

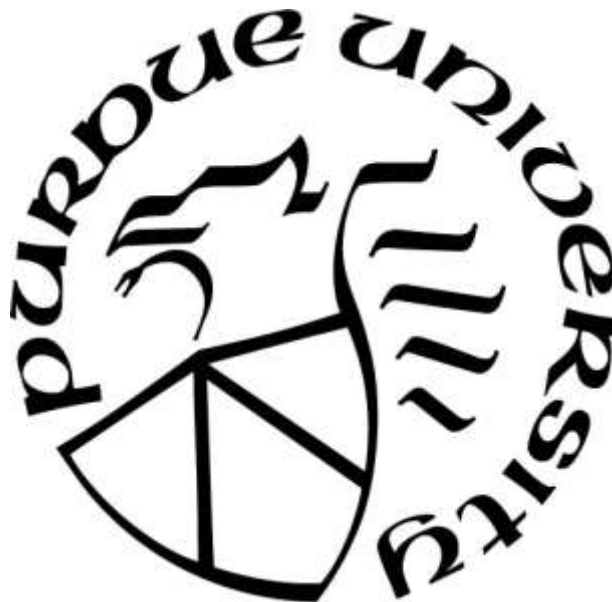
**PATTERNS, PREDICTORS, AND CONSEQUENCES OF
INTERGENERATIONAL RELATIONSHIPS BETWEEN MOTHERS AND
ADULT CHILDREN IN LATER LIFE**

by
Siyun Peng

A Dissertation

*Submitted to the Faculty of Purdue University
In Partial Fulfillment of the Requirements for the degree of*

Doctor of Philosophy



Department of Sociology
West Lafayette, Indiana
August 2019

THE PURDUE UNIVERSITY GRADUATE SCHOOL
STATEMENT OF COMMITTEE APPROVAL

Dr. J. Jill Sutor, Chair

Department of Sociology

Dr. Kenneth F. Ferraro

Department of Sociology

Dr. Shawn Bauldry

Department of Sociology

Dr. Megan Gilligan

Department of Human Development and Family Studies

Iowa State University

Approved by:

Dr. Linda Renzulli

Head of the Graduate Program

To my family and friends who made me who I am.

ACKNOWLEDGMENTS

There are many people whose support, guidance, and insight helped make this dissertation a reality. I would first like to express my sincerest gratitude to my advisor Dr. J. Jill Sutor, for the time and energy you put into my success. This dissertation also would not have been possible without my additional committee members. Drs. Ken Ferraro, Shawn Bauldry, and Megan Gilligan: I am so thankful for your time, support, and expertise in aiding the development and execution of my ideas.

I am extremely grateful for all of the support and understanding from my loving family. I could not have done this without my mom, who has taught me to work hard and never give up. Thank you so much, Mom.

Thank you to my Purdue family, especially Gulcin Con, Marissa Rurka, Monica Farrelly, Blakelee Kemp, Li Miao, Fu Rong, Lu Yun, and Tong Yun Ping. All of you made my experience at Purdue enjoyable and rewarding.

Finally, I would like to express my deepest appreciation to my rock, Yingwei. You have been the loudest cheerleader by my side. Thank you for being the best.

TABLE OF CONTENTS

LIST OF TABLES	7
LIST OF FIGURES	8
ABSTRACT.....	9
CHAPTER 1. INTRODUCTION	12
1.1 Objectives	12
1.2 Conceptual Framework.....	14
1.2.1 Maternal Differential Treatment (MDT) and Psychological Well-Being: The Mediating Role of Marital Tension and Sibling Tension	15
1.2.2 Mother-Child Tension and Mother-Child-In-Law Tension: A Reciprocal Association?	16
1.3 Data and Methods	19
1.4 Description of Chapters	22
CHAPTER 2. MATERNAL DIFFERENTIAL TREATMENT AND PSYCHOLOGICAL WELL-BEING: THE MEDIATING ROLE OF MARITAL TENSION AND SIBLING TENSION?	23
2.1 Background.....	23
2.1.1 MDT, Sibling Tension, and Psychological Well-being	25
2.1.2 MDT, Marital Tension, and Psychological Well-Being.....	26
2.1.3 Summary of Hypotheses.....	27
2.2 Method	27
2.2.1 Data.....	27
2.2.2 Measurement.....	29
2.2.3 Analytic Strategies.....	32
2.2.4 Sensitivity Analysis	33
2.3 Results.....	33
2.3.1 Sibling Tension as a Mediator between MDT and Depressive Symptoms	33
2.3.2 Marital Tension as a Mediator between MDT and Depressive Symptoms	34
2.4 Discussion	35

2.5	Directions for Future Research	38
2.6	Conclusion	40
CHAPTER 3. MOTHERS' TENSION WITH CHILDREN AND CHILDREN-IN-LAW: A RECIPROCAL ASSOCIATION?		44
3.1	Background	44
3.1.1	The Association between Mothers' Tension with Children and Children-In-Law ...	44
3.1.2	The Moderating Effect of Gender.....	46
3.1.3	Summary of Hypotheses.....	47
3.2	Methods.....	48
3.2.1	Sample and Data	48
3.2.2	Measurement.....	49
3.2.3	Analytic Strategies.....	50
3.3	Results.....	51
3.3.1	The Association between Mothers' Tension with Children and Children-In-Law ...	51
3.3.2	The Moderating Effect of Gender.....	51
3.4	Discussion	52
3.5	Future Directions	54
3.6	Conclusion	55
CHAPTER 4. CONCLUSION.....		61
4.1	Discussion of Findings.....	61
4.1.1	Stress Proliferation Process of Maternal Differential Treatment (MDT).....	63
4.1.2	Mother-Child Tension and Mother-Child-In-Law Tension: A Reciprocal Association?	66
4.2	Future Directions	69
4.3	Summary	73
REFERENCES		75

LIST OF TABLES

Table 2.1 Analytic Sample Descriptive Statistics from Wave 2 of the Within-Family Differences Study.	41
Table 2.2 Formal Test of Sibling Tension as a Mediator between MDT and Depressive Symptoms.	42
Table 2.3 Formal Test of Marital Tension as a Mediator between MDT and Depressive Symptoms.	42
Table 3.1 Descriptive Statistics from Two Waves of the Within-Family Differences Study.....	57
Table 3.2 Correlation Matrix between Mothers' Tension with Adult Children and Children-In-Law across Time.	58
Table 3.3 Cross-Lagged Mixed Model Predicting Mothers' Tension with Adult Children and Children-In-Law at T2 (N = 822).	58

LIST OF FIGURES

Figure 2.1 Stress Proliferation of Adult Children's Perceptions of MDT.	42
Figure 2.2 Sibling Tension as a Mediator between MDT and Depressive Symptoms (N=720)..	43
Figure 2.3 Marital Tension as a Mediator between MDT and Depressive Symptoms (N=503)..	43
Figure 3.1 Cross-Lagged Model Predicting Mother-Child Tension and Mother-Child-In-Law Tension.....	60
Figure 3.2 Cross-Lagged Model Predicting Mother-Child Tension and In-Law Tension.	60

ABSTRACT

Author: Peng, Siyun. PhD

Institution: Purdue University

Degree Received: August 2019

Title: Patterns, Predictors, and Consequences of Intergenerational Relationships between Mothers and Adult Children in Later Life

Major Professor: J. Jill Suitor

The life course perspective, especially the theme of linked lives, posits that human lives are embedded in social relationships with family across the life course. Inspired by this framework, the purpose of this dissertation is to extend understanding of the impact of intergenerational relationships on psychological and relational well-being by examining a more complex network of family relationships than has been considered in previous research. Guided by stress theories and spillover theory, this dissertation addresses two research questions that emphasize the complexity and interconnectedness of later-life families: 1) Does the tension with other family relationships—specifically those with siblings and spouses—mediate the association between maternal differential treatment and psychological well-being in adulthood? 2) How does the quality of the ties between mothers and their adult children shape the quality of the ties between mothers and their children-in-law? To address these research questions, I use data collected as part of the Within-Family Differences Study. For the first question, I use data collected from adult children as part of the WFDS-II. For the second research question, I use data collected from mothers as part of the WFDS-I & II.

Past research used equity theory and social comparison theory to explain the direct effect of maternal differential treatment (MDT) on psychological well-being. However, this focus on psychological pathways ignores possible social pathways, such as indirect effects of MDT on well-being through disrupting other family relationships. Using the life course perspective and

stress proliferation theory, the first study found that sibling tension mediates the association between adult children's perceptions of maternal disfavoritism and their psychological well-being—a process I call the stress proliferation of maternal disfavoritism. In contrast, adult children's perceptions of maternal favoritism cannot trigger this stress proliferation process of producing marital tension nor sibling tension.

In line with the life course perspective, principles of classic theories of social interaction in both sociology and psychology suggest that the mother-child tie would be affected by the introduction of the child's spouse into the original dyad. However, only a small number of qualitative studies have investigated the association between mother-child-in-law relationships and mother-child relationships. To fill this knowledge gap, the second study used spillover effect theory and found that older mothers' tension with adult children predicted change in mothers' tension with children-in-law across 7 years, whereas older mothers' tension with children-in-law did not predict change in mothers' tension with children across 7 years. This study suggests that the association between mother-child relations and mother-child-in-law relations may be the result of the unidirectional effect of mother-child relations on mother-child-in-law relations rather than the reciprocal association found in the previous qualitative studies. In other words, mothers' evaluation of mother-child-in-law relations is dependent on their evaluation of mother-child relations, whereas the reverse is not true. In addition, I did not find gender differences in the association between mother-child tension and mother-child-in-law tension over time.

Taken together, this dissertation sheds new light on the ways in which mothers' intergenerational relationships with their adult children and their children-in-law shape the relational and psychological well-being of members of both generations. A deeper understanding the implications of dynamics among mother-child relationship and other family relationships for

health could aid in developing interventions aimed at improving health and family relationships. More broadly, this dissertation contributes to the literature on social relationships as social determinants of health by showing how intergenerational relationships are connected to other family relationships to affect family members' health.

CHAPTER 1. INTRODUCTION

1.1 Objectives

In the past two decades, there has been an increasing interest in understanding the ways in which ties between parents and their adult children affect relational and psychological well-being in the middle and later years (Sutor, Gilligan, & Pillemer, 2015; Thomas, Liu, & Umberson, 2017; Umberson, Pudrovska, & Reczek, 2010). For example, characteristics of intergenerational relationships such as maternal differential treatment (MDT) and poor mother-child relationship quality have been shown to increase sibling tension (Boll, Ferring, & Filipp, 2005; M. Gilligan, Sutor, Kim, & Pillemer, 2013), marital tension (Conger, Cui, Bryant, & Elder, 2000), and depressive symptoms (Jensen, Whiteman, Fingerman, & Birditt, 2013; Peng, Sutor, & Gilligan, 2018). However, these studies have typically examined only the direct effect of intergenerational relationships on one specific family relationship or psychological well-being.

The life course perspective, especially the theme of linked lives, posits that individuals are embedded in a network of social relationships with family members across the life course (Elder, 1994). That is, life events and circumstances experienced by any one individual have implications for their family members as well as for themselves. This implies that research focusing only on target individuals without considering the influences of their family members can yield only limited insight into understanding patterns or consequences of social relationships. In response to such limitations, scholars have moved toward taking a broader perspective that considers the complexity of family ties, particularly when studying the role of social relations in well-being (cf. Merz, Schuengel, & Schulze, 2009; Sutor, Gilligan, et al., 2015; Sutor, Gilligan, Pillemer, et al., 2018; Umberson & Montez, 2010; Umberson et al., 2010). Much of this research

has been directed toward understanding the ways in which ties between parents and their adult children affect well-being in the middle and later years (Merz et al., 2009; Peng, Sutor, et al., 2018; Pillemer, Sutor, Riffin, & Gilligan, 2017; Sutor, Gilligan, et al., 2015; Thomas et al., 2017; Umberson et al., 2010).

One of these lines of inquiry has focused on the patterns and consequences of variations in parent-child relationships within the family (Jensen, Whiteman, Rand, & Fingerman, 2016; Peng, Silverstein, et al., 2018; Sutor, Gilligan, Pillemer, et al., 2018; Sutor, Gilligan, Rurka, et al., 2018). The finding that has generated the greatest attention in this literature is the negative impact of adult children's perceptions of maternal differential treatment (MDT) on psychological well-being (Jensen et al., 2013; Peng, Sutor, et al., 2018; Pillemer, Sutor, Pardo, & Henderson, 2010; Sutor, Gilligan, Peng, Jung, & Pillemer, 2017). Although these studies have shed important light on the impact of MDT on well-being, they have not considered the mechanisms underlying these processes. In particular, these studies have ignored the possibility that MDT may affect adult children's well-being by disrupting other important family relationships, such as marital and sibling ties. I propose that exploring such possible links is essential to broadening understanding of the ways in which the complexity of ties within the broader family network affects individuals' relational and psychological well-being.

Surprisingly, one of the complex intergenerational ties that may also be highly salient to individuals' well-being has been virtually ignored in the new wave of scholarship on social relations and well-being in the past decade—the relationship between mothers and their children-in-law. Not only has this relationship received little scholarly attention, but the few existing studies of mothers' relationships with their children-in-law have focused on describing and explaining the quality of ties between these two roles (Merrill, 2007; Rossi & Rossi, 1990).

Thus, there has been little consideration of the impact of this tie on other family relationships over time or the impact of other family relationships on the mothers' tie with children-in-law over time. For example, it is likely that the quality of relationship between mothers and their children-in-law shapes their quality of ties with adult children, and vice versa. I suggest that such inattention to this intergenerational relationship has limited our understanding of the ways in which the network of ties within the family shapes individuals' relational and psychological well-being.

The central aim of this dissertation is to extend understanding of the impact of intergenerational relationships on well-being by examining a more complex network of family relationships than has been considered in previous research. This dissertation sheds new light on the ways in which mothers' intergenerational relationships with their adult children and their children-in-law shape the relational and psychological well-being of members of both generations. Specifically, I address two research questions that emphasize the complexity and interconnectedness of later-life families: 1) Does tension with other family members—specifically with siblings and spouses—mediate the association between maternal differential treatment and psychological well-being in adulthood? and 2) Is there a reciprocal association between mothers' tension with their children-in-law and mothers' tension with their adult children?

1.2 Conceptual Framework

The guiding theoretical framework for this dissertation is the theme of linked lives of the life course perspective (Elder, 1998), stress proliferation theory (Pearlin, Aneshensel, & Leblanc, 1997), and spillover theory (Easterbrooks & Emde, 1987). The theme of linked lives posits that individuals are embedded in a network of social relationships with family members and that life

events and circumstances experienced by any family member have implications for the whole family. This dissertation uses the theme of linked lives to formulate research questions and hypotheses related to the effects of intergenerational relationships on relational and psychological well-being. This dissertation has two main questions:

1.2.1 Maternal Differential Treatment (MDT) and Psychological Well-Being: The Mediating Role of Marital Tension and Sibling Tension

Although studies have revealed that children's perceptions of their mothers' differentiation in adulthood, particularly perceptions of favoritism and disfavoritism, have a negative impact on psychological well-being (Suitor et al., 2017), they have not considered the mechanisms underlying these processes. In particular, these studies have ignored the possibility that MDT may affect adult children's well-being in part by disrupting other important family relationships, such as marital and sibling ties. Stress proliferation theory (Pearlin et al., 1997) suggests that "primary" stressors, those to which people are initially exposed, can produce "secondary" stressors, in a process called "stress proliferation." This dissertation uses stress proliferation theory and the theme of linked lives to argue that primary stressors in parent-child relationships (e.g., perceptions of MDT) can produce secondary stressors in other family relationships (e.g., sibling tension and marital tension), because those relationships are connected and interdependent.

Studies have found that adult children who perceive that their mothers differentiate among offspring report higher sibling tension (Suitor, Gilligan, Johnson, & Pillemer, 2014). Such high tension with siblings may be very consequential for well-being, given the importance of this tie in adulthood. The social convoy model suggests that in midlife, the most salient kin ties, beyond one's own children, are spouses, mothers, and siblings (Antonucci, Akiyama, & Takahashi, 2004). The sibling tie is unique in that it tends to be the most enduring kin tie across

the life course (Bedford & Avioli, 2012). Thus, it is not surprising to find that high tension with siblings decreases psychological well-being in adulthood (M. Gilligan et al., 2017; Paul, 1997). Based on these established links between MDT and sibling tension, and between sibling tension and psychological well-being, I hypothesize: Sibling tension serves as a mediator between adult children's perceptions of MDT and their psychological well-being.

Perceptions of mothers' differentiation may also play an important role in adult children's relationships with their spouses. Studies have found that spouses' interaction patterns and their perceptions of the quality of their marital relationships are shaped by their ties to other members of their social networks (Amato & Booth, 2001; Bradbury, Fincham, & Beach, 2000; Oliner, 1989). One tie that is especially salient in this context is that between adult children and their parents. For instance, research has shown that absence of nurturing behaviors by parents and positive parent-child interactions (Conger et al., 2000) are associated with higher tension in adult children's marital relationships. Thus, it is likely that MDT, which is a negative dimension of parent-child relationship quality, could also affect children's marital quality, which, in turn, would negatively affect psychological well-being (Umberson, Thomeer, & Williams, 2013). Thus, I hypothesize: Marital tension serves as a mediator between adult children's perceptions of MDT and their psychological well-being.

In sum, I hypothesize that sibling tension and marital tension both serve as mediators between MDT and psychological well-being.

1.2.2 Mother-Child Tension and Mother-Child-In-Law Tension: A Reciprocal Association?

The second question I address in my dissertation focuses on the ways in which mothers' relationship quality with their adult children affects the quality of their relationships with children-in-law and vice versa.

