those whose partners did not— also experienced high

in-law relationship quality (Woolley & Greof, 2019). Yet in another study, individuals whose partners experienced high relationship quality with parents— in comparison to those whose partners did not— reported low in-law relationship quality (Yuan, 2019). Such contradictory patterns at the between-family level speak to the necessity of examining within-family associations and clarifying whether intergenerational relationships with parents and parents-in-law were mutually competing or beneficial as the two spouses navigate multiple social ties across time.

### **Filial Obligations and Family Relationships in Modern China**

Given the long-lasting traditions along with the recent social changes, how filial obligations are associated with relationship quality with parents, parents-in-law, and spouse are worthy of investigation. Traditionally, wives are regarded more as members of the husbands' family rather than as members of the wives' family of origin (Lin & Yi, 2011, Zhan, 2009). Wives in traditional China are therefore expected to pay filial obligations to their husbands' (versus their own) parents (Qi, 2015). Wives shoulder the responsibility to persuade husbands to be affectionate and dutiful toward husbands' parents (Qi, 2015) and their filial obligations play such salient roles in traditional Chinese marriage that wives can be divorced for failing to enact filial obligations (Gui, 2021). Yet, husbands are only expected to pay filial obligations to their own parents (Qi, 2015). In sum, and according to traditional norms, wives' filial obligations should be related to between-family differences in husbands' relationship quality with parents, wives' relationship quality with parents-in-law, and wives' marital quality. Husbands' filial obligations may only be related to between-family differences in husbands' relationship quality with parents.

After the founding of the People's Republic of China in 1949, massive public campaigns were launched to redirect loyalty away from parents and kinship networks and toward the nation. Thus, beliefs in filial obligations may not be as strong in modern China (Qi, 2015). Further, a legal change enacted in 1980 specified that daughters in modern China—regardless of marital status—now also shoulder the responsibility for taking care of their own elderly parents (Miller, 2004). Researchers found that women who report higher levels of filial obligation reported higher relationship quality with women's own parents compared to those who report lower levels of filial obligations (Luo & Zhan, 2012). With the implementation of the one-child policy and the gender equity movements in China, men now acknowledge the inevitability and necessity of maintaining relationships with parents-in-law, especially when their wives were the only child (Deutsch, 2006). Thus, it is plausible that higher levels of husbands' filial obligations should now relate to husbands' higher in-law relationship quality. Meanwhile, wives in modern China expect husbands to express filial obligations to wives' own parents, and wives reported low marital quality when husbands failed to do so (Gui, 2021). Taken collectively, wives' relationships with parents and husbands' relationships with parents-in-law now require more attention and maintenance efforts from Chinese couples. Husbands' and wives' filial obligations should predict between-family differences in not only their own but also the other's intergenerational relationship quality and marital quality.

## **Method**

### **Participants and Procedures**

Data for the current study were drawn from the Chinese Newlyweds Longitudinal Study (CNLS), and data collection procedures were approved by Institutional Review Board at Beijing Normal University, China. This study was not pre-registered, and data and materials for this

project can be obtained by contacting the corresponding author. Convenience sampling was used. Couples were invited to participate in a program investigating predictors for Chinese couples' relationship well-being during early years of marriage, and recruitment materials were spread via online advertisements, community posters, and snowball methods. To be involved in this project, the two partners in their relationships had to (a) be in their first marriage, (b) not yet have a child, (c) both agree to participate in the project, and (d) reside in Beijing, China.

In 2011 (W1), 268 couples participated in the baseline survey. In 2012 (W2) and 2013 (W3), 224 couples (retention rate=83.58%) and 203 couples (retention rate=75.75%) participated in the research project. At each wave, husbands and wives separately completed self-report surveys. Upon completion of the survey at each wave, couples received 100 RMB (16 USD). To detect potential attrition bias, we included key study constructs and covariates to run Little's (1988) Missing Completely at Random (MCAR) test, which showed that the pattern of missingness was completely at random ( $\chi^2 = 753.85$ ,  $df = 739$ ,  $p = .344$ ).

Among the 268 couples who participated at W1, the average length of marriage was 13.6 months ( $SD = 9.7$ ). The average age was 29.6 years old ( $SD = 3.2$ ) for husbands and 28.1 years old ( $SD = 2.5$ ) for wives. Median levels of monthly income were 7,000 RMB ( $SD = 6,180.2$ ; approximately 1,017.30 USD) for husbands and 5,000 RMB ( $SD = 3,996.0$ ; approximately 726.60 USD) for wives. For husbands, 82.6% had earned a bachelor's degree or higher; for wives, 84.4% earned at least a bachelor's degree. As compared to the general population in China and Beijing (i.e., the data collection city), education and income for husbands and wives in the CNLS project were higher than average (Beijing Bureau of Statistics, 2011; National Bureau of Statistics of China, 2012).

## Measures

**Filial obligations at W1.** Filial obligations were assessed at Wave 1 using a five-item questionnaire developed for the CNLS project. All five statements reflected the emphasis on needs/feelings of parents or the kinship network over those of children (“Children must obey parents,” “Parents are more important than one’s spouse,” “One should help their parents and kin regardless of their own situations,” “Family honor is more important than personal happiness,” and “Individuals should sacrifice personal interests for harmonious family relationships”). This is a central theme in filial obligations in traditional Chinese society (i.e., the loyalty to parents and kinship network even at the expense of personal happiness; Qi, 2015). Participants rated each item on a 5-point Likert-type scale ranging from 1 (*absolutely disagree*) to 5 (*absolutely agree*). Cronbach’s  $\alpha$ s in the present study were .70 for husbands and .73 for wives. Confirmatory factor analyses in Supplementary Document 1 showed these five items adequately reflect a latent filial obligation factor and the items exhibited measurement invariance across husbands and wives. Average scores were computed for husbands and wives such that higher scores indicated higher levels of filial obligations.

**Intergenerational relationship quality at W1, W2, and W3.** Consistent with other studies on intergenerational relationship quality (Orbuch et al., 2013) and to reduce the length of the survey in the larger project, participants indicated their relationship quality with their father, mother, father-in-law, and mother-in-law separately on a Likert scale ranging from 1 (*extremely bad*) to 5 (*extremely good*). The item was: “How are your relationships with your own/your partner’s father and mother?” Scores for *intergenerational relationships with parents* were calculated by averaging self-reported relationships with the father and mother. Scores for *intergenerational relationships with parents-in-law* were calculated by averaging the self-report relationships with the father-in-law and mother-in-law. Higher scores indicated higher

relationship quality with parents and parents-in-law. Internal reliability was evaluated using Spearman-Brown coefficients (Eisinga et al., 2013), and the coefficients across three waves were .70-.77 for husbands' relationships with parents, .70-.73 for wives' relationships with parents-in-law, .83-.90 for husbands' relationships with parents-in-law, .80-.89 for wives' relationships with parents-in-law. As seen in Table 1, relationships with parents and parents-in-law were moderately correlated for husbands and wives. Invariance tests across time and gender can be seen in Supplementary Document 1.

