Family Functioning and Child Outcomes in South Korean Adolescents in (Non) Divorced Families from a Longitudinal Framework

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Abstract

This study used longitudinal data to examine levels and changes of family functioning and adolescent outcomes, the associations between family functioning and adolescent outcomes, and the mediational effects of parenting quality on the associations. All of those research questions were addressed, verifying latent factors of family functioning and adolescent outcomes using exploratory structural equation modeling and running various latent growth curve models against a nationally representative sample of 5,578 South Korean youth, who were followed annually across five years.

First, this study examined family functioning and adolescent outcomes in divorced families, while disentangling selection effects (the effect of preexisting conditions on child adjustment) from divorce-specific effects (the effects of divorce on child adjustment, while controlling for preexisting conditions) within its longitudinal framework. Overall, divorce is associated with lower levels of family functioning and adolescent outcomes. Specifically, selection effects were found for parenting quality, familial conflict, externalizing problems, internalizing problems, self-concept, and social stress, meaning adolescents in the divorced group experienced diminished family functioning and behavioral and emotional difficulties at the beginning of data collection. However, divorce specific effects were found for familial conflict and academic stress, suggesting that adolescents in divorced families experienced a steeper decrease in familial conflict and academic stress.

Second, this study also examined how areas of family functioning were associated with various domains of adolescent outcomes. Consistently, the levels and changes of familial conflict were related to the levels and changes of externalizing problems, internalizing problems, self-concept, academic stress and social stress. In addition, the levels and changes of parenting

quality were related to the levels and changes of externalizing problems, internalizing problems, self-concept, academic stress and social stress. Further, the study explored the possibility that family functioning was differently associated with adolescent outcome, depending on group membership (ever-divorced vs. non-divorced). With select adolescent outcomes, stronger associations between family functioning and adolescent outcomes were held for the non-divorced group.

Third, this study explored which mechanisms might be driving the associations within a sample of South Korean youth. Consistently, familial conflict led to more externalizing problems, internalizing problems, academic stress, and social stress by direct exposure to familial conflict (i.e., direct effect) and through disrupted parenting (i.e. indirect effect). Further, direct effects of familial conflict consistently exerted more influence on adolescent outcomes (i.e, externalizing problems, internalizing problems, academic stress and social stress), than did indirect effects.

Fourth, this study offered comprehensive and nuanced pictures of adolescents' adjustment to parental divorce by comparing adolescents from divorced and continuously-married families in South Korea. A couple of culture-specific findings in this study include 1) divorced families experience more familial conflict, yet, divorce seems to reduce familial conflict over time in South Korea (divorce-specific effect); 2) Adolescents who did not experience parental divorce felt that their pressure toward academic achievement accelerated more rapidly over time, than those who experienced parental divorce, while no overall difference in the level of academic stress was found.

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Over the past five decades, South Korea (Korea) has experienced tremendous economic, political, and socio-cultural change. For example, per capita GNP skyrocketed to $20,165 in 2010, up from just $82 in 1961 (IMF data, 2010). The change in per capita GNP reflects the country's rapid rates of both industrialization and urbanization. The societal changes driving these dramatic waves of industrialization and urbanization have in turn affected the attitudes and beliefs of members of the Korean society, leading to shifts in family structure, functioning, and relationships. Specifically, in terms of family structure, one-person/single-parent households (primarily a result of an increase in divorce) and blended families are much more common than ever before. In addition, over the past two decades, an emphasis has been placed on egalitarian beliefs and attitudes, which has also influenced the nature of family relationships. The traditional paternalistic and patrilineal systems have been replaced by increasingly egalitarian views towards minorities, as demonstrated by the recent empowerment and elevated standing of women and children. As family ties have been loosened with the advancement of individualism, rigidity in the role divisions of a husband and wife has also been significantly challenged, forcing family members to be more flexible in the undertaking of roles, including those within the home and those outside of it.

As societal transitions continue to impact the nature of family life, family dissolution has also increased markedly over the same period (Huh, 2002). For example, family laws have been introduced and revised to keep up with the changing attitudes towards gender equality and the protection of minor children (Han, 2010; Kim, 2011). In 1970, 11,616 divorce cases were documented, and in 2003, the number peaked at 166,617. The number has since slowly declined to 114,300. In 2011, 329,100 couples registered for marriage while 114,300 couples ended their marriage, leading to a marriage-divorce ratio of 34.6% (Korean National Statistics Office, 2012).

The substantial and steady increase in divorce over the past several decades has been a major cause for both societal and individual concern. This concern has been particularly notable for children of divorce, as the number of minor children who experience parental divorce each year skyrocketed from 66,374 in 1993 to approximately 100,518 in 2010; meaning that over 2,000,000 minors have experienced parental divorce over the past two decades (Korea National Statistics Office, 2012).

Western countries experienced the effects of increasing family dissolution several decades ago, and empirical studies have extensively documented the impact of divorce on family processes and child outcomes (Amato, 2010). In spite of the number of children who experienced parental divorce in Korea skyrocketing, empirical studies on the post-divorce adjustment of Korean children and youth have not been prolific partly due to the difficulty of finding participants who are willing to take part in the studies. The strong social disapproval of family dissolution and the sense of stigmatization felt by divorced families also deterred the systematic investigation of divorced-related adjustment in children. Furthermore, studies with non-English speaking samples have rarely been published in English journals. As such, the pursuit of methodologically rigorous empirical findings on divorced-related experiences and adjustment in a Korean sample is of importance as these results could not only offer meaningful perspectives on divorce in Korea, but they could also reveal cross-cultural similarities and differences across the findings.

This dissertation aims to enhance our longitudinal understanding of family functioning, adolescent outcomes, the associations between family functioning and adolescent outcomes, and the mechanisms of the associations as a function of group membership among Korean youth. To date, numerous studies in this domain have documented the associations and/or mechanisms by

which the associations between family functioning and adolescent outcomes do/do not vary based on group membership (i.e. Divorced vs. Non-divorced) in samples of youth from predominately English-speaking countries. However, research that employs longitudinal studies of family functioning and the psychological adjustment of adolescents from divorced families in non-English-speaking countries, is particularly scarce. The current study presents a comprehensive picture of family functioning and adolescent outcomes with selection and divorce-specific effects into account, demonstrates how they are associated, and suggests which mechanisms might be at work with a sample of Korean youth.

Divorce in Korea

Demographics

Korea and other East Asian countries such as China and Japan are collectivistic cultures in which vertical relationships (e.g. parent-child) in families take precedence over horizontal ones (e.g. spousal). As such, divorce is socially disfavored due to its negative impact on children through the breakdown of parent-child relationships (Chung & Emery, 2010). Despite long-standing social attitudes about divorce, the rise in the divorce rate in recent decades clearly reflects the changing nature of family structures in Korea.

Korea has experienced a striking increase in the rate of divorce over the past several decades. The crude national divorce rate, the number of divorces annually per 1000 people, increased nearly three-fold to 3.4 in 2003 (in comparison to 1.1 in 1990), and eight-fold from 0.4 in 1970 (Korea National Statistics Office, 2012). In fact, Korea is now ranked third highest by the Organization for Economic Cooperation and Development (OECD) for its elevated divorce statistics (Chung & Emery, 2010). This rapid increase in divorce was witnessed a few decades earlier in industrialized Western countries such as the United States and the United Kingdom. As

in Korea, China and Japan also have undergone similar overall increases in divorce in recent years (Dong, Wang, & Ollendick, 2002).

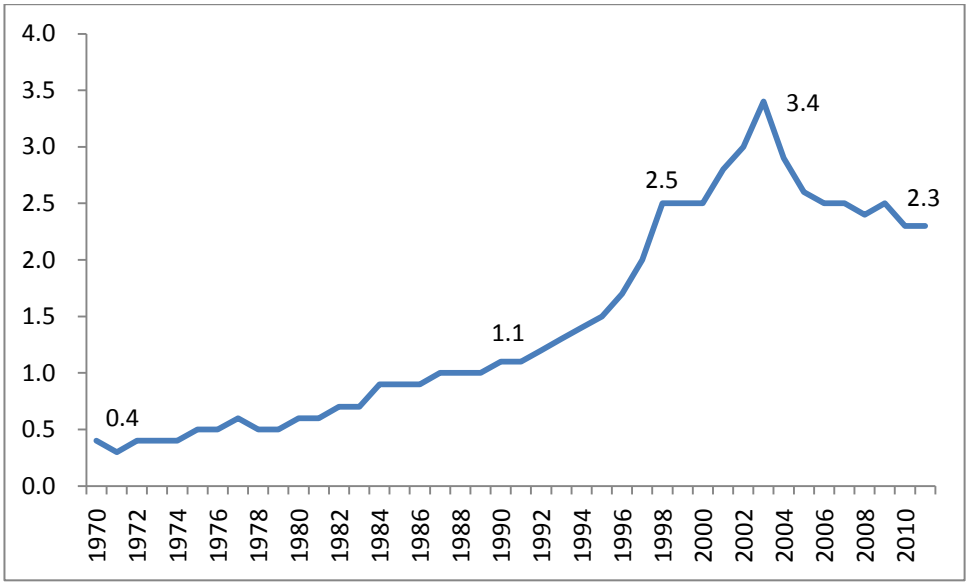


Figure 1. Trend in crude divorce rate in South Korea ; Source : National Statistics Office, 2012

The specific trend in Korean divorce shows that the rate peaked at 3.4 in 2003 and then gradually declined to 2.3 in 2011 (Korea National Statistics Office, 2012). The sudden increase in the rate from 2.0 in 1997 to 2.5 in 1998 can be accounted for by the nation's economic crisis, which exerted major effects on life-time employment and the job market, as well as prompted women's entering and remaining in the workforce.

Recent divorce-related phenomena in Korea also include the substantial increase in twilight divorce, (defined as divorce that occurs when partners are over the age of 65 and following twenty or more years of cohabitation), the overall increase in age at divorce, and the slight shifts in the make-up of contested vs. uncontested divorce. One topic of interest in Korea is the monumental spike in rates of twilight divorce. While the total number of divorces declined to 114,284 in 2011, twilight divorce accounts for a substantial amount of the total (24.8%). The

statistics indicate that the number of twilight divorces has increased more than four and a half-fold since 1990. With regards to gender, 35,191 men in their 50s and older divorced in 2011, compared to 15,500 in 2000. More than 22,418 women of a similar age ended their marriage in 2012, compared with 7,500 women in 2000. Surprisingly, the number of twilight divorces has continued to increase for the past couple of decades despite a general decline in the overall divorce rate from 2003 until 2010. It is believed that this phenomenon is nationally specific to Korea and Japan, and experts predict that the trend will continue or at least stay stagnant in the years ahead (Kim, 2011).

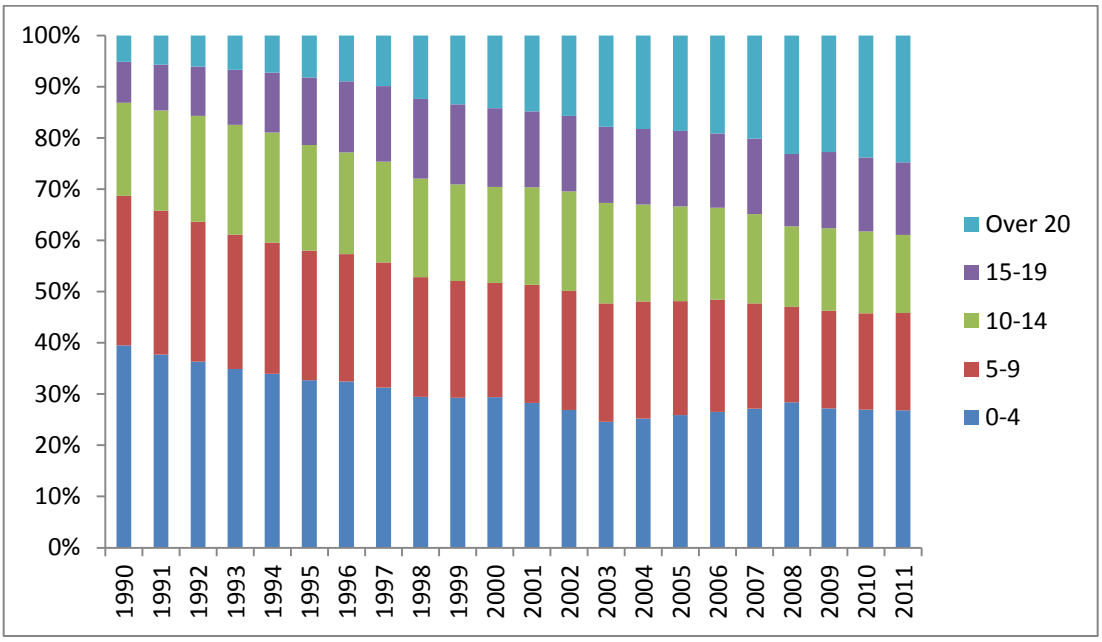


Figure 2. Cohabitation Period upon filing for divorce; Source : National Statistics Office, 2012

Paralleling the increased rate of twilight divorce, the average of age of divorce is also on the rise. In 2011, men were on average 45.4 years old at the time of divorce, while women were 41.5, as compared to an average age of 41.1 years for men and 36.5 years for women in 2000. Regardless of gender, divorce among those 50 years of age or older consistently increases each

year, while declines in divorce rates have been noted for the rest of age groups (Korea Statistics Office, 2012).

Lastly, contested divorces made up 24.4% of all divorces in 2011. Contested divorce in South Korea is on the rise overall but demonstrated a sudden increase in 2008, coinciding with the implementation of innovative policy. The new policy called for a "cooling-off period" following a couple's decision to divorce, which generally precedes divorce proceedings. Over 40 percent of contested divorces are initiated by interracial or intercultural couples. The Seoul Family Court reports that divorce lawsuits stemming from interracial marriages have consistently been high, making up 5,600 cases out of 12,100 in 2008, 6,500 cases out of 12,400 in 2009, and 5,300 cases out of 12,500 in 2010 (Korean Times, 2011)

Driving forces behind these trends

Specific societal and structural changes, primarily driven by rapid industrialization and urbanization since the late 1960s, have exerted a profound impact on family institutions and the lives of citizens of South Korea. With industrialization and urbanization as a major driving force, the concept of individualism, putting individual needs and well-being over that of others, has infiltrated people's beliefs and attitudes. The shift to individualism has profoundly affected family values, as needs of the entire family no longer necessarily take precedence over those of individual members. Additionally, people's attitudes towards marriage have significantly changed. Due to this major change in social attitudes, people view marriages as individual-to-individual contracts, rather than family-to-family unions. Despite these drastic socio-cultural changes, the collectivistic nature of family life remains far stronger in South Korea than in more individualistic Western nations.

Major legal changes have also influenced the trends in divorce rates. Just as the implementation of "no-fault" divorce law in 1970 contributed to the rising divorce rate in the United States (Emery, 1999), changes in family laws in South Korea also appear to have contributed to the three-fold increase in divorces from 1990 to 2000. In 1990, family laws recognized a mother's custodial right and a wife's right to file for a division of property following a separation. Prior to this revision in family laws, custodial rights were endowed to fathers only (Roh, & Kim, 2000). Stay-at-home wives' contributions to household work and child-rearing were not legally recognized, unless a given property was registered under their name (Song, 2005). Consequently, women were left with enormous disadvantages, such as the financial and legal difficulties associated with leading independent lives following divorce and having to bear social stigmatization. The revision elevated women's legal standing and thus created a climate for women to have the capability to terminate unhappy marriages while securing financial stability and legal rights for their children (Roh & Kim, 2000). The legal changes, in conjunction with the underlying societal changes brought about by industrialization, also influenced trends in divorce rates by broadening options and choices for the individuals considering divorce.

Another factor often cited as a major contributor to increases in rates of divorce is the increasing economic freedom of women. The employment rate for women has risen steadily from 37.0% in 1963 to 50.1% in 2007, while the average employment rate has been shown to have increased from 56.6% to 61.7% for the same period (KNSO News, 2008). Although wage differences between genders is the highest among OECD countries (Kim, 2011), women's presence in the workforce (despite the discrepancy in their pay) has often enabled them to choose alternative lifestyles by ending unhappy marriages and renegotiating the division of roles and

labor in family life. These societal changes have left the nation experiencing a so-called cultural lag due to women's relatively quick adaptations to the implications of increasing gender equality in comparison to men's slow and reluctant acceptance of the change. The difference in rates of adaptation to change has posed great risks for family dissolution (Bae, 2010).

The substantial and consistent increase in divorce over time has been a great cause for concern, as strong family ties and low divorce rates have served well to ensure the stability of Korean society. At an individual level, the adjustment of parents is considered to be a challenging task in its own right, but much attention has also been paid to the rapidly growing number of children from divorced families. The percentage of divorces that occur in families with minor children declined from 71.4% in 1993 to 53.8% in 2010, and can be attributed to the increase in twilight divorce; however, the number of minor children who experience parental divorce each year increased from 66,374 in 1993 to approximately 100,518 in 2011 (Korea National Statistics Office, 2012). All told, more than two million minors have experienced parental divorce over the past two decades.