Mother-child-in-law relations are, structurally, triadic relationships involving mothers, children, and children-in-law. The in-law relations are involuntarily created by marriage, and in-laws are held together in a non-voluntary relationship by the third party. The triadic and non-voluntary properties of the in-law relationship make it a perfect fit for the life course perspective (Elder, 1998), especially the theme of linked lives, which can be used to argue that the relationship between a mother and her adult child is likely to be affected by the mother's relationships with her son- or daughter-in-law. In line with the linked lives theme, the spillover hypothesis suggests that moods and behaviors from one relationship (e.g., in-law relationship) transfer directly to the other (e.g., parent-child relationship) within a family system (Easterbrooks & Emde, 1987). This implies that mothers' tension with their children-in-law affect mothers' tension with their adult children. This spillover from the in-law tension to mother-child tension is likely to happen because of the triadic nature of the mother, child, and child-in-law family system. Thus, it is surprising that the mother-child-in-law relationship, especially the role of this tie in the quality of ties between mothers and their married children, has not received more attention in the scholarly literature.

Thus far, only a few qualitative studies have investigated the association between the quality of the mother-child-in-law relationship and the quality of the mother-child relationship. These studies strongly suggest that the mother-child-in-law relationship has an important influence on mothers' relationships with their married adult children (Golish, 2000; Merrill, 2007, 2011). For example, Merrill (2007, 2011) conducted in-person interviews and found that, in some cases, mothers described the ways in which positive in-law relationships increased the closeness in mother-child relationships. In other cases, mothers highlighted how tension with children-in-law had caused the withdrawal of the adult children. These findings have yet to be

corroborated by data from large-scale surveys in which sociodemographic and contextual factors can be taken into consideration; however, they provide a sound basis for proposing that tension between mothers and their children-in-law impacts tension in the mother-child relationship. Further, spillover may also occur from the mother-child tension to the mother-child-in-law tension. Thus, I hypothesize: (1) Mothers' reports of tension with their children-in-law at T1 predict change in mothers' reports of tension with their adult children over time; (2) Mothers' reports of tension with their adult children at T1 predict change in mothers' reports of tension with their children-in-law over time.

In addressing ties between mothers-in-law and children-in-law, it is essential to take gender of adult children into consideration. However, mothers' relationship quality with sons-in-law is largely ignored in the literature. Most studies focus on daughters-in-law (Merrill, 2007, 2011) or ignore the gender of children-in-law (Golish, 2000). However, the child's gender is important to consider, because the extent to which the ties between mothers-in-law and children-in-law affect the quality of the mother-child tie, and vice versa, is likely to differ substantially by gender. The literature has shown that mothers are closer to daughters than sons across the life course (Suitor, Gilligan, et al., 2015), despite the fact that these relationships also tend to be more conflictual than mothers' relationships with their sons (Birditt, Tighe, Fingerman, & Zarit, 2012; Suitor et al., 2016). Thus, the mother-daughter tie appears to be not only closer, but better able to withstand tension. Therefore, I propose that tension between mothers and their sons' spouses will have a greater negative impact on mother-child tension than will tension between mothers and their daughters' spouses. Further, because the mother-daughter tie is better able to weather tension and remain close, I hypothesize that the effects of mother-child tension on the mother-in-law/child-in-law tension will be stronger when children are sons than daughters.

This dissertation is innovative and significant in four ways. First, by adopting the life course perspective and studying mother-child relationships in the context of other kin relations, this dissertation highlights the complex processes by which mother-child relationships affect the relational and psychological well-being of other family members. Second, the dissertation examines the mechanisms underlying links between adult children's perceptions of MDT and their psychological well-being. Understanding these mechanisms is crucial for the development of translational research and increasing the efficacy of interventions aimed at improving health and family relationships. Third, given the longitudinal structure of the data, the causal order of the reciprocal association between mother-child tension and mother-child-in-law tension is examined, strengthening the evidence for causal inference. Fourth, this dissertation integrates research from multiple fields including gerontology, sociology, and psychology. An integrative approach to understanding the social determinants of health is imperative to translational research.

1.3 Data and Methods

To address these research questions, this dissertation uses two waves of data from the Within-Family Differences Study (WFDS), a random sample survey of nearly 600 older families residing in the Boston metropolitan area with at least two living adult children. (Details of the design can be found at <http://web.ics.purdue.edu/~jsuitor/within-family-differences-study/>.)

Massachusetts city and town lists were used as the source of the original WFDS sample, from which women aged 65–75 years were identified. With the assistance of the Center for Survey Research at the University of Massachusetts Boston, Suitor and Pillemer drew a probability sample of women aged 65–75 years with two or more children from the greater Boston area. The first wave of interviews in the WFDS took place with 566 mothers, which

represented 61% of those who were eligible for participation, a rate comparable to that of similar surveys in the past decade (Wright & Marsden, 2010). In addition, 773 adult children of these mothers were interviewed between 2001 and 2003.

The original study was expanded to include a second wave of data collection from 2008 through 2011. For the follow-up study, the survey team attempted to contact each mother who participated in the original study. At Time 2 (T2), 420 mothers were interviewed. Of the 146 mothers who participated at only T1, 78 had died between waves, 19 were too ill to be interviewed, 33 refused, and 16 could not be reached. Thus, the 420 represent 86% of mothers who were living at T2. Comparison of the T1 and T2 samples revealed that the respondents differed on subjective health, educational attainment, marital status, and race. Mothers who were not interviewed at T2 were less healthy, less educated, and less likely to have been married at T1; they were also more likely to be Black. The 420 mothers interviewed at T2 reported information on 1,577 adult children.

Following the interviews, mothers were asked for the contact information of their adult children; at T2, 81% of the mothers provided contact information—a rate higher than typically found in studies of multiple generations (Kalmijn & Liefbroer, 2011; Rossi & Rossi, 1990). In cases in which the mother was not interviewed at T2, information from T1 was used to contact adult children at T2. Seventy-five percent of the adult children for whom contact information was available agreed to participate, resulting in a final sample of 826 children nested within 360 families. Analyses comparing mothers with no participating children and mothers who had at least one participating child revealed no differences between these two groups in terms of race, marital status, education, age, or number of children, but that daughters, marrieds, and those with

higher education were slightly more likely to participate, consistent with other studies with multiple generations (Kalmijn & Liefbroer, 2011; Rossi & Rossi, 1990).

I chose to utilize data from the WFDS to investigate the research questions addressed in this dissertation for several reasons. First, the WFDS was intentionally designed to study maternal differential treatment. All mothers interviewed had at least two living adult children and children were asked to report in detail on their older mothers' differential treatment. This unique design allows me to examine the effect of maternal differential treatment on adult children's psychological well-being. Second, children from the WFDS also reported tension in other family relations, including marital tension and sibling tension, allowing me to test marital tension and sibling tension as mediating mechanisms of the association between maternal differential treatment and psychological well-being. Finally, older mothers from the WFDS were asked about their tension with adult children and children-in-law at both waves. The two-wave panel design allows for conducting a cross-lagged model to test the reciprocal association between mothers' tension with adult children and mothers' tension with children-in-law, thus providing evidence on the causal order of the association.

For my analyses, I used multilevel modeling, which accounts for nonindependence and allows for correlated error structure, to control for the nested structure within families. For the first research question, I used the "lme4" package (Bates, Maechler, Bolker, & Walker, 2015) and the "Mediation" package (Tingley, Yamamoto, Hirose, Keele, & Imai, 2014) in R to conduct multilevel mediation analyses to test sibling tension and marital tension as mediators between the association between MDT and depressive symptoms. In order to assess the possible reciprocal association between mother-child tension and mother-child-in-law tension in research question 2, I estimated a multilevel cross-lagged panel model using structural equation modeling ("gsem"

command in STATA 15). It allowed me to test whether mothers' tension with children can predict change in mothers' tension with children-in-law over time, and vice versa.

1.4 Description of Chapters

The remainder of this dissertation is divided into two empirical chapters followed by a concluding chapter. Chapters 2 and 3 are written as stand-alone empirical journal articles with sections on conceptual frameworks, methods, results, and discussion.

In Chapter 2, I address the question of whether tension with other family members mediates the association between MDT and depressive symptoms. In particular, I examine whether there is a stress proliferation process of MDT, in which MDT leads to higher depressive symptoms indirectly through producing sibling tension and marital tension.

In Chapter 3, I extend understanding of the impact of intergenerational relationships on well-being by examining the interdependent nature of family relationships. I examine whether there is reciprocal association between mothers' tension with children and mothers' tension with children-in-law. To investigate this reciprocal association, I estimate a multilevel cross-lagged panel model using two waves of data from the WFDS.

Finally, in Chapter 4, I place the findings within the broader study of family networks and relational and psychological well-being, and discuss the implications of the findings for theory and practice. I also discuss directions for future research that could make a contribution to the family and health literature.

CHAPTER 2. MATERNAL DIFFERENTIAL TREATMENT AND PSYCHOLOGICAL WELL-BEING: THE MEDIATING ROLE OF MARITAL TENSION AND SIBLING TENSION?

2.1 Background

One of the newest directions in research on later-life families has been the study of patterns and consequences of within-family differences in intergenerational relations (Sutor et al., 2017; Sutor, Sechrist, Plikuhn, Pardo, & Pillemer, 2008; Sutor, Gilligan, Pillemer, et al., 2018), which highlights the ways in which maternal differential treatment (MDT) affects family members' well-being. This line of work has shown that mothers differentiate their children across a wide range of dimensions, including emotional closeness (Birditt et al., 2012; Sutor et al., 2016; Sutor, Gilligan, & Pillemer, 2013a; R. A. Ward, Spitze, & Deane, 2009), ambivalence, tension, disappointment (Birditt, Fingerman, & Zarit, 2010; Fingerman, Pitzer, Lefkowitz, Birditt, & Mroczek, 2008; Pillemer, Munsch, Fuller-Rowell, Riffin, & Sutor, 2012; Sutor et al., 2016), contact (Fingerman, Huo, Kim, & Birditt, 2017; R. Ward, Deane, & Spitze, 2014), exchange of support (Cong & Silverstein, 2011; Fingerman et al., 2011; Spitze, Ward, Deane, & Zhuo, 2012; Sutor, Pillemer, & Sechrist, 2006), and preferences for support (Cong & Silverstein, 2012; Sutor, Gilligan, & Pillemer, 2013b).

Maternal differential treatment (MDT) refers to mothers' unequal treatment of their offspring, including maternal favoritism and disfavoritism. Maternal favoritism refers to children's perceptions that they are favored by mothers on positive dimensions of mother-child relationships (e.g., they perceive that they are most emotionally close to mothers). In contrast, maternal disfavoritism refers to children's perceptions that they are disfavored by mothers on

negative dimensions of mother-child relationships (e.g., they perceive that they have most conflict with mothers).

Using social comparison theory (Festinger, 1954), which states that individuals have worse self-evaluation when they consider themselves under-benefited and have better self-evaluation when they consider themselves over-benefited, studies found that perceptions of maternal disfavoritism lead to young adult children's worse psychological outcomes (Jensen et al., 2013) and more behavior problems (Young & Ehrenberg, 2007).

A small number of studies have found that maternal favoritism is positively associated with psychological well-being (Jensen et al., 2013; Shanahan, McHale, Crouter, & Osgood, 2008), however, the preponderance of the literature has shown that maternal favoritism is negatively associated with psychological well-being (Peng, Suitor, et al., 2018; Suitor et al., 2017; Young & Ehrenberg, 2007). Although measures of MDT and the age of children differ across studies, these mixed findings regarding the impact of maternal favoritism may result from a lack of attention to the ways in which the magnitude of maternal favoritism might modify the relationship. One study found that children have the best psychological well-being when they are slightly favored, but their psychological well-being decreases when the magnitude of favoritism increases (Meunier, Bisceglia, & Jenkins, 2012). This is consistent with the finding that the negative effects of MDT on psychological well-being are strongest when individuals perceive that they, rather than their siblings, are the most favored offspring (Suitor et al., 2017). The negative effects of maternal favoritism on psychological well-being can be explained by equity theory (Hatfield, Traupmann, Sprecher, Utne, & Hay, 1985), which proposes that individuals who receive excessive benefits in relation to their role partners experience guilt, whereas persons who feel underbenefited feel disappointment and anger, in turn, leading to lower psychological

well-being. It is possible that the consequences of violating the equity rule outweigh the benefits of social comparison when siblings encounter a significant amount of maternal favoritism.

Based on the theoretical and empirical literatures on relational equity (Loeser, Whiteman, & McHale, 2016) and social comparison (Suitor et al., 2017), a main effect of MDT on psychological well-being is not surprising. However, there may also be indirect effects of MDT on well-being that have not been explored. Drawing from theories of the life course and stress proliferation (Pearlin et al., 1997), there are grounds to propose that MDT might also impact psychological well-being indirectly through disrupting other social relationships. Pearlin, Aneshensel, and Leblanc (1997) described how “primary” stressors, those to which people are initially exposed, can produce “secondary” stressors, in a process called “stress proliferation.” For example, being a caregiver, a primary stressor, may lead to a number of other, secondary stressors (e.g., work strain). According to the stress proliferation theory and the theme of linked lives, it is reasonable to assume that a primary stressor in parent-child relationships can produce secondary stressors in other family relationships (e.g., sibling tension and marital tension), because those relationships are connected and interdependent on each other. There is some empirical evidence to support this claim.

2.1.1 MDT, Sibling Tension, and Psychological Well-being.

Studies have found that adult children who perceive that their mothers differentiate among themselves and their siblings report lower sibling relationship quality (Boll, Ferring, & Filipp, 2003; Suitor et al., 2014, 2009). For example, adult children who perceived that they were their mothers’ preferred caregiver reported higher sibling tension compared to those who perceived that their mothers did not have a preferred caregiver (Suitor et al., 2014).

Such high tension with siblings may be very consequential for well-being, given the importance of this tie in adulthood. The social convoy model suggests that in midlife, the most salient kin ties, beyond one's own children, are spouses, mothers, and siblings (Antonucci et al., 2004). The sibling tie is unique in that it tends to be the most enduring kin tie across the life course (Bedford & Avioli, 2012). Thus, it is not surprising that studies have found that relationships with siblings impact psychological well-being in adulthood (Cicirelli, 1989; M. Gilligan et al., 2017; Paul, 1997). Based on these established links between MDT and sibling tension, and between sibling tension and psychological well-being, I hypothesize that sibling tension will serve as a mediator between adult children's perceptions of MDT and their psychological well-being.

2.1.2 MDT, Marital Tension, and Psychological Well-Being

Studies have found that spouses' interaction patterns and their perceptions of the quality of their marital relationships are shaped by their ties to other members of their social networks (Amato & Booth, 2001; Bradbury et al., 2000; Johnson & Galambos, 2014; Oliner, 1989). One tie that is especially salient in this context is that between adult children and their parents. For example, research has shown that nurturing behaviors by parents, positive parent-child interactions, and high parent-child relationship quality are associated with lower tension in adult children's marital relationships (Conger et al., 2000; Lavee, Katz, & Ben-Dror, 2005; R. A. Ward & Spitze, 1998). Perceptions of mothers' differential treatment is a dimension of parent-child relationship quality; thus, these perceptions could also be expected to affect marital quality. Given that the impact of perceptions of MDT on other outcomes, such as sibling relationship quality and depressive symptoms, has been decidedly negative, there are reasons to assume that

adult children who perceive that their mothers favor and disfavor some offspring over others will have higher marital tension.

A substantial body of research has demonstrated a strong link between marital quality and psychological well-being (Carr, Freedman, Cornman, & Schwarz, 2014; Margelisch, Schneewind, Violette, & Perrig-Chiello, 2017; Umberson & Montez, 2010; Umberson, Williams, Powers, Liu, & Needham, 2006), particularly in the case of marital tension (Proulx, Helms, & Buehler, 2007; Umberson et al., 2013). Based on these links between MDT and marital tension, and between marital tension and psychological well-being, I hypothesize that marital tension will serve as a mediator between MDT and the psychological well-being of middle-aged adult children.

2.1.3 Summary of Hypotheses

As shown in Figure 2.1, I hypothesize that sibling tension and marital tension will both serve as mediators between MDT and psychological well-being.

2.2 Method

2.2.1 Data

The data for this chapter were collected as part of the Within-Family Differences Study (WFDS), which involved selecting a sample of mothers 65–75 years of age with at least two living adult children and collecting data from mothers regarding each of their children. The first wave of interviews in the WFDS took place with 566 mothers between 2001 and 2003; the original study was expanded to include a second wave of data collection from 2008 through 2011. (Details of the design can be found at <http://web.ics.purdue.edu/~jsuitor/within-family-differences-study/>.)

Massachusetts City and town lists were used as the source of the original WFDS sample, from which women aged 65–75 years were identified. With the assistance of the Center for Survey Research at the University of Massachusetts Boston, Suitor and Pillemer drew a probability sample of women aged 65–75 years with two or more children from the greater Boston area. The Time 1 (T1) sample consisted of 566 mothers, which represented 61% of those who were eligible for participation, a rate comparable to that of similar surveys in the past decade (Wright & Marsden, 2010).

For the follow-up study, the survey team attempted to contact each mother who participated in the original study. At Time 2 (T2), 420 mothers were interviewed. Of the 146 mothers who participated at only T1, 78 had died between waves, 19 were too ill to be interviewed, 33 refused, and 16 could not be reached. Thus, the 420 represent 86% of mothers who were living at T2. Comparison of the T1 and T2 samples revealed that the respondents differed on subjective health, educational attainment, marital status, and race. Mothers who were not interviewed at T2 were less healthy, less educated, and less likely to have been married at T1; they were also more likely to be Black. The 420 mothers interviewed at T2 reported information on 1,577 adult children.