**Marital quality at W1, 2, and 3.** Marital quality was assessed with the six-item Quality of Marriage Index (QMI; Norton, 1983). On the first five statements (“We have a good marriage,” “My relationship with my partner is very stable,” “Our marriage is strong,” “My relationship with my partner makes me happy,” “I really feel part of a team with my partner”), participants rated each item on a 7-point Likert type scale ranging from 1 (*very strong disagreement*) to 7 (*very strong agreement*). The sixth item asked about the overall perception of marriage (i.e., “All things considered, how happy are you in your marriage?”). Participants rated this item on a 10-point Likert-type scale ranging from 1 (*very unhappy*) to 10 (*perfectly happy*). Following Norton’s (1983) guidelines, we first standardized each item and then summed up the standardized item scores, and higher scale scores indicated higher levels of marital quality. Cronbach’s  $\alpha$ s across three waves were .93-.96 for husbands and .95-.97 for wives. Invariance tests across time and gender can be seen in Supplementary Document 1.

**Covariates.** We included covariates that were related to key study variables in prior research (Amato et al., 2003; Choi et al., 2019; Umberson et al., 2005) and all were assessed at Wave 1: husbands’ and wives’ age (reported in years), highest degree (indicated on an ordinal scale from 1 = *elementary school or below* to 6 = *postgraduate degree*), monthly income level

(reported as the exact amount in Chinese Yuan), length of marriage (in years), cohabitation before marriage (0 = *did not cohabit before marriage*; 1 = *cohabited before marriage*), pregnancy status at the time of recruitment (0 = *No*; 1 = *Yes*), and parent's marital status was reported by husbands and wives (0 = *biological parents were not married to each other*; 1 = *biological parents were married to each other*). Based on husbands' and wives' reports on intergenerational coresidence at each wave (i.e., "How long did your parents live with you and your partner", response ranging from 1 = *never lived together* to 5 = *lived together all the time*), we created a dummy code for co-residence with husbands' and wives' parents across the three-year research period (0 = *never co-resided with husband's parents*, 1 = *co-resided at least some time with husband's parents*; 0 = *never co-resided with wife's parents*, 1 = *co-resided at least some time with wife's parents*).

### **Analytic Plan**

Analyses in the current study were conducted in *Mplus* 8.7. Model fit was evaluated with the  $\chi^2$  test statistic, comparative fit index (CFI), the root mean square error of approximation (RMSEA), and standardized root mean square residual (SRMR). To evaluate model fit, we used the following indices:  $\chi^2$  test, CFI that was greater than or equal to .95 (for good fit) or .90 (for adequate fit), and the RMSEA and SRMR that were less than .05 (for good fit) or .08 (for adequate fit; Kline, 2015). Missing data were handled using full information maximum likelihood (FIML; Acock, 2005). Covariates are included in all primary analyses. Analyses proceeded in the following stages.

**Stage 1: Within-family longitudinal associations.** We used random-intercept cross-lagged panel modeling (RI-CLPM) to answer Research Question 1 (i.e., the within-family longitudinal associations—which should be bidirectional—among husbands' and wives'

relationship quality with parents, relationship quality with parents-in-law, and marital quality).

The RI-CLPM was selected because it partitions variance into between- and within-person components with three measurement occasions (Hamaker et al., 2016). We also followed Fallis et al.'s recommendation (2016) and ran actor-partner interdependence (APIM) RI-CLPMs so that the dyadic nature between partners was taken into account.

For our analyses, we first decomposed key study variables into two parts: between-family variation (i.e., a random intercept, which reflects the average across three waves for husband and wife in each family) and within-family variation (i.e., the residual of random intercepts, which reflects how husband and wife in each family deviate from their average at each wave; Hamaker et al., 2016). Then we used the within-family variation to estimate (a) cross-lagged pathways across time and (b) autoregressive paths and covariances within the same wave. The covariance among random intercepts (i.e., between-family variation) in key study variables was not of central interest, but these coefficients were estimated in line with guidelines for specifying RI-CLPM (Hamaker et al., 2016). These findings are detailed in Supplementary Document 2.

**Stage 2: Filial obligations as predictors of between-family differences.** As recommended by Mulder and Hamaker (2021), we extended the RI-APIM-CLPM computed in Stage 1 by including husbands' and wives' filial obligations as time-invariant predictors (Research Question 2). Specifically, we included the predictive pathways from husbands' and wives' filial obligations at Wave 1 to the random intercepts of both spouses' relationship quality with parents, relationship quality with parents-in-law, and marital quality (Mulder & Hamaker, 2021). The coefficients of these predictive pathways indicate how husbands' and wives' filial obligations are related to between-family differences in parental, in-law, and marital relations.



**Stage 3: Monte Carlo simulation for power analysis.** We computed a Monte Carlo simulation to estimate statistical power for the proposed analyses with our sample of 268 couples following Thoemmes et al.'s (2010) guidelines. According to prior research, we tested within-family cross-lagged pathways at  $\beta_s = .30$  (Johnson et al., 2017) and pathways from filial obligations to random intercepts at  $\beta_s = .30$  (Chen & Wu, 2017; Polenick et al., 2015). For the 48 within-family cross-lagged pathways of research interests, statistical power ranged from .74 to .82. For the 12 pathways that modeled filial obligations as predictors of between-family differences in relationships with parents, relationships with parents-in-law, and marital quality, statistical power ranged from .96 to .97.

As the within-family cross-lagged pathways were slightly underpowered, we added across-time equality constraints to the corresponding within-family cross-lagged pathways (e.g., the within-family association from W1 relationship quality with parents to W2 marital quality was set equal to the within-family association from W2 relationship quality with parents to W3 marital quality) and recomputed statistical power. Power at the within-family level was .98 in this simplified model. If the equality constraints do not significantly worsen fit of our model to the data (indicating that adding equality constraints did not impede the interpretation of findings), we will retain the equality constraints so that statistical power can be optimized.

## Results

Table 1 displays the descriptive analyses, and husbands' and wives' filial obligations and relationship quality in three social ties were generally at a higher end. Table 2 displays the bivariate correlations. All statistically significant correlations—which reflected bivariate associations before unpacking the within-family and between-family variations in relationship

quality of three social ties—were in the expected direction. Results after separating the within-family and between-family variations in relationship quality of three social ties are the following.

### **Within-Family Longitudinal Associations**

The RI-APIM-CLPM model with equality constraints across time was retained (see Figure 1 note for model comparison), and the model fits the data well:  $\chi^2 (df = 228) = 315.26, p < .001$ , CFI = .955, RMSEA = .038 (90% C.I. = [.027, .048]), and SRMR = .062. Figure 1 displays results demonstrating within-family longitudinal associations among husbands' and wives' relationship quality with parents, parents-in-law, and spouse. For stability pathways at the within-family level, few were statistically significant, demonstrating the fluctuations of relationship quality of multiple social ties across time. For the cross-lagged pathways at the within-family level, it is interesting to note that significant findings emerged for husbands only.

Husbands' higher-than-average marital quality at Waves 1 and 2 predicted husbands' lower-than-average relationship quality with parents at Waves 2 and 3. Husbands' higher-than-average relationship quality with parents at Waves 1 and 2 predicted husbands' lower-than-average marital quality at Waves 2 and 3. There were no statistically significant findings for within-family associations between relationship quality with parents-in-law and marital quality. Yet husbands' higher-than-average relationship quality with parents-in-law at Waves 1 and 2 predicted husbands' lower-than-average relationship quality with their parents at Waves 2 and 3.