Experts, professionals, and policy makers concerned with the well-being and adjustment of children in Korea rallied to put forth agendas, laws, and programs that addressed these issues. These collective efforts have led to recent changes in family laws, both with the creation of the Civil Act and the Family Litigation Law, which focus on the protection and promotion of rights, as well as securing support for minor children from divorced families (Park, Choi, & Han, 2009). Similarly, research has focused on the impact of divorce on child functioning and outcomes, which will be reviewed in detail in the following section. To date, only a handful of empirical studies with non-English samples have been published, and, thus, research findings in young

Korean samples offer a meaningful perspective on divorce, due to their potential to be used in cross-cultural comparisons.

Korean literature on child outcomes in divorced families.

In spite of the rapidly accumulating number of divorced minors in Korea, very few empirical studies are available on family and child functioning and their associations with moderating (e.g. age, gender, income) or mediating variables (e.g. parenting behaviors, coping resources). An extensive literature search for peer-reviewed published articles identified six studies with no-comparison and seven studies with comparison groups (i.e. non-divorced children). Among them, almost all studies employed a cross-sectional design; only one study compared adjustment and outcomes of divorced children using a longitudinal framework. In addition, only one study has been published in a journal written in English. This review will focus only on the seven controlled studies.

Chung and Emery (2008) compared a group of 198 children of divorced families to 256 children of non-divorced families. They focused on parent-child relationships (e.g. attachment security, parental warmth and supervision), psychological adjustment (e.g. standard measures of externalizing and internalizing problems, and self-esteem) and emotional pain (e.g. fear of abandonment and perception of loss). The findings show that children of divorced families displayed more statistically and clinically significant internalizing problems than their counterparts. They also reported lower self-esteem, perceived their relationship with parents as less secure, perceived less warmth and supervision from their parents, and reported more fear of abandonment and sense of loss. It is worth noting that, unlike findings in Western literature (Amato, 2001), no differences were found in externalizing behaviors across groups, which warrants further research on cultural differences on child outcomes associated with divorce.

Further, the study reported findings on living arrangements and compared adjustment in still divorced and remarried families. In the study, 57% of children in the divorced sample lived primarily with their mothers, while 43% of the sample lived with their fathers. It was also found that parental remarriage did not have either notably positive or negative influences on children's adjustment; children from divorced and remarried families reported better functioning than children whose parents still stayed divorced.

Kim (1993) compared a group of 41 children of divorce to 145 children who had not experienced parental divorce on life satisfaction and self-esteem. The findings show that children of divorce reported significantly lower life satisfaction and self-esteem. In this study, the sample of divorced children was small and unbalanced in terms of gender (3 boys and 38 girls), which limits the generalizability of the study, and the gender ratio for children from non-divorced families was not provided. Kwon (1999) assessed the self-esteem and sociability of 148 elementary school children from divorced families and 198 from married families and found significantly lower scores for children from divorced families. Additionally, Yee (2002) compared 174 adolescents from divorced families with 174 teens from married families and found more problems among the youth from divorced families on three subscales of the Symptom Checklist (SCL-90; depression, anxiety, anger), as well as lower self-esteem.

Yi, Yi, and Min (2006) compared a group of 80 children of divorce (46 boys and 34 girls) to 74 children from non-divorced families (37 boys and 37 girls) on their perception of parenting behaviors and teacher-rated behavior problems (e.g. depression/anxiety, withdrawal, and aggression) measured by the K-CBCL (Oh, Yi, Hong, & Ha, 1997). The findings demonstrated that children of divorce perceived their parents' parenting behaviors less positively. They were

also rated by their teachers to be exhibiting higher levels of depression, more symptoms of anxiety, and more aggressive behaviors.

Yoo, Lee, and Seo (2004) compared a group of 187 adolescents whose parents were separated or divorced to 169 matched adolescents whose parents were married on their perceptions of parenting, depressive symptoms, and peer relationships. The findings demonstrated that adolescents of divorced families, again, perceived their parents as less warm, reported greater levels of depressive symptoms, and perceived themselves as more isolated and less understood in their peer relationships. Interestingly, depressive symptoms were associated with a sense of isolation in peer relationships and parental warmth in both groups, but with maturity-demanding parenting (broadly speaking, parenting that require the children to assume seemingly adult responsibilities), only in the group with divorced parents, suggesting that the latter group of adolescents' parents expected them to grow up quicker, which in turn affects levels of depressive symptoms.

Findings from Kim's study in 2011 are of particular importance as, to the best of my knowledge, this is the only longitudinal study to date that addresses the effects of divorce on children. Kim (2011) compared the group of 132 children of divorce to 2,316 children with married parents, using the Korean Youth Panel Survey, which followed up on participants annually for five years from 4^{th} to 8^{th} grade. Latent growth curve modeling was used to investigate the trajectories of internalizing problems and aggression across groups as a function of self-esteem, self-control, parental warmth, peer relationships, relationships with teachers, and off-spring abuse.

The findings show that children from divorced families showed a steady and linear increase in aggression from Wave 1 to Wave 5, while children from married families showed a

steady increase until Wave 4 and then remained stagnant thereafter. Regardless of group, internalizing problems stayed stagnant until Wave 2 and then increased sharply from Wave 3 to Wave 5. Higher initial levels of aggression and internalizing problems were associated with slower increases in aggression and internalizing problems. Variance in initial levels and rates of aggression and internalizing problems were significant, suggesting that individual differences among the participants existed at the beginning of data collection and affected the extent of change over time. For both groups, self-esteem and self-control were associated with initial levels of and changes in the rate of aggression. The same results were found with internalizing problems in the non-divorced group.

Broadly speaking, higher self-esteem and self-control are both protective factors for child outcomes. However, differences were noted in that only self-esteem was associated with initial levels and changes in the rate of internalizing problems in the divorced group, suggesting that it may play a significant role in the emergence of internalizing problems in children of divorce. The findings also suggest that child outcomes (i.e. internalizing or externalizing problems) might vary depending on different aspects of child functioning (self-esteem and self-control) within groups. Protective factors for children of divorce warrant further systematic investigation.

In sum, children of divorce were found to have more psychological problems such as anxiety, depression, low self-esteem, and life satisfaction, than their counterparts in continuously married families. However, the associations between divorce and externalizing problems are rather inconclusive with mixed findings across studies. Self-control and self-esteem were shown to mediate internalizing or externalizing problems in one longitudinal study; however, conclusive evidence is yet to emerge to establish definite relationships.

Limitations of research to date

Although a handful of controlled empirical studies are available, recent studies have employed more methodologically sound designs to attempt to understand the impact of parental divorce on children's well-being and adjustment. The previous research findings are limited due to methodological flaws, including reliance on convenience (and biased) samples, use of cross-sectional designs, and use of non-representative samples. Even the longitudinal study (Kim, 2011) is limited because it does not examine other family functioning variables (i.e. interparental conflict) and their association with child functioning. Additionally, the study (Kim, 2011) explores group differences between older children (i.e. 4th grade through 8th grade) and adolescents (i.e. 8th grade through 12th grade), in order to shed further light on the developmental trajectories of children and adolescents in Korea. However, to understand the complete story of child adjustment over time following divorce, it is imperative to conduct controlled empirical studies with multiple informants and assessments of various domains of family and child functioning. By taking a longitudinal approach, selection effects (the effect of preexisting conditions on child adjustment) can be disentangled from divorce effects (the effects of divorce on child adjustment while controlling for preexisting conditions).

In order to be able to draw comparisons between Korean and English-speaking cultures, a brief overview of child outcomes associated with divorce in Western literature will now be provided.

Divorce in Western Countries

Overview

Although the rate of divorce in the United States has decreased over the past several decades, nearly half of first marriages are still estimated to end in divorce, affecting over one million children each year (Pedro-Carroll, 2005). An extensive body of literature reports that divorce increases the risk for adjustment problems in children and adolescents (Amato & Booth, 2001; Emery, 1999; Hetherington, 1999). Confronted with the increased risks associated with divorce, children of divorce are reported to have more externalizing, internalizing, social, and academic problems than children from continuously married families. Research (Hetherington, 1999; Hetherington & Kelly, 2002) showed that 20% - 25% of these children are likely to have serious psychological and social problems, as measured by objective tests, while only 10% of children in continuously married families suffer from similar problems. The largest effects are seen in externalizing symptoms, including conduct disorders, antisocial behaviors, and problems with authority figures and parents. Less robust differences are found with respect to depression, anxiety, and self-esteem (Kelly & Emery, 2003).

Despite the increased risks, resilience is the normative psychological outcome of divorce for children, at least as indexed by standard measures of psychological, educational, and behavioral problems. A meta-analysis of 92 studies comparing children from divorced families and continuously intact families (Amato & Keith, 1991) showed an average effect size of .14 standard deviation units across all child outcomes: School achievement, Conduct, Psychological adjustment, Self-concept, Social adjustment, Mother-child relations, Father-child relations. The small average effect size of .17 standard deviation units across all child outcomes was found again in another meta-analysis of studies in the 1990s, in spite of a slight widening of the

differences between the two groups (Amato, 2001). Although we do not wish to minimize the stresses and risks to children that separation and divorce pose, it is important to emphasize that approximately 75 - 80% of children and young adults do not suffer from major psychological problems (including depression), the majority have achieved their educational and career goals, and most retain close ties to their families (Hetherington, 1999; Kelly & Emery, 2003).

The resilience perspective focuses on the fact that children confront a number of stressors during the divorce transition, yet the majority function competently (Emery, 1999; Hetherington, 1999). Still, it is important to distinguish pain or distress about parental divorce from longer-term psychological symptoms or pathology. Clearly, divorce can create lingering feelings of sadness, longing, worry, and regret that coexist with competent psychological and social functioning (Kelly & Emery, 2003).

According to a study exploring the consequences of divorce from a 'distress' not 'disorder' perspective, college students reported more painful feelings, beliefs, and memories about their parents' divorce, while no differences were detected between those whose parents had divorced and those whose had not on standardized measures such as the Beck Depression Index or the Trait Anxiety Scale (Laumann-Billings & Emery, 2000). These findings suggest that many of these resilient students still experienced divorce-centered distress such as painful longing for the absent parent or seeing the world through the lens of divorce (Kelly & Emery, 2003). Having risk, resilience, and distress (pain) perspectives in mind, the following section will review literature on aspects of family and child functioning associated with divorce.

Family functioning associated with divorce

Quality of parenting

Studies have shown that areas of family functioning are robustly associated with multiple domains of child outcomes (Hetherington, 1999). Key areas include coparental relationships, coparenting conflict, authoritative parenting, quality of children's relationships with their residential or non-residential parents, and the amount of contact children have with their non-residential parents. Although all of these aspects of family functioning are important variables in their own right and have empirical support for their link to child adjustment and outcomes, parenting and interparental conflict between former spouses has particularly significant implications with robust empirical support.

Authoritative parenting, characterized by both a warmth dimension (i.e. responsiveness, support, encouragement) and a discipline dimension (i.e. monitoring, communication, and enforcement of developmentally appropriate rules and expectations), tends to suffer (Hetherington, 1999; Kelly & Emery, 2003) following divorce. Particularly, when divorced parents are distressed about multiple transitions and changes during the first two years after a divorce, they often exhibit emotional unavailability and irritability, and practice ineffective discipline through the use of coercive or harsh parenting (Patterson, 1982). Thus, divorced parents tend to resort to ineffective parenting with less warmth and discipline, particularly during this initial adjustment period, which, in turn, leads to various difficulties in child functioning, including internalizing and externalizing problems, emotional dysregulation , and low self-esteem.

Furthermore, prospective studies suggest that parenting problems often existed even before divorce and that the stresses and challenges posed by divorce subsequently exacerbate parenting difficulties during and after divorce (Shaw, Emery, & Tuer, 1993).

Family conflict

Research has consistently shown that interparental conflict before, during, and after parental divorce is a robust predictor of children's psychological functioning (Amato & Keith, 1991; Cumming & Davies, 2010; Emery, 1982). The magnitude of the detrimental association between interparental conflict and child adjustment (Buehler et al., 1997) is almost twice that of the reported effects of divorce on children (Amato & Keith, 1991). Overt or covert conflict between parents is associated with externalizing problems including delinquency, antisocial behavior, and conduct problems (Dadds, Atkinson, Turner, Blums & Lendich, 1999; Emery & O'Leary, 1984; Harden et al., 2007), as well as with hyperactive/inattentive behaviors (Peterson & Zill, 1986). Interparental conflict is also related to internalizing problems such as depression (Dadds et al., 1999; Johnston, Gonzales, & Campbell, 1987), emotional insecurity (Cummings & Davies, 2010), and more subtle internal symptoms of distress such as feelings of loss and blame (Laumann-Billings & Emery, 2000).

Overall, behaviorally manifested post-divorce conflict tends to decline over time as individuals transition from their spousal roles to their new roles as co-parents (Maccoby, Depner, & Mnookin, 1990; McIntosh, Long, & Wells, 2009). However, about 10 to 15% of divorced families are estimated to remain highly conflicted long after a formal divorce (Buchanan & Heiges, 2001). Children in these families are at a considerably higher risk for experiencing the damaging effects of long-term conflict than children from families with low levels of post-divorce conflict. Furthermore, psychologically-maintained hostility, namely acrimony, often

remains high for quite some time, especially for mothers whose former spouses have found another intimate partner (McIntosh et al., 2009) or for mothers and fathers whose co-parents are largely unavailable for parenting (Shim & Emery, 2010). High levels of acrimony between mothers and their former spouses remain perceptible to children and thus toxic to their psychological adjustment, even if the children no longer actively witness their parents fighting in their presence (McIntosh et al., 2009).

Conflict may also affect other aspects of family functioning due to its influence on co-parental relationships, the non-residential parent's contact with their children and involvement in child-rearing, and the quality of parent-child relationships (Sigal, Sandler, Wolchick, & Braver, 2011). Studies have demonstrated that the level of interparental conflict predicts non-residential parents' contact with their children and subsequently the quality of the parent-child bond (Sobolewski & King, 2005). Furthermore, interparental conflict was also linked to less frequent contact with non-residential fathers and poorer relationship quality between non-residential parents and their children (Whiteside & Becker, 2000). Given the associations between interparental conflict and non-residential parental involvement and decreased rates of school failure (Menning, 2006), non-residential parents' increased contact with the their child(ren) and better physical health (Fabricius & Luechekn, 2007), and other generally positive outcomes (Amato & Gilbreth, 1999; King & Sobolewski, 2006), the role that acrimony between former spouses plays in family processes is quite extensive, even though the exact nature and directionality of these associations are difficult to disentangle.

Living arrangements

Despite the recent increase in single fathers and joint custody arrangements, only about 10% of children reside with their fathers, suggesting that most minor children in divorced families live with their mothers (Emery, 1999).

Remarriage

Remarriage has been shown to have both costs (i.e. relationship difficulties with both biological and step-parents) and benefits (i.e. regained earnings and financial stability) (Emery, 1999). These positive and negative effects may help to explain the fact that children from remarried families tend to exhibit similar levels of psychological problems as children living with single parents (Amato, 1994; Zill, 1988).

Child functioning associated with divorce

School adjustment

The effect of divorce on school adjustment, as measured by standardized test scores and grades, was statistically significant but small in magnitude (Emery, 1999), with effect sizes ranging from .10 to .20 (Zill, 1995). Stronger effect sizes, .20 to .36, were detected for school misbehaviors (Zill, 1995) and for academic achievement with a mean effect size of .26 (Amato, 2001). A number of other studies with large sample sizes report similar findings (Emery, 1999).

Externalizing problems

Of all components of children's psychological adjustment, externalizing problems, such as delinquency, aggression, and disobedience, are most strongly and consistently associated with divorce (Amato, 2001; Amato & Keith, 1991; Emery, 1982; Patterson, De Baryshe, & Ramsey, 1989). The mean effect sizes of conduct problems in two meta-analyses were .23 in the first analysis (Amato & Keith, 1991) and increased slightly to .33 in the second (Amato, 2001). Additionally, a study of a national evaluation of a British sample of 12,743 (Wadsworth, Burnell,

Taylor, & Butler, 1985) reported that five-year olds displayed increased antisocial behaviors. Children ranging in age from 7 to 11 were rated as exhibiting more aggressive behaviors by both their teachers and mothers in a study with a nationally representative U.S. sample (Zill, 1978) and a follow-up study five years later (Peterson & Zill, 1986).

Internalizing Problems

Unlike externalizing problems, findings on internalizing problems associated with divorce have been mixed (Emery, 1999). Meta-analyses have detected that earlier research tends to find little difference with a mean effect size of .08 (Amato & Keith, 1991); however, more recent analyses found more group differences with a stronger mean effect size of .31 (Amato, 2001), suggesting that divorced children tend to experience more emotional difficulties, anxiety, or depressive symptoms than non-divorced children.

Self-concept (self-esteem & self-efficacy)

As with internalizing problems, research is a bit ambiguous in its interpretation of the association between divorce and measures of self-concept such as self-esteem andself-efficacy, which is partly attributable to the difficulties in the measurement in self-concept (Shaw, 1991). Furthermore, earlier studies (Berg & Kelly, 1979; Rascjke & Raschke, 1979) found null results in group comparisons, with meta-analyses again showing small mean effect sizes of .09 (Amato & Keith, 1991) to .24 (Amato, 2001).