Following the interviews, mothers were asked for the contact information of their adult children; at T2, 81% of the mothers provided contact information—a rate higher than typically found in studies of multiple generations (Kalmijn & Liefbroer, 2011; Rossi & Rossi, 1990). In cases in which the mother was not interviewed at T2, information from T1 was used to contact adult children at T2. Seventy-five percent of the adult children for whom contact information was available agreed to participate, resulting in a final sample of 826 children nested within 360 families. Analyses comparing mothers with no participating children and mothers who had at

least one participating child revealed no differences between these two groups in terms of race, marital status, education, age, or number of children, but that daughters, marrieds, and those with higher education were slightly more likely to participate, consistent with other studies with multiple generations (Kalmijn & Liefbroer, 2011).

The analytic sample for testing sibling tension as a mediator included 720 adult children nested within 308 families. The sample was restricted to adult children (a) whose mothers were alive at the time of the child's T2 interview, (b) who had at least one living sibling at T2, and (c) whose families had been identified as Black or non-Hispanic White. Using these criteria, 101 children were omitted. Further, five children were omitted because they were missing data on variables of interest. The analytic sample for testing marital tension as a mediator further excluded 217 children who were not married at T2, which resulted in 503 adult children nested within 216 families. Listwise deletion was used to handle missing data on the independent variables because there were fewer than 1% missing on any variable in the analysis (Allison, 2010). Mothers' and children's demographic characteristics are presented in Table 2.1.

2.2.2 Measurement

2.2.2.1 Dependent Variable

To measure *depressive symptoms*, I employed the 7-item version of the Center for Epidemiological Studies Depression (CES-D) Scale (Ross & Mirowsky, 1988). The CES-D asks respondents how often in the past week they have felt a certain way. The items composing the scale are as follows: (a) Everything I did was an effort; (b) I had trouble getting to sleep or staying asleep; (c) I felt lonely; (d) I felt sad; (e) I could not get going; (f) I felt I could not shake off the blues; and (g) I had trouble keeping my mind on what I was doing. The response categories for the seven items were: 0 = less than 1 day, 1 = 1-2 days, 2 = 3-4 days, or 3 = 5-7

days. The scale was created by taking the average of the 7 items ($M = 0.53$, $SD = 0.55$, and Cronbach's $\alpha = 0.78$).

2.2.2.2 Independent Variables

To create the *perceived current maternal favoritism* and *disfavoritism* measures, each respondent was asked: (a) "To which child in your family is your mother the most emotionally close?" and (b) "With which child in the family does your mother have the most disagreements or arguments?" For each of these questions, responses were assigned to three categories: (1) child does not perceive mother as favoring/disfavoring any particular offspring; (2) child perceives that mother favors/disfavors him or herself; or (3) child perceives that mother favors/disfavors another child in the family. Two dummy variables were created for the three categories. For the mediation analysis, I compared children who perceived no MDT with children who perceived that they were the favored/disfavored children.

2.2.2.3 Mediators

To create the measure of *sibling tension*, I combined three items: (a) How often do your siblings create tensions/arguments with you? (b) How often do your siblings make too many demands on you? and (c) How often do your siblings criticize you? The response categories for the three items were: 1 = never, 2 = rarely, 3 = sometimes, 4 = fairly often, or 5 = very often. The scale was created by taking the average of the 3 items ($M = 1.94$, $SD = 0.71$, and Cronbach's $\alpha = 0.74$).

To create the measure of *marital tension*, I combined three items: How often does your husband/wife/partner (a) make too many demands on you? (b) criticize you? and (c) create tensions/arguments with you? The response categories for the three items were: 1 = never, 2 =

rarely, 3 = sometimes, 4 = fairly often, or 5 = very often. The scale was created by taking the average of the 3 items ($M = 2.40$, $SD = 0.80$, and Cronbach's $\alpha = 0.79$).

2.2.2.4 Covariates

It is important to control for several characteristics of adult children and families that have been found to predict depressive symptoms or mothers' differential treatment. I controlled on family size, race, birth order, gender, parental status, educational attainment, marital status, employment, and self-rated health. I included family size because, although it does not predict MDT, an increase in family size is associated with a lower likelihood of any particular child being named (Suitor et al., 2016). Race has been found to be associated with mothers being more likely to differentiate among their offspring regarding some dimensions of favoritism and less likely regarding some dimensions of disfavoritism (Suitor et al., 2016), and the effects of MDT on depressive symptoms have been shown to be stronger among Black than White adult children (Suitor et al., 2017). Physical health, parenthood, and employment predict lower depressive symptoms (Clarke, Marshall, House, & Lantz, 2011; Schieman & Glavin, 2011; Umberson et al., 2010). Educational attainment and gender have been found to predict both maternal differentiation and depressive symptoms (Clarke et al., 2011; Suitor et al., 2013b). Finally, mothers are more likely to be most emotionally close to last borns (Suitor et al., 2013a).

Mother-Level Characteristics

Family size was measured using the number of living adult children in the family at T2. *Race* was measured using responses from mothers when asked to select from a card listing several races and ethnicities (e.g., White, Black or African American, Hispanic or Latina, Asian). They were instructed that they could choose more than one race or ethnicity. For the present analysis, children whose mothers identified themselves as Black were coded as "Black" and

those whose mothers identified themselves as White were coded as “White.” Respondents whose mothers identified themselves as members of other races or ethnicities were omitted because of their small numbers.

Child-Level Characteristics

Gender was coded 0 = son; 1 = daughter. *Birth order* was based on the ages of all children in the family: 0 = first or middle born, 1 = last born; this coding was used because being last-born has predicted relationship quality with mothers and MDT (Suitor et al., 2016), whereas other birth-order categories have not. Further, because birth order and age are highly collinear they cannot be included in the same analyses. Age has not been shown to predict relationship quality or MDT, thus, I used birth order. *Employment* was measured by asking whether the adult child was currently working for a job with pay: 0 = no, 1 = yes. To measure *children’s parental status*, we relied on mothers’ T1 reports of how many offspring each child had as well as T2 reports of whether each child had given birth to or adopted children between waves. Each child was categorized as 0 = childless or 1 = parent at T2. *Children’s educational attainment* was measured based on reports by their mothers: 1 = eighth grade or less; 2 = 1–3 years of high school; 3 = high school graduate; 4 = vocational/noncollege, post high school; 5 = 1–3 years of college; 6 = college graduate; and 7 = graduate work. *Subjective health* was measured using children’s reports of whether their physical health was 5 = excellent, 4 = very good, 3 = good, 2 = fair, or 1 = poor.

2.2.3 Analytic Strategies

I conducted mediation analyses to test sibling tension as a mediator between the association between MDT (choose self vs. no MDT) and depressive symptoms. Because adult children were nested within families, I used “lme4” package in R to account for the nested

structure and estimate the linear mixed-effects model (Bates et al., 2015). Using the “Mediation” package in R (Tingley et al., 2014), average mediation effects (AMEs) and average direct effects (ADEs) were assessed. Significance of AME and ADE were determined using a quasi-Bayesian Monte Carlo simulation with 1000 iterations. Because we had two different measures of MDT (i.e., most tension with mothers and most emotionally close to mothers), the mediation analysis was conducted for each measure separately.

The same process was used to test marital tension as a mediator between MDT and depressive symptoms. All analyses were conducted using R.

2.2.4 Sensitivity Analysis

The mediation analysis of sibling tension as a mediator was conducted with married adult children to have the same sample as the mediation analysis of marital tension as a mediator. The results were similar to the original mediation analysis in terms of the statistical significance level of the mediation effect.

2.3 Results

2.3.1 Sibling Tension as a Mediator between MDT and Depressive Symptoms

As shown in Figure 2.2, both direct effects were statistically significant for favoritism and disfavoritism. This means that the direct effect of the perceptions of maternal favoritism and the perceptions of maternal disfavoritism were statistically significant. Specifically, children who perceived that they were most emotionally close to mothers and children who perceived that they had most tension with mothers reported higher depressive symptoms compared to children who perceived that mothers were equally close to everyone and children who perceived that mothers had equal tension with all of their offspring.

Figure 2.2 also showed that perceptions of being most close to mother were not statistically significantly associated with sibling tension, whereas perceptions of having most tension with mother were statistically significantly associated with sibling tension. It is clear that sibling tension was statistically significantly associated with depressive symptoms in both analyses. Thus, it seems highly likely that sibling tension mediated between maternal disfavoritism and depressive symptoms. However, it is not clear whether sibling tension mediated between maternal favoritism and depressive symptoms. Therefore, formal tests of mediation effects of sibling tension were conducted to reach a more convincing conclusion.

As shown in Table 2.2, the mediation effect of sibling tension was not statistically significant for maternal favoritism (most close to mother), whereas the mediation effect of sibling tension was statistically significant for maternal disfavoritism (most tension with mother). Thus, there was a mediating effect of sibling tension between maternal disfavoritism (chose self vs. no MDT) and depressive symptoms. It is important to notice that sibling tension mediated 22.8% of the total effect of maternal disfavoritism (chose self vs. no MDT) on depressive symptoms.

2.3.2 Marital Tension as a Mediator between MDT and Depressive Symptoms

As shown in Figure 2.3, the direct effect was statistically significant for maternal disfavoritism but was not statistically significant for maternal favoritism. This means that the perceptions of having the most tension with mothers predicted higher depressive symptoms, whereas the perceptions of being most close to mothers did not predict depressive symptoms. Specifically, children who perceived that they have most tension with mothers had higher depressive symptoms than children who perceived that mothers had equal tension with everyone.

Figure 2.3 also showed that perceptions of being most close to mother were not statistically significantly associated with marital tension, whereas perceptions of having most tension with mother were statistically significantly associated with marital tension. It is clear that marital tension was statistically significantly associated with depressive symptoms in both analyses. Thus, it seems likely that marital tension mediated between maternal disfavoritism and depressive symptoms. However, it is not clear whether marital tension mediated between maternal favoritism and depressive symptoms. Therefore, formal tests of mediation effects of marital tension were conducted to reach a more convincing conclusion.

As shown in Table 2.3, the mediation effect of marital tension was not statistically significant for maternal favoritism, whereas the mediation effect of marital tension was statistically significant for maternal disfavoritism. Thus, there was a mediating effect of marital tension between maternal disfavoritism (chose self vs. no MDT) and depressive symptoms. Marital tension mediated 5.6% of the total effect of maternal disfavoritism (chose self vs. no MDT) on depressive symptoms.

2.4 Discussion

Past research have documented the effect of adult children's perceptions of maternal differential treatment (MDT) on psychological well-being (Jensen et al., 2013; Loeser et al., 2016; Sutor et al., 2017). Scholars have used equity theory (Hatfield et al., 1985) and social comparison theory (Festinger, 1954) to explain the psychological process of this effect of MDT on psychological well-being. However, this focus on psychological pathways ignores possible social pathways which emphasize the indirect effects of MDT on psychological well-being through disrupting other family relationships. Guided by the life course perspective (Elder, 1998) and stress proliferation theory (Pearlin et al., 1997), the central question addressed in this chapter

is whether sibling tension and marital tension mediate the association between children's perceptions of MDT and depressive symptoms. In posing this question, I drew from the life course perspective and stress proliferation theory to argue that children's perceptions of MDT can produce sibling tension and marital tension as secondary stressors and thus lead to higher depressive symptoms.

The results suggested that both sibling tension and marital tension mediated the association between children's perceptions of maternal disfavoritism and depressive symptoms. However, it is important to note that sibling tension mediated 22.8% of the association, whereas marital tension mediated only 5.6% of the association. One reason for the stronger mediation effect of sibling tension is that sibling tension is more sensitive to perceptions of maternal disfavoritism than is marital tension ($b = 0.598$ in Figure 2.2 vs. $b = 0.345$ in Figure 2.3). This may be because, although both sibling tension and marital tension may arise as the result of the spillover effect of perceptions of maternal disfavoritism, siblings engage in social comparison with each other in terms of their perceptions of maternal disfavoritism, and thus may suffer directly from perceptions of maternal disfavoritism. In contrast, relationships with spouses/partners are less likely to be under the influence of this social comparison regarding maternal disfavoritism.

These findings suggest that one pathway of the effect of maternal disfavoritism on psychological well-being is through producing secondary stressors in sibling and marital relationships. Understanding this mechanism is helpful for the development of translational research and increasing the efficacy of interventions aimed at improving psychological well-being and family relationships. In order to design effective interventions, especially for those targeting social relationships, it is crucial to understand the intervening mechanisms as well as

the relative impact of each of those mechanisms on health outcomes (Kawachi & Berkman, 2001; Thoits, 1995). This chapter suggests that sibling tension and marital tension can be the active ingredients of possible interventions aimed at reducing the negative effect of perceptions of maternal disfavoritism. However, because marital tension only mediated 5.6% of the total effect, caution is advised when interpreting marital tension as an important mediating mechanism.

In contrast, the results showed that neither sibling tension nor marital tension mediated the association between children's perceptions of maternal favoritism and depressive symptoms. It means that there is no stress proliferation process of MDT in the case of maternal favoritism. The null result regarding the stress proliferation process of maternal favoritism is not surprising given studies that found that perceptions of being most emotionally close to mothers are not associated with sibling tension (M. Gilligan et al., 2013; Suitor et al., 2009). This can be explained by the *Negativity Effect Model*, a finding of the broader literature on the effects of positive and negative experiences on psychological well-being. This model hypothesizes that negative effects of social ties are stronger than positive effects of social ties. The greater influence of bad experiences over good ones is found in everyday events, major life events, close relationship outcomes, social ties, interpersonal interactions, and learning processes (Baumeister, Bratslavsky, Finkenauer, & Vohs, 2001; Paolini & McIntyre, 2018; Sinclair et al., 2015). Given the stronger influence of perceptions of maternal disfavoritism than perceptions of maternal favoritism, it makes sense that perceptions of maternal disfavoritism are able to trigger the stress proliferation process of MDT and to produce sibling tension, whereas perceptions of maternal favoritism are unable to trigger this process.

Suitor and colleagues (2017) found that the psychological well-being of adult children appears to be differentially affected by different dimensions of MDT. The evaluation of the stress proliferation process of maternal favoritism and disfavoritism can help us to understand the difference in effects across various dimensions of MDT. This chapter found that depressive symptoms were influenced not only by the direct effect of MDT but also by the indirect effect of sibling tension that generated from MDT. It is possible that some dimensions of MDT, especially maternal favoritism, have a small or no effect on psychological well-being because they do not generate sibling tension and marital tension.¹ By mapping the pathways from MDT through family tension to psychological well-being, the nature of these dynamic connections can be clarified. Thus, theoretically, an understanding of the stress proliferation process of MDT helps to bring studies of MDT's negative effects on psychological well-being into the family system approach and the life course perspective. It also helps us to bridge the research on MDT and family tension and research on MDT and psychological well-being.

2.5 Directions for Future Research

First, due to the nature of cross-sectional data, I cannot ascertain the causal direction of the mediation effect of sibling tension on the association between maternal disfavoritism and psychological well-being. It is possible that if an adult child is depressed, s/he may be more likely to perceive maternal disfavoritism and sibling tension. Supporting this argument, researchers found that people with major psychological disorders, especially depression, tend to report negative events, negatively biased perceptions, and false negative memories (Joormann,

¹ Although perceptions of maternal favoritism did not predict sibling tension, it predicted lower sibling closeness (Suitor et al., 2009). It is possible that perceptions of maternal favoritism have indirect effect on depressive symptoms through sibling closeness.

Teachman, & Gotlib, 2009; Mathews & MacLeod, 2005; Vuolo, Ferraro, Morton, & Yang, 2014). However, caution should be advised in interpreting the above findings, because adult children in this chapter experienced depressive moods, on average, less than 1 day per week, which is relatively healthy and does not qualify them for major depression. In addition, longitudinal studies have found that MDT has detrimental effects on children's depressive symptoms and sibling relationships rather than the reverse (Richmond, Stocker, & Rienks, 2005; Shanahan et al., 2008). Thus, despite these limitations, the evidence tends to support the idea that adult children's perceptions of maternal disfavoritism produce sibling tension and thus lead to higher depressive symptoms.

The stress proliferation process of MDT has implications for intervention studies, especially in the context of caregiving. There is evidence that caregiving is increasingly a team effort, with multiple family members (mostly patients' spouse and adult children) negotiating and coordinating their care efforts (Szinovacz & Davey, 2007). Providing care to one's mother also tends to increase adult children's interactions with one's mother as well as with one's siblings, which increases the opportunity for social comparisons and may make MDT more salient. Therefore, adult child caregivers may be particularly vulnerable to the effects of both the primary stressor of MDT as well as the secondary stressor of sibling tension, which would in turn make them particularly vulnerable to psychological distress. Future studies should investigate the stress proliferation process of MDT for adult child caregivers.

Future studies are needed to explore gender differences in the stress proliferation process of MDT. Classic arguments regarding socialization have been used to explain women's stronger emphasis on interpersonal relations across the life course, relative to that of men (Nancy Chodorow, 1989; C. Gilligan, 1982). Consistent with this argument, perceptions of MDT and

mother-child tension have been found to have a greater effect on the psychological well-being of daughters than sons (M. Gilligan et al., 2017; Sutor, Gilligan, Peng, & Rurka, 2018). Thus, there is some evidence to suspect a stronger stress proliferation process of MDT for daughters than sons.

Finally, this chapter can be expanded to include a wider range of ties, such as adult children's relationship with their own children. This kind of study not only can further explore the stress proliferation process of MDT, but also can help researchers understand the reproduction of intergenerational relationships (Jensen et al., 2016).

2.6 Conclusion

This chapter found that sibling tension and marital tension (albeit small) mediated the association between maternal disfavoritism and depressive symptoms, whereas sibling tension or marital tension did not mediate the association between maternal favoritism and depressive symptoms. In other words, adult children's perceptions of maternal disfavoritism affect their depressive symptoms through a direct effect on depressive symptoms and a stress proliferation process that increases sibling tension. In contrast, adult children's perceptions of maternal favoritism affect their depressive symptoms only through a direct effect.