### **Including Filial Obligations as Predictors for Between-Family Differences**

The model that included filial obligations as predictors of between-family differences in relationship quality in three social ties again demonstrated adequate to close fit:  $\chi^2 (df = 252) = 344.43, p < .001$ , CFI = .953, RMSEA = .037 (90% C.I. = [.027, .047]), and SRMR = .059. As seen in Table 3, the levels of husbands' and wives' filial obligations predicted between-family

differences in intergenerational relationship quality (with parents and parents-in-law) and marital quality. In households where husbands reported higher levels of filial obligations, husbands and wives reported higher relationship quality with parents in comparison to their counterparts in households where husbands reported lower levels of filial obligations. In households where wives reported higher levels of filial obligations, wives reported higher intergenerational relationship quality (with parents and parents-in-law) and higher marital quality than their counterparts in households where wives reported lower levels of filial obligations.

### **Discussion**

Guided by Family Systems Theory and using three-wave, dyadic data from different-sex Chinese young couples at the beginning of their marriages, we examined how husbands' and wives' relationship quality with parents, relationship quality with parents-in-law, and marital quality were interrelated across time within each family. We also examined how each spouse's filial obligations were associated with between-family differences in their own and the partner's relationship quality in three social ties (with parents, parents-in-law, and spouse). Our study is among the first to not only consider the within-family longitudinal associations among these three social ties but also include a potential variable to account for between-family differences. Interesting findings emerged.

#### **Within-Family Longitudinal Associations Among Social Ties**

At the within-family level, we found bidirectional longitudinal associations between husbands' relationship quality with parents and husbands' marital quality: changes in husbands' relationship quality with parents predicted changes in husbands' marital quality and vice versa. Also at the within-family level, we found unidirectional longitudinal associations between husbands' relationship quality with parents and husbands' relationship quality with parents-in-

law: changes in husbands' relationship quality with parents-in-law predicted changes in husbands' relationship quality with parents. At a broad level, these within-family, longitudinal associations are consistent with notions of interrelatedness and wholeness in Family Systems Theory (Cox & Paley, 1997; Sameroff 1983). That is, relationships with parents, relationships with parents-in-law, and marital quality are subsystems in a broader family system (Cox & Paley, 1997; Sameroff 1983). Changes in one subsystem exert mutual influence and set in motion future changes in another (Cox & Paley, 1997; Sameroff 1983).

Interestingly, within-family associations in this study demonstrated that—among husbands only— increases in relationship quality in one subsystem predicted reductions in relationship quality in another subsystem. These within-family associations were in stark contrast to the between-family associations in this sample (i.e., see Supplementary Document 2) and in prior studies (i.e., those who reported higher relationship quality in subsystem experienced higher relationship quality in the other two; Briditt et al., 2010; Fingerman et al., 2012; Johnson & Galambos, 2014; Reczek et al., 2012). The methodological strength of focusing on longitudinal associations at the within-family level was highlighted in accurately understanding how multiple social ties in each family shape each other as time passes.

Regarding theoretical explanations for these within-family associations among husbands, we drew attention to competing loyalties that may be faced by Chinese husbands during the beginning stage of marriage. Newlywed couples should create a clear boundary with families of origin, prioritize the romantic partnership, and get along with their parents-in-law (Aarskaug Wiik & Bernhardt, 2017; Serewicz, 2006). Yet competing loyalties to parents, the spouse, and parents-in-law were often reported (Hall & Adam, 2011; Serewicz, 2006). Between parents and spouse, it is natural for newlyweds to feel close to parents (Silverstein, 1992), but marriage

seems a "greedy" institution where spouses expect each other's wholehearted devotion (Sarkisian & Gerstel, 2008, p. 369). Similarly, between parents and parents-in-law, there is an internal expectation and social pressure about being a good child-in-law (Jorgenson, 1994; Silverstein, 1992). Yet the loyalty to parents can make newlyweds uncomfortable to initiate and maintain a similarly kin-like relationship with parents-in-law (Serewicz, 2006).

Notably, due to patriarchal traditions, husbands' devotion to their family of origin is usually stronger than that of wives (Tamura & Lau, 1992). Moreover, due to gendered expectations, Chinese husbands generally lack the socialization experiences to be kinkeeper (Liu, 2014). Taken collectively, newlywed husbands in China may find it particularly difficult to balance relationships with parents, relationships with parents-in-law, and marriage. It is therefore among husbands but not among wives in this study that increased relationship quality in one social tie impedes relationship quality in another in the future.

Although it is not of focal interest in our study, the minimal stability at the within-family level merits attention because it reflects the fact that the early years of marriage are a transitional period when husbands and wives constantly adjust their devotion to three important social ties (Sameroff, 1983). As such, it is possible that husbands become more adept at managing complex familial ties over time and fluctuations of the quality of ties in one subsystem may not impede functioning in another later in the marriage. Future research is needed to test this idea.

### **Filial Obligations and Between-Family Differences in Relationship Quality in Three Social Ties**

For between-family differences in husbands' and wives' relationship quality in three social ties, spouses' high levels of filial obligations emerged as predictors for high relationship quality with parents, high relationship quality with parents-in-law, and high marital quality.

Overall, these results resonate with another Family Systems Theory tenet that family relationships should be understood in the social cultural context (Cox & Paley, 1997) and highlight the salience of filial obligations in shaping romantic and intergenerational relationships in China (Chen & Wu, 2017; Luo & Zhan, 2012; Qi, 2015). In fact, despite the recent social changes in China and even among Chinese young adults who were highly educated and in urban areas (as the case with participants in the CNLS project), filial obligations are still highly valued such that they are regarded as an even more important mate selection criterion than a potential spouse's amiable personality and physical attractiveness (Gui & Li, 2019).

Our findings also hint at the possibility that traditions and social changes work together to influence family relationships in China (Deutsch, 2006; Qi, 2015). For findings that are in line with the patrilineal tradition that both spouses should pay filial obligations to husbands' parents (Qi, 2015), wives who reported higher levels of filial obligations are closer to parents-in-law than those who reported lower levels of filial obligations. Husbands who reported higher levels of filial obligations also experienced higher relationship quality with parents than those who reported lower levels of filial obligations. Besides, wives reporting higher levels of filial obligations experienced higher marital quality than those who reported lower levels of filial obligations, which is in line with the historically salient roles of wives' filial obligations in maintaining marriage (Gui, 2021).

For findings that may reflect social changes, wives who reported higher levels of filial obligation also experienced higher relationship quality with wives' own parents than those who reported lower levels of filial obligations (Luo & Zhan, 2012), potentially reflecting the change dictating that women now shoulder the responsibility for taking care of their own parents regardless of marital status (Miller, 2004). Besides, associations from husbands' filial obligations

to between-family differences in wives' relationship quality with parents somewhat indicate that husbands' filial obligations align with the new expectations (i.e., wives' parents should also be considered and cared for; Gui & Li, 2019). Yet prior research (Gui & Li, 2019) and the present study (see Table 1) suggest men endorse traditional beliefs more than women in modern China. Even though men in China now recognize the inevitability and necessity of interacting with wives' parents (Deutsch, 2006), the primary focus of husbands is still on whether husbands' own parents are respected and taken care of (Gui & Li, 2019). Thus, instead of taking efforts to maintain relationship quality in the parents-in-law/son-in-law social ties, husbands may be more comfortable encouraging wives to maintain the parent-daughter tie. That may be why wives who were partnered with a spouse reporting higher levels of filial obligations— in comparison to wives who were partnered with a spouse reporting lower levels of filial obligations— experienced higher relationship quality with parents.