Perceived (di)stress

Research has shown that divorce is associated with perceived distress among children 7 to 11 years old (Allison & Furstenberg, 1989), as well as young adults (Fabricious & Hall, 2000; Laumann-Billings & Emery, 2000). In a study of a nationally representative sample of 1,197 children (Allison & Furstenberg, 1989), children reported feeling significant psychological

distress, even after controlling for time since divorce, and college students reported more painful feelings, beliefs, and memories about their parents' divorces (Laumann-Billings & Emery, 2000) and a sense of loss even a decade after divorce (Fabricius & Hall, 2000), compared to their peers from non-divorced families.

Emotion regulation and self-control

Controlled empirical research that uses nationally representative samples to draw conclusions about the associations between divorce and emotion regulation or self-control is very limited. Speculation could be made that divorced children likely experience more irritability and a lack of controlled behaviors, at least during and for the first two years of divorce, due to the potential for increased parental conflict and inept parenting (i.e. parental unavailability, moodiness, and ineffective discipline) (Emery, 1999; Hetherington, 1999)

Gender differences in child outcomes associated with divorce

Extensive research converges to show that boys tend to exhibit more externalizing problems (i.e. defiant behaviors, acting out, and conduct problems) than girls (Nagin & Tremblay, 1999); Girls tend to experience more internalizing problems (i.e. anxiety, depression, and social withdrawal) than boys (Sterba, Prinstein & Cox, 2007) and internalizing problems tend to increase over time for girls, but not for boys (Scaramella, Cogner, & Simons, 1999) in late childhood to adolescent period. This pattern of gender difference is particularly present in high-conflict ridden divorced families (Buchanan, Maccoby & Dornbusch, 1992). However, a portion of the negative effects of parental divorce has been found to be attributed to pre-existing adverse factors. Still, divorce can have detrimental effects throughout childhood adolescence

(Heatherington 1993; Lansford et al., 2006). As such, the change and stability of externalizing or internalizing problems, following divorce warrants for further research.

In sum, the mean level differences between children with divorced and non-divorced parents show that children with divorced parents face a greater risk for psychological, behavioral, and academic difficulties, than their counterparts. Consistently, research findings in Korean literature on child outcomes tend to agree that divorce poses an overall increase in risk for child functioning and outcomes, except for externalizing problems. While the mean differences between groups (i.e. divorced vs. non-divorced) are significant, the magnitudes of problems vary depending on areas of functioning and outcomes. Externalizing problems, such as aggression and defiant behaviors, tend to be more strongly associated with divorce, while intra-psychological functioning (i.e. internalizing problems and self-concept) is unequivocally associated with divorce with lower magnitude. Although the mean level differences provide an informative picture of the impact of divorce, they fail to elucidate the stability and change in family processes and child outcomes over time, as divorce accompanies a cascade of unfolding family processes (Hetherington, 1993). Additionally, cross-sectional studies do not disentangle selection factors (i.e. pre-divorce conflict, parent's mental health issues such as depression) from divorce-specific effects (Amato, 2000; Amato, 2010). The next section will review methodologically rigorous longitudinal studies that used a controlled design with representative samples and/or multiple reporters.

Longitudinal Studies

Recent advanced family research methods (i.e. longitudinal, prospective studies and growth curve modeling) indicate that a portion of the negative effects of parental divorce can be attributed to pre-existing adverse factors. This is evidenced by higher mean levels prior to divorce and suggests a selection effect into divorce (or the beginning of damaging family interactions prior to divorce) (Cherlin, Chase-Lansdale, & McRae, 1998; Storkesen, Roysamb, Holmen, & Tams, 2006). Still, divorce can have detrimental effects throughout childhood (Strohschein, 2006), adolescence (Heatherington 1993; Lansford et al., 2006), and adulthood (Cherlin et al., 1998). These studies have found that individuals who experienced parental divorce exhibited more decline in his/her functioning and/or outcomes, even after considering the lower level of functioning at the beginning of data collection, in comparison to their counterparts from non-divorced families. Specifically, anxiety symptoms, not anti-social behaviors, were largely worsened by divorce among representative Canadian children ages 4 to 7 (Strohschein, 2006). By accounting for the timing of divorce or separation (1 year prior to divorce to 3 years after divorce), it is evident that kindergartners to 10^{th} graders who experience parental divorce early show negative trajectories in terms of externalizing and internalizing problems, while children who experience parental divorce later show greater difficulties with academic performance than their counterparts from non-divorced families. In general, children of divorce display higher levels of both internalizing and externalizing problems, as well as lower grades, one year prior to parental divorce (Lansford et al., 2006). Similarly, from a life span perspective, children or adolescents who experienced parental divorce between the ages of 7 and 22 were estimated to have steeper increase in emotional problems than individuals who experienced no parental divorce or parental divorce between the ages of 23 to 33, as well as more

emotional problems initially. In contrast to the effect of timing of parental divorce, symptoms of anxiety and depression, conduct, and academic problems were not associated with time since parental divorce among representative Norwegian adolescents (Storkesen et al., 2006).

Together, longitudinal controlled studies have disentangled selection effects (worse child functioning early on) from additional divorce-specific effects (sharper increase in problems during or after divorce). Areas of functioning that are affected by divorce might vary depending on the age at which the child experienced parental divorce. For example, children who experience divorce before starting school or soon thereafter seem to suffer from lingering psychological difficulties, and the effects of divorce on their adjustment seem to prevail into adulthood.

Similarities and differences in research findings across cultures in divorced families

Broadly speaking, the risks and negative effects posed by divorce are similar across Western and Korean divorce literature with a few exceptions. First, in comparison with the pronounced and consistent associations between externalizing problems and divorce in Western literature, internalizing problems were consistently found to be related to divorce in Korean literature. In fact, externalizing problems associated with divorce have not been widely studied in Korea, which might be due to the cultural emphasis on behavioral inhibition and self- discipline. Second, in terms of living arrangements, father residence is predominantly reported in Korean literature, in comparison with mother residence in Western literature. Third, remarriage has been found to be positively associated with child outcomes in Korean literature, while its negative effect has been generally reported in Western literature. Since living arrangements and remarriage are not the focus in this dissertation, those variables will not be analyzed with the complicated modeling that this study will employ.

Summary and Hypotheses

This dissertation aims to enhance our longitudinal understanding of family functioning, adolescent outcomes, the associations between family functioning and adolescent outcomes, and the mechanisms of the associations as a function of group membership among South Korean youth. To date, numerous studies in this domain have documented the associations and/or mechanisms by which the associations between family functioning and adolescent outcomes do (not) vary depending on group membership (i.e. Divorced vs. Non-divorced) with samples of predominantly youth from English-speaking countries. However, research that employs the longitudinal study of family functioning and examines the psychological adjustment of adolescents from divorced families in non-English-speaking countries is particularly scarce.

In summary, the present research offers unique perspectives on children's adjustment to parental divorce by studying a large sample of children from divorced and married families in South Korea. It is the most comprehensive study to date of divorce in South Korea. Moreover, cultural differences offer unique perspectives on the experience of divorce in Eastern versus Western society. South Korean children's general adjustment to divorce, as well as predictors of risk versus resilience, may differ from what is typical in the U.S. as a result of the very different cultural context of divorce in the two countries.

The current study presents a comprehensive picture of family functioning and adolescent outcomes, demonstrates how the two are associated, and suggests which mechanisms might be driving their association with a sample of South Korean youth. This study also aims to delineate the effect of time by disentangling selection and divorce effects on family and child functioning within its longitudinal framework. The study posits that adolescents from divorced families experience greater family dysfunction (i.e. lower parenting quality and more intense family

conflict/abuse) and more changes in family functioning, and exhibit greater difficulty and changes within various psychological domains (i.e. difficulty in school, greater externalizing and internalizing problems), than peers who did not experience parental divorce. This study predicts that stronger associations between family functioning and adolescent outcomes will be evident in adolescents from divorced families. The study also explores possible variations in mechanisms that mediate the associations, depending on group membership. Specifically, the study also predicts that mediating effects of intra-individual processes (i.e. Self-View and Self-Control) on family and child functioning will be more evident in adolescents from divorced families. Lastly, in terms of selection and divorce effects, the study predicts that adolescents who experience parental divorce will display lower levels of family and child functioning at Wave 1; more specifically, adolescents whose parents divorced during the five year span in which data was collected will display increased fluctuations or steeper changes in levels of family and child functioning as compared to adolescents who experienced no parental divorce or parental divorce prior to the five-year data collection period.

To accomplish these aims, the following hypotheses were generated about the nationally representative, 5-year longitudinal sample of 5,578 South Korean youth. The sample is comprised of two cohorts (4^{th} graders and 8^{th} graders) from both divorced and non-divorced families.

Hypothesis I: Family functioning will vary depending on group membership.

A. Adolescents from divorced families will report lower levels of parenting quality and higher levels of familial conflicts, than their peers from non-divorced families.

B. Adolescents from divorced families will report decreases over time in parenting quality and increases in familial conflicts, than their peers from non-divorced families.

C. Both selection effects (mean differences at the beginning of data collection) and additional divorce-specific effects (sharper increase or decrease over time) will exist.

D. Girls will report higher levels of parenting quality than boys; Boys will report higher levels of familial conflict.

Hypothesis II: Adolescent outcomes will vary depending on group membership.

A. Adolescents from divorced families will report lower levels of child functioning (i.e. more externalizing and internalizing problems, and higher perceived stress, and lower school adjustment) than their peers from non-divorced families.

B. Adolescents from divorced families will report worsening child functioning (i.e. increases in externalizing problems, internalizing problems, and in perceived stress), than their peers from non-divorced families over time.

C. Both selection effects (mean differences at the beginning of data collection) and additional divorce-specific effects (sharper increase or decrease over time) will exist.

D. Girls will report higher levels of internalizing problems than boys; Boys will report higher levels of externalizing problems.

Hypothesis III: Associations between family functioning and adolescent outcomes will vary depending on group membership.

A. Overall, the associations are predicted to hold up between family functioning (i.e. familial conflict and parenting quality) and child functioning (i.e. externalizing problems, internalizing problems, perceived stress)

B. The associations between family functioning and child functioning will be stronger for adolescents from divorced families than for their peers from non-divorced families.

Hypothesis IV: Mechanisms that mediate the associations between family functioning and adolescent outcomes will exist.

A. If associated, parenting quality will mediate the associations between familial conflict and child functioning (i.e. externalizing problems and internalizing problems).

Method

Participants and Procedure

This study analyzed data from the Korea Youth Panel Survey, which was administered by the National Youth Policy Institute and sponsored by the South Korean government. Nationally representative, cross-sequential survey data were collected annually for 6 years beginning in 2004 to assess various domains of functioning (i.e. psychological, social, academic) in Korean youth. A stratified, multi-stage cluster sampling method was used. Two cohorts, 4th and 8th graders, and their parents participated in the longitudinal project. The current study used all five waves of the survey for the 4th graders (4th through 8th grade) and the first five waves for the 8th graders (8th through 12th grade).

The initial sample consisted of 2,844 4th graders, 46.4% girls and 53.6% boys, and 3,499 8th graders, 48.4% girls and 51.6% boys. Experiencing parental divorce was only assessed at the fifth wave for the 4th graders and the third wave for the 8th graders. This study used 2,443 4th

graders, 2,316 from non-divorced and 127 from divorced families, and 3,135 8th graders, 2,931 from non-divorced and 222 from divorced families, for all data analyses. Divorced families were further specified as a group of adolescents who experienced their parental divorce prior to the beginning of the data collection and a group of adolescents who experienced their parental divorced during the data collection. See Table 1 for the number of respondents of each group by age and family structure across waves. Mean ages were 9.86 years (*SD* = .35) for 4th graders at Wave 1 in 2004 and 13.79 years (*SD* = .42) for 8th graders at Wave 1 in 2003. The vast majority of youth, 95.4% of 4th graders and 93.0% of 8th graders, came from continuously married families and lived with both biological parents, while 3.8% of 4th graders and 5.5% of 8th graders reported living in single-parent households at baseline. The education levels of both parents were similar across the cohorts. Specifically, for 4th graders, 5.7% of fathers and 6.8% of mothers attained less than a high school degree; 43.3% of fathers and 61.0% of mothers completed high school; 9.6% of fathers and 7.6% of mothers completed some college; 35% of fathers and 23.1% of mothers obtained a college degree; 6.4% of fathers and 1.5% of mothers pursued advanced degrees. Likewise, for 8th graders, 11.9% of fathers and 17.2% of mothers attained less than a high school degree; 43.8% of fathers and 57.8% of mothers completed high school; 7.0% of fathers and 4.9 % of mothers completed some college; 30.3 % of fathers and 18.3% of mothers obtained a college degree; 7.0% of fathers and 1.6% of mothers pursued advanced degrees.

Adolescents' parents reported an average monthly family income of $2,626 at Wave I to $3,016 at Wave 5. (35.6% of the sample reported an average monthly family income of less than $1,826, and 15% reported an average monthly family income greater than $3,478.) . See Table 2 for individual and familial characteristic of the sample regardless of ages.

Response rates at Wave 1 of this longitudinal study were high for both cohorts: 96.4% of 4th graders and 93.3% of 8th graders responded. Conversely, attrition rates across Wave 3 and 4 were low: less than 6% for 4th graders and 9% for 8th graders, respectively. Participants with missing data at any time point were not systematically different from those who participated in the survey at all time points in terms of gender, parental education, and other variables of interest. Before data collection, permission to visit the schools to survey students was obtained. Trained interviewers visited the schools to conduct the student interviews. Only students who returned parental informed consent forms and who agreed to participate were interviewed at the school during the regular school day. Parents whose children completed the questionnaire were phone-interviewed about demographic information. Participating families were compensated for their time with a gift card upon completion of data collection for each wave.

Table 1

Sample sizes depending age and marital status across waves

	4th graders			8th graders		
Wave	**Non-divorce**	**Ever-Divorced**		**Non-divorce**	**Ever-Divorced**	
		Divorced-Prior	Divorced-During		Divorced-Prior	Divorced-During
1	2316	65	62	2931	151	71
2	2266	63	60	2828	145	68
3	2268	62	62	2931	151	71
4	2216	60	59	2814	137	63
5	2316	65	62	2667	125	57

Table 2

Individual and Family Characteristics of the sample

Classification		Frequency(%)
Gender	Boys	3249 (51.6)
	Girls	3044 (48.4)
Father's education	High school graduate or less (=1)	2687 (42.7)
	Bachelor's degree or more (=0)	3605 (57.3)
Mother's education	High school graduate or less (=1)	3234 (51.4)
	Bachelor's degree or more (=0)	2882 (45.8)
Household's economical status	1(Very low)	37 (0.6)
	2~3	742 (11.8)
	4(Average)	2529 (40.2)
	5~6	2705 (43.0)
	7(Very high)	239 (3.8)

Note. Household's economic status is based on monthly family income at Wave I; 1 reflects family monthly income less than $500; 2 ~3: between $500 and $1524; 4 : between $1524 and $3945; 5~6 : between $3945 ~ $8300; 7 : above $8300.

Measures

For a simplified overview of all measures, see Table 3.

Family functioning: Parenting quality and familial conflict.

Warmth. Adolescents' perceptions of parental warmth were intended to capture how they view parental care, support, and availability. Warmth was assessed using five items including "My parents always show me love and care"; "My parents and I understand each other"; "I often talk to my parents about my thoughts and/or things that happen outside home". Responses at all waves were coded on a 5-point scale: "1 = never true" to "5 = very true"; a higher score reflects higher parental warmth as perceived by the respondents. Cronbach's alpha was high, ranging from .76 to .90 across waves. Similar internal consistencies have been reported (Hong & Oh, 2011; Chung, 2010; Kim, 2011)

Parental monitoring. Adolescents' perceptions of parental monitoring were intended to capture how they view parental knowledge about their whereabouts and/or activities with friends. Parental Monitoring was assessed using four items including "My parents usually know my whereabouts when I'm outside"; "My parents usually know what I am doing when I'm away from home"; "My parents usually know whom I'm with when I'm not at home." Responses at all waves were coded on a 5-point scale: "1 = never true" to "5 = very true"; a higher score reflects higher parental monitoring perceived by the respondents. Cronbach's alpha was high, ranging from .80 to .89 across waves. Similar internal consistencies have been reported (Hong & Oh, 2011; Yu, 2010).

Family conflict.

Interparental conflict. Adolescents' perceptions of interparental conflict were intended to capture the extent to which they witness interparental conflict at home. Interparental Conflict was assessed using two items, including "I've seen my parents using obscene language at each other very often"; "I've seen my parent beating up another parent pretty often." Responses at all waves were coded on a 5-point scale: "1 = never true" to "5 = very true"; a higher score reflects higher interparental conflict witnessed by the respondents. Cronbach's alpha was high, ranging from .52 to .81 across waves. Similar internal consistencies have been reported (Choi & Kim, 2011; Yi & Yu, 2011).