Table 2.1 Analytic Sample Descriptive Statistics from Wave 2 of the Within-Family Differences Study.

	Sibling Tension	Marital Tension (Married only)
Mothers	N = 308	N = 216
Black (%)	22.7	16.9
Number of Children (mean, s.d.)	3.71 (1.62)	3.78 (1.67)
Adult Children	N = 720	N = 503
Age (mean, s.d.)	49.4 (5.67)	49.1 (5.64)
Youngest (%)	24.7	26.6
Daughters (%)	57.6	55.7
Education (mean, s.d.)	5.21 (1.59)	5.44 (1.49)
Marital Tension (mean, s.d.)	2.40 (0.80)	2.40 (0.80)
Sibling Tension (mean, s.d.)	2.03 (0.78)	1.94 (0.71)
Employed (%)	79.9	85.3
Parents (%)	77.4	86.9
Perception of Most Emotionally Close (%)		
No Differentiation	11.4	10.1
Choose Self	31.8	32.8
Choose Other Sibling	56.8	57.1
Perception of Most Conflict (%)		
No Differentiation	11.3	11.9
Choose Self	16.5	12.9
Choose Other Sibling	72.2	75.2
Self-Reported Health (mean, s.d.)	3.79 (1.06)	3.92 (0.99)
Depressive Symptoms (mean, s.d.)	0.65 (0.66)	0.53 (0.55)

Table 2.2 Formal Test of Sibling Tension as a Mediator between MDT and Depressive Symptoms.

	Mediator: Sibling Tension (N = 720)			
	Most Closeness to Mothers (Favoritism)		Most Tension with Mothers (Disfavoritism)	
	B	95% CI	B	95% CI
Mediate effect	0.017	-0.01 - 0.05	0.084***	0.04 - 0.13
Direct effect	0.215**	0.07 - 0.36	0.281**	0.12 - 0.44
Total effect (Chose self vs. no MDT)	0.232**	0.09 - 0.38	0.365***	0.20 - 0.52
Proportion Mediated	0.071		0.228***	

Unstandardized coefficients with fully adjusted multilevel linear regression models. *p<0.05; **p<0.01; ***p<0.001.

Table 2.3 Formal Test of Marital Tension as a Mediator between MDT and Depressive Symptoms.

	Mediator: Marital Tension (N= 503)			
	Most Closeness to Mothers (Favoritism)		Most Tension with Mothers (Disfavoritism)	
	B	95% CI	B	95% CI
Mediate effect	0.008	-0.01 - 0.03	0.021*	0.00 - 0.05
Direct effect	0.104	-0.05 - 0.28	0.326***	0.15 - 0.50
Total effect (Chose self vs. no MDT)	0.113	-0.04 - 0.28	0.348***	0.17 - 0.52
Proportion Mediated	0.054		0.056*	

Unstandardized coefficients with fully adjusted multilevel linear regression models. *p<0.05; **p<0.01; ***p<0.001.

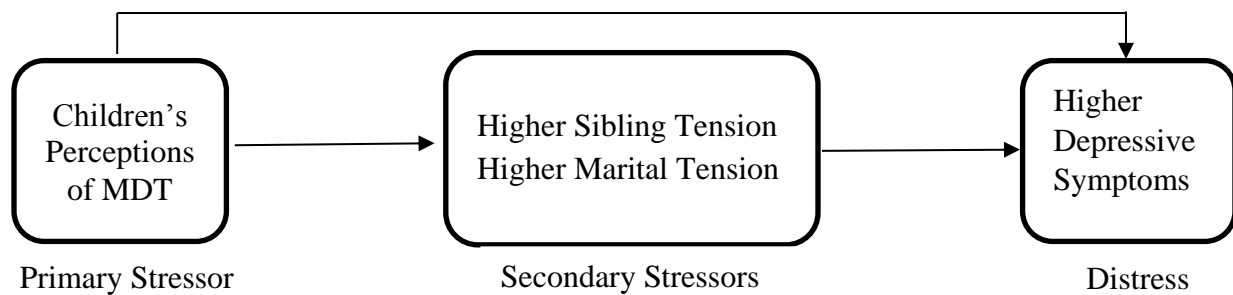


Figure 2.1 Stress Proliferation of Adult Children's Perceptions of MDT.

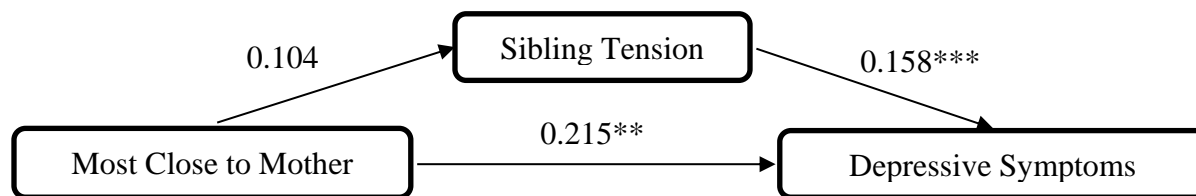
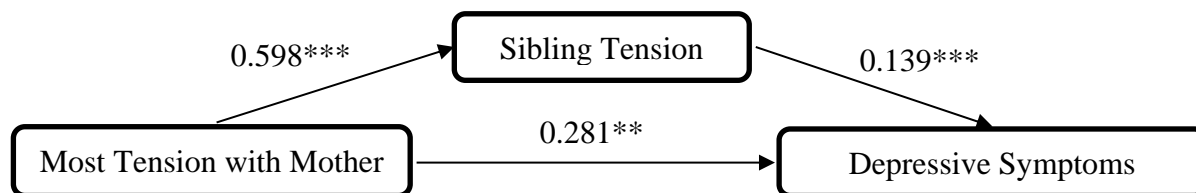
Favoritism:**Disfavoritism:**

Figure 2.2 Sibling Tension as a Mediator between MDT and Depressive Symptoms (N=720). Unstandardized coefficients with fully adjusted multilevel linear regression models. * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

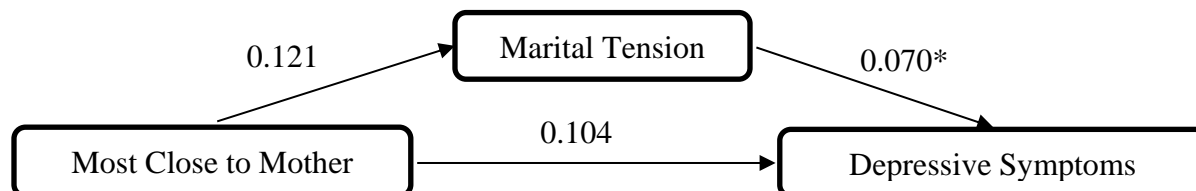
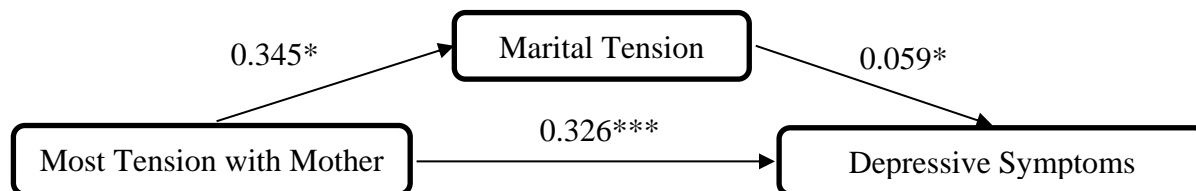
Favoritism:**Disfavoritism:**

Figure 2.3 Marital Tension as a Mediator between MDT and Depressive Symptoms (N=503). Unstandardized coefficients with fully adjusted multilevel linear regression models. * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

CHAPTER 3. MOTHERS' TENSION WITH CHILDREN AND CHILDREN-IN-LAW: A RECIPROCAL ASSOCIATION?

3.1 Background

The relationship between mothers and their adult children is one of the most enduring ties across the life course (Sutor, Gilligan, et al., 2015), and plays a central role in the well-being of both generations (Pinquart & Sörensen, 2000; Sutor, Gilligan, Pillemer, et al., 2018). Given the centrality of this intergenerational tie, it is not surprising that substantial attention has been directed toward understanding the factors that predict the quality of relations between mothers and their adult children (Sutor, Gilligan, et al., 2015). One major finding in this body of literature is that when adult children marry, contact and relationship quality between children and their parents tend to decline (Sutor et al., 2013a; Sutor, Gilligan, et al., 2015). These changes have been attributed to marriage being a “greedy institution” in that the marital relationship is expected to take precedence over other kin relations (Coser, 1974; Sarkisian & Gerstel, 2008). However, I propose that the quality of the relationship, particularly tension, between mothers and children-in-law plays a major a role in these processes, leading only some mother-child relations to weaken and possibly leading others to strengthen after children marry. In this chapter, I investigate the association between older mothers’ tension with adult children and mothers’ tension with children-in-law over time.

3.1.1 The Association between Mothers’ Tension with Children and Children-In-Law

Substantial attention has been given to the mother-in-law role in popular culture—particularly to the problems that are so often highlighted in popular writing and media (Apter, 2010; Brann, 2016; Joseph, 2014). Thus, it is surprising that the mother-child-in-law relationship has not received more attention in the scholarly literature, especially the role of this tie in the

quality of ties between mothers and their married children. Principles of classic theories of social interaction in both sociology (Simmel, 1964) and psychology (Heider, 1958) suggest that the parent-child tie would be affected by the introduction of the child's spouse into the original dyad. Mother-child-in-law relations are, structurally, triadic relationships involving mothers, children, and children-in-law. The in-law relations are involuntarily created by marriage, and in-laws are held together in a non-voluntary relationship by the third party. The triadic and non-voluntary properties of the in-law relationship make it a perfect fit for the life course perspective (Elder, 1994), especially for the theme of linked lives, which can be used to argue that the relationship between a mother and her adult child is likely to be affected by the mother's relationships with her son- or daughter-in-law. In line with the linked lives theme, the spillover hypothesis suggests that moods and behaviors from one relationship (e.g., in-law relationship) transfer directly to the other (e.g., parent-child relationship) within a family system (Easterbrooks & Emde, 1987). This implies that mothers' tension with their children-in-law would affect their tension with their adult children. This spillover from the in-law tension to mother-child tension is likely to happen because of the triadic nature of the mother, child, and child-in-law family system.

Thus far, only a small number of studies have investigated the association between the quality of the in-law relationship and the quality of the mother-child relationship. However, these studies strongly suggest that the in-law relationship has an important influence on mothers' relationships with their married adult children (Golish, 2000; Merrill, 2007, 2011). Merrill (2007, 2011) conducted in-person interviews and found that, in some cases, mothers described the ways in which positive in-law relationships increased the closeness in the mother-child relationship. In other cases, mothers highlighted how the tensions in the in-law relationship had caused the withdrawal of the adult children. In fact, such in-law tensions have been found to lead to

estrangement of the child from the mother (M. Gilligan, Sutor, & Pillemer, 2015). Golish (2000) found that adult children reported that a parent's rejection of their spouse is a turning point for reduced closeness between the parent and child. Although these patterns were based on analyses of qualitative data, they suggest that the in-law relationship can have an important influence on parent-child relationship quality. These findings have yet to be corroborated by data from large-scale surveys in which sociodemographic and contextual factors can be taken into consideration; however, they provide a sound basis for proposing that tension between mothers and their children-in-law impacts the tension in the mother-child relationship. Further, spillover may also occur from the mother-child tension to the mother-child-in-law tension. Thus, mothers' tension with their children-in-law and with their own adult children may have reciprocal effects on one another.

Thus, I hypothesize that mothers' tension with their children-in-law predicts tension with their adult children. I also hypothesize that these associations are reciprocal, such that mother-child tension predicts mother-child-in-law tension. In order to test the direction of the link between mothers' tension with children-in-law and mothers' tension with adult children, I took advantage of the panel data and used cross-lagged model to test both of the hypotheses.

3.1.2 The Moderating Effect of Gender

The child-in-law's gender is important to consider when exploring ties between mothers and children-in-law, because the extent to which the ties between mothers and children-in-law affect the quality of the mother-child tie, and vice versa, is likely to differ substantially by gender. However, mothers' relationship quality with sons-in-law is largely ignored in the literature. Most studies focus on daughters-in-law (Merrill, 2007, 2011) or ignore the gender of children-in-law (Golish, 2000). The literature has shown that mothers' ties are closer to

daughters than sons across the life course (Suitor, Gilligan, et al., 2015), despite the fact that these relationships also tend to be more conflictual than mothers' relationships with their sons (Birditt et al., 2012; Suitor et al., 2016). Thus, the mother-daughter tie appears to be not only closer, but better able to withstand tension. Therefore, I propose that tension between mothers and their sons' spouses has a greater negative impact on mother-child tension than does tension between mothers and their daughters' spouses. Further, because the mother-daughter tie is better able to weather tension and remain close, I hypothesize that the effects of mother-child tension on the mother-child-in-law tension is stronger when children are sons than daughters.

3.1.3 Summary of Hypotheses

As shown in Figure 3.1, I hypothesize: 1) Mothers' reports of tension with their children-in-law at T1 predict mothers' reports of tension with their adult children at T2, net of mothers' reports of tension with their adult children at T1; 2) Mothers' reports of tension with their adult children at T1 predict mothers' reports of tension with their children-in-law at T2, net of mothers' reports of tension with their children-in-law at T1; and 3) Gender serves as a moderator in the association between mother-child tension and in-law tension; specifically, mother-child-in-law tension has a stronger effect on the tension of mother-son than mother-daughter ties, and mother-son tension has a stronger effect on mother-child-in-law tension than does mother-daughter tension.

To test these hypotheses, I used data collected from 346 mothers regarding their relationships with 822 of their adult children who were married at T1 and T2, and their relationships with the spouses of those adult children. The data were collected as part of the Within-Family Differences Study-I and II.

3.2 Methods

3.2.1 Sample and Data

The data for this chapter were collected as part of the Within-Family Differences Study (WFDS), which involved selecting a sample of mothers 65–75 years of age with at least two living adult children from the greater Boston area and collecting data from mothers regarding each of their children. Massachusetts City and town lists were used as the source of the original WFDS sample. The Time 1 (2001-2003) sample consisted of 566 mothers, which represented 61% of those who were eligible for participation, a rate comparable to that of similar surveys in the past decade (Wright & Marsden, 2010). (Further details of the design can be found at <http://web.ics.purdue.edu/~jsuitor/within-family-differences-study/>.)

For the follow-up study, Suitor and Pillemer attempted to contact each mother who participated in the original study. At Time 2 (2008-2011), 420 mothers were interviewed. Of the 146 mothers who participated at only T1, 78 had died between waves, 19 were too ill to be interviewed, 33 refused, and 16 could not be reached. Thus, the 420 represent 86% of mothers who were living at T2. Comparison of the T1 and T2 samples revealed that the respondents differed on subjective health, educational attainment, marital status, and race. Mothers who were not interviewed at T2 were less healthy, less educated, and less likely to have been married at T1; they were also more likely to be Black. The 420 mothers interviewed at T2 reported information on 1,577 adult children.

The analytic sample for this chapter included 346 mothers' reports on 822 of their married adult children. There are two inclusion criteria in this study: (a) children were married at both T1 and T2; and (b) children were identified as Black or non-Hispanic White. Using these criteria, mothers' reports on 725 children were omitted. Further, mothers' reports on 30 children were omitted because they were missing data on variables of interest. Listwise deletion was used

to handle missing data on the independent variables because there are fewer than 2% missing on any variable in the analysis (Allison, 2010). Mothers' and children's demographic characteristics are presented in Table 3.1. Older mothers had relatively low levels of tension with children (mean = 1.68 at T1 and mean = 1.89 at T2) and children-in-law (mean = 1.98 at T1 and mean = 2.14 at T2). In addition, the average change of tension from T1 to T2 is relatively small.

3.2.2 Measurement

All variables used in this analysis, including both relationship quality and children's characteristics, are based on reports from mothers.

3.2.2.1 Key Variables

Mother-child tension. Tension with adult children was measured using mothers' responses to the following item: "Use any number from 1 to 7, where 1 is not at all tense and strained and 7 is very tense and strained. What number would you use to describe how tense and strained the relationship between you and [NAME] is nowadays?"

Mothers' tension with child-in-law. Tension with children-in-law was measured using mothers' responses to the following question: "Use any number from 1 to 7, where 1 is not at all tense and strained and 7 is very tense and strained. What number would you use to describe how tense and strained the relationship is between you and [NAME]'S (spouse/partner)."

Because a limited number of respondents were in the high tension categories (i.e., 4-7), collapsed measures of mother-child tension and mother-child-in-law tension with a range of 1-4 were also tested in the models. However, the results were similar to the original measures. I chose to present the result of the original measures to take advantage of the full data.

3.2.2.2 Moderator

Gender of children was coded 0 = male or 1 = female.

3.2.2.3 Covariates

It is important to control for T1 characteristics of mothers and adult children that have consistently been found to predict mothers' tension with children or children-in-law (Kaufman & Uhlenberg, 1998; Merrill, 2007, 2011; Rossi & Rossi, 1990; Sechrist, Sutor, Vargas, & Pillemer, 2011; Sutor, Con, Johnson, Peng, & Gilligan, 2015). I controlled on mother's race (0 = Non-White, or 1 = White), mothers' marital status (1 = married, 2 = divorced, or 3 = widowed), mothers' education (0 = less than high school, 1 = high school, 2 = some college, or 3 = college or higher), mothers' activity limitation (0 = no or 1 = yes), mothers' age (years), number of children, children's birth order (0 = first or middle born or 1 = last born), children's parental status (0 = no or 1 = yes), children's education (same as mothers' education), children's employment status (0 = not employed or 1 = employed), frequency of mother-child face-to-face/phone contact (0 = never, 1 = less than once a month, 2 = about once a month, 3 = 2-3 times a month, 4 = at least once a week, 5 = several times a week, or 6 = every day).