### **Limitations and Future Directions**

Our findings need to be interpreted in light of the following limitations. First, couples in the present study were on average highly educated, with high incomes, living in a major urban area, and reported high levels of marital quality. As such, the generalizability of these findings may be limited for those in poorer-quality relationships, living in rural areas, and who are less educated. Future research would benefit from collecting data from more diverse and representative samples. Second, because same-sex marriage has not been legalized in China, only different-sex married couples were included and sexual orientation was not assessed. With the continued advocacy for LGBTQ+ rights in China (Lu & Hunt, 2016), the visibility of dating and cohabiting couples in sexual minority communities is increasing. To better understand couple and family relationships in modern China, future researchers should include sexual

minority couples in their samples. Third, although the steps used in the current study were consistent with the existing literature (e.g., Orbuch et al., 2013; Yi et al., 2016), we acknowledge that assessments of filial obligations and relationships with parents and parents-in-law may be too brief to capture the full nuance of these constructs. Research with more robust measures that can capture different facets of the constructs would be valuable (e.g., support and conflict that may co-exist in the intergenerational ties; Willson et al., 2003).

Fourth, we followed the family system theory and regarded first years of marriage as a transitional period (Cox & Paley, 1997). However, with dating and cohabiting becoming increasingly prevalent in Chinese society (Yu & Xie, 2015), at least some couples in this study may have been together and interacting with both spouses' extended families for a long time, providing them adequate opportunities to build high-quality relationships with parents and parents-in-law before marriage. As a sensitivity analysis to explore this possibility, we used data from 182 couples who cohabited before marriage to recompute analyses in the present study. The findings demonstrated that the within-family associations among and between-family differences in relationship quality of three social ties (with parents, with parents-in-law, and with a spouse) may differ depending on premarital cohabitation and a presumably longer duration relationship prior to marriage (see Supplementary Document 3 for details). Thus, the lack of information about premarital relationship length is another limitation. Future researchers may benefit from assessing premarital dating/cohabiting length and examining how the premarital dating/cohabiting length may moderate associations examined in the current study.

Fifth, no information was collected specific to parental age and parental health, so we cannot examine how this information may relate to the variables in the present study. Once



again, future researchers may examine parental and in-law characteristics that may moderate links between intergenerational and marital ties.

### **Summary and Significance**

Our study aimed to understand how relationship quality with spouse, parents, and parents-in-law co-develop in the first years of marriage in modern China (i.e., a social cultural context that is shaped by long-lasting traditions and recent social changes). Dyadic, longitudinal data were used to consider within-family longitudinal associations as well as between-family differences in husbands' and wives' relationship quality in these multiple social ties. Our results add valuable within-family evidence supporting the central contention of interrelatedness and wholeness in Family Systems Theory (Cox & Paley, 1997). Demonstrating that husbands' increased relationship quality in one subsystem predicted a reduction in relationship quality in another subsystem, our results at the within-family level highlight the necessity of helping husbands balance devotion to important social ties during the first years of marriage. Additionally, our examination of between-family differences suggests the continued salience of filial obligations in predicting Chinese family relations and hints at the crossroads between traditional norms and reforms at which Chinese families find themselves. Informed by these findings, we join prior researchers to advocate for considering the social cultural contexts in which each family is embedded and accounting for belief systems about family relations (Cox & Paley, 1997; Fingerman et al., 2020). Only in this way can researchers more fully understand adjustment and adaptation to married life in diverse families (Cox & Paley, 1997).

## References

- Aarskaug Wiik, K., & Bernhardt, E. (2017). Cohabiting and married individuals' relations with their partner's parents. *Journal of Marriage and Family*, 79(4), 1111-1124.  
<https://doi.org/10.1111/jomf.12397>
- Acock, A. C. (2005). Working with missing values. *Journal of Marriage and family*, 67(4), 1012-1028. <https://doi.org/10.1111/j.1741-3737.2005.00191.x>
- Amato, P. R., Johnson, D. R., Booth, A., & Rogers, S. J. (2003). Continuity and change in marital quality between 1980 and 2000. *Journal of Marriage and Family*, 65(1), 1–22.  
<http://dx.doi.org/10.1111/j.1741-3737.2003.00001.x>
- Beijing Bureau of Statistics. (2011). *Beijing Statistical Yearbook 2011*. Beijing, China: China Statistics Press.
- Berry, D., & Willoughby, M. T. (2017). On the practical interpretability of cross-lagged panel models: Rethinking a developmental workhorse. *Child Development*, 88(4), 1186-1206.  
<https://doi.org/10.1111/cdev.12660>
- Birditt, K. S., Fingerman, K. L., & Zarit, S. H. (2010). Adult children's problems and successes: Implications for intergenerational ambivalence. *The Journals of Gerontology*, 65B(2), 145–153. <http://dx.doi.org/10.1093/geronb/gbp125>
- Bryant, C. M., Conger, R. D., & Meehan, J. M. (2001). The influence of in-laws on change in marital success. *Journal of Marriage and Family*, 63(3), 614-626.  
<https://doi.org/10.1111/J.1741-3737.2001.00614.X>
- Cao, H., Fine, M., Fang, X., & Zhou, N. (2019). Chinese adult children's perceived parents' satisfaction with adult children's marriage, in-law relationship quality, and adult

- children's marital satisfaction. *Journal of Social and Personal Relationships*, 36(4), 1098-1122. <https://doi.org/10.1177/0265407518755319>
- Chen, S. (2017). The ideal Confucian mode for mother-in-law being loving and daughter-in-law being filial pious in traditional China. In *Proceedings of the 2017 3rd International Conference on Humanities and Social Science Research (ICHSSR 2017)*. Atlantis Press. <https://doi.org/10.2991/ichssr-17.2017.62>
- Chen, W. W., & Wu, C. W. (2017). Transmission of ideas about love: Filial piety, love attitudes, and romantic satisfaction. *Personal Relationships*, 24(2), 440-452. <https://doi.org/10.1111/pere.12191>
- Cheung, C. K., & Kwan, A. Y. H. (2009). The erosion of filial piety by modernisation in Chinese cities. *Ageing & Society*, 29(2), 179-198. <https://doi.org/10.1017/S0144686X08007836>
- Choi, H., Nam, B., Kim, S., & Park, C. (2019). Contact with parents and parents-in-law, gender, and marital satisfaction in Korea. *Journal of Marriage and Family*, 81(5), 1192-1205. <https://doi.org/10.1111/jomf.12594>
- Cox, M. J., & Paley, B. (1997). Families as systems. *Annual Review of Psychology*, 48, 243-267. <http://dx.doi.org/10.1146/annurev.psych.48.1.243>
- Curran, P.J., & Bauer, D.J. (2011). The disaggregation of within-person and between-person effects in longitudinal models of change. *Annual Review of Psychology*, 62, 583-619. <https://doi.org/10.1146/annurev.psych.093008.100356>
- Deutsch, F. M. (2006). Filial piety, patrilineality, and China's one-child policy. *Journal of Family Issues*, 27(3), 366-389. <https://doi.org/10.1177/0192513X05283097>