Adolescent abuse. Adolescents' experiences with being verbally and physically abused by their parents were assessed using two items, including "I got sworn at by my parents very often"; "I got beaten up by my parents pretty often". Responses at all waves were coded on a 5-point scale: "1 = never true" to "5 = very true"; a higher score reflects higher levels of abuse

experienced by the respondents. Cronbach's alpha was high, ranging from .65 to .87 across waves. Similar internal consistencies have been reported (Choi & Kim, 2011, Yi & Yu, 2011).

Adolescent functioning and outcomes.

School adjustment. Adolescents' perceptions of school adjustment were intended to capture the extent to which they see themselves as adjusted at school in various domains such as school work, friendship, and relationships with teachers. School Adjustment was assessed using 10 items, including "I have a lot in my mind due to school work"; "I neither have interest in, nor catch up on school work"; "My teacher(s) show(s) me concern and care": " I often feel lonely at school"; "I do get along well with friends at school." Responses at all waves were coded on a 5-point scale: "1 = never true" to "5 = very true"; three items were reverse-coded to reflect that a higher score means better perceived overall school adjustment. Cronbach's alpha was high, ranging from .51 to .56 across waves. Similar internal consistencies have been reported (Kwon & Chung, 2010; Park, 2011).

Externalizing problems. Adolescents' reports of Externalizing Problems were intended to capture the extent to which they exhibit off-and on-line acting out behaviors. Unlike the rest of the scales, Externalizing Problems consists of two sub-scales: Off-line Externalizing Behaviors and On-line Externalizing Behaviors. Off-line Externalizing Behaviors were assessed using specific items for each cohort that tap into more developmentally sensitive acting out behaviors. Specifically, 16 items were used to assess oppositional behaviors for 4th graders while 14 items were used to measure conduct problems for 8th graders. Across the cohorts, 10 identical items were used for Off-line Externalizing Behaviors and 6 identical items for On-line Externalizing Behaviors. For example, items specific to 4th graders on Off-line Externalizing Behaviors include "Have you yelled at and defied your teacher in the past one year?"; "Have you watched

pornography in the past one year?"; "Have you cheated on tests at school in the past one year?". Items specific to 8th graders on Off-line Externalizing Behaviors include "Have you gotten involved in a gang fight in the past one year?"; "Have you sexually assaulted or harassed others in the past one year?"; " Have you gotten involved in paid sexual relationship(s) in the past one year?". Overlapping items across the cohorts include "Have you bullied friends at school in the past one year?"; "Have you drank in the past one year?"; "Have you smoked in the past one year?"; "Have you beaten up others in the past one year?"; "Have you stolen other's money or belongings in the past one year?". On-line Externalizing Behavior was assessed using 6 identical items across the cohorts such as "Have you purposely transported false information at websites in the past one year?"; "Have you used obscene and/or violent languages at websites in the past one year "Have you hacked other IDs or websites in the past one year?". Responses at all waves were recoded dichotomously as "1" for "Yes" and "0" for "No", and each response with "1" was added up to create composite scales for Externalizing Problems, Off-line Externalizing Behaviors, and On-line Externalizing Behaviors. A higher score on each scale indicates more Externalizing Problems, Off-line Behaviors, or On-line Behaviors as reported by the respondent. Similar internal consistencies have been reported (Yi & Chung, 2011; Yu & Shim, 2010).

Internalizing problems. Adolescents' reports of Internalizing Problems were intended to capture the extent to which they experience emotional difficulties, such as anxiety and depression. The assessment of Internalizing Problems consists of two sub-scales of anxiety symptoms and depressive symptoms. Out of six total items measuring Internalizing Problems, two items were used to assess anxiety symptoms, "I tend to worry about everything" and "Sometimes, I feel very anxious without a trigger"; and four items to measure depressive symptoms, "Sometimes, I feel very sad and depressed without a trigger," "Sometimes, I feel

suicidal without a trigger" and "I barely have interest in anything". Internalizing Problem items were administered throughout all five waves for 4th graders while only administered throughout four waves (Wave 2 to Wave 5) for 8th graders. Responses at each wave were coded on a 5-point scale: "1 = never true" to "5 = very true"; a higher score indicates greater Internalizing Problems, Anxiety Symptoms, and Depressive Symptoms as reported by the respondents. Cronbach's alpha was high, ranging from .74 to .85 for Internalizing Problems, .62 to .70 for Anxiety Symptoms, and .73 to .81 for Depressive Symptoms across waves. Similar internal consistencies have been reported (Jin, Park, & Bae, 2011; Kim, 2011).

Emotion regulation. Adolescents' ability to regulate their negative emotions was intended to capture the extent to which they effectively manage their anger and impulsivity and contain their emotions. Emotion Regulation was assessed using nine items such as "If someone hits me, I hit the person back"; "I have an impulse to throw things away when I get upset"; "I feel like a fire on the verge of exploding"; "I try to let go of upset feelings." Responses at all waves were coded on a 5-point scale: "1 = never true" to "5 = very true"; a higher score indicates better emotion regulation capacity as reported by the respondents. Cronbach's alpha was high, ranging from .63 to .68 across waves. Similar internal consistencies have reported (Choi & Kim; Jin, Park, & Bae, 2011; Kim, 2011).

Perceived stress. The variable assessing the adolescents' perceived levels of stress was intended to capture the extent to which they recognize stressors in various domains, including school achievement, friends, their appearance, and unfulfilled materialistic needs. Overall Perceived Stress was assessed using 15 items such as "I get stressed out by my parents due to grades"; "My low school performance stresses me out"; " Getting bullied by friends at school stresses me out"; "Being overweight or underweight stresses me out"; "My appearance stresses

me out"; Not being able to have wished items stresses me out". Responses at all waves were coded on a 5-point scale: "1 = never true" to "5 = very true"; a higher score indicates greater level of perceived stress as reported by the respondents. Cronbach's alpha was high, ranging from .90 to .92 across waves. Similar internal consistencies have been reported (Kwon & Chung, 2010).

Self-concept. Items assessing adolescents' views of themselves were intended to capture their own global judgment as a person. Self concept consists of two sub-scales: Self-View and Self-View by Others. Items were based partly on Self-esteem by Rosenburg (1965) and on how participants viewed themselves. Typically, whether an adolescent views him/herself as a troubled person or a delinquent youth or not is not used for a scale of sense of self or self-concept. However, self-concept is also based on, at least partly, an individual's assessment of other's view on him/herself (Coppersmith, 1967). Out of 12 total items measuring Self-concept, eight items were used to assess Self-View, such as: "I think of myself as a good-natured person"; "I think of myself as a valuable person"; "Overall I feel like a failure"; "I think of myself as a troubled person", while four items were used to measure Self-View by Others, such as: "People around me think of me as a troubled person"; "I think of myself as a delinquent youth"; "People around me will humiliate me, if I do something awful." Responses at all waves were coded on a 5-point scale: "1 = never true" to "5 = very true"; nine items were reverse-coded to reflect a higher score as a positive and strong perceived sense of self. Cronbach's alpha was high, ranging from .77 to .80 for Sense of Self, .77 to .81 for Self-View, and .62 to .68 for Self-View by Others across waves. Similar internal consistencies have been reported (Choi & Kim, 2011; Jin et al., 2011).

Self-control. Adolescents' perceptions of Self-Control were intended to capture the extent to which they exhibit risky behaviors, perseverance, and responsibility. Self-Control was

assessed using six items including "I tend to do things of my interest, even if there is a test tomorrow"; "I give up easily when things gets difficulty and/or complicated"; "I tend to enjoy risky activities"; "I tend not to fulfill class assignments on time." Responses at all waves were coded on a 5-point scale: "1 = never true" to "5 = very true"; a higher score indicates a poorer ability for respondents to control their behaviors. Cronbach's alpha was high, ranging from .64 to .76 across waves. Similar internal consistencies have been reported (Yu, 2010).

Self-efficacy. Adolescents' perceptions of Self-Efficacy were intended to capture the extent to which they have confidence in making decisions and solving problems on their own. Self-Efficacy was assessed using three items including "I could trust decisions I make"; "I believe that I could solve my problems on my own"; "I do things my own way." Responses at all waves were coded on a 5-point scale: "1 = never true" to "5 = very true"; a higher score indicates that respondents more strongly believe that they lead an independent life. Cronbach's alpha was high, ranging from .77 to .87 across waves. Similar internal consistencies have been reported (Kim, 2011)

Table 3

Overview of primary measures

Domain	**Reporter:**
Measure (Self report)	4th and 8th graders
Family Functioning	
Parenting quality	
Warmth + Monitoring	
Family conflict	
Interparental conflict + Adolescent abuse	
Child Functioning	
School Adjustment	
Externalizing Problems	
Off-line externalizing behaviors + On-line externalizing behaviors	

Internalizing Problems	Wave 2 to Wave 5 for 8th graders
Anxiety + Depression	
Emotion Regulation	
Perceived Stress	
Self-concept	
Self-view by self + Self view by others	
Self-Control	
Self-Efficacy	

Note. Each measure is available across all waves for each cohort unless otherwise specified.

Results

Preliminary Analyses

The dimensionality of family functioning and child outcomes.

Statistical analysis began with an exploration of the factor structure of family functioning and adolescent outcomes. Original measures include 2 measures with 4 subscales within the two measures in family functioning, and 8 measures with 11 subscales with the eight measures in child outcomes. All told, 256 items both for family functioning and child outcomes were assessed 5 times for this dataset. Given the complex and comprehensive nature of the dataset, factor analyses took three steps. First, more subscales within the measure, where possible, were created. For example, School adjustment was broken into 4 subscales (School adjustment_Parent, School_adjustment_Academic, School_adjustment_Teacher, School_adjustment_Friend); Perceived stress was broken into 5 subscales (Stress_Parent, Stress_School, Stress_Friend, Stress_Appearance, Stress_Material) for each five waves. Second, Exploratory factor analyses were conducted in Mplus (Muthén & Muthén, 1998-2010) to identify latent factors for family functioning and child outcome. Each subscale of interest at Wave I (Internalizing Problems were assessed beginning in Wave II) was entered to decide the dimensions of family functioning and child outcomes. Third, with 4, 5, or 6 factors as possible factor solutions, Exploratory Structural Equation Modeling (ESEM) was run to explore and

confirm the possible identified factors across Wave 2 to Wave 4, while constraining loading on factor structures to be equal across the four Waves. ESEM is an innovative method that integrates multiple advantages of confirmatory factor analyses, structural equation modeling, and exploratory factor analyses (Marsh et al., 2009). One of the great benefits of ESEM is that loadings on factors could be constrained to be equal across different groups or multiple assessments for the same group. Goodness of fit of ESEM is assessed based on the root mean square error of approximation (RMSEA), the Tucker-Lewis Index (TLI), and the Comparative fit index (CFI) (Marsh et al, 2009). In general, the values of greater .90 and .95 on TLI and CFI reflects an acceptable and an excellent fit to the data; the values of less than .05 and .08 reflect a close fit and a reasonable fit to the data, respectively (Marsh, Hau, & Wen, 2004). Given the multiple assessments with comprehensive measures in this dataset, ESEM is considered to be one of the best ways to reduce the dimensions of family functioning and child outcomes with methodological rigor.

Separate ESEMs were conducted against various subscales of family functioning and child outcomes. For family functioning, two dimensions (i.e. Familal conflict and Parenting Quality) converged with a great model fit. However, for child outcomes, ESEMs of 3 to 5 possible dimensions resulted in a great fit to the dataset. Particularly, for child outcomes, close examination and consideration of the possible dimensions suggested that ESEM of five factors proved be conceptually and empirically coherent, and for reasons elaborated upon later, we chose this as the best solution.

Exploratory Factor Analyses (EFA) with Oblique rotation at Wave II was run using the subscales of family functioning and child outcome, and yielded 2 eigenvalues greater than one for family functioning and 5 eigenvalues greater than one for child outcomes. The dimensions of

family function were simple, compared to child outcomes, as 2 subscales were loaded as expected on 2 factors respectively, which is in line with original measures.

For child outcomes, the ESEM with five factor solution was the most meaningful conceptually, and it produced a great model fit (χ^2 (504) = 17154.882, $p < .000$, CFI = .945, TLI = .937, RMSEA =.031 (90% CI, .030–.031). Subscales with loadings lower than .25 on any factor were dropped from further latent growth curve models that addressed four research questions. The final factor loadings of the 14 remaining subscales are listed in Table 4. Further, the loadings of subscales on each factor along with individual items within each factor is listed in Appendix B.

Factor 1, labeled as "Externalizing Problem", included subscales reflecting the respondent's impulsivity and perseverance, as well as actual on-line and off-line externalizing behaviors.

Factor 2, labeled as "Internalizing Problems", included subscales reflecting the respondent's emotional difficulties such as anxiety and depression.

Factor 3, labeled as "Self-Concept", included subscales reflecting the respondent's global evaluation of himself/herself as a person and of his/her capacity toward specific tasks.

Factor 4, labeled as "Academic stress", included subscales reflecting the respondent's perceived stress related to school achievement and from parental expectations of academic success.

Factor 5, labeled as "Social stress", included subscales reflecting the respondent's perceived stress related to friendship, appearance, and unfulfilled materialistic needs.

Table 4

Factor Loadings for Exploratory Factor Analysis with Oblique Rotation of Family Functioning and Child Outcome subscales

Domains	Subscales	Familial Conflict	Parenting Quality	Externalizing Problems	Internalizing Problems	Self-Concept	Academic Stress	Social Stress
Family Functioning	Interparental conflict	***.72***	*-.12*					
	Adolescent abuse	***.57***	*-.15*					
	Warmth	*-.15*	***.76***					
	Monitoring	*-.20*	***.74***					
Child outcomes	Off-line externalizing behaviors			**.89**	.01	-.01	-.04	.00
	on-line externalizing behaviors			**.34**	.05	.07	.07	.02
	Self-Control			**.25**	.08	-.12	.05	.04
	Anxiety			.00	**.78**	.04	.09	-.03
	Depression			.04	**.73**	-.06	-.03	.05
	Self-view by self			-.05	-.07	**.41**	-.04	-.01
	Self-Efficacy			.06	.03	**.38**	-.02	-.01
	Stress_School *			-.01	.01	.01	**-.67**	**.28**
	School_adjustment_Academic *			.15	-.12	.00	**.63**	-.01
	Stress_Parent *			.11	.00	-.05	**-.44**	**.31**
	School adjustment_Parent *			-.07	.05	.17	**.36**	.03
	Stress_Material *			.14	-.01	.04	.07	**.80**
	Stress_Appearance *			-.03	.01	-.01	.01	**.80**
	Stress_Friend *			-.07	.08	-.14	-.05	**.53**
	Emotion Regulation			.16	.10	-.12	.01	.06
	Self-view by others			-.09	-.07	.16	-.05	-.08
	School_adjustment_Teacher *			-.16	.03	.10	-.09	.05
	School_adjustment_Friend *			.09	-.19	.09	.01	-.11

Note. Subscales marked with * indicates subscales further created within subscales of primary measures listed in Table 3.

Correlational Analyses

Correlational analyses were run among the identified family functioning and child outcome variables. Scaled scores of each factor at each wave were created, and further, the mean and slope of each factor across five waves were calculated, except internalizing problems where

data was only available for Wave 2 through Wave 5. Intercorrelations among the factors were shown in Table 5.

Table 5

Correlations within and between family functioning and child outcomes

Factors	Familial Conflict	Parenting Quality	Externalizing Problems	Internalizing Problems	Self-Concept	Academic Stress *	Social Stress
Familial Conflict	**.03***	-0.36***	.30***	.26***	-.29***	-.28***	.35***
Parenting Quality	-.17***	**.001**	-.29***	-.24***	.46***	.33***	-.40***
Externalizing Problems	.20***	-.20***	**-.08***	-.25***	-.22***	-.25***	.29***
Internalizing Problems	.18***	-.15***	.17***	**-.003**	-.42***	-.55***	.50***
Self-Concept	-.18***	.32***	-.20***	-.25***	**-.03***	.34***	-.27***
Academic Stress *	-.19***	.23***	-.26***	-.33***	.26***	**.01****	-.34***
Social Stress	.21***	-.25***	.29***	-.31***	-.32***	-30***	**-.005***

Note: High scores on academic stress indicate low level of academic stress perceived by respondents. Correlations between the means of factors are above the diagonal; Correlations between the slopes of factors are below the diagonal; The diagonal in bold indicates correlations between the mean and the slope of each factor.

*p <.05. **p <.01 ***p <.001.