3.2.3 Analytic Strategies

Because the 822 adult children were nested within 346 families, I used multilevel modeling (MLM), which accounts for nonindependence and allows for correlated error structure. In order to assess the possible reciprocal relationship between mother-child tension and mother-child-in-law tension across time, I estimated a cross-lagged panel model using structural equation modeling.

I used the “gsem” command to run a cross-lagged MLM to examine the effects of mothers’ perceptions of tension with children-in-law and tension with adult children at T1 on their perceptions of tension with adult children and tension with children-in-law at T2. Next, I examined the moderating effects of gender by adding the interaction term into the model. All the analyses were conducted using STATA 15.

3.3 Results

It is clear in the correlation table (Table 3.2) that mothers’ tension with adult children is linked to mothers’ tension with children-in-law. Thus, there was some preliminary evidence that the two tensions are linked to each other.

3.3.1 The Association between Mothers’ Tension with Children and Children-In-Law

I estimated the cross-lagged model with control variables. As shown in Figure 3.2, both mothers’ tension with children ($b = 0.37$; $p < 0.001$) and mothers’ tension with children-in-law ($b = 0.47$; $p < 0.001$) showed positive stability coefficients over time. Mothers’ tension with children at T1 was positively linked to mothers’ tension with children-in-law at T2 ($b = 0.10$; $p < 0.05$), net of mothers’ tension with children-in-law at T1. In other words, mothers’ tension with children at T1 was positively linked to change of mothers’ tension with children-in-law across time. In contrast, mothers’ tension with children-in-law at T1 was not linked to change of mothers’ tension with children across time ($b = -0.01$; $p > 0.05$). Details of the coefficients of the model was presented in the Model 1 of Table 3.3.

3.3.2 The Moderating Effect of Gender

Analyses revealed (see Model 2 of Table 3.3) that there is no moderation effect of children’s gender on the association between mothers’ tension with children-in-law at T1 and

change of mothers' tension with children over time ($b = 0.05$; $p > 0.05$), nor mothers' tension with children at T1 and change of mothers' tension with children-in-law over time ($b = 0.04$; $p > 0.05$).

3.4 Discussion

The theme of linked lives of the life course perspective (Elder, 1994) argues that family relations are connected and influenced by each other. Consistent with the life course perspective, several qualitative studies have documented the association between mother-child relations and mother-child-in-law relations (Golish, 2000; Merrill, 2007, 2011). However, the association has not been validated by a large-scale survey in which sociodemographic and contextual factors can be taken into consideration. More importantly, both the theory of spillover effects (Easterbrooks & Emde, 1987) and empirical evidence (Golish, 2000; Merrill, 2007, 2011) have suggested a reciprocal association between mother-child relations and mother-child-in-law relations. However, the causal order of the association has not been tested. Thus, the primary purpose of this investigation was to examine the reciprocal association between older mothers' tension with children and older mothers' tension with children-in-law over time. Three hypotheses were tested: Mothers' tension with children-in-law at T1 is associated with change of mothers' tension with adult children across time (H1); Mothers' tension with adult children at T1 is associated with change of mothers' tension with children-in-law across time (H2); and gender serves as a moderator in the association between mother-child tension and mother-child-in-law tension (H3).

Results from Figure 3.2 suggested that mothers' tension with children-in-law at T1 is not associated with change of mothers' tension with adult children across time. Thus, there is no support for H1, suggesting that mothers' tension with children-in-law cannot predict change in mothers' tension with children. It is important to note that this null result of the effect of

mothers' tension with children-in-law on mothers' tension with children is inconsistent with findings of past qualitative research (Golish, 2000; Merrill, 2007, 2011). It may suggest that although incidents of estrangement of adult children from mothers due to bad mother-children-in-law relations exist, they are not representative of the general trend in the US population.

In contrast, H2 was supported by the findings from this study, in that mothers' tension with adult children at T1 was associated with change of mothers' tension with children-in-law across time. In other words, mothers' tension with adult children can predict change of mothers' tension with children-in-law. This result implies that the association between mothers' tension with children and mothers' tension with children-in-law is not reciprocal, but rather unidirectional. That is to say, mothers' evaluation of mother-child-in-law relations is dependent on their evaluation of mother-child relations whereas the reverse is not true. In theory, this could be interpreted as reflecting the nature of mother-child-in-law relations that they are created by marriage and dissolved by divorce. In other words, the mother-child-in-law relationship is dependent on the relationship with the adult child and is thus only as strong as the mother-child and spousal tie. Because of this dependent nature of mother-child-in-law relations, mother-child-in-law relations are influenced by mother-child relations. The dependence of mothers' tension with children-in-law on mothers' tension with children has some implications. It implies that in order to maintain and improve mother-child-in-law relations, it is not enough to focus on mother-child-in-law relations alone; further, it is important to improve mother-child relations because strain in mother-child relations can lead to a strain in mother-child-in-law relations.

I also hypothesized that mother-child-in-law tension has a stronger effect on the tension of mother-son than mother-daughter ties, and mother-son tension has a stronger effect on mother-child-in-law tension than does mother-daughter tension. However, I found no support for

this hypothesis. This result is somewhat surprising, given the theoretical and empirical evidence of the stability and salience of the mother-daughter tie over the life course (Birditt et al., 2012; N Chodorow, 1978; C. Gilligan, 1982; Sutor, Gilligan, et al., 2015). The null result of moderating effect of gender may be due to the limited amount of change in mother-child relations and mother-child-in-law relations over time.

3.5 Future Directions

Although the present study has shed new light on the role of mother-child relations in in-law relations, I suggest several directions for future research. First, whereas the cross-lagged model is useful for providing evidence of causal ordering (Duncan, 1969; McArdle & Nesselroade, 2014), it has a few assumptions and limitations. The lagged dependent variables are assumed to account for unmeasured time-invariant confounders. However, this assumption can be violated, thus leading to biased estimation (Vaisey & Miles, 2017). It also assumes that the lag in data (i.e., 7 years in this case) corresponds to real-world processes. The mismatch of the time interval can also lead to biased estimation. For example, it is possible that the effect of mother-child tension on mother-child-in-law tension wears off with time and the 7-year lag underestimates the effect. In other words, although I was able to find lagged effects across the 7 years, it is likely that they would be even stronger across a shorter period. Therefore, future research should investigate the association between mother-child relations and mother-child-in-law relations in shorter time intervals and utilize multiple waves of data to provide stronger evidence for the causal order.

Future research also needs to investigate how mother-child-in-law relations and mother-child relations affect caregiving processes for older mothers. Some studies have examined in-law relationships and caregiving focusing on children-in-law as primary caregivers (Peters-Davis,

Moss, & Pruchno, 1999; Pinquart & Sörensen, 2011) or how spouses share the care of parents and parents-in-law (Henz, 2010; Szinovacz & Davey, 2008). Considering the fact that providing care to older mothers involves adult children and their spouses, mother-child relations and mother-child-in-law relations may have a large influence on the caregiving process. However, few studies investigated how mother-child relations and mother-child-in-law relations influence whether the child assumes the role of caregiver or the level of care the child provides to his/her mother. It is possible that problematic mother-child relations and mother-child-in-law relations may dissuade adult children and their spouses from providing care or produce strains when these adult children must accept the position of primary caregiver for their mothers.

3.6 Conclusion

Mother-child-in-law relations are, structurally, triadic relationships involving mothers, children, and children-in-law. The triadic nature of the mother-in-law relationship and mother-child relationship make them a perfect fit for the life course perspective (Elder, 1994), especially for the theme of linked lives. This study contributes to the literature by providing evidence of causal order of the association between mothers' tension with children and mothers' tension with children-in-law. Inconsistent with reports from past qualitative studies, it provides evidence showing that mothers' tension with children predicts change in mothers' tension with children-in-law, whereas the reverse is not true. This is important because it expands the theme of linked lives and shows that not all relations are equally interdependent on each other in the family. And it is possible for some relations to be less influenced by and even independent of other relations.

Answering the call for more studies on spillover effects within the family (De Neve & Kawachi, 2017), this study provides evidence that the spillover effect only happens from mother-child tension to mother-child-in-law tension. This non-reciprocal association is consistent with

the structural nature of mother-child-in-law relationships. Structurally, mothers' relations with their children-in-law are created by marriage. It is plausible that mothers see their relations with children-in-law as an extension of their relations with children. Thus, mothers' relation with children-in-law is dependent on the mother-child relation. This evidence of non-reciprocal association points out the importance of discerning the causal order of the association using longitudinal data and other research design.

Inconsistent with theoretical and empirical evidence of gender differences in mother-child relations (Birditt et al., 2012; N Chodorow, 1978; C. Gilligan, 1982; Sutor, Gilligan, et al., 2015), I found no support for gender differences in the association between mother-child relations and mother-child-in-law relations. The null result for the moderating effect of gender may be due to the limited amount of change in mother-child relations and mother-child-in-law relations over time.

Overall, this study demonstrates the usefulness of the life course perspective (Elder, 1998) and spillover effect theory (De Neve & Kawachi, 2017) in the study of intergenerational relationships. More importantly, the non-reciprocal association between mother-child ties and mother-child-in-law ties over time illustrates the need of longitudinal design to explore the causal order for family studies. The dependence of mothers' tension with children-in-law on mothers' tension with children implies that in order to maintain and improve mother-child-in-law relations, it is not enough to focus on interactions and relationships between children-in-law and mothers-in-law alone. It is also important to improve mother-child relations because a decrease in mother-child relations can lead to a decrease in mother-child-in-law relations.

Table 3.1 Descriptive Statistics from Two Waves of the Within-Family Differences Study.

	Mean/Prop.	SD
Mothers	N = 346	
Number of children	3.86	1.76
Age	70.88	3.15
Marital status		
Married	.54	
Divorced	.14	
Widowed	.32	
White	.77	
Education		
Less than high school	.17	
High school degree	.37	
Some college	.20	
College degree or higher	.25	
ADL	.34	
Adult Children	N = 822	
Mother-child strain	1.68	1.28
Mother-child strain T2	1.89	1.36
Mother-child-in-law strain	1.98	1.51
Mother-child-in-law strain T2	2.14	1.56
Female	.49	.50
Education		
Less than high school	.04	
High school degree	.23	
Some college	.17	
College degree or higher	.56	
Frequency of mother-child contact	3.64	1.35
Parental status	.85	
Youngest	.29	
Employed	.86	

Table 3.2 Correlation Matrix between Mothers' Tension with Adult Children and Children-In-Law across Time.

	Mother-Child Tension T2	Mother-Child-In- Law Tension T2	Mother-Child Tension T1	Mother-Child-In- Law Tension T1
Mother-Child Tension T2	1			
Mother-Child-In- Law Tension T2	0.3421***	1		
Mother-Child Tension T1	0.3859***	0.2845***	1	
Mother-Child-In- Law Tension T1	0.1724***	0.5021***	0.4224***	1

*p<0.05, **p<0.01, ***p<0.001

Table 3.3 Cross-Lagged Mixed Model Predicting Mothers' Tension with Adult Children and Children-In-Law at T2 (N = 822).

	Model 1		Model 2	
	B	SE	B	SE
Mother-Child Tension at T2				
<i>Independent Variables</i>				
Mother-Child Tension at T1	0.37***	0.04	0.37***	0.04
Mother-Child-In-Law Tension at T1	-0.01	0.03	-0.04	0.04
<i>Mother Characteristics</i>				
Number of children	-0.05	0.03	-0.05	0.03
Age	0.01	0.02	0.01	0.02
ADL	0.19	0.12	0.19	0.12
White	-0.11	0.15	-0.11	0.15
Marital status at T1 (ref. = married)				
Divorced	-0.04	0.18	-0.04	0.18
Widowed	-0.04	0.13	-0.04	0.13
Education at T1 (ref. = less than high school)				
High school	-0.19	0.17	-0.19	0.17
Some college	0.00	0.19	0.00	0.19
College degree or higher	0.08	0.19	0.08	0.19
<i>Adult Children Characteristics</i>				
Youngest	0.01	0.09	0.02	0.09
Mother-Child Contact at T1	-0.05	0.03	-0.05	0.03
Education at T1 (ref. = less than high school)				
High school	-0.05	0.24	-0.06	0.24
Some college	0.03	0.25	0.03	0.25
College degree or higher	-0.18	0.25	-0.18	0.25
Employment at T1	0.10	0.12	0.09	0.12
Parenthood at T1	-0.08	0.12	-0.08	0.12
Daughter	0.03	0.09	-0.07	0.14

Table 3.3 continued

<i>Moderator</i>				
Daughter* Mother-Child-In-Law Tension at T1			0.05	0.05
Mother-Child-In-Law Tension at T2				
<i>Independent Variables</i>				
Mother-Child Tension at T1	0.10*	0.04	0.08	0.05
Mother-Child-In-Law Tension at T1	0.47***	0.03	0.47***	0.03
<i>Mother Characteristics</i>				
Number of children	0.02	0.03	0.02	0.03
Age	0.01	0.02	0.01	0.02
ADL	0.13	0.11	0.13	0.11
White	-0.28	0.15	-0.28	0.15
Marital status at T1 (ref. = married)				
Divorced	-0.31	0.18	-0.31	0.18
Widowed	-0.10	0.13	-0.10	0.13
Education at T1 (ref. = less than high school)				
High school	-0.18	0.16	-0.18	0.16
Some college	-0.04	0.18	-0.04	0.18
College degree or higher	-0.12	0.19	-0.11	0.19
<i>Adult Children Characteristics</i>				
Youngest	0.14	0.10	0.14	0.10
Mother-Child Contact at T1	0.01	0.04	0.01	0.04
Education at T1 (ref. = less than high school)				
High school	-0.72**	0.26	-0.71**	0.26
Some college	-0.59*	0.27	-0.58*	0.27
College degree or higher	-0.74**	0.27	-0.73**	0.27
Employment at T1	-0.02	0.13	-0.03	0.13
Parenthood at T1	0.12	0.13	0.12	0.13
Daughter	-0.06	0.09	-0.13	0.15
<i>Moderator</i>				
Daughter* Mother-Child Tension at T1			0.04	0.07
<i>Model Statistics</i>				
BIC	5642.97		5655.38	

Unstandardized coefficients. *p<0.05, **p<0.01, ***p<0.001.

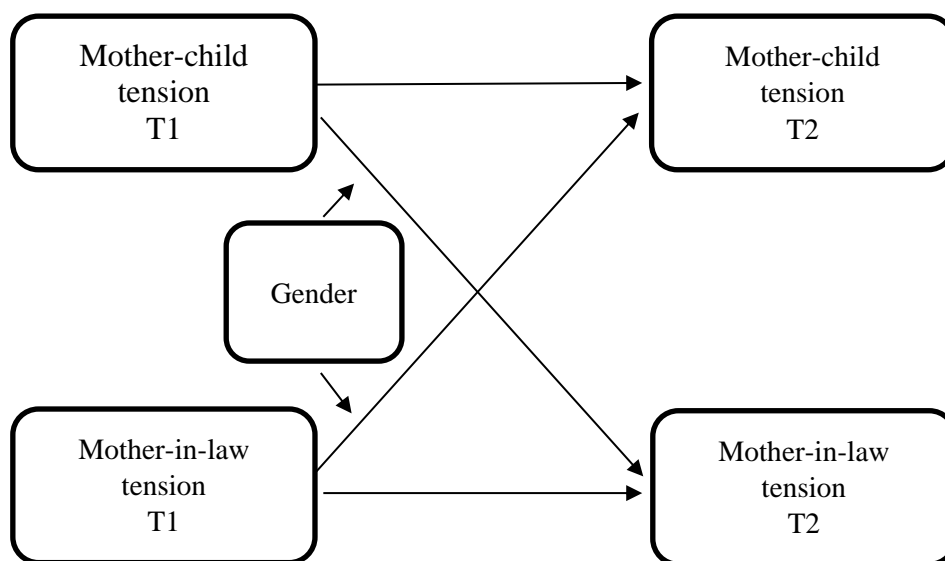


Figure 3.1 Cross-Lagged Model Predicting Mother-Child Tension and Mother-Child-In-Law Tension.

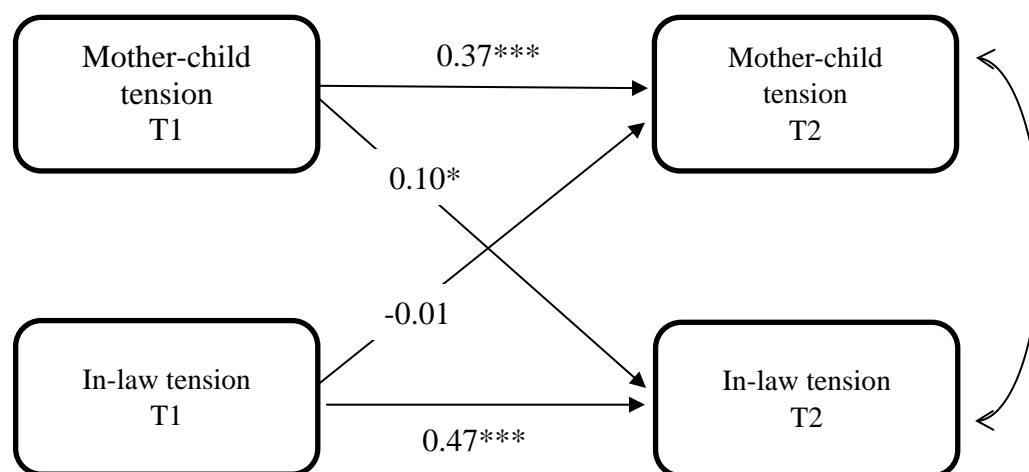


Figure 3.2 Cross-Lagged Model Predicting Mother-Child Tension and In-Law Tension.
Unstandardized coefficients with fully adjusted models.