- Eisinga, R.N., Grotenhuis, H. F. te, & Pelzer, B. (2013). The reliability of a two-item scale: Pearson, Cronbach or Spearman-Brown? *International Journal of Public Health*, 58(4), 637–642. <https://doi.org/10.1007/s00038-012-0416-3>
- Esping-Andersen, G. (2009). *Incomplete revolution: Adapting welfare states to women's new roles*. Cambridge, United Kingdom: Polity.
- Fallis, E. E., Rehman, U. S., Woody, E. Z., & Purdon, C. (2016). The longitudinal association of relationship satisfaction and sexual satisfaction in long-term relationships. *Journal of Family Psychology*, 30(7), 822–831. <http://dx.doi.org/10.1037/fam0000205>
- Fingerman, K. L., Cheng, Y. P., Birditt, K., & Zarit, S. (2012). Only as happy as the least happy child: Multiple grown children's problems and successes and middle-aged parents' well-being. *The Journals of Gerontology*, 67B(2), 184–193. <http://dx.doi.org/10.1093/geronb/gbr086>
- Fingerman, K. L., Huo, M., & Birditt, K. S. (2020). A decade of research on intergenerational ties: Technological, economic, political, and demographic changes. *Journal of Marriage and Family*, 82(1), 383-403. <https://doi.org/10.1111/jomf.12604>
- Fingerman, K. L., Gilligan, M., VanderDrift, L., & Pitzer, L. (2012). In-law relationships before and after marriage: Husbands, wives, and their mothers-in-law. *Research in Human Development*, 9(2), 106-125. <https://doi.org/10.1080/15427609.2012.680843>
- Greenfield, E. A., & Marks, N. F. (2006). Linked lives: Adult children's problems and their parents' psychological and relational well-being. *Journal of Marriage and Family*, 68(2), 442–454. <http://dx.doi.org/10.1111/j.1741-3737.2006.00263.x>

- Gui, Y. (2021). Expectation and evaluation of spouse's filial piety and marital satisfaction in China. *Frontiers in Psychology*, Advanced online publication.  
<https://doi.org/10.3389/fpsyg.2021.595854>
- Gui Y., & Li C. (2019). The importance of filial piety in undergraduates' mate preference [In Chinese]. *Young Soc*, 68, 254–256.
- Hall, S. S., & Adams, R. (2011). Newlyweds' unexpected adjustments to marriage. *Family and Consumer Sciences Research Journal*, 39(4), 375-387. <https://doi.org/10.1111/j.1552-3934.2011.02076.x>
- Hamaker, E. L., Kuiper, R. M., & Grasman, R. P. (2015). A critique of the cross-lagged panel model. *Psychological Methods*, 20(1), 102-116. <https://doi.org/10.1037/a0038889>.
- Huston, T. L. (2000). The social ecology of marriage and other intimate unions. *Journal of Marriage and the Family*, 62(2), 298–319. doi:10.1111/j.1741-3737.2000.00298.x
- Johnson, M. D., & Galambos, N. L. (2014). Paths to intimate relationship quality from parent-adolescent relations and mental health. *Journal of Marriage and Family*, 76(1), 145–160.  
<http://dx.doi.org/10.1111/jomf.12074>
- Johnson, M. D., Galovan, A. M., Horne, R. M., Min, J., & Walper, S. (2017). Longitudinal associations between adult children's relations with parents and intimate partners. *Journal of Family Psychology*, 31(7), 821–832. <https://doi.org/10.1037/fam0000329>
- Jorgenson, J. (1994). Situated address and the social construction of “in-law” relationships. *Southern Journal of Communication*, 59(3), 196-204.  
<https://doi.org/10.1080/10417949409372938>

- Kalmijn, M. (2016). Children's divorce and parent-child contact: A within-family analysis of older European parents. *Journals of Gerontology*, 71(2), 332-343.  
<https://doi.org/10.1093/geronb/gbu141>
- Kline, R. B. (2015). *Principles and practice of structural equation modeling* (4th ed.). New York, NY: Guilford.
- Lau, Y., Fang, L., & Kwong, H. K. D. (2020). Cross-lagged models of marital relationships and intergenerational conflicts during transition to parenthood: Effect of patrilineal coresidence. *Family Process*, 59(4), 1569-1587. <https://doi.org/10.1111/famp.12524>
- Lerner, R. M., Johnson, S. K., & Buckingham, M. H. (2015). Relational developmental systems-based theories and the study of children and families: Lerner and Spanier (1978). revisited. *Journal of Family Theory & Review*, 7(2), 83-104.  
<http://dx.doi.org/10.1111/jftr.12067>
- Liu, J. (2014). Ageing, migration and familial support in rural China. *Geoforum*, 51, 305-312.  
<https://doi.org/10.1016/j.geoforum.2013.04.013>
- Lin, J. P., & Yi, C. C. (2011). Filial norms and intergenerational support to aging parents in China and Taiwan. *International Journal of Social Welfare*, 20(s1), S109-S120.  
<https://doi.org/10.1111/j.1468-2397.2011.00824.x>
- Little, R. J. (1988). A test of missing completely at random for multivariate data with missing values. *Journal of the American Statistical Association*, 83(404), 1198-1202
- Lu, S., & Hunt, K. (2016). *The gay couple fighting for the right to marry in China*. CNN. Available at: <http://edition.cnn.com/2016/01/27/asia/china-first-gay-marriage-court-case/index.html>

- Luo, B., & Zhan, H. (2012). Filial piety and functional support: Understanding intergenerational solidarity among families with migrated children in rural China. *Ageing International*, 37(1), 69-92. <https://doi.org/10.1007/s12126-011-9132-1>
- Miller, E. T. (2004). Filial daughters, filial sons: Comparisons from rural North China. In C. Ikels (Ed.), *Filial piety: Practice and discourse in contemporary East Asia* (pp. 34–52). Stanford: Stanford University Press.
- Minuchin, S. (1974). *Families and family therapy*. Cambridge, MA: Harvard University Press.
- Mund, M., & Nestler, S. (2019). Beyond the Cross-Lagged Panel Model: Next-generation statistical tools for analyzing interdependencies across the life course. *Advances in Life Course Research*, 41, Article 100249. <https://doi.org/10.1016/j.alcr.2018.10.002>
- Mulder, J. D., & Hamaker, E. L. (2021). Three extensions of the random intercept cross-lagged panel model. *Structural Equation Modeling*, 28(4), 638-648. <https://doi.org/10.1080/10705511.2020.1784738>
- Mureșan, C., & Hărăguș, P. T. (2015). Norms of filial obligation and actual support to parents in Central and Eastern Europe. *Romanian Journal of Population Studies*, 9(2), 49-82.
- National Bureau of Statistics of China. (2012). *Chinese Statistical Yearbook: 2011 data* [Data set]. Retrieved from [www.stats.gov.cn/tjsj/ndsj/2011/indexch.htm](http://www.stats.gov.cn/tjsj/ndsj/2011/indexch.htm)
- Polenick, C. A., Fredman, S. J., Birditt, K. S., & Zarit, S. H. (2018). Relationship quality with parents: Implications for own and partner well-being in middle-aged couples. *Family Process*, 57(1), 253-268. <https://doi.org/10.1111/famp.12275>
- Polenick, C. A., Zarit, S. H., Birditt, K. S., Bangerter, L. R., Seidel, A. J., & Fingerman, K. L. (2017). Intergenerational support and marital satisfaction: Implications of beliefs about