Primary Analyses

Latent growth curve models (LGCM) were run to describe patterns of average growth, to examine possible nonlinear trends over time, and to examine the factors that influenced these growth patterns. By simultaneously modeling means for multiple variables measured at multiple time points, LGCM allows for the investigation of the initial status of the variables and their rate of change in a multivariate framework. In this study, aggregate patterns of intraindividual change in the family functioning and child outcome variables were modeled separately, and then simultaneously in order to investigate the associations between family functioning and child functioning. Further, a hypothesized mediating variable (i.e. parenting quality) then was added

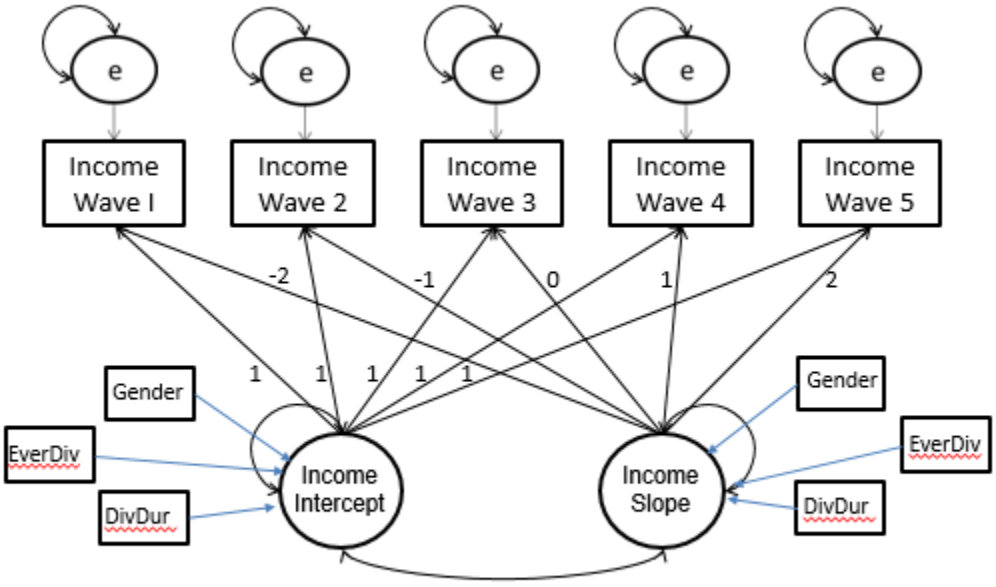
into the combined model to elucidate the mechanism through which family functioning might be associated with child outcomes.

All primary analyses were conducted using the Mplus v.6 statistical software package (Muthen & Muthen, 1998–2008). Missing data were handled using Full Information Maximum Likelihood (FIML), under the assumption the data were missing at random or could be explained by other variables in our analyses. FIML is widely recognized as the state-of-the-art technique for handling missing data in longitudinal analyses and has been shown to produce the least-biased parameter estimates and standard errors compared to other commonly used procedures (Arbuckle, 1996; Enders, 2001). Prior to running models to test hypotheses, unconditional LGCM with no covariates were run to investigate the shape of the developmental trajectory of each of the study variables. While the intercept and slope factors reflect the average starting values and rates of change over time, the variances in the intercept and slope factors will indicate individual differences at baseline and rates of change. Following fitting unconditional LGCM models, multi-group analyses were conducted to test statistical differences in the intercept and slope factors, as well as the variances in the intercept and slope factors between groups (i.e. divorce vs. non-divorced) repeatedly to address Hypothesis III and IV. Results from planned modeling related to each of the hypotheses are specified in the following section.

Exploration of roles of income on consequence of divorce.

Prior to testing the hypotheses, two approaches were taken in order to explore the roles of family income (i.e. outcome as a result of divorce or covariate in predicting family functioning and/or child outcome). First, a LGCM model was fitted to examine the level and slope of

income, using income at each wave as outcome variables. In order to further examine the group differences, the level and slope of income was regressed on gender (dummy coded: 0 = boy; 1 = girl), ever-divorced status (contrast coded: 0 = no-divorced group; -2 = divorced-prior and divorce-during groups; EverDiv here after), and divorced-time status (contrast coded: 0 = no-divorced group; -1 = divorced-prior group; 1 = divorced-during group; DivDur here after). (See Figure 3)



Note. EverDiv : Ever-divorced; DivDur : Divorce-During data collection.

Figure 3. Conditional LGCM using Income as outcome variables

Results showed that two of these predictors were significantly associated with both the level *and* the slope. 1) Parents who ever experienced divorce reported lower levels of income than parents who never experienced divorce; they also reported lower increase in income, compared to their counterpart; 2) Parents who experienced divorce during the data collection

period reported higher levels of income than parents who did not experience divorce during the same period; however, they reported a decrease in income, while their counterparts reported increases in income; 3) No group differences were detected in family incomes depending gender of the adolescent (See Table 6).

Table 6

The intercept and slope of income as a function of Gender, EverDiv, DivDur

	Intercept (I)		Slope (S)	
	b	SE	*b*	SE
Gender	-.02	.01	-.02	.03
EverDiv	-.20***	.02	-.13***	.03
DivDur	.04**	.07	-.10***	.03

Note. EverDiv = Ever-divorced status; DivDur = Divorce-Time Status; **p <.01 ***p <.001.

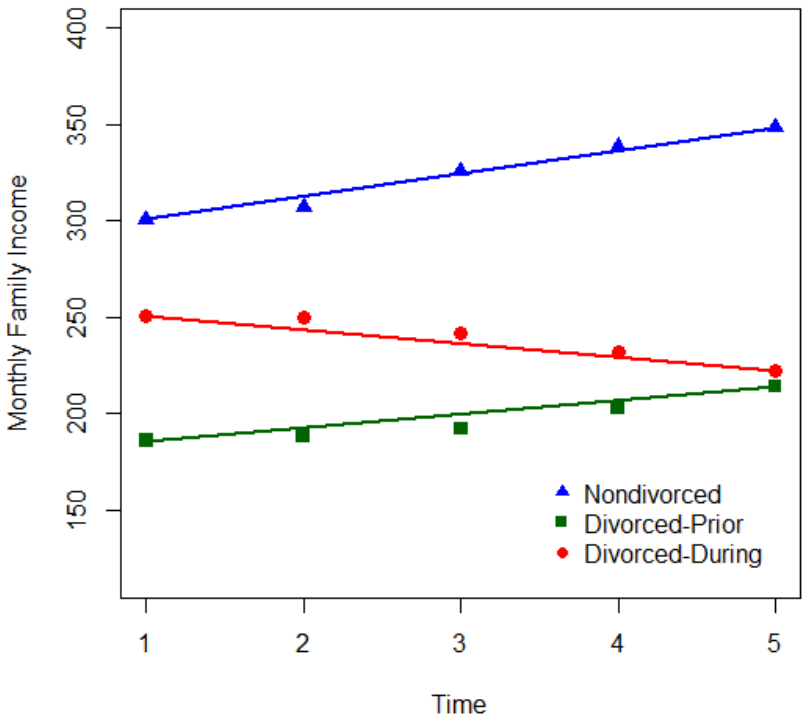


Figure 4. Means and regression line of income of three different groups over time.
Note. Unit for monthly family income: 10000 ; 1 USD = 951.29 Korean Won in 2004

Second, in order to examine income as a covariate with child outcomes, an unconditional model using social stress as outcome was run, then a conditional model adding income as a covariate was also run. In this model, social stress at each wave was regressed on time-varying income at each wave. The unconditional model provided a good fit to be the factor χ^2 (76) = 617.81, $p < .000$, CFI = .99, TLI = .98, RMSEA =.034 (90% CI, .031–.036). A slope parameter estimate ($\mu = .03$, $p < .001$) was significant and positive, suggesting that perceived levels of stress tended to increase over time. A significant negative correlation between the intercept and slope ($r = -.005$, $p < .001$) indicated that adolescents who reported higher overall levels of social stress tended to report a slower rate of increase in the levels of social stress over time.

Compared to the unconditional model without controlling income, the conditional model for social stress also fit the data well, χ^2 (146) = 742.703, $p < .000$, CFI = .98, TLI = .98, RMSEA =.025 (90% CI, .024–.027). Results showed that income at Wave I, Wave II, and Wave V were negatively associated with social stress at Wave I, Wave IV and Wave V, such that low income in a given wave predicted higher social stress at each corresponding time point. Even though income was found to be associated with social stress at those three waves, the intercept and slope of all five waves controlling for income were not different from the intercept and slope without controlling for income in the unconditional model. (Table 7).

Table 7

Mean and Variance of estimated intercept and slope of social stress in the conditional LGCM

		Mean	SE	*Variance*	SE
Conditional (Income controlled)	Intercept (I)	1.98	.01	.18	.004
	Slope (S)	.03	.004	.10	.001
	Cor(I,S)	-.005**	.01		

*Note. *p <.05. **p <.01 ***p <.001.*

Taken together, family income played roles both as a consequence of divorce and a covariate that affected child outcome. In the following analyses, in order to draw conservative estimation and conclusion of findings, income will be included as a time varying covariate.

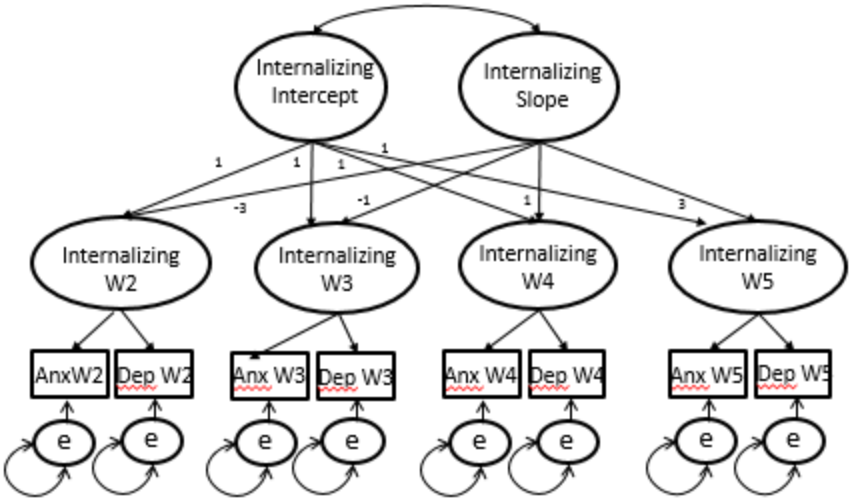
Hypothesis I : Family functioning will vary depending on group membership.

Familial conflict

Unconditional Model

The unconditional LGCM with two repeated measures of familial conflict from Wave I to Wave V for all cohorts provided an acceptable fit to be the factor, χ^2 (24) = 155.480, $p < .000$, CFI = .99, TLI = .98, RMSEA =.030 (90% CI, .025–.034). The quadratic unconditional model was also estimated to examine a possible nonlinear pattern of individual change, but it did not fit the data significantly better than the linear unconditional model. A slope parameter estimate (μ = -.004, $p <$ NS was not significant, suggesting that familial conflict tended to stay stagnant over time. A correlation between the intercept and slope was not significant, $r = .00$, $p = .153$, indicating that overall levels of familial conflict were not associated with the rate of changes in familial conflict.

An example of model for a two-level Latent Factor Growth Curve Model is depicted in the Figure 5 below.

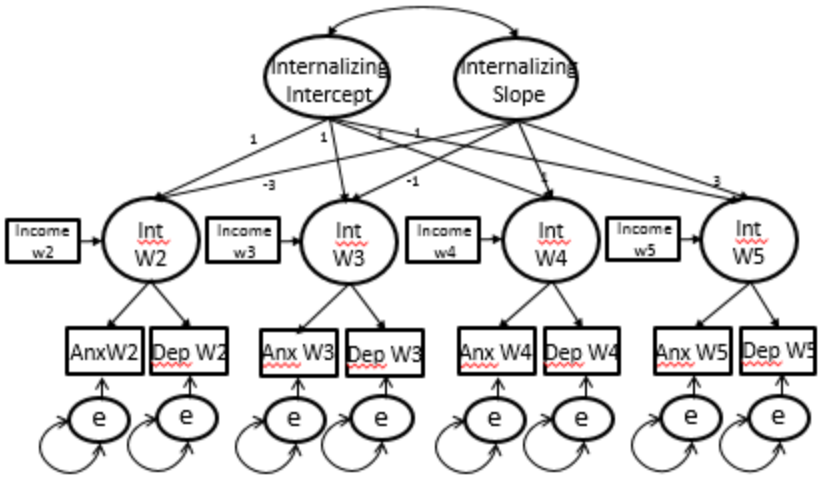


Note. Anx: Anxiety; Dep: Depression; W2: Wave 2; W3: Wave 3; W4: Wave 4; W5: Wave 5;

Figure 5. An example of Unconditional Latent Growth Curve Model with Two-level Factors.

Conditional Model

First, familial conflict at each wave was regressed on time-varying income. An example of model with income as covariate is depicted in the Figure 5 below.



Note. Anx: Anxiety; Dep: Depression; W2: Wave 2; W3: Wave 3; W4: Wave 4; W5: Wave 5;

Figure 6. An example of conditional model controlling time-varying income at each wave

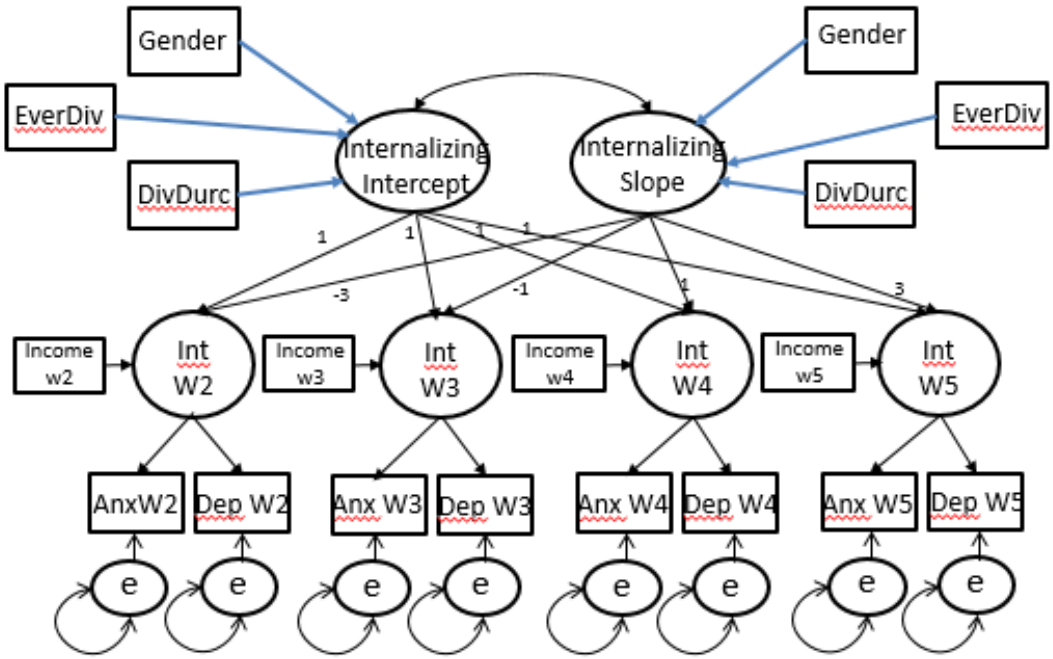
This conditional model for income fit the data well, χ^2 (69) = 307.728, p < .000, CFI = .99, TLI = .99, RMSEA =.023 (90% CI, .021–.026). Results showed that incomes were negatively associated with familial conflict at Wave III, such that high income in a given wave predicted lower Familial conflict at corresponding time point. Even though income was found to be associated with social stress at those three waves, the intercept and slope of all four waves controlling for income remained the similar with or without controlling for income. (See Table 7).

Table 7

Mean and Variance of estimated intercept and slope of Internalizing problems in the conditional LGCM

		Mean	SE	*Variance*	SE
Conditional (Income controlled)	Intercept (I)	1.754	.011	.160	.007
	Slope (S)	-.002	.005	.008	.001
	Cor(I,S)	.002	.001		

Second, to further account for the deviation from the individual growth curve, the conditional model controlling for income was regressed on gender, EverDiv, DivDur. (See Figure 7 for an example of this conditional model)



Note. Anx: Anxiety; Dep: Depression; W2: Wave 2; W3: Wave 3; W4: Wave 4; W5: Wave 5; EverDiv : Ever-divorced; DivDurc : Divorce-During data collection.

Figure 7. An example of conditional model predicted by group memberships.

The conditional model fit the data well, χ^2 (111) = 942.857, p < .000, CFI = .96, TLI = .96, RMSEA =.035(90% CI, .032–.037). Results showed that gender and ever-divorced status were significantly associated with the level and/or slope with familial conflict. Adolescents who ever experienced parental divorce reported higher levels of familial conflict, than adolescents who never experienced parental divorce. They also experienced steeper decreases in the level of familial conflict than their counterparts; boys reported higher levels of familial conflict than

girls. No differences were found in the level and the rate of changes by divorce-time status (Table 8 and Figure 8 and Figure 9).

Table 8

The intercept and slope of familial conflict as a function of Gender, EverDiv, DivDur

	Intercept (I)		Slope (S)	
	b	SE	*b*	SE
Gender	.127***	.015	-.018	.027
EverDiv	.154***	.016	-.076**	.029
DivDur	.016	.016	-.006	.029

Note. EverDiv = Ever-divorced status; Div-Dur = Divorce-Time Status; *$p < .05$. **$p < .01$ ***$p < .001$.