CHAPTER 4. CONCLUSION

4.1 Discussion of Findings

In the past decades, social determinants of health have been recognized as a major cause of health and health inequalities across multiple disciplines (de Andrade et al., 2015; Link & Phelan, 1995; Marmot, 2005; McGinnis, Williams-Russo, & Knickman, 2002). One important branch of the studies on social determinants of health has focused on social relationships as a major risk factor for health (Holt-Lunstad, Smith, & Layton, 2010; House, Landis, & Umberson, 1988). In sociology, the investigation of the association between social isolation and poor mental health dates back to Durkheim (Durkheim, 1951). Relationships with family members have been shown to be associated with mental health (Carr & Moorman, 2011; Cohen, 2004; Kawachi & Berkman, 2001; Suitor et al., 2017).

Research on social relationships and health often focuses either on one specific relationship (e.g., marital relationship and parent-child relationship) (Silverstein & Bengtson, 1991; Suitor et al., 2017; Umberson et al., 2006) or an overall measure of social network characteristics (e.g., network size) (Fiori, Antonucci, & Cortina, 2006; Perry & Pescosolido, 2015; Smith & Christakis, 2008). The theme of linked lives suggests that the interaction between different social relationships is the key to understand the mechanism of health consequences of social relationships. However, little is known about the interaction/interconnectedness between different social relationships. The present investigation is important because it bridges micro-level investigations of a specific relationship and macro-level investigations of the structure of social networks. Although the micro-level investigation provides needed information on effects of different social relationships on health, it assumes that the specific relation under study is

independent of other social relations. Macro-level investigations acknowledge the interconnectedness of social relationships and are helpful in providing information on an overall effect of social networks on health. However, this approach runs a risk of oversimplifying the interaction between different social relations. This dissertation contributes to the literature on social relationships as social determinants of health by investigating how intergenerational relationships are connected to other family relationships to affect family members' well-being.

Guided by the theme of linked lives of the life course perspective (Elder, 1998), stress theories (Pearlin et al., 1997), and spillover theory (Easterbrooks & Emde, 1987), the central aim of this dissertation is to extend understanding of the impact of intergenerational relationships on well-being by examining a more complex network of family relationships than has been considered in previous research. The theme of linked lives posits that family relationships do not exist in a vacuum that are independent from other family relationships; in fact, life events and circumstances experienced by any family member have implications for the whole family. This dissertation sheds new light on the ways in which mothers' intergenerational relationships with their adult children and their children-in-law shape the relational and psychological well-being of members of both generations. Specifically, I address two research questions that emphasize the complexity and interconnectedness of later-life families. Framed by the life course perspective and the stress proliferation theory, I first investigated whether the quality of other family relationships (specifically sibling and spousal ties) serve as mediating mechanisms in the association between adult children's perceptions of maternal differential treatment (MDT) and their psychological well-being. Next, I drew from the life course perspective and the spillover effect theory to examine the reciprocal association between mothers' relationships with children and mothers' relationships with children-in-law over time.

In total, by using people's reports of multiple family relationships from the Within-Family Differences Study, this dissertation helps to demonstrate the complicated connection between intergenerational relationships and other family relationships. Theoretically, this dissertation contributes to the life course perspective and stress theories by showing how stressors in intergenerational relationships can proliferate and spillover within a family.

4.1.1 Stress Proliferation Process of Maternal Differential Treatment (MDT)

Studies have documented the association between MDT and psychological well-being in adulthood (Jensen et al., 2013; Peng, Sutor, et al., 2018; Sutor et al., 2017). Some researchers tried to explain the association between MDT and psychological well-being by studying psychological processes such as sense of fairness (Loeser et al., 2016) and social comparison (Sutor et al., 2017). However, little is known about the mechanism of the association between MDT and psychological well-being beyond the psychological pathways. Drawing from the life course perspective (Elder, 1998) and stress proliferation theory (Pearlin et al., 1997), findings from Chapter 2 show that there is a social pathway by which MDT influences mental health by disrupting other social relationships. Adult children's perceptions of maternal disfavoritism are capable of disrupting relationships that are connected to the initial stressor. As maternal disfavoritism triggers the proliferation of stressors within and beyond the initial situation, individuals may find themselves dealing with a configuration of stressors quite different from those they faced earlier. In this dissertation, I demonstrated that adult children who perceive maternal disfavoritism have more sibling tension. Once the stress proliferation process is set in motion, the secondary stressor (sibling tension) has an independent negative impact on adult children's psychological well-being. Thus, adult children's psychological well-being is

influenced not only by maternal disfavoritism but also by the secondary stressor (i.e., sibling tension) produced by maternal disfavoritism.

I had hypothesized that marital tension would also serve as a secondary stressor of maternal disfavoritism. However, although marital tension was a statistically significant mediator, it only mediated 5.6% of the total effect. Thus, the effect size is too small to count as evidence for a meaningful mediation effect. The limited role of marital tension in the stress proliferation process of MDT is surprising given the important role of parents in shaping their offspring's marital quality. Attachment theorists have long argued that the childhood parent-child relationship is the working model for later intimate relationships. Problematic childhood parent-child relationships lead children to develop insecure attachments and undermine the quality of intimate relationships in later life (Bowlby, 1969; Simpson & Rholes, 2012). Moving beyond the childhood parent-child relationships, studies have found that current parent-child relationships were associated with adult children's marital relationships (Conger et al., 2000; Lavee et al., 2005; R. A. Ward & Spitze, 1998). Thus, more research is needed to understand the effect of perceptions of MDT on marital relationships and how the effect of MDT is different from the effect of other dimensions of mother-child relationships on marital relationships.

In contrast to the presence of the mediation effects of both sibling tension and marital tension (albeit small) in the association between children's perceptions of maternal disfavoritism and depressive symptoms, the results showed that neither marital tension nor sibling tension mediated the association between children's perceptions of maternal favoritism and depressive symptoms. This difference in the stress proliferation process between maternal favoritism and maternal disfavoritism may be the reason for the stronger influence of perceptions of maternal disfavoritism than perceptions of maternal favoritism. This finding is consistent with the

Negativity Effect Model, which argues that the effect of negative dimensions of social ties is stronger than the effect of positive dimensions of social ties. The greater influence of bad experiences over good ones is found in everyday events, major life events, close relationship outcomes, social ties, interpersonal interactions, and learning processes (Baumeister et al., 2001; Paolini & McIntyre, 2018; Sinclair et al., 2015). In the case of maternal favoritism and disfavoritism, the negativity effect model is also manifested in the stress proliferation process. Broadly speaking, the finding of the stress proliferation process of MDT is important for several reasons. First, the evaluation of the stress proliferation process of maternal favoritism and disfavoritism can help us to understand the difference in effects across various dimensions of MDT, as suggested by Suitor and colleagues (2017). Chapter 2 showed that psychological well-being was influenced not only by the direct effect of MDT but also by the indirect effect of sibling tension that generated from MDT. It is possible that some dimensions of MDT have a small or no effect on psychological well-being because they do not trigger the stress proliferation of tension in other family relationships. By studying the stress proliferation process of MDT, the dynamic connections between MDT and other family relationships can be clarified.

Theoretically, an understanding of the stress proliferation process of MDT helps to bring studies of MDT's negative effects on psychological well-being into conversation with the family system approach and the life course perspective. It also helps us to bridge the research on MDT and family tension and the research on MDT and psychological well-being. It demonstrates that in order to understand the full impact of MDT on mental health, researchers need to investigate the secondary stressors catalyzed by the initial stressor of MDT. Further, it implies that it is important to consider perceptions of MDT and intergenerational relations when studying sibling tension, because MDT is an important source of sibling tension. Finally, by applying stress

proliferation theory and demonstrating that sibling tension is a secondary stressor produced by MDT, it indicates the usefulness of applying stress proliferation theory in the study of social relationships. More broadly, it emphasizes the need to take a more holistic perspective on studying social relationships rather than studying social relationships in isolation of each other.

4.1.2 Mother-Child Tension and Mother-Child-In-Law Tension: A Reciprocal Association?

Consistent with the theme of linked lives of the life course perspective (Elder, 1998), which argues that family relations are connected and influenced by each other, a number of qualitative studies have documented the association between mothers' relations with adult children and mothers' relations with children-in-law (Golish, 2000; Merrill, 2007, 2011). However, the association has not been validated by a large-scale survey in which sociodemographic and contextual factors can be taken into consideration. More importantly, based on qualitative data, the causal order of the association seems to be reciprocal. However, the causal order has not been formally tested. To fill this knowledge gap, Chapter 3 examined the reciprocal association between older mothers' tension with children and older mothers' tension with children-in-law over time.

Because I aimed to investigate how mothers' tension with children-in-law is linked to their tension with adult children over time, it is important to know how much change there is in mothers' tension with children and children-in-law over time. Although there is not much research investigating the trajectories of mother-adult children tension in older families, studies in the adolescence literature have found that mothers' tension with children has a small but significant decrease from early adolescence to young adulthood (Collins & Laursen, 2006; Kiecolt, Blieszner, & Savla, 2011). This suggests that mothers' tension with children is relatively

stable even during adolescence, which is considered as the most volatile period for mother-child tension over the life course. In addition, I found studies that documented the stability of other dimensions of mother-adult children relationship quality over the life course (Giarrusso, Feng, & Bengtson, 2004; Lendon, 2017; Troll & Fingerman, 1996). This pattern supports the life course perspective (Elder, 1994) and family systems theory (Bowen, 1982; Cox & Paley, 1997) that mother-adult children relationships are relatively stable and strong over the life course.

To the best of my knowledge, there is one longitudinal study that examines the trajectory of in-law relationship quality. This study conducted interviews with mothers 6 months before and 6 months after the wedding (Fingerman, Gilligan, Vanderdrift, & Pitzer, 2012). They found that mothers' tension with children-in-law is resistant to change after the initial impression. Mothers who had lower expectations for or lower relationship quality with "children-in-law" before the wedding reported more tension after the wedding. In retrospective qualitative studies, mothers reported continuities in relationship quality with children-in-law from the early relationship to years after marriage (Merrill, 2007; Prentice, 2008). These empirical findings are in line with the predictions of the life course perspective and family systems theory. That is, in-law tension is relatively stable over the life course.

In the context of stability of mother-child relations and mother-child-in-law relations, this dissertation contributes to the literature by studying changes in intergenerational relations in the later life course. Although both the theory of spillover effects (Easterbrooks & Emde, 1987) and empirical evidence from qualitative studies (Golish, 2000; Merrill, 2007, 2011) have suggested a reciprocal association between mother-child relations and mother-child-in-law relations, I found that mothers' tension with children-in-law at T1 is not associated with change in mothers' tension with adult children across time. This inconsistency with the findings of qualitative

research (Golish, 2000; Merrill, 2007, 2011) may suggest that although incidents of estrangement of adult children from mothers due to bad mother-children-in-law relations exist, they are not representative of the general trend in the US aging population. This result provides evidence that stressors do not transfer from mother-child-in-law relations to mother-child relations. This non-reciprocal association is consistent with the structural nature of mother-child-in-law relations. That is mothers' relations with their children-in-law are created by marriage and mothers see their relations with children-in-law as an extension of their relations with children. Because of this structure, mothers' relations with children-in-law are dependent on the mother-children relations.

In support of the association between mother-child relations and mother-child-in-law relations, I found that mothers' tension with adult children at T1 is associated with change in mothers' tension with children-in-law across time. Combined with the finding that mothers' tension with children-in-law at T1 is not associated with change in mothers' tension with adult children across time, these results imply that the association between mother-child relations and mother-child-in-law relations may be the result of the unidirectional effect of mother-child relations on mother-child-in-law relations. In other words, mothers' evaluations of mother-child-in-law relations is dependent on their evaluation of mother-child relations, whereas the reverse is not true. These findings add complexity to the theme of linked lives (Elder, 1998) and show that not all relations are equally interdependent on each other in the family. And it is possible for some relations to be less influenced by and even independent of other relations. The dependence of mothers' tension with children-in-law on mothers' tension with children has some implications. It implies that in order to maintain and improve mother-child-in-law relations, it is not enough to focus on interactions and relationships between children-in-law and mothers-in-

law alone. It is also important to improve mother-child relations because a decrease in mother-child relations can lead to a decrease in mother-child-in-law relations.

Despite the theoretical and empirical evidence of gender differences in intergenerational relationships (Birditt et al., 2012; N Chodorow, 1978; C. Gilligan, 1982; Sutor, Con, et al., 2015), I did not find gender differences in the association between mother-child tension and mother-child-in-law tension over time. The null result of moderating effect of gender may be due to the limited amount of change in mother-child relations and mother-child-in-law relations over time.

Chapter 3 contributes to the literature by providing evidence of causal order of the association between mothers' tension with children and mothers' tension with children-in-law. Inconsistent with reports from past qualitative studies, this study provides evidence that the spillover effect only happens from mother-child tension to mother-child-in-law tension, whereas the reverse is not true. This is important because it expands the theme of linked lives and shows that not all relations are equally interdependent on each other in the family. And it is possible for some relations to be less influenced by and even independent of other relations. This evidence of non-reciprocal association points out the importance of discerning the causal order of the association using longitudinal data and other research designs.

4.2 Future Directions

Pearlin, Aneshensel, & Leblanc (1997) argued that proliferation of a primary stressor can happen over a long period of time. For example, researchers reported that exposure to adverse childhood events, including problematic relationships with parents, are related to middle and late life stressors, such as alcohol problems (Horwitz, Widom, McLaughlin, & White, 2001),

antisocial behaviors (Byrd & Manuck, 2014), and marital difficulties (Whisman, 2006). Two studies have investigated the effects of maternal favoritism recalled from childhood on adult children's health and found that childhood MDT was associated with adult children's higher depressive symptoms (Davey, Tucker, Fingerman, & Savla, 2009; Peng, Suiitor, et al., 2018). Recollections of MDT from childhood is both a chronic strain and an adverse childhood event. It is reasonable to believe that recollections of childhood MDT are able to trigger the stress proliferation process and generate secondary stressors.

Due to the nature of cross-sectional data, I cannot ascertain the causal direction of the mediation effect of sibling tension on the association between maternal disfavoritism and psychological well-being. It is possible that if an adult child is depressed, s/he may be more likely to perceive maternal disfavoritism and sibling tension. However, caution should be advised in interpreting the above findings, because adult children in this study experienced depressive moods, on average, less than 1 day per week, which is relatively healthy and does not qualify them as having a major depression. In addition, longitudinal studies have found that MDT has detrimental effects on children's depressive symptoms and sibling relationships rather than the reverse (Richmond et al., 2005; Shanahan et al., 2008). However, to provide evidence for causal ordering, future studies need to use longitudinal data to investigate this stress proliferation process.

The study of the stress proliferation of MDT can be expanded to include a wider range of ties, such as adult children's relationship with their own children. The inclusion of adult children's relationship with their own children not only can further explore the stress proliferation process of MDT, but also can help researchers understand the reproduction of intergenerational relationships (Jensen et al., 2016).

This dissertation studies the stress proliferation process of MDT in a non-caregiving situation. Considering the salience of interactions among multiple family members (mostly patients' spouse and adult children) in the context of caregiving (Szinovacz & Davey, 2007), adult children caregivers may be particularly vulnerable to the effects of both the primary stressor of MDT as well as the secondary stressor of sibling tension, which would in turn make them particularly vulnerable to psychological distress. Thus, future studies need to investigate the stress proliferation process of MDT for adult children caregivers.

Theory and empirical evidence suggest that there may also be race differences in the influence of in-law relationships on parent-child relations. Classic theoretical work on race and family suggests that extended kin ties and collectivism are stronger among Blacks than Whites (Allen, 1978; Moynihan, Rainwater, & Yancey, 1967). Although more recent historical analyses have called some of the conclusions of these classic works into question, research across the past three decades has continued to reveal greater closeness and less conflict between Black children and parents (Aquilino, 1997, 1999; Kaufman & Uhlenberg, 1998; Sechrist, Suitor, Riffin, Taylor-Watson, & Pillemer, 2011). Further, Black children and parents are more likely to endorse norms of filial obligation and to feel that parents and children should maintain close and supportive relationships (Burr & Mutchler, 1999; Coleman, Ganong, & Rothrauff, 2006; Lee, Peek, & Coward, 1998). Taken together, the theoretical and empirical literatures examining family ties and marital ties suggest that cultural and structural factors have shaped American's family ties differently by race. Thus, although it is out of the scope of this dissertation to investigate these race differences, future research needs to study race differences in the stress proliferation process of MDT and the association between mother-child-in-law relationships and mother-child relationships.

Although the cross-lagged model is useful for providing evidence of causal ordering of the association between mother-child relations and mother-child-in-law relations (Duncan, 1969; McArdle & Nesselroade, 2014), it has a few assumptions and limitations. The lagged dependent variables are assumed to account for unmeasured time-invariant confounders. However, this assumption can be violated, thus leading to biased estimation (Vaisey & Miles, 2017). The 7-year lag in the data may be too long to capture the effect of mother-child relations on mother-child-in-law relations. Future research should investigate the association between mother-child relations and mother-child-in-law relations in shorter time intervals and utilize multiple waves of data to provide stronger evidence for the causal order.

Given the fact that providing care to older mothers involves adult children and their spouses, mother-child relations and mother-child-in-law relations may have a large influence on the caregiving process. Some research have studied caregiving and in-law relationships focusing on children-in-law as primary caregivers (Peters-Davis et al., 1999; Pinquart & Sörensen, 2011) and how spouses share the care of parents and parents-in-law (Henz, 2010; Szinovacz & Davey, 2008). However, few studies have investigated how mother-child relations and mother-child-in-law relations influence whether the child assumes the role of caregiver or the level of care the child provides to his/her mother. It is possible that problematic mother-child relations and mother-child-in-law relations may dissuade adult children and their spouses from providing care or produce strains when these adult children must accept the position of caregiver for their mothers. Future research needs to investigate this process.