- helping aging parents. *Journal of Marriage and Family*, 79(1), 131-146.  
<https://doi.org/10.1111/jomf.12334>
- Qi, X. (2015). Filial obligation in contemporary China: Evolution of the culture-system. *Journal for the Theory of Social Behaviour*, 45(1), 141-161. <https://doi.org/10.1111/jtsb.12052>
- Orbuch, T. L., Bauermeister, J. A., Brown, E., & McKinley, B. D. (2013). Early family ties and marital stability over 16 years: The context of race and gender. *Family Relations*, 62(2), 255-268. <https://doi.org/10.1111/fare.12005>
- Rusbult, C. E., & Van Lange, P. A. M. (2008). Why we need interdependence theory. *Social and Personality Psychology Compass*, 2(5), 2049–2070.  
<https://doi.org/10.1146/annurev.psych.54.101601.145059>
- Sarkisian, N., & Gerstel, N. (2008). Till marriage do us part: Adult children's relationships with their parents. *Journal of Marriage and Family*, 70(2), 360-376.  
<https://doi.org/10.1111/j.1741-3737.2008.00487.x>
- Serewicz, M. C. M. (2006). The difficulties of in-law relationships. In D. C. Kirkpatrick, S. Duck, & M. K. Foley (Eds.), *Relating difficulty: The processes of constructing and managing difficult interaction* (pp. 101–118). Mahwah, NJ: Lawrence Erlbaum Associates Publishers.
- Serewicz, M. C. M., Hosmer, R., Ballard, R. L., & Griffin, R. A. (2008). Disclosure from In-laws and the quality of in-law and marital relationships. *Communication Quarterly*, 56(4), 427-444. <https://doi.org/10.1080/01463370802453642>
- Silverstein, J. L. (1992). The problem with in-laws. *Journal of Family Therapy*, 14(4), 399-412.  
<https://doi.org/10.1046/j..1992.00469.x>



- Tamura, T. & Lau, A. (1992). Connectedness versus separateness: applicability of family therapy to Japanese families. *Family Process*, 31(4), 319–340. <https://doi.org/10.1111/j.1545-5300.1992.00319.x>
- Tanner, J. L. (2006). Recentering during emerging adulthood: A critical turning point in life span human development. In J. J. Arnett & J. L. Tanner (Eds.), *Emerging adults in America: Coming of age in the 21st century* (pp. 21–55). Washington, DC: APA
- Thoemmes, F., MacKinnon, D. P., & Reiser, M. R. (2010). Power analysis for complex mediational designs using Monte Carlo methods. *Structural Equation Modeling*, 17(3), 510-534. <https://doi.org/10.1080/10705511.2010.489379>.
- Umberson, D., Williams, K., Powers, D. A., Chen, M. D., & Campbell, A. M. (2005). As good as it gets? A life course perspective on marital quality. *Social Forces*, 84(1), 493–511. <http://dx.doi.org/10.1353/sof.2005.0131>
- Williamson, H. C., & Lavner, J. A. (2020). Trajectories of marital satisfaction in diverse newlywed couples. *Social Psychological and Personality Science*, 11(5), 597-604. <https://doi.org/10.1177/1948550619865056>
- Willson, A., Shuey, K., & Elder, G. (2003). Ambivalence in the relationship of adult children to aging parents and in-laws. *Journal of Marriage and Family*, 65(4), 1055-1072. <https://doi.org/10.1111/j.1741-3737.2003.01055>.
- Woolley, M. E., & Greif, G. L. (2019). Mother-in-law reports of closeness to daughter-in-law: The determinant triangle with the son and husband. *Social Work*, 64(1), 73-82. <https://doi.org/10.1093/sw/swy055>.

- Xu, A., & Xia, Y. (2014). The changes in mainland Chinese families during the social transition: a critical analysis. *Journal of Comparative Family Studies*, 45(1), 31-53.  
<https://doi.org/10.3138/jcfs.45.1.31>
- Yi, Z., George, L., Sereny, M., Gu, D., & Vaupel, J. W. (2016). Older parents enjoy better filial piety and care from daughters than sons in China. *American Journal of Medical Research*, 3(1), 244-272. <https://doi.org/10.22381/AJMR3120169>
- Yu, J., & Xie, Y. (2015). Cohabitation in China: Trends and determinants. *Population and Development Review*, 41(4), 607-628. <https://doi.org/10.1111/j.1728-4457.2015.00087.x>
- Yuan, X. (2019). Family-of-origin triangulation and marital quality of Chinese couples: The mediating role of in-law relationships. *Journal of Comparative Family Studies*, 50(1), 98-112. <https://doi.org/10.3138/jcfs.042-2017>
- Zhang, W. (2009). "A married out daughter is like spilt water"? Women's increasing contacts and enhanced ties with their natal families in post-reform rural north China. *Modern China*, 35(3), 256-283. <https://doi.org/10.1177/0097700408329613>

Table 1

Descriptive analyses for key study variables and covariates ( $N = 268$  couples)

Variable list	Husbands				Wives				Paired t-test
	Mean	SD	Min	Max	Mean	SD	Min	Max	
<i>key study variables</i>									
Filial obligations (Wave 1)	2.98	.64	1.00	5.00	2.56	.69	1.00	4.60	8.86***
Relationship quality with parents (Wave 1)	4.42	.78	1.00	5.00	4.39	.71	1.00	5.00	.51
Relationship quality with PIL (Wave 1)	4.02	.79	1.00	5.00	3.88	.78	1.00	5.00	2.34*
Relationship quality with parents (Wave 2)	4.37	.71	1.50	5.00	4.44	.66	1.50	5.00	-1.16
Relationship quality with PIL (Wave 2)	4.00	.78	1.50	5.00	3.79	.76	1.50	5.00	3.12**
Relationship quality with parents (Wave 3)	4.33	.65	2.00	5.00	4.35	.70	2.00	5.00	-.71
Relationship quality with PIL (Wave 3)	3.94	.73	1.50	5.00	3.64	.77	1.00	5.00	5.05***
Marital quality (Wave 1)	-.02	5.21	-26.25	3.97	-.06	5.48	-27.07	4.14	.02
Marital quality (Wave 2)	-.09	5.44	-19.72	4.66	-.13	5.56	-20.32	4.79	.21
Marital quality (Wave 3)	.05	5.39	-19.77	5.06	-.01	5.71	-22.59	4.98	.35
<i>Covariates (at couple level)</i>									
Marital length	Mean = 13.63 months (SD = 9.64), Min = 0, Max = 36								N.A.
Pre-marriage cohabitation	Valid percent = 68.0% for couples who cohabited before marriage								N.A.
Pregnancy	Valid percent = 1.7% for couples who were expecting their children together								N.A.
<i>Covariates (at partner level)</i>									
Age	29.59	3.25	23.00	51.00	28.08	2.51	22.00	47.00	9.25***
Education	5.17	.82	2.00	6.00	5.22	.80	2.00	6.00	-1.04
Income (in 1,000 CNY)	8.56	6.13	.00	50.00	6.07	3.93	.00	30.00	6.83***
Intergenerational coresidence <sup>1</sup>	.90	.31	.00	1.00	.87	.33	.00	1.00	1.06
Parental marriage <sup>1</sup>	.90	.31	.00	1.00	.88	.32	.00	1.00	.45

Note. \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$  (two-tailed). PIL = Parents-in-law.