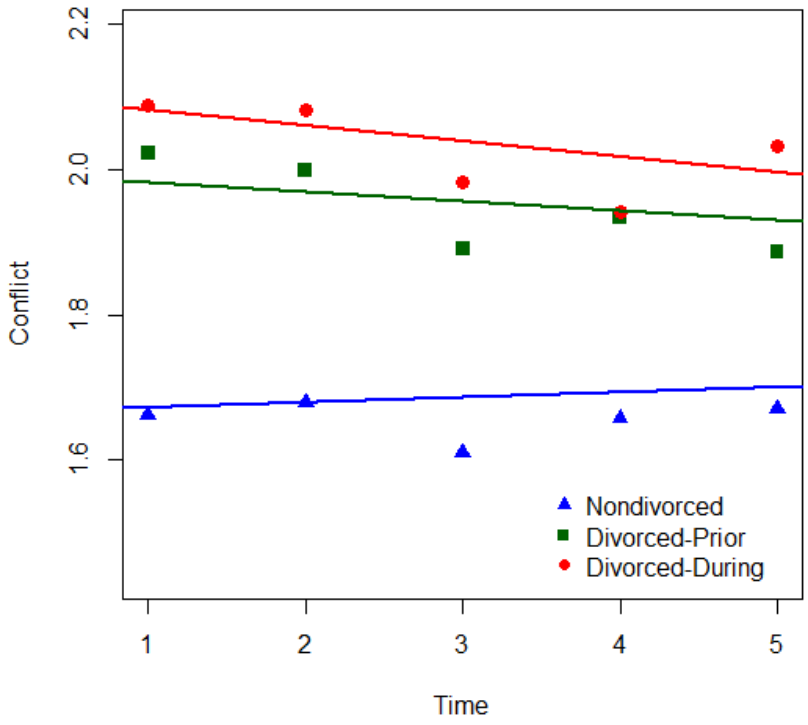


Figure 8. Means and regression line of familial conflict of three different groups over time.

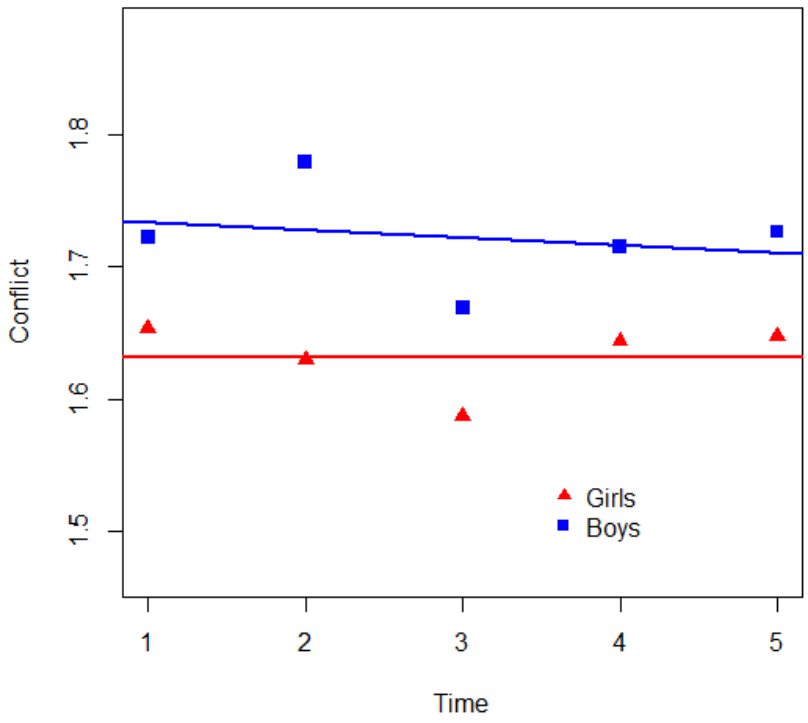


Figure 9. Means and regression line of familial conflict by gender over time.

Parenting quality

Unconditional Model

The unconditional LGCM with two repeated measures of parenting quality from Wave I to Wave V for all cohorts provided an acceptable fit to be the factor, χ^2 (24) = 295.555, p < .000, CFI = .99, TLI = .98, RMSEA =.042 (90% CI, .038–.047). The quadratic unconditional model was also estimated to examine a possible nonlinear pattern of individual change, but it did not fit the data significantly better than the linear unconditional model. A slope parameter estimate (μ = .016, p < .001) was significant and positive, suggesting that levels of Parenting quality tend to increase over time. A correlation between the intercept and slope was not significant, r = .00, p = .910.

Conditional Model

First, parenting quality at each wave was regressed on time-varying income. This conditional model for income fit the data well, χ^2 (69) = 427.484, $p < .000$, CFI = .99, TLI = .98, RMSEA =.029 (90% CI, .026–.031). Results showed that incomes were positively associated with parenting quality at Wave I and Wave II and Wave III, such that high income in a given wave predicted better parenting quality at each corresponding time point. Even though income was found to be associated with social stress at those three waves, the intercept and slope of all four waves controlling for income remained similar with or without controlling for income. (Table 9).

Table 9

Mean and Variance of estimated intercept and slope of Internalizing problems in the conditional LGCM

		Mean	SE	*Variance*	SE
Conditional (Income controlled)	Intercept (I)	3.50	.01	.13	.01
	Slope (S)	.03	.004	.01	.001
	Cor(I,S)	.00	.001		

Second, to further account for the deviation from the individual growth curve, the conditional model controlling for income was regressed on gender, EverDiv, DivDur. The conditional model fit the data well, χ^2 (111) = 1009.218, $p < .000$, CFI = .96, TLI = .96, RMSEA =.036 (90% CI, .034–.038). Results showed that gender and ever-divorced status were significantly associated only with the level of parenting quality. Adolescents who ever experienced parental divorce reported lower levels of parenting quality than adolescents who never experienced parental divorce. Girls reported higher levels of parenting quality than boys.

No differences were found in the rate of changes by any of the group membership (Table 10 and Figure 10 and Figure 11).

Table 10

The intercept and slope of parenting quality as a function of Gender, EverDiv, DivDur

	Intercept (I)		Slope (S)	
	b	SE	*b*	SE
Gender	-.08***	.005	.001	.002
EverDiv	- .06***	.010	- .003	.002
DivDur	.01	.022	-.002	.010

Note. EverDiv = Ever-divorced status; Div-Dur = Divorce-Time Status;. **p <.05. **p <.01 ***p <.001.*

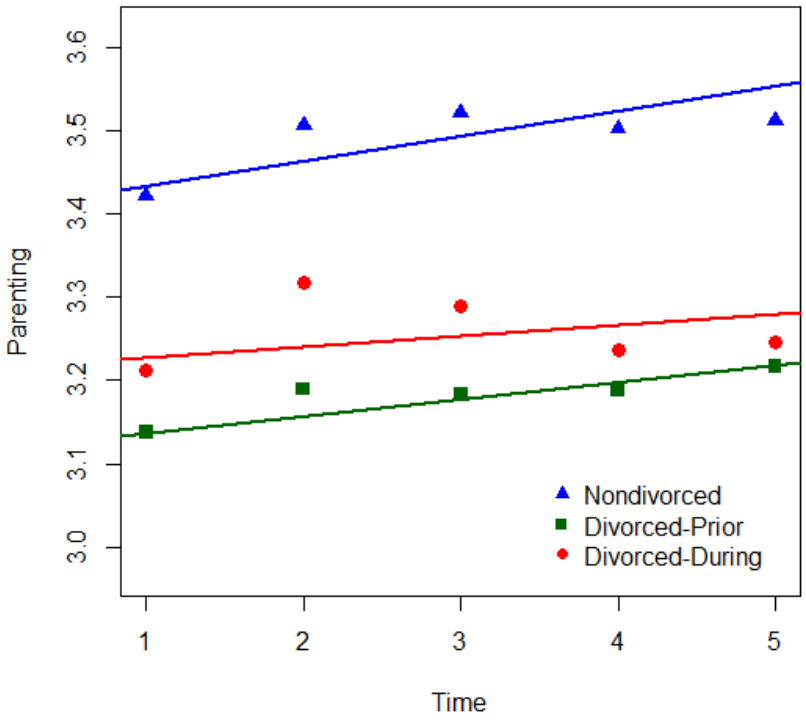


Figure 10. Means and regression line of parenting quality of three different groups over time.

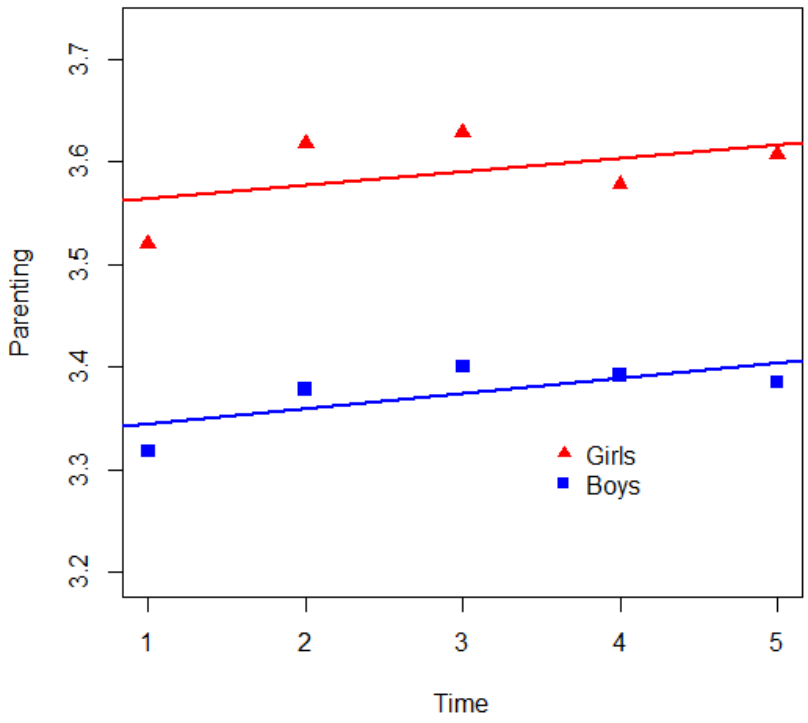


Figure 11. Means and regression line of parenting quality by gender over time.

Hypothesis II : Adolescent outcomes will vary depending on group membership

Externalizing problems

Unconditional Model

The unconditional LGCM with three repeated measures of externalizing problems from Wave I to Wave V for all cohorts provided an acceptable fit to be the factor, χ^2 (76) = 1732.923, $p < .000$, CFI = .93, TLI = .90, RMSEA =.055 (90% CI, .054–.057). The quadratic unconditional model was also estimated to examine a possible nonlinear pattern of individual change, but it did not fit the data significantly better than the linear unconditional model. A slope parameter estimate ($\mu = .02$, $p < .001$) was significant and positive, suggesting that levels of Externalizing problems tend to increase over time. A significant positive correlation between the

intercept and slope (r = .004, p < .001) indicated that adolescents who reported higher overall levels of Academic stress tended to report a faster rate of increase in the levels of externalizing problems over time.

Conditional Model

First, externalizing problems at each wave was regressed on time-varying income. This conditional model for income fit the data moderately, χ^2 (146) = 1834.985, p < .000, CFI = .93, TLI = .91, RMSEA =.043 (90% CI, .041–.045). Results showed that incomes were negatively associated with Externalizing problems at Wave II, Wave III, Wave IV and Wave V, such that high income in a given wave predicted lower externalizing problems at each corresponding time point. Even though income was found to be associated with Academic stress at those four waves, the intercept and slope of all four waves controlling for income remained similar with or without controlling for income. (Table 11).

Table 11

Mean and Variance of estimated intercept and slope of externalizing problems in the conditional LGCM

		Mean	SE	*Variance*	SE
Conditional (Income controlled)	Intercept (I)	2.61	.007	.07	.003
	Slope (S)	-.013	.002	.01	.001
	Cor(I,S)	-.001**	.000		

*Note. *p <.05. **p <.01 ***p <.001.*

Second, to further account for the deviation from the individual growth curve, the conditional model controlling for income was regressed on gender, EverDiv, DivDur. The conditional model fit the data moderately, χ^2 (203) = 2661.601, p < .000, CFI = .89, TLI = .88, RMSEA =.044 (90% CI, .042–.045). Results showed that gender and ever-divorced status were significantly associated only with the levels of externalizing problems. Adolescents who ever experienced parental divorce reported higher levels of externalizing problems than adolescents

who never experienced parental divorce. No differences were found in the rate of changes in externalizing problems whether adolescents experienced parental divorce or not. The same patterns were also detected by gender. Boys reported higher levels of externalizing problems than girls. No differences in the rate of changes were found by gender, either. No differences in the levels or the rate of changes in externalizing problems were found regardless of divorce-time status. (Table 12 and Figure 12 and Figure 13)

Table 12

The intercept and slope of externalizing problems as a function of Gender, EverDiv, DivDur

	Intercept (I)		Slope (S)	
	b	SE	*b*	SE
Gender	.048***	.004	.001	.001
EverDiv	.045**	.005	-.004	.002
DivDur	.017	.015	.003	.006

Note. EverDiv = Ever-divorced status; Div-Dur = Divorce-Time Status; **p <.05. **p <.01 ***p <.001.*

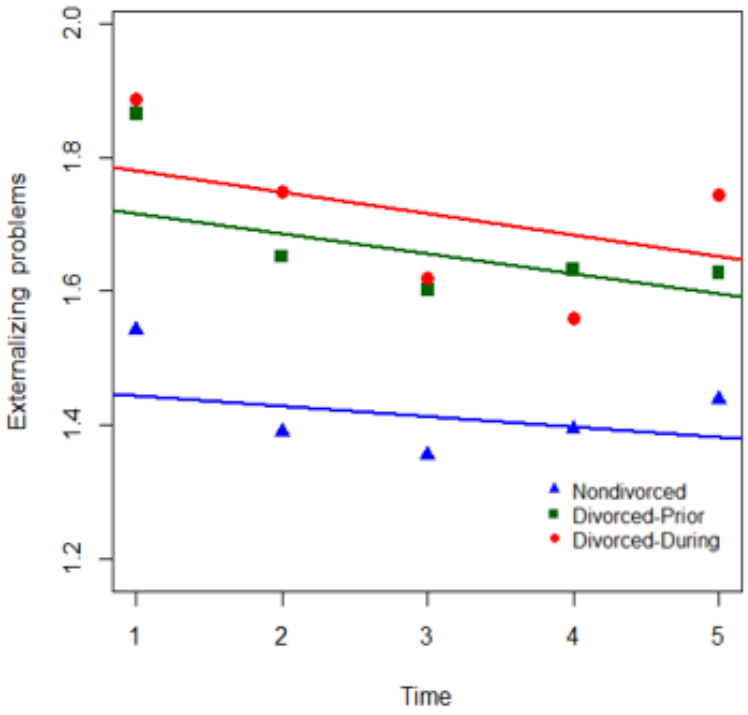


Figure 12. Means and regression line of externalizing problem of three different groups over time.

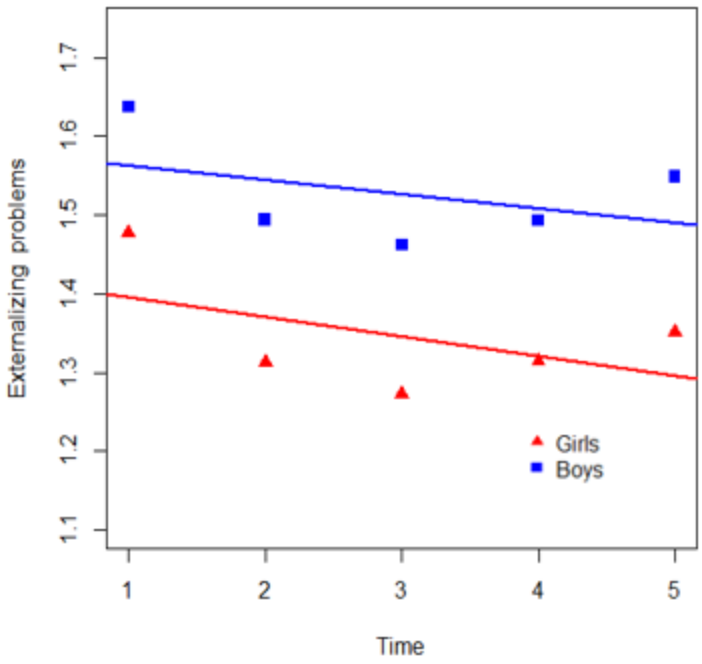


Figure 13. Means and regression line of externalizing problems by gender over time.

Internalizing problems

Unconditional Model

The unconditional LGCM with two repeated measures of internalizing problems from Wave II to Wave V for all cohorts provided a good fit to be the factor, χ^2 (12) = 57.023, p < .000, CFI = .99, TLI = .99, RMSEA =.025 (90% CI, .018–.031). The quadratic unconditional model was also estimated to examine a possible nonlinear pattern of individual change, but it did not fit the data significantly better than the linear unconditional model. A slope parameter estimate (μ = .005, p < NS) was not significant, suggesting that internalizing problems tend to stay stagnant over time. A correlation between the intercept and slope was also not significant, r = .01, p = .759.