4.3 Summary

Guided by the life course perspective which posits that individuals are embedded in a network of social relationships with family members, this dissertation extends the understanding of the impact of intergenerational relationships on well-being by examining a more complex network of family relationships. Specifically, I found that sibling tension mediates the association between adult children's perceptions of maternal disfavoritism and their psychological well-being—a process I call the stress proliferation of maternal disfavoritism. I also found that older mothers' tension with adult children predicted change in mothers' tension with children-in-law across 7 years, whereas the reverse is not true. Taken together, this dissertation sheds new light on the ways in which mothers' intergenerational relationships with their adult children and their children-in-law shape the relational and psychological well-being of members of both generations. A deeper understanding of the implications of dynamics among mother-child relationship and other family relationships for health could aid in developing interventions aimed at improving health and family relationships.

More broadly, this dissertation also contributes to the literature on social determinants of health. Health scholars have been increasingly aware of the fact that health care alone is not enough to improve health or reduce health disparities in the general population. Social determinants of health have been shown to be a major cause of health and health inequalities—the health differences seen within and between countries (de Andrade et al., 2015; Link & Phelan, 1995; Marmot, 2005; McGinnis et al., 2002). Social relationships, as an important dimension of social determinants of health, have also been demonstrated to be a major risk factor for health. For example, studies have found that the effect size of social relationships on health is comparable to the effect size of well-established health risk factors (e.g., smoking, physical

activity, hypertension, obesity, and drinking) (Holt-Lunstad et al., 2010; House et al., 1988). This dissertation contributes to the literature on social relationships as social determinants of health by investigating how intergenerational relationships are connected to other family relationships to affect family members' health. That is, stressors in intergenerational relationships can lead to stressors in other family relationships. Findings in this dissertation show that the theme of linked lives can operate through the processes of stress proliferation and spillover. Further, the stress proliferation of maternal favoritism and the non-reciprocal association between mother-child relationships and mother-child-in-law relationships add complexity to the theme of linked lives (Elder, 1998) by demonstrating that not all relations are equally interdependent on each other in the family. And it is possible for some relations to be less influenced by and even independent of other relations. More research is needed to understand under what conditions when stressors in one family relationship lead to stressors in other family relationships, especially through the process of stress proliferation. Hopefully scholars will continue to expand our understanding of the ways in which family networks shape well-being in the middle and later years.

REFERENCES

- Allen, W. R. (1978). The search for applicable theories of Black family life. *Journal of Marriage and the Family*, 40(1), 117–129. <https://doi.org/10.2307/350613>
- Allison, P. D. (2010). Missing data. In P. V. Marsden & J. D. Wright, *Handbook of Survey Research* (2nd ed., pp. 631–658). Bingley, UK: Emerald Group Limited.
- Amato, P. R., & Booth, A. (2001). The legacy of parents' marital discord: Consequences for children's marital quality. *Journal of Personality and Social Psychology*, 81(4), 627–638. <https://doi.org/10.1037/0022-3514.81.4.627>
- Antonucci, T., Akiyama, H., & Takahashi, K. (2004). Attachment and close relationships across the life span. *Attachment & Human Development*, 6(4), 353–370. <https://doi.org/10.1080/1461673042000303136>
- Apter, T. (2010). *What do you want from me? Learning to get along with in-laws*. New York City, NY: WW Norton & Company.
- Aquilino, W. S. (1997). From adolescent to young adult: A prospective study of parent-child relations during the transition to adulthood. *Journal of Marriage and Family*, 59(3), 670–686. <https://doi.org/10.2307/353953>
- Aquilino, W. S. (1999). Two views of one relationship: Comparing parents' and young adult children's reports of the quality of intergenerational relations. *Journal of Marriage and Family*, 61(4), 858–870. <https://doi.org/10.2307/354008>
- Bates, D., Maechler, M., Bolker, B., & Walker, S. (2015). Fitting linear mixed-effects models using lme4. *Journal of Statistical Software*, 67(1), 1–48. <https://doi.org/10.18637/jss.v067.i01>
- Baumeister, R. F., Bratslavsky, E., Finkenauer, C., & Vohs, K. D. (2001). Bad is stronger than good. *Review of General Psychology*, 5(4), 323–370. <https://doi.org/10.1037/1089-2680.5.4.323>
- Bedford, V., & Avioli, P. (2012). Siblings in middle and late adulthood. In R. Blieszner & V. H. Bedford (Eds.), *Handbook of families and aging* (2nd ed., pp. 125–153). Santa Barbara, CA: Praeger.

- Birditt, K. S., Fingerman, K. L., & Zarit, S. H. (2010). Adult children's problems and successes: Implications for intergenerational ambivalence. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, 65B(2), 145–153.
<https://doi.org/10.1093/geronb/gbp125>
- Birditt, K. S., Tighe, L. A., Fingerman, K. L., & Zarit, S. H. (2012). Intergenerational relationship quality across three generations. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, 67(5), 627–638.
<https://doi.org/10.1093/geronb/gbs050>
- Boll, T., Ferring, D., & Filipp, S.-H. (2003). Perceived parental differential treatment in middle adulthood: Curvilinear relations with individuals' experienced relationship quality to sibling and parents. *Journal of Family Psychology*, 17(4), 472–487.
<https://doi.org/10.1037/0893-3200.17.4.472>
- Boll, T., Ferring, D., & Filipp, S.-H. (2005). Effects of parental differential treatment on relationship quality with siblings and parents: justice evaluations as mediators. *Social Justice Research*, 18(2), 155–182. <https://doi.org/10.1007/s11211-005-7367-2>
- Bowen, M. (1982). *Family therapy in clinical practice* (2nd, Ed.). New York: Jason Aronson.
- Bowlby, J. (1969). *Attachment and loss* (Vol. 3). New York: Basic books.
- Bradbury, T. N., Fincham, F. D., & Beach, S. R. H. (2000). Research on the nature and determinants of marital satisfaction: A decade in review. *Journal of Marriage and Family*, 62(4), 964–980. <https://doi.org/10.1111/j.1741-3737.2000.00964.x>
- Brann, D. (2016). *Reluctantly related: Secrets to getting along with your mother-in-law or daughter-in-Law* (3rd ed.). Ambergris Publishing.
- Burr, J. A., & Mutchler, J. E. (1999). Race and ethnic variation in norms of filial responsibility among older persons. *Journal of Marriage and Family*, 61(3), 674–687.
<https://doi.org/10.2307/353569>
- Byrd, A. L., & Manuck, S. B. (2014). MAOA, childhood Maltreatment, and antisocial behavior: Meta-analysis of a gene-environment interaction. *Biological Psychiatry*, 75(1), 9–17.
<https://doi.org/10.1016/j.biopsych.2013.05.004>

- Carr, D., Freedman, V. A., Cornman, J. C., & Schwarz, N. (2014). Happy marriage, happy life? Marital quality and subjective well-being in later life. *Journal of Marriage and Family*, 76(5), 930–948. <https://doi.org/10.1111/jomf.12133>
- Carr, D., & Moorman, S. (2011). Social relations and aging. In R. A. Settersten & J. L. Angel (Eds.), *Handbook of Sociology of Aging* (pp. 145–160). https://doi.org/10.1007/978-1-4419-7374-0_10
- Chodorow, N. (1978). *The reproduction of mothering*. Berkeley, CA: University of California Press.
- Chodorow, Nancy. (1989). *Feminism and psychoanalytic theory*. Yale University Press.
- Cicirelli, V. G. (1989). Feelings of attachment to siblings and well-being in later life. *Psychology and Aging*, 4(2), 211–216. <https://doi.org/10.1037/0882-7974.4.2.211>
- Clarke, P., Marshall, V., House, J., & Lantz, P. (2011). The social structuring of mental health over the adult life course: Advancing theory in the sociology of aging. *Social Forces*, 89(4), 1287–1313. <https://doi.org/10.1353/sof.2011.0036>
- Cohen, S. (2004). Social relationships and health. *American Psychologist*, 59(8), 676–684. <https://doi.org/10.1037/0003-066X.59.8.676>
- Coleman, M., Ganong, L. H., & Rothrauff, T. C. (2006). Racial and ethnic similarities and differences in beliefs about intergenerational assistance to older adults after divorce and remarriage. *Family Relations*, 55(5), 576–587. <https://doi.org/10.1111/j.1741-3729.2006.00427.x>
- Collins, W. A., & Laursen, B. (2006). Parent-adolescent relationships. In *Close relationships: Functions, forms and processes*. (pp. 111–125). Hove, England: Psychology Press/Taylor & Francis (UK).
- Cong, Z., & Silverstein, M. (2011). Intergenerational exchange between parents and migrant and nonmigrant sons in rural China. *Journal of Marriage and Family*, 73(1), 93–104. <https://doi.org/10.1111/j.1741-3737.2010.00791.x>
- Cong, Z., & Silverstein, M. (2012). Parents' preferred care-givers in rural China: gender, migration and intergenerational exchanges. *Ageing and Society*, 34(5), 727–752. <https://doi.org/10.1017/S0144686X12001237>

- Conger, R. D., Cui, M., Bryant, C. M., & Elder, G. H. (2000). Competence in early adult romantic relationships: A developmental perspective on family influences. *Journal of Personality and Social Psychology*, 79(2), 224–237. <https://doi.org/10.1037/0022-3514.79.2.224>
- Coser, L. A. (1974). *Greedy institutions: Patterns of undivided commitment*. New York: Free Press.
- Cox, M. J., & Paley, B. (1997). Families as systems. *Annual Review of Psychology*, 48, 243–267. <https://doi.org/10.1146/annurev.psych.48.1.243>
- Davey, A., Tucker, C. J., Fingerman, K., & Savla, J. (2009). Within-family variability in representations of past relationships with parents. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, 64B(1), 125–136. <https://doi.org/10.1093/geronb/gbn001>
- de Andrade, L. O. M., Filho, A. P., Solar, O., Rígoli, F., de Salazar, L. M., Serrate, P. C.-F., ... Atun, R. (2015). Social determinants of health, universal health coverage, and sustainable development: case studies from Latin American countries. *The Lancet*, 385(9975), 1343–1351. [https://doi.org/10.1016/S0140-6736\(14\)61494-X](https://doi.org/10.1016/S0140-6736(14)61494-X)
- De Neve, J.-W., & Kawachi, I. (2017). Spillovers between siblings and from offspring to parents are understudied: A review and future directions for research. *Social Science & Medicine*, 183, 56–61. <https://doi.org/10.1016/j.socscimed.2017.04.010>
- Duncan, O. D. (1969). Some linear models for two-wave, two-variable panel analysis. *Psychological Bulletin*, 72(3), 177–182. <https://doi.org/10.1037/h0027876>
- Durkheim, E. (1951). *Suicide : A Study in Sociology*. <https://doi.org/10.4324/9780203994320>
- Easterbrooks, M., & Emde, R. N. (1987). Marital and parent-child relationships: The role of affect in the family system. In R. Hinde & J. Stevenson-Hinde (Eds.), *Relationships within families: Mutual influences* (pp. 83–103). Oxford University Press.
- Elder, G. H. (1994). Time, human agency, and social change: Perspectives on the life course. *Social Psychology Quarterly*, 57(1), 4–15.
- Elder, G. H. (1998). The life course as developmental theory. *Child Development*, 69(1), 1–12. <https://doi.org/10.1111/j.1467-8624.1998.tb06128.x>

- Festinger, L. (1954). A theory of social comparison processes. *Human Relations*, 7(2), 117–140.
<https://doi.org/10.1177/001872675400700202>
- 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>
- Fingerman, K. L., Huo, M., Kim, K., & Birditt, K. S. (2017). Coresident and noncoresident emerging adults' daily experiences with parents. *Emerging Adulthood*, 5(5), 337–350.
<https://doi.org/10.1177/2167696816676583>
- Fingerman, K. L., Pitzer, L., Lefkowitz, E. S., Birditt, K. S., & Mroczek, D. (2008). Ambivalent relationship qualities between adults and their parents: implications for the well-being of both parties. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, 63(6), P362–P371. <https://doi.org/10.1093/geronb/63.6.P362>
- Fingerman, K. L., Pitzer, L. M., Chan, W., Birditt, K., Franks, M. M., & Zarit, S. (2011). Who gets what and why? Help middle-aged adults provide to parents and grown children. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, 66B(1), 87–98. <https://doi.org/10.1093/geronb/gbq009>
- Fiori, K. L., Antonucci, T. C., & Cortina, K. S. (2006). Social network typologies and mental health among older adults. *The Journals of Gerontology: Series B*, 61(1), P25–P32.
<https://doi.org/10.1093/geronb/61.1.P25>
- Giarrusso, R., Feng, D., & Bengtson, V. L. (2004). The intergenerational-stake phenomenon over 20 years. In M. Silverstein (Ed.), *Annual Review of Gerontology and Geriatrics: Intergenerational Relations Across Time and Place* (Vol. 24, pp. 55–76). Retrieved from <http://ebookcentral.proquest.com/lib/purdue/detail.action?docID=435144>
- Gilligan, C. (1982). *In a different voice: Psychological theory and women's development*. Cambridge, MA: Harvard University Press.
- Gilligan, M., Sutor, J. J., Kim, S., & Pillemer, K. (2013). Differential effects of perceptions of mothers' and fathers' favoritism on sibling tension in adulthood. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, 68(4), 593–598.
<https://doi.org/10.1093/geronb/gbt039>

- Gilligan, M., Sutor, J. J., & Pillemer, K. (2015). Estrangement between mothers and adult children: The role of norms and values. *Journal of Marriage and Family*, 77(4), 908–920. <https://doi.org/10.1111/jomf.12207>
- Gilligan, M., Sutor, J., Nam, S., Routh, B., Rurka, M., & Con, G. (2017). Family networks and psychological well-being in midlife. *Social Sciences*, 6(3), 94. <https://doi.org/10.3390/socsci6030094>
- Golish, T. D. (2000). Changes in closeness between adult children and their parents: A turning point analysis. *Communication Reports*, 13(2), 79–97. <https://doi.org/10.1080/08934210009367727>
- Hatfield, E., Traupmann, J., Sprecher, S., Utne, M., & Hay, J. (1985). Equity and intimate relations: Recent research. In W. Ickes (Ed.), *Compatible and Incompatible Relationships* (pp. 91–117). https://doi.org/10.1007/978-1-4612-5044-9_5
- Heider, F. (1958). *The psychology of interpersonal relations*. New York: Wiley.
- Henz, U. (2010). Parent care as unpaid family labor: How do spouses share? *Journal of Marriage and Family*, 72(1), 148–164. <https://doi.org/10.1111/j.1741-3737.2009.00689.x>
- Holt-Lunstad, J., Smith, T. B., & Layton, J. B. (2010). Social relationships and mortality risk: A meta-analytic review. *PLOS Medicine*, 7(7), e1000316. <https://doi.org/10.1371/journal.pmed.1000316>
- Horwitz, A. V., Widom, C. S., McLaughlin, J., & White, H. R. (2001). The impact of childhood abuse and neglect on adult mental health: A prospective study. *Journal of Health and Social Behavior*, 42(2), 184–201. <https://doi.org/10.2307/3090177>
- House, J., Landis, K., & Umberson, D. (1988). Social relationships and health. *Science*, 241(4865), 540–545. <https://doi.org/10.1126/science.3399889>
- Jensen, A. C., Whiteman, S. D., Fingerman, K. L., & Birditt, K. S. (2013). “Life still isn’t fair”: Parental differential treatment of young adult siblings. *Journal of Marriage and Family*, 75(2), 438–452. <https://doi.org/10.1111/jomf.12002>
- Jensen, A. C., Whiteman, S. D., Rand, J. S., & Fingerman, K. L. (2016). You’re just like your dad: Intergenerational patterns of differential treatment of siblings. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences*. <https://doi.org/10.1093/geronb/gbw033>

- 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. <https://doi.org/10.1111/jomf.12074>
- Joormann, J., Teachman, B. A., & Gotlib, I. H. (2009). Sadder and less accurate? False memory for negative material in depression. *Journal of Abnormal Psychology*, 118(2), 412–417. <https://doi.org/10.1037/a0015621>
- Joseph, C. (2014). *Dealing with in-laws in marriage: Strategies and tips to avoid conflict to improve your relationship with in-laws*. North Charleston, SC: CreateSpace Independent Publishing Platform.
- Kalmijn, M., & Liefbroer, A. C. (2011). Nonresponse of secondary respondents in multi-actor surveys: Determinants, consequences, and possible remedies. *Journal of Family Issues*, 32(6), 735–766. <https://doi.org/10.1177/0192513x10390184>
- Kaufman, G., & Uhlenberg, P. (1998). Effects of life course transitions on the quality of relationships between adult children and their parents. *Journal of Marriage and Family*, 60(4), 924–938. <https://doi.org/10.2307/353635>
- Kawachi, I., & Berkman, L. (2001). Social ties and mental health. *Journal of Urban Health*, 78(3), 458–467. <https://doi.org/10.1093/jurban/78.3.458>
- Kiecolt, K. J., Blieszner, R., & Savla, J. (2011). Long-term influences of intergenerational ambivalence on midlife parents' psychological well-being. *Journal of Marriage and Family*, 73(2), 369–382. <https://doi.org/10.1111/j.1741-3737.2010.00812.x>
- Lavee, Y., Katz, R., & Ben-Dror, T. (2005). Parent-child relationships in childhood and adulthood and their effect on marital quality: A comparison of children who remained in close proximity to their parents and those who moved away. *Marriage & Family Review*, 36(3–4), 95–113. https://doi.org/10.1300/J002v36n03_06
- Lee, G. R., Peek, C. W., & Coward, R. T. (1998). Race differences in filial responsibility expectations among older parents. *Journal of Marriage and Family*, 60(2), 404–412. <https://doi.org/10.2307/353857>
- London, J. P. (2017). A decade of love and hate. *Journal of Family Issues*, 38(3), 336–357. <https://doi.org/10.1177/0192513X16634763>