<sup>1</sup> For binary variables, the Mean represents the proportion of participants who were in the category reflected by 1.

Table 2

Bivariate correlation among key study variables and covariates ( $N = 268$  couples)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
<b>Key study variables</b>																				
1 Filial Ob (H1)																				
2 Filial Ob (W1)	<b>.33</b>																			
3 Rel_P(H1)	<b>.13</b>	<b>.03</b>																		
4 Rel_PIL(H1)	<b>.10</b>	<b>.06</b>	<b>.51</b>																	
5 Rel_P (W1)	<b>.24</b>	<b>.34</b>	<b>.05</b>	<b>.19</b>																
6 Rel_PIL(W1)	<b>.15</b>	<b>.24</b>	<b>.17</b>	<b>.22</b>	<b>.52</b>															
7 Rel_P(H2)	<b>.13</b>	<b>.09</b>	<b>.64</b>	<b>.26</b>	<b>.03</b>	<b>.18</b>														
8 Rel_PIL(H2)	<b>.11</b>	<b>.11</b>	<b>.25</b>	<b>.47</b>	<b>.24</b>	<b>.23</b>	<b>.49</b>													
9 Rel_P (W2)	<b>.23</b>	<b>.32</b>	<b>.12</b>	<b>.26</b>	<b>.74</b>	<b>.42</b>	<b>.12</b>	<b>.25</b>												
10 Rel_PIL(W2)	<b>.15</b>	<b>.21</b>	<b>.17</b>	<b>.24</b>	<b>.44</b>	<b>.61</b>	<b>.14</b>	<b>.17</b>	<b>.54</b>											
11 Rel_P(H3)	<b>.19</b>	<b>.07</b>	<b>.54</b>	<b>.20</b>	<b>.09</b>	<b>.24</b>	<b>.65</b>	<b>.30</b>	<b>.14</b>	<b>.24</b>										
12 Rel_PIL(H3)	<b>.14</b>	<b>.13</b>	<b>.18</b>	<b>.43</b>	<b>.20</b>	<b>.23</b>	<b>.33</b>	<b>.60</b>	<b>.27</b>	<b>.25</b>	<b>.50</b>									
13 Rel_P (W3)	<b>.31</b>	<b>.29</b>	<b>.07</b>	<b>.26</b>	<b>.64</b>	<b>.25</b>	<b>.03</b>	<b>.19</b>	<b>.69</b>	<b>.38</b>	<b>.09</b>	<b>.22</b>								
14 Rel_PIL(W3)	<b>.18</b>	<b>.24</b>	<b>.24</b>	<b>.24</b>	<b>.33</b>	<b>.47</b>	<b>.19</b>	<b>.15</b>	<b>.38</b>	<b>.64</b>	<b>.32</b>	<b>.30</b>	<b>.49</b>							
15 QMI (H1)	-.02	-.01	<b>.19</b>	<b>.30</b>	<b>.09</b>	<b>.22</b>	<b>.17</b>	<b>.26</b>	<b>.21</b>	<b>.26</b>	<b>.22</b>	<b>.30</b>	<b>.17</b>	<b>.19</b>						
16 QMI (H2)	-.02	-.003	<b>.14</b>	<b>.19</b>	<b>.06</b>	<b>.17</b>	<b>.31</b>	<b>.26</b>	<b>.14</b>	<b>.22</b>	<b>.09</b>	<b>.20</b>	<b>.05</b>	<b>.13</b>	<b>.33</b>					
17 QMI (H3)	<b>.01</b>	<b>.05</b>	<b>.17</b>	<b>.23</b>	<b>.11</b>	<b>.24</b>	<b>.32</b>	<b>.40</b>	<b>.20</b>	<b>.26</b>	<b>.34</b>	<b>.46</b>	<b>.13</b>	<b>.28</b>	<b>.43</b>	<b>.55</b>				
18 QMI (W1)	<b>.01</b>	<b>.14</b>	<b>.12</b>	<b>.17</b>	<b>.22</b>	<b>.47</b>	<b>.21</b>	<b>.15</b>	<b>.23</b>	<b>.41</b>	<b>.16</b>	<b>.15</b>	<b>.13</b>	<b>.28</b>	<b>.43</b>	<b>.21</b>	<b>.34</b>			
19 QMI (W2)	<b>.03</b>	<b>.15</b>	<b>.12</b>	<b>.13</b>	<b>.17</b>	<b>.37</b>	<b>.18</b>	<b>.18</b>	<b>.18</b>	<b>.38</b>	<b>.13</b>	<b>.13</b>	<b>.07</b>	<b>.29</b>	<b>.20</b>	<b>.38</b>	<b>.38</b>	<b>.51</b>		
20 QMI (W3)	<b>.10</b>	<b>.08</b>	<b>.11</b>	<b>.12</b>	<b>.22</b>	<b>.25</b>	<b>.11</b>	<b>.18</b>	<b>.19</b>	<b>.36</b>	<b>.21</b>	<b>.25</b>	<b>.23</b>	<b>.47</b>	<b>.24</b>	<b>.30</b>	<b>.56</b>	<b>.32</b>	<b>.53</b>	
<b>Covariates</b>																				
21 Marital length	-.09	-.11	-.15	-.09	-.06	-.20	-.22	-.09	-.13	-.29	-.15	-.11	-.09	-.26	-.10	-.23	-.24	-.11	-.20	-.30
22 Cohabit	.06	.04	.02	.05	-.04	.04	.02	.04	-.06	-.02	.04	.02	.02	-.16	.01	-.04	-.08	.05	-.04	-.04
23 Pregnancy	.05	.03	.06	.04	-.06	.00	.06	.000	-.07	-.12	.03	.01	-.03	-.03	.06	.000	-.12	.06	-.07	-.17
24 Age (H1)	.08	.01	-.14	-.08	-.04	-.05	-.06	-.05	-.04	-.02	-.05	.00	-.05	.02	-.08	-.13	-.18	-.08	-.11	-.11
25 Education (H1)	.08	-.07	-.15	-.18	-.12	-.10	-.02	-.15	-.11	-.15	-.08	-.13	-.19	-.18	-.09	-.13	-.28	-.10	-.10	-.23
26 Income (H1)	-.15	-.19	.16	.01	.02	-.03	.11	.01	.06	-.02	-.02	-.03	.08	-.01	-.02	.03	.06	.05	.11	.07
27 Age (H1)	-.07	-.26	.04	-.06	-.02	-.12	.00	.01	-.03	-.13	-.07	-.09	.02	-.12	-.04	-.01	.06	-.08	.10	.07
28 Education (H1)	-.08	-.10	-.08	-.11	.01	-.05	-.09	-.17	.02	-.06	-.13	-.19	-.11	-.03	-.04	-.16	-.11	.03	-.08	-.03
29 Income (H1)	-.16	-.08	.04	-.08	-.03	-.06	.02	-.04	-.03	-.10	-.06	-.06	-.08	-.07	-.04	-.02	-.07	-.08	.05	-.11
30 Co-reside (H)	-.15	-.05	-.15	-.11	-.14	-.13	-.10	.05	-.13	-.05	-.01	-.07	-.15	-.09	-.10	-.02	-.11	-.09	-.01	.05
31 Co-reside (W)	-.11	-.02	-.10	-.13	.01	-.07	-.10	-.05	-.06	-.06	-.01	-.07	-.09	.04	-.07	.01	.06	-.05	.03	.13
32 Parental marriage (H)	.07	.01	<b>.19</b>	-.01	.10	.03	.12	.09	<b>.18</b>	.08	.13	.06	.13	.00	.07	-.06	.06	-.04	-.08	-.02
33 Parental marriage (H)	-.003	.02	<b>.13</b>	<b>.14</b>	<b>.13</b>	-.004	<b>.14</b>	.11	<b>.24</b>	.10	.10	<b>.17</b>	<b>.18</b>	.08	<b>.21</b>	.09	.13	.08	.05	.05