Conditional Model

First, internalizing problems at each wave was regressed on time-varying income. This conditional model for income also fit the data well, χ^2 (40) = 105.093, $p < .000$, CFI = .99, TLI = .99, RMSEA =.016 (90% CI, .013–.020). Results showed that income at Wave II, Wave III, and Wave V were negatively associated with nternalizing problems at Wave II, Wave III and Wave V, such that low income in a given wave predicted higher internalizing problems at each corresponding time point. Even though income was found to be associated with social stress at those three waves, the intercept and slope of all four waves controlling for income were not different from the intercept and slope without controlling for income in the unconditional model. (Table 13).

Table 13

Mean and Variance of estimated intercept and slope of internalizing problems in the conditional LGCM

		Mean	SE	*Variance*	SE
Conditional (Income controlled)	Intercept (I)	2.37	.02	.23	.06
	Slope (S)	.01	.005	.01	.002
	Cor(I,S)	.00	.001		

Second, to further account for the deviation from the individual growth curve, the conditional model controlling for income was regressed on gender, EverDiv, DivDur. The conditional model fit the data well, χ^2 (73) = 666.152, $p < .000$, CFI = .97, TLI = .97, RMSEA =.036 (90% CI, .033–.038). Results showed that gender and ever-divorced status were significantly associated with either the level or both the level *and* the slope. Adolescents who ever experienced parental divorce reported higher levels of internalizing problems than adolescents who never experienced parental divorce; however, no difference was found between the groups in the slope of social stress. Girls reported higher levels of internalizing problems

than boys. They also reported faster rate of increase in internalizing problems than boys reported. No differences were found in the level and slope between adolescents who experienced or did not experience parental divorce during the data collection period (Table 14 and Figure 14 and Figure 15).

Table 14

The intercept and slope of internalizing problems as a function of Gender, EverDiv, DivDur

	Intercept (I)		Slope (S)	
	b	SE	*b*	SE
Gender	-.10***	.01	-.01***	.002
EverDiv	.07***	.01	-.004	.003
DivDur	-.005	.03	.002	.01

Note. EverDiv = Ever-divorced status; Div-Dur = Divorce-Time Status; **p <.05. **p <.01 ***p <.00*

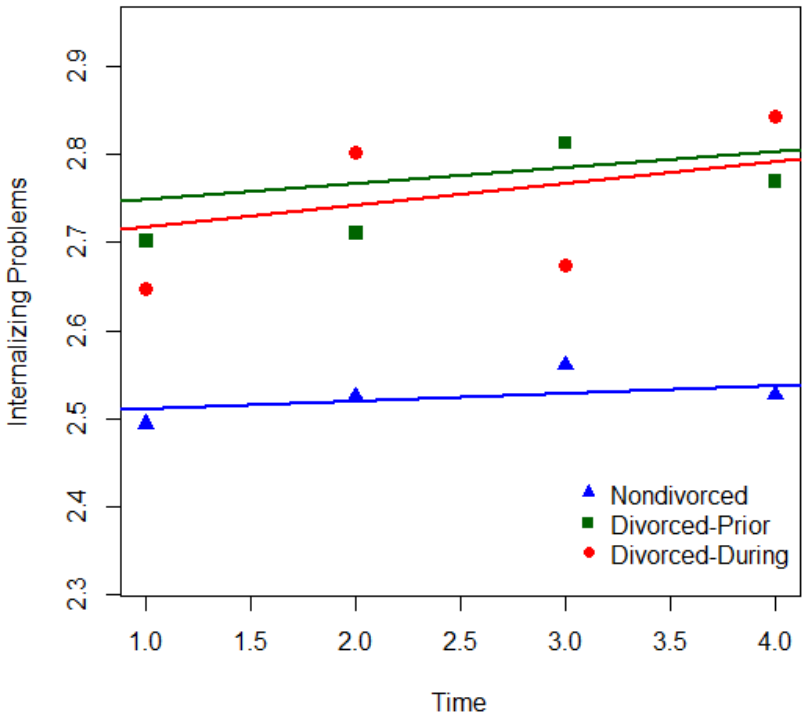


Figure 14. Means and regression line of internalizing problems of three different groups over time.

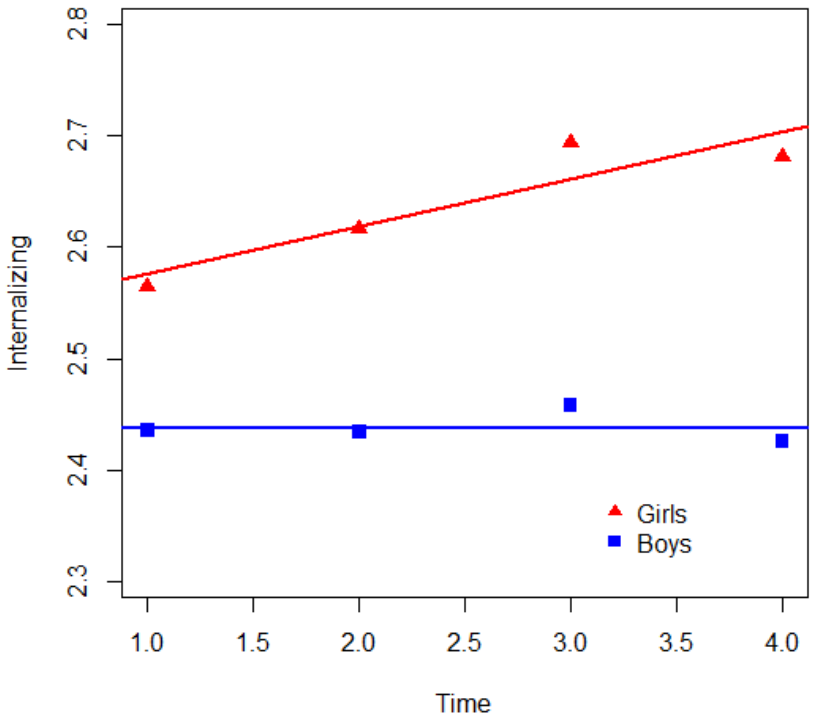


Figure 15. Means and regression line of internalizing problems by gender over time.

Self-concept

Unconditional Model

The unconditional LGCM with two repeated measures of self-concept from Wave I to Wave V for all cohorts provided a good fit to be the factor, χ^2 (23) = 88.625, p < .000, CFI = .99, TLI = .99, RMSEA =.021 (90% CI, .017–.026). The quadratic unconditional model was also estimated to examine a possible nonlinear pattern of individual change, but it did not fit the data significantly better than the linear unconditional model. A slope parameter estimate (μ = .02, p < .001) was significant and positive, suggesting that levels of Self-concept tend to increase over time. A correlation between the intercept and slope was also not significant, r = .00, p = .682.

Conditional Model

First, self-concept at each wave was regressed on time-varying income. This conditional model for income also fit the data well, χ^2 (68) = 256.877, $p < .000$, CFI = .99, TLI = .98, RMSEA =.021 (90% CI, .018–.024). Results showed that incomes were negatively associated with self-concept across all waves such that low income in a given wave predicted low self-concept at each corresponding time point. Even though income was found to be associated with self-concept at those three waves, the intercept and slope of all four waves controlling for income were not different from the intercept and slope without controlling for income in the unconditional model. (Table 15).

Table 15

Mean and Variance of estimated intercept and slope of self-concept in the conditional LGCM

		Mean	SE	*Variance*	SE
Conditional (Income controlled)	Intercept (I)	3.55	.010	.08	.01
	Slope (S)	.03	.004	.01	.001
	Cor(I,S)	.00	.001		

Second, to further account for the deviation from the individual growth curve, the conditional model controlling for income was regressed on gender, EverDiv, DivDur. The conditional model fit the data well, χ^2 (110) = 885.229, $p < .000$, CFI = .95, TLI = .94, RMSEA =.033 (90% CI, .031–.036). Results showed that all three variables were significantly associated only with the level of self-concept. Adolescents who ever experienced parental divorce reported lower levels of self-concept than adolescents who never experienced parental divorce; Adolescents who experienced divorce during had higher level of self-concept than adolescents who experienced divorce prior to the study, but they were not higher than those who were not divorced; Boys reported higher levels of self-concepts than girls did. No differences were found

the slopes of self-concept depending on any of the group memberships. (Table 16 and Figure 16 and Figure 17).

Table 16

The intercept and slope of self-concept as a function of Gender, EverDiv, DivDur

	Intercept (I)		Slope (S)	
	b	SE	*b*	SE
Gender	.01*	.005	-.001	.002
EverDiv	- .04***	.010	.003	.003
DivDur	.05*	.030	-.001	.010

Note. EverDiv = Ever-divorced status; Div-Dur = Divorce-Time Status; **p <.05. **p <.01 ***p <.001.*

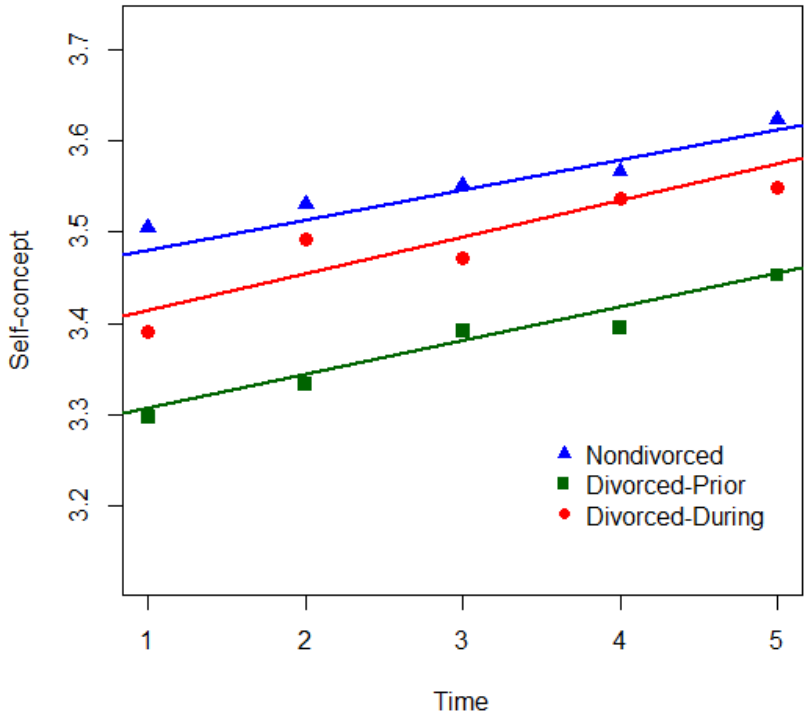


Figure 16. Means and regression line of Self-concept of three different groups over time.

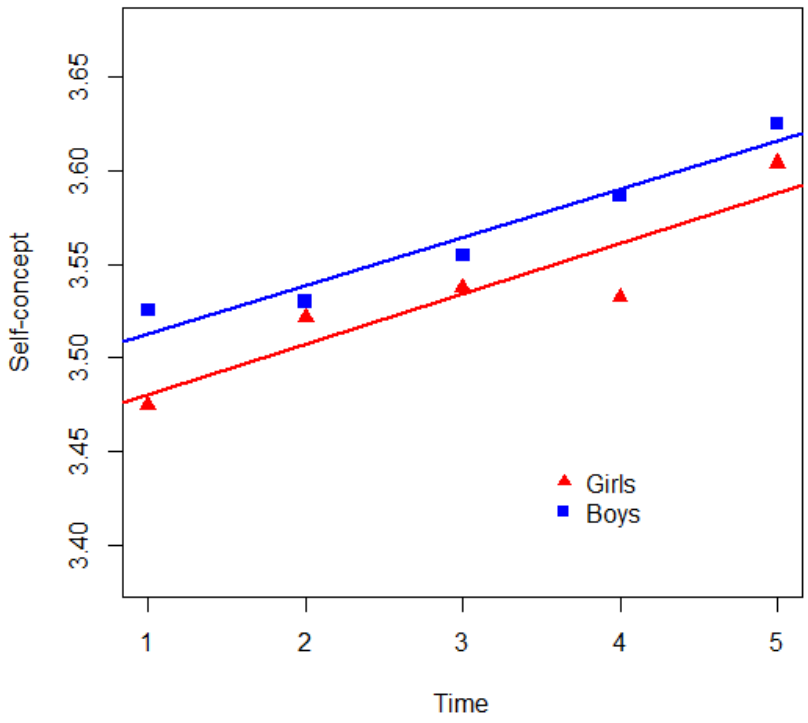


Figure 17. Means and regression line of Self-concept by gender over time.

Academic stress

Unconditional Model

The unconditional LGCM with four repeated measures of academic stress from Wave I to Wave V for all cohorts provided an acceptable fit to be the factor, χ^2 (154) = 3110.790, p < .000, CFI = .94, TLI = .92, RMSEA =.055 (90% CI, .054–.057). The quadratic unconditional model was also estimated to examine a possible nonlinear pattern of individual change, but it did not fit the data significantly better than the linear unconditional model. Given, mixed loadings of directionality from original school-adjustment (+) and perceived stress (-), lower scores indicate higher academic stress and higher scores indicate lower academic stress. A slope parameter estimate (μ = -.04, p < .001) was significant and negative, suggesting that levels of academic

stress tend to increase over time. A significant negative correlation between the intercept and slope (r = -.007, p < .001) indicated that adolescents who reported lower overall levels of academic stress tended to report a faster rate of increase in the levels of academic stress over time.

Conditional Model

First, academic stress at each wave was regressed on time-varying income. This conditional model for income fit the data well, χ^2 (249) = 2877.528, p < .000, CFI = .95, TLI = .94, RMSEA =.041 (90% CI, .040–.042). Results showed that incomes were positively associated with academic stress at Wave II and Wave IV and Wave V, such that high income in a given wave predicted higher academic stress at each corresponding time point. Even though income was found to be associated with academic stress at those three waves, the intercept and slope of all four waves controlling for income remained similar with or without controlling for income. (Table 17).

Table 17

Mean and Variance of estimated intercept and slope of academic stress in the conditional LGCM

		Mean	SE	*Variance*	SE
Conditional (Income controlled)	Intercept (I)	3.04	.01	.07	.003
	Slope (S)	- .03	.003	.01	.001
	Cor(I,S)	.01***	.001		

*Note. *p <.05. **p <.01 ***p <.001.*

Second, to further account for the deviation from the individual growth curve, the conditional model controlling for income was regressed on gender, EverDiv, DivDur. The conditional model fit the data well, χ^2 (321) = 3709.631, p < .000, CFI = .93, TLI = .92, RMSEA =.041 (90% CI, .041–.042). Results showed that all of these predictors were significantly associated with the slope. Adolescents who never experienced parental divorce

reported a faster rate of increase in academic stress than adolescents who experienced parental divorce even though overall level of academic stress did not differ by the groups; Boys reported lower levels of academic stress than girls did; girls also reported faster rate of increase in academic stress than boys did (Table 18 and Figure 18 and Figure 19).

Table 18

The intercept and slope of academic stress as a function of Gender, EverDiv, DivDur

	Intercept (I)		Slope (S)	
	b	SE	*b*	SE
Gender	.02***	.004	.006***	.002
EverDiv	- .004	.010	.007***	.002
DivDur	.005	.017	-.014	.007

Note. EverDiv = Ever-divorced status; Div-Dur = Divorce-Time Status;. **p <.05. **p <.01 ***p <.001.*

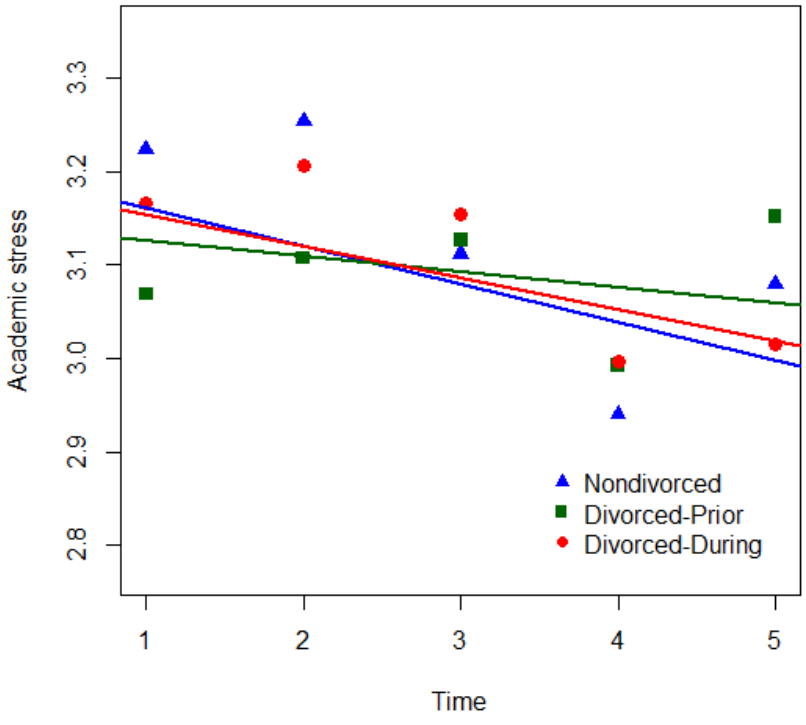


Figure 18. Means and regression line of Academic stress of three different groups over time.