- Link, B. G., & Phelan, J. (1995). Social conditions as fundamental causes of disease. *Journal of Health and Social Behavior*, 80–94. <https://doi.org/10.2307/2626958>
- Loeser, M. K., Whiteman, S. D., & McHale, S. M. (2016). Siblings' perceptions of differential treatment, fairness, and jealousy and adolescent adjustment: A moderated indirect effects model. *Journal of Child and Family Studies*, 25(8), 2405–2414. <https://doi.org/10.1007/s10826-016-0429-2>
- Margelisch, K., Schneewind, K. A., Violette, J., & Perrig-Chiello, P. (2017). Marital stability, satisfaction and well-being in old age: variability and continuity in long-term continuously married older persons. *Aging & Mental Health*, 21(4), 389–398. <https://doi.org/10.1080/13607863.2015.1102197>
- Marmot, M. (2005). Social determinants of health inequalities. *The Lancet*, 365(9464), 1099–1104. [https://doi.org/10.1016/S0140-6736\(05\)71146-6](https://doi.org/10.1016/S0140-6736(05)71146-6)
- Mathews, A., & MacLeod, C. (2005). Cognitive vulnerability to emotional disorders. *Annual Review of Clinical Psychology*, 1(1), 167–195. <https://doi.org/10.1146/annurev.clinpsy.1.102803.143916>
- McArdle, J. J., & Nesselroade, J. R. (2014). *Longitudinal data analysis using structural equation models*. <https://doi.org/10.1037/14440-000>
- McGinnis, J. M., Williams-Russo, P., & Knickman, J. R. (2002). The case for more active policy attention to health promotion. *Health Affairs*, 21(2), 78–93. <https://doi.org/10.1377/hlthaff.21.2.78>
- Merrill, D. M. (2007). *Mothers-in-law and daughters-in-law: Understanding the relationship and what makes them friends or foe*. Greenwood Publishing Group.
- Merrill, D. M. (2011). *When your children marry: How marriage changes relationships with sons and daughters*. Lanham, Md: Rowman & Littlefield Publishers.
- Merz, E.-M., Schuengel, C., & Schulze, H.-J. (2009). Intergenerational relations across 4 years: Well-being is affected by quality, not by support exchange. *The Gerontologist*, 49(4), 536–548. <https://doi.org/10.1093/geront/gnp043>
- Meunier, J. C., Bisceglia, R., & Jenkins, J. M. (2012). Differential parenting and children's behavioral problems: Curvilinear associations and mother–father combined effects. *Developmental Psychology*, 48(4), 987–1002. <https://doi.org/10.1037/a0026321>

- Moynihan, D. P., Rainwater, L., & Yancey, W. L. (1967). *The Negro family: The case for national action*. MIT Press Cambridge, MA.
- Oliker, S. J. (1989). *Best friends and marriage: Exchange among women*. Berkeley, CA: University of California Press.
- Paolini, S., & McIntyre, K. (2018). Bad is stronger than good for stigmatized, but not admired outgroups: meta-analytical tests of intergroup valence asymmetry in individual-to-group generalization experiments. *Personality and Social Psychology Review*, 1088868317753504. <https://doi.org/10.1177/1088868317753504>
- Paul, E. L. (1997). A longitudinal analysis of midlife interpersonal relationships and well-being. In M. E. Lachman & J. B. James (Eds.), *Multiple paths of midlife development* (pp. 171–206). Chicago, IL: University of Chicago Press.
- Pearlin, L. I., Aneshensel, C. S., & Leblanc, A. J. (1997). The forms and mechanisms of stress proliferation: The case of AIDS caregivers. *Journal of Health and Social Behavior*, 38(3), 223–236. <https://doi.org/10.2307/2955368>
- Peng, S., Silverstein, M., Suitor, J. J., Gilligan, M., Hwang, W., Nam, S., & Routh, B. (2018). Use of communication technology to maintain intergenerational contact: Toward an understanding of “digital solidarity.” In B. B. Neves & C. Casimiro (Eds.), *Connecting families? Information & communication technologies in a life course perspective*. Bristol, United Kingdom: Policy Press.
- Peng, S., Suitor, J. J., & Gilligan, M. (2018). The long arm of maternal differential treatment: Effects of recalled and current favoritism on adult children’s psychological well-being. *The Journals of Gerontology: Series B*, 73(6), 1123–1132. <https://doi.org/10.1093/geronb/gbw105>
- Perry, B. L., & Pescosolido, B. A. (2015). Social network activation: The role of health discussion partners in recovery from mental illness. *Social Science & Medicine*, 125, 116–128. <https://doi.org/10.1016/j.socscimed.2013.12.033>
- Peters-Davis, N. D., Moss, M. S., & Pruchno, R. A. (1999). Children-in-law in caregiving families. *The Gerontologist*, 39(1), 66–75. <https://doi.org/10.1093/geront/39.1.66>

- Pillemer, K., Munsch, C. L., Fuller-Rowell, T., Riffin, C., & Sutor, J. J. (2012). Ambivalence toward adult children: Differences between mothers and fathers. *Journal of Marriage and Family*, 74(5), 1101–1113. <https://doi.org/10.1111/j.1741-3737.2012.01004.x>
- Pillemer, K., Sutor, J. J., Pardo, S., & Henderson, C. (2010). Mothers' differentiation and depressive symptoms among adult children. *Journal of Marriage and Family*, 72(2), 333–345. <https://doi.org/10.1111/j.1741-3737.2010.00703.x>
- Pillemer, K., Sutor, J. J., Riffin, C., & Gilligan, M. (2017). Adult children's problems and mothers' well-being. *Research on Aging*, 39(3), 375–395. <https://doi.org/10.1177/0164027515611464>
- Pinquart, M., & Sörensen, S. (2000). Influences of socioeconomic status, social network, and competence on subjective well-being in later life: A meta-analysis. *Psychology and Aging*, 15(2), 187–224. <https://doi.org/10.1037/0882-7974.15.2.187>
- Pinquart, M., & Sörensen, S. (2011). Spouses, adult children, and children-in-law as caregivers of older adults: A meta-analytic comparison. *Psychology and Aging*, 26(1), 1–14. <https://doi.org/10.1037/a0021863>
- Prentice, C. M. (2008). The assimilation of in-laws: The impact of newcomers on the communication routines of families. *Journal of Applied Communication Research*, 36(1), 74–97. <https://doi.org/10.1080/00909880701799311>
- Proulx, C. M., Helms, H. M., & Buehler, C. (2007). Marital quality and personal well-being: A meta-analysis. *Journal of Marriage and Family*, 69(3), 576–593. <https://doi.org/10.1111/j.1741-3737.2007.00393.x>
- Richmond, M. K., Stocker, C. M., & Rienks, S. L. (2005). Longitudinal associations between sibling relationship quality, parental differential treatment, and children's adjustment. *Journal of Family Psychology*, 19(4), 550–559. <https://doi.org/10.1037/0893-3200.19.4.550>
- Ross, C. E., & Mirowsky, J. (1988). Child care and emotional adjustment to wives' employment. *Journal of Health and Social Behavior*, 29(2), 127–138. <https://doi.org/10.2307/2137053>
- Rossi, A. S., & Rossi, P. H. (1990). *Of human bonding: Parent-child relations across the life course*. Piscataway, NJ: Transaction Publishers.

- 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>
- Schieman, S., & Glavin, P. (2011). Education and work-family conflict: Explanations, contingencies and mental health consequences. *Social Forces*, 89(4), 1341–1362.
<https://doi.org/10.1093/sf/89.4.1341>
- Sechrist, J., Sutor, J. J., Riffin, C., Taylor-Watson, K., & Pillemer, K. (2011). Race and older mothers' differentiation: A sequential quantitative and qualitative analysis. *Journal of Family Psychology*, 25(6), 837–846. <https://doi.org/10.1037/a0025709>
- Sechrist, J., Sutor, J. J., Vargas, N., & Pillemer, K. (2011). The role of perceived religious similarity in the quality of mother-child relations in later life: Differences within families and between races. *Research on Aging*, 33(1), 3–27.
<https://doi.org/10.1177/0164027510384711>
- Shanahan, L., McHale, S. M., Crouter, A. C., & Osgood, D. W. (2008). Linkages between parents' differential treatment, youth depressive symptoms, and sibling relationships. *Journal of Marriage and Family*, 70(2), 480–494. <https://doi.org/10.1111/j.1741-3737.2008.00495.x>
- Silverstein, M., & Bengtson, V. L. (1991). Do close parent-child relations reduce the mortality risk of older parents? *Journal of Health and Social Behavior*, 32(4), 382–395.
<https://doi.org/10.2307/2137105>
- Simmel, G. (1964). *The sociology of George Simmel*. New York: Free Press.
- Simpson, J. A., & Rholes, W. S. (2012). Adult attachment orientations, stress, and romantic relationships. In D. Patricia & P. Ashby (Eds.), *Advances in Experimental Social Psychology* (Vol. 45, pp. 279–328). <https://doi.org/10.1016/B978-0-12-394286-9.00006-8>
- Sinclair, R. R., Sliter, M., Mohr, C. D., Sears, L. E., Deese, M. N., Wright, R. R., ... Jacobs, L. (2015). Bad versus good, what matters more on the treatment floor? Relationships of positive and negative events with nurses' burnout and engagement. *Research in Nursing & Health*, 38(6), 475–491. <https://doi.org/10.1002/nur.21696>

- Smith, K. P., & Christakis, N. A. (2008). Social networks and health. *Annual Review of Sociology*, 34(1), 405–429. <https://doi.org/10.1146/annurev.soc.34.040507.134601>
- Spitze, G., Ward, R., Deane, G., & Zhuo, Y. (2012). Cross-sibling effects in parent-adult child exchanges of socioemotional support. *Research on Aging*, 34(2), 197–221. <https://doi.org/10.1177/0164027511420170>
- Suitor, J. J., Con, G., Johnson, K., Peng, S., & Gilligan, M. (2015). Parent–child relations. In *The Encyclopedia of Adulthood and Aging*. <https://doi.org/10.1002/9781118521373.wbeaa161>
- Suitor, J. J., Gilligan, M., Johnson, K., & Pillemer, K. (2014). Caregiving, perceptions of maternal favoritism, and tension among siblings. *The Gerontologist*, 54(4), 580–588. <https://doi.org/10.1093/geront/gnt065>
- Suitor, J. J., Gilligan, M., Peng, S., Con, G., Rurka, M., & Pillemer, K. (2016). My pride and joy? Predicting favoritism and disfavoritism in mother–adult child relations. *Journal of Marriage and Family*, 78(4), 908–925. <https://doi.org/10.1111/jomf.12288>
- Suitor, J. J., Gilligan, M., Peng, S., Jung, J. H., & Pillemer, K. (2017). Role of perceived maternal favoritism and disfavoritism in adult children’s psychological well-being. *The Journals of Gerontology: Series B*, 72(6), 1054–1066. <https://doi.org/10.1093/geronb/gbv089>
- Suitor, J. J., Gilligan, M., Peng, S., & Rurka, M. (2018). How much can be expected of one child? Consequences of multiplexity of mothers’ support preferences on adult children’s psychological well-being. In D. F. Alwin, D. H. Felmlee, & D. A. Kreager (Eds.), *Social networks and the life course: Integrating the development of human lives and social relational networks* (pp. 263–281). https://doi.org/10.1007/978-3-319-71544-5_13
- Suitor, J. J., Gilligan, M., & Pillemer, K. (2013a). Continuity and change in mothers’ favoritism toward offspring in adulthood. *Journal of Marriage and Family*, 75(5), 1229–1247. <https://doi.org/10.1111/jomf.12067>
- Suitor, J. J., Gilligan, M., & Pillemer, K. (2013b). The role of violated caregiver preferences in psychological well-being when older mothers need assistance. *The Gerontologist*, 53(3), 388–396. <https://doi.org/10.1093/geront/gns084>

- Suitor, J. J., Gilligan, M., & Pillemer, K. (2015). Stability, change, and complexity in later life families. In L. George & K. Ferraro (Eds.), *Handbook of aging and the social sciences* (8th ed., pp. 206–226). Cambridge, MA: Academic Press.
- Suitor, J. J., Gilligan, M., Pillemer, K., Fingerman, K. L., Kim, K., Silverstein, M., & Bengtson, V. L. (2018). Applying within-family differences approaches to enhance understanding of the complexity of intergenerational relations. *The Journals of Gerontology: Series B*, 73(1), 40–53. <https://doi.org/10.1093/geronb/gbx037>
- Suitor, J. J., Gilligan, M., Rurka, M., Con, G., Peng, S., & Pillemer, K. (2018). Conflict with mothers and siblings during caregiving: Differential costs for Black and White adult children. *The Journals of Gerontology: Series B*, 73(7), e86–e97. <https://doi.org/10.1093/geronb/gbx149>
- Suitor, J. J., Pillemer, K., & Sechrist, J. (2006). Within-family differences in mothers' support to adult children. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, 61(1), S10–S17.
- Suitor, J. J., Sechrist, J., Plikuhn, M., Pardo, S. T., Gilligan, M., & Pillemer, K. (2009). The role of perceived maternal favoritism in sibling relations in midlife. *Journal of Marriage and Family*, 71(4), 1026–1038. <https://doi.org/10.1111/j.1741-3737.2009.00650.x>
- Suitor, J. J., Sechrist, J., Plikuhn, M., Pardo, S. T., & Pillemer, K. (2008). Within-family differences in parent-child relations across the life course. *Current Directions in Psychological Science*, 17(5), 334–338. <https://doi.org/10.1111/j.1467-8721.2008.00601.x>
- Szinovacz, M. E., & Davey, A. (2007). *Caregiving contexts: Cultural, familial, and societal implications*. Springer Publishing Company.
- Szinovacz, M. E., & Davey, A. (2008). The division of parent care between spouses. *Ageing & Society*, 28(4), 571–597. <https://doi.org/10.1017/S0144686X07006915>
- Thoits, P. A. (1995). Stress, coping, and social support processes: Where are we? What next? *Journal of Health and Social Behavior*, 53–79. <https://doi.org/10.2307/2626957>
- Thomas, P. A., Liu, H., & Umberson, D. (2017). Family relationships and well-Being. *Innovation in Aging*, 1(3). <https://doi.org/10.1093/geroni/igx025>

- Tingley, D., Yamamoto, T., Hirose, K., Keele, L., & Imai, K. (2014). Mediation: R package for causal mediation analysis. *Journal of Statistical Software*, 59(5), 1–38.
- Troll, L. E., & Fingerman, K. L. (1996). *Connections between parents and their adult children*. San Diego, CA: Academic Press, Inc.
- Umberson, D., & Montez, J. K. (2010). Social relationships and health: A flashpoint for health policy. *Journal of Health and Social Behavior*, 51(1 suppl), S54–S66.
<https://doi.org/10.1177/0022146510383501>
- Umberson, D., Pudrovska, T., & Reczek, C. (2010). Parenthood, childlessness, and wellbBeing: A life course perspective. *Journal of Marriage and Family*, 72(3), 612–629.
<https://doi.org/10.1111/j.1741-3737.2010.00721.x>
- Umberson, D., Thomeer, M. B., & Williams, K. (2013). Family status and mental health: Recent advances and future directions. In C. S. Aneshensel, J. C. Phelan, & A. Bierman (Eds.), *Handbook of the Sociology of Mental Health* (2nd ed., pp. 405–431). New York, NY: Springer Publishing.
- Umberson, D., Williams, K., Powers, D. A., Liu, H., & Needham, B. (2006). You make me sick: Marital quality and health over the life course. *Journal of Health and Social Behavior*, 47(1), 1–16. <https://doi.org/10.1177/002214650604700101>
- Vaisey, S., & Miles, A. (2017). What you can—and can’t—do with three-wave panel data. *Sociological Methods & Research*, 46(1), 44–67.
<https://doi.org/10.1177/0049124114547769>
- Vuolo, M., Ferraro, K., Morton, P., & Yang, T.-Y. (2014). Why do older people change their ratings of childhood health? *Demography*, 51(6), 1999–2023.
<https://doi.org/10.1007/s13524-014-0344-3>
- Ward, R. A., & Spitze, G. (1998). Sandwiched marriages: The implications of child and parent relations for marital quality in midlife. *Social Forces*, 77(2), 647–666.
<https://doi.org/10.1093/sf/77.2.647>
- Ward, R. A., Spitze, G., & Deane, G. (2009). The more the merrier? Multiple parent-adult child relations. *Journal of Marriage and Family*, 71(1), 161–173.
<https://doi.org/10.1111/j.1741-3737.2008.00587.x>

- Ward, R., Deane, G., & Spitze, G. (2014). Life-course changes and parent–adult child contact. *Research on Aging*, 36(5), 568–602. <https://doi.org/10.1177/0164027513510325>
- Whisman, M. A. (2006). Childhood trauma and marital outcomes in adulthood. *Personal Relationships*, 13(4), 375–386. <https://doi.org/10.1111/j.1475-6811.2006.00124.x>
- Wright, J. D., & Marsden, P. V. (2010). Survey research and social science: History, current practice, and future prospects. In J. Wright & P. Marsden (Eds.), *Handbook of Survey Research* (pp. 3–26). Bingley, UK: Emerald Group.
- Young, L., & Ehrenberg, M. F. (2007). Siblings, parenting, conflict, and divorce. *Journal of Divorce & Remarriage*, 47(3–4), 67–85. https://doi.org/10.1300/J087v47n03_04