Note. Bolded are bivariate correlations that were statistically significant at  $p < .05$  (two-tailed level).

Filial ob = filial obligations, Rel\_P = relationship quality with parents, Rel\_PIL = relationship quality with parents-in-law, QMI = marital quality, H = husbands, W = wives, 1 = Wave 1, 2 = Wave 2, and 3 = Wave 3.

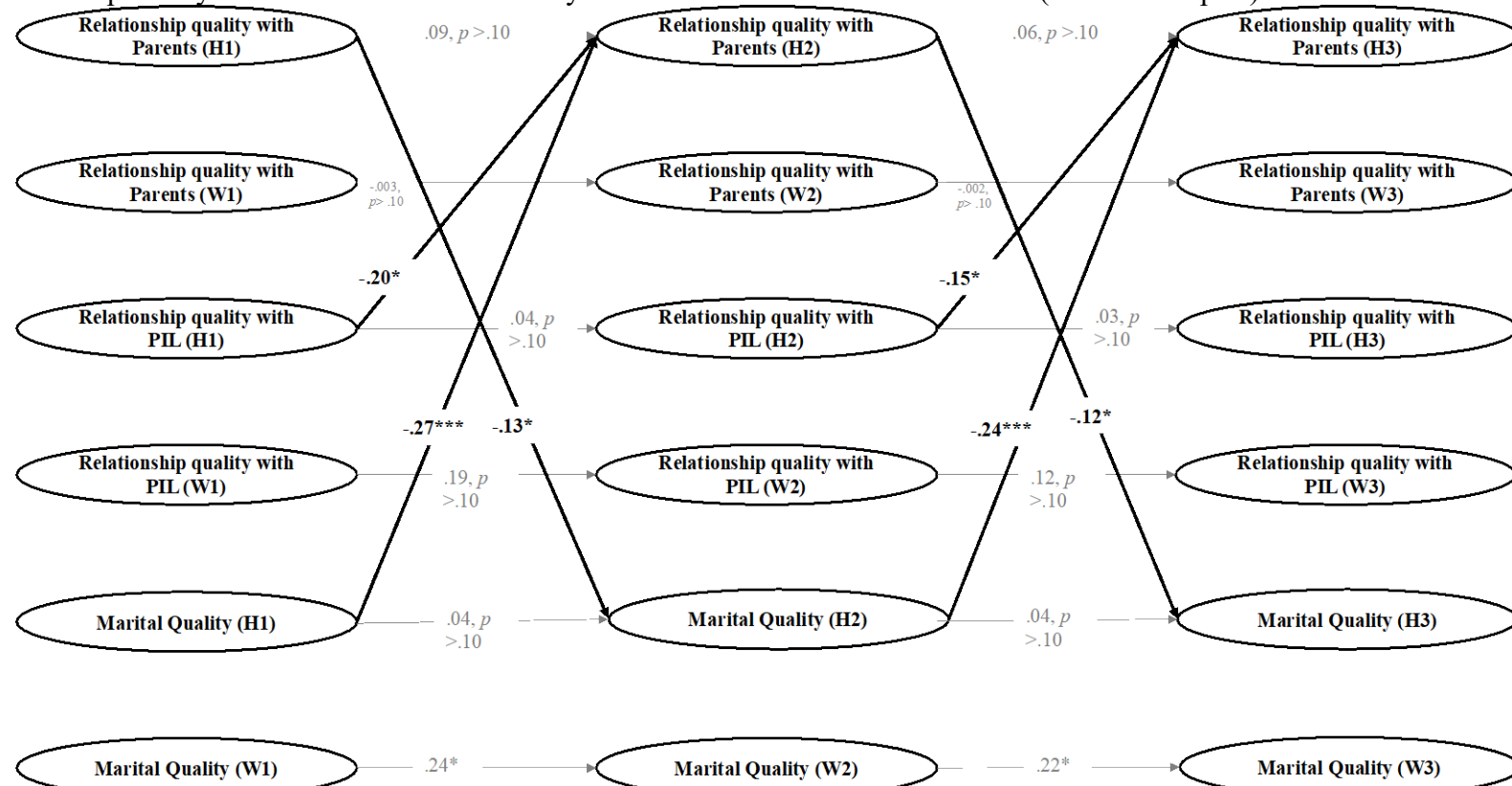
*Table 3*

Results for husbands' and wives' filial obligations as the between-family predictor for between-family differences in relationship quality with parents, relationship quality with parents-in-law, and marital quality ( $N = 268$  couples)

	<b>Husbands' random intercept</b>		<b>Wives' random intercept</b>	
	b	$\beta$	b	$\beta$
<b>Predicting relationship quality with parents with</b>				
Husbands' filial obligations	.15*	.16	.17**	.19
Wives' filial obligations	-.04	-.05	.27***	.32
<b>Predicting relationship quality with parents-in-law with</b>				
Husbands' filial obligations	.09	.10	.08	.09
Wives' filial obligations	-.02	-.02	.18**	.21
<b>Predicting marital quality with</b>				
Husbands' filial obligations	-.37	-.06	.05	.01
Wives' filial obligations	-.26	-.05	.79*	.16

*Note.* \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$  (two-tailed).

Standardized pathway coefficients for within-family associations in the RI-APIM-CLPM ( $N = 268$  couples).



For model comparison, the fit indices for the more complicated model without equality constraints are the following:  $\chi^2$  ( $df = 204$ ) = 276.80,  $p < .001$ , CFI = .962, RMSEA = .036 (90% C.I. = [.025, .047]), and SRMR = .070. With a decrease of .01 or more in CFI as the criterion of a significantly worse fit (Kline, 2015), the simplified model with equality constraints is not a significantly worse fit than the unconstrained model.