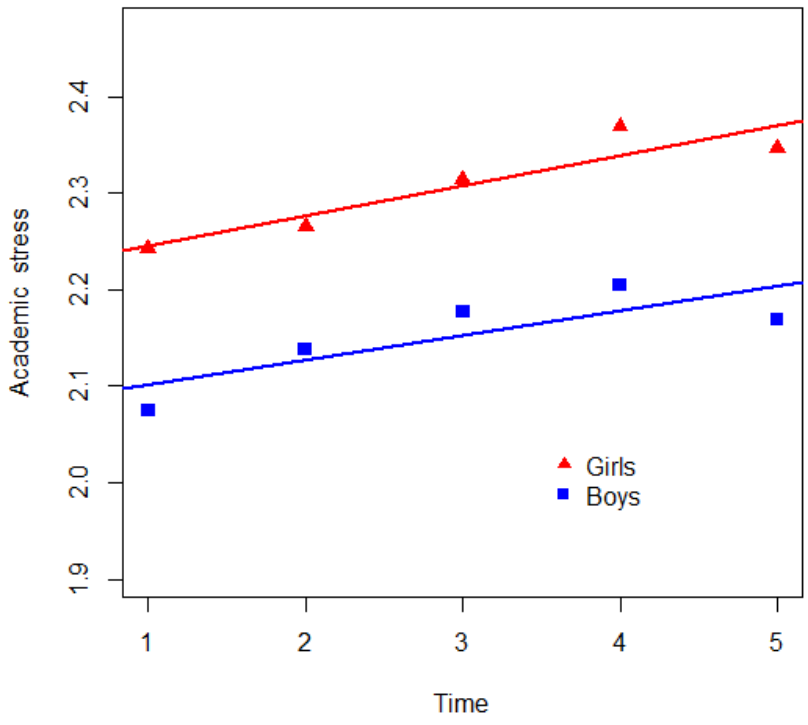


Figure 19. Means and regression line of Academic stress by gender over time.

Social stress

Unconditional Model

The unconditional LGCM with four five repeated measures of social stress for all cohorts provided a good fit to be the factor, χ^2 (76) = 617.81, p < .000, CFI = .99, TLI = .98, RMSEA =.034 (90% CI, .031–.036). The quadratic unconditional model was also estimated to examine a possible nonlinear pattern of individual change, but it did not fit the data significantly better than the linear unconditional model. A slope parameter estimate (μ = .03, p < .001) was significant and positive, suggesting that perceived levels of stress tend to increase over time. A significant negative correlation between the intercept and slope (r = -.005, p < .001) indicated that

adolescents who reported higher overall levels of social stress tended to report a slower rate of increase in the levels of social stress over time.

Conditional Model

The conditional model with controlling income is presented earlier in the exploration of the role of income as a covariate section. For further details, see Table 7.

To further account for the deviation from the individual growth curve, the conditional model controlling for income was regressed on gender, EverDiv, DivDur.

The conditional model fit the data well, χ^2 (203) = 1874.691, $p < .000$, CFI = .95, TLI = .95, RMSEA =.036 (90% CI, .035–.038). Results showed that all of these predictors were significantly associated with either the level *or* the slope, or both the level *and* the slope. Adolescents who ever experienced parental divorce reported higher levels of social stress than adolescents who never experienced parental divorce; however, no difference was found between the groups in the slope of social stress. Adolescents who experienced parental divorce during the data collection period reported a steeper increase in the level of social stress than youth who did not experience parental divorce during the same period; no mean group difference was found in social stress; Girls reported higher levels of social stress than boys; however no gender differences in the rate of increase in social stress were found.

(Table 19 and Figure 20 and Figure 21).

Table 19

The intercept and slope of social stress as a function of Gender, EverDiv, DivDur

	Intercept (I)		Slope (S)	
	b	SE	*b*	SE
Gender	-.09***	.005	.003	.002
EverDiv	.04***	.007	-.001	.003
DivDur	.001	.020	.02*	.008

Note. EverDiv = Ever-divorced status; Div-Dur = Divorce-Time Status; **p <.05. **p <.01 ***p <.001.*

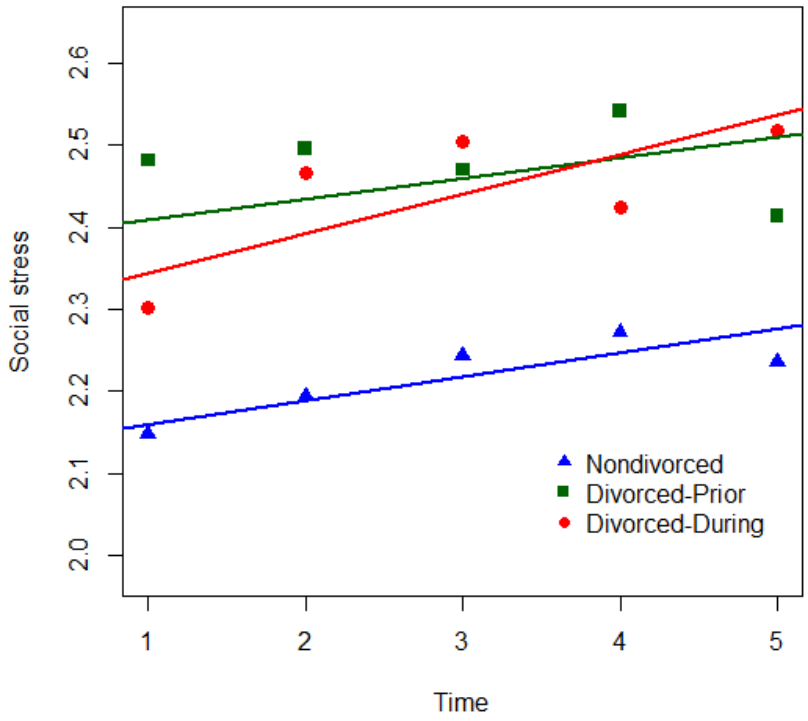


Figure 20. Means and regression line of social stress of three different groups over time.

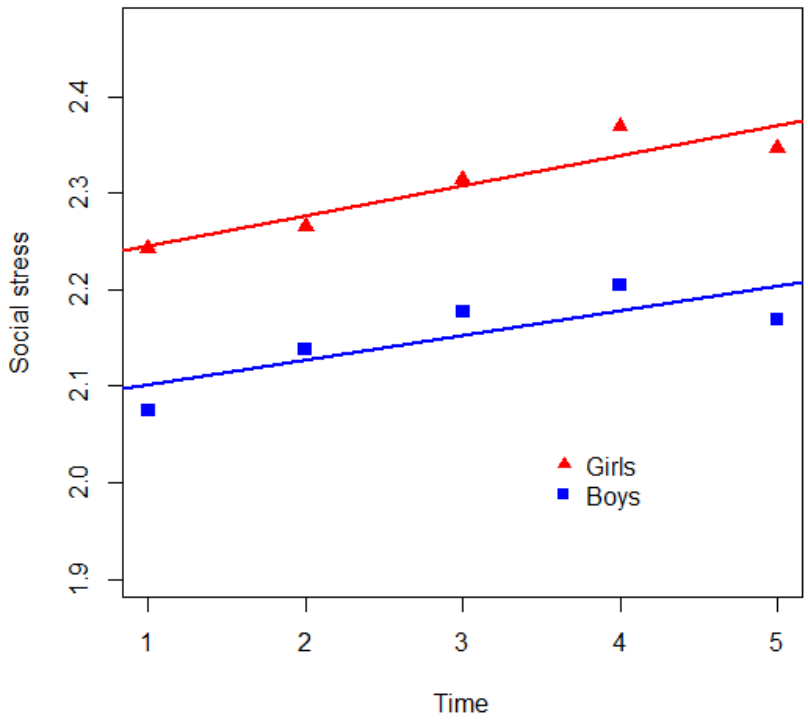


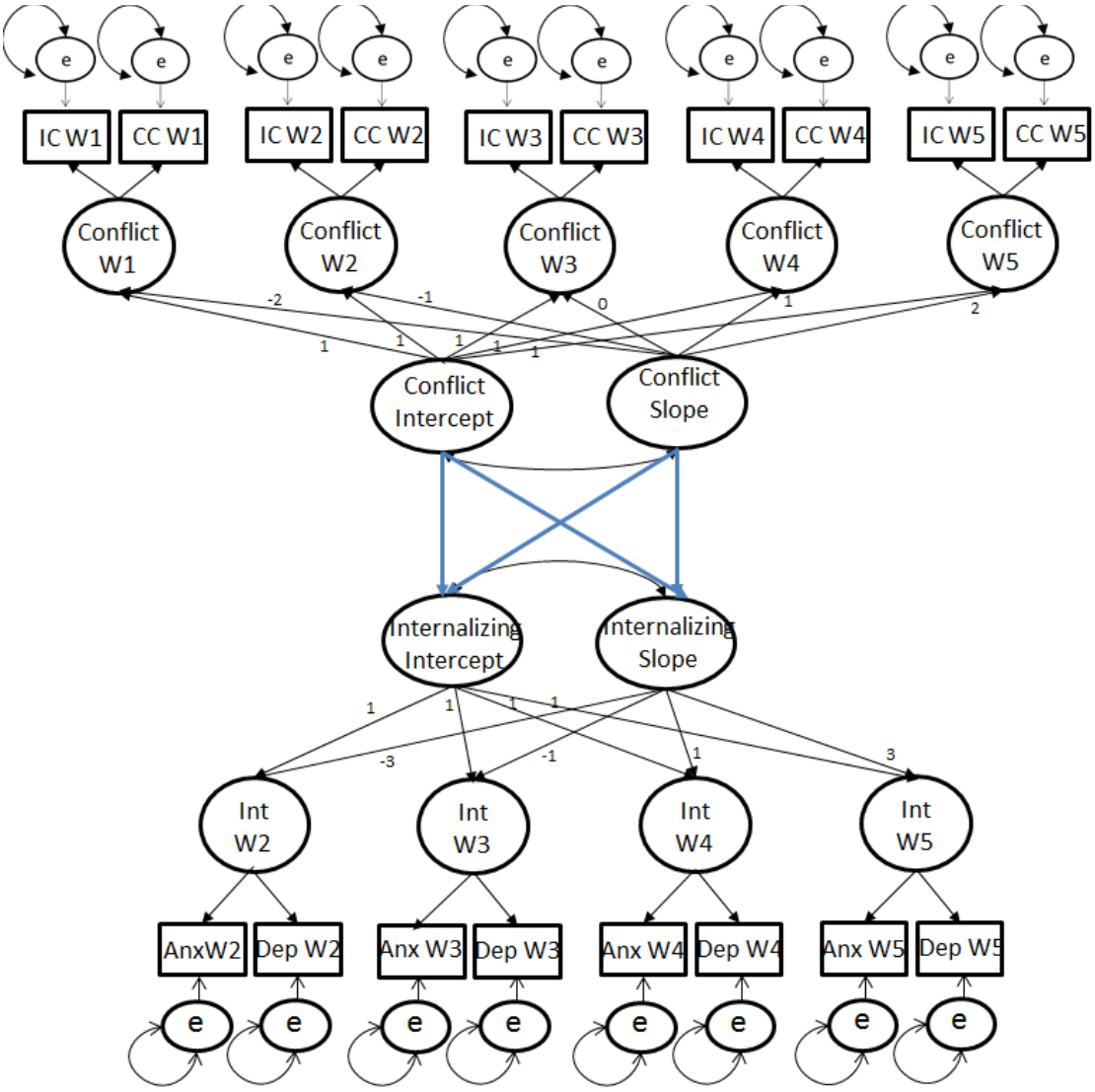
Figure 21. Means and regression line of social stress by gender over time.

Hypothesis III: family functioning will be associated with adolescent outcomes. Further, the associations between family functioning and child outcome will vary depending on group membership

Combined Model (Parallel Process Model)

To further investigate the associations between the level and linear growth of family functioning (i.e. familial conflict) and child outcomes (i.e. Internalizing problems), latent factor growth curve models were combined and then assessed simultaneously. Correlations were estimated between the intercept and slope factors within family functioning or child outcome.

The intercept and slope factors of child outcomes were regressed on the intercept and slope factors of family functioning one by one. (See Figure 22). All told, 10 of these combined models (2 family functioning variables and 5 child outcome variables) were run to investigate the associations between family functioning and child outcomes.



Note. IC: Interparental Conflict; Anx: Anxiety; Dep: Depression; W1: Wave 1; W2: Wave 2; W3: Wave 3; W4: Wave 4; W5: Wave 5

Figure22. An example of a Combined Model between Family Functioning and Child Outcome

Associations between familial conflict and externalizing problems.

The model adequately fit the data, χ^2 (116) = 9491.489, p < .000, CFI = .81, TLI = .79, RMSEA =.062 (90% CI, .061–.063). Of key interest are the associations between the intercept and linear slope factors across familial conflict and externalizing problems. The intercept of familial conflict was significantly associated with the intercept of externalizing problems (b = .28, p <.001), indicating adolescents who experienced higher levels of familial conflict reported higher levels of externalizing problems. The slope of familial conflict was also significantly associated with the slope of externalizing problems (b = .46, p <.001), indicating adolescents who experienced a faster rate of increase in familial conflict reported a faster rate of increase in externalizing problems. The intercept of familial conflict was significantly negatively associated with the slope of externalizing problems (b = -.24, p <.001), indicating that adolescents who experienced higher level of conflict reported a slower rate of decrease in externalizing problems. However, no association was found between the slope of familial conflict and the level of externalizing problems (b = .02, p =.63). (See Figure 23)

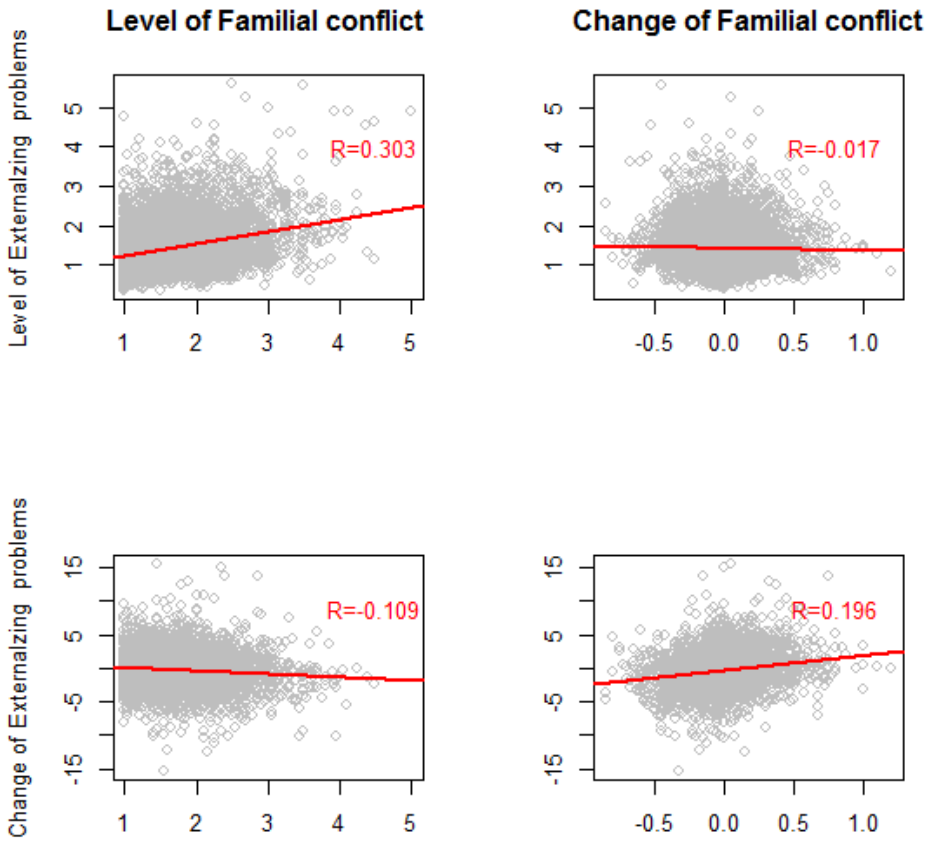


Figure 23. Associations between Familial Conflict and Externalizing Problems

Associations between familial conflict and internalizing problems.

The model adequately fit the data, χ^2 (94) = 4287.833, p < .000, CFI = .91, TLI = .90, RMSEA =.050 (90% CI, .049–.051). Of key interest are the associations between the intercept and linear slope factors across familial conflict and internalizing problems. The intercept of familial conflict was significantly associated with the intercept of internalizing problems (b = .30, p <.001), indicating adolescents who experienced higher level of familial conflict reported higher level of internalizing problems. The slope of familial conflict was also significantly associated with the slope of internalizing problems (b = .47, p <.001), indicating adolescents who experienced a faster rate of increase in familial conflict reported a faster rate of increase in

internalizing problems. The intercept of familial conflict was significantly negatively associated with the slope of internalizing problems (b = -.41, p <.05), indicating that adolescents who experienced higher level of familial conflict reported a slower rate of decrease in internalizing problems. No association was found between the slope of familial conflict and the level of internalizing problems (b = .04, p =.52). (See Figure 24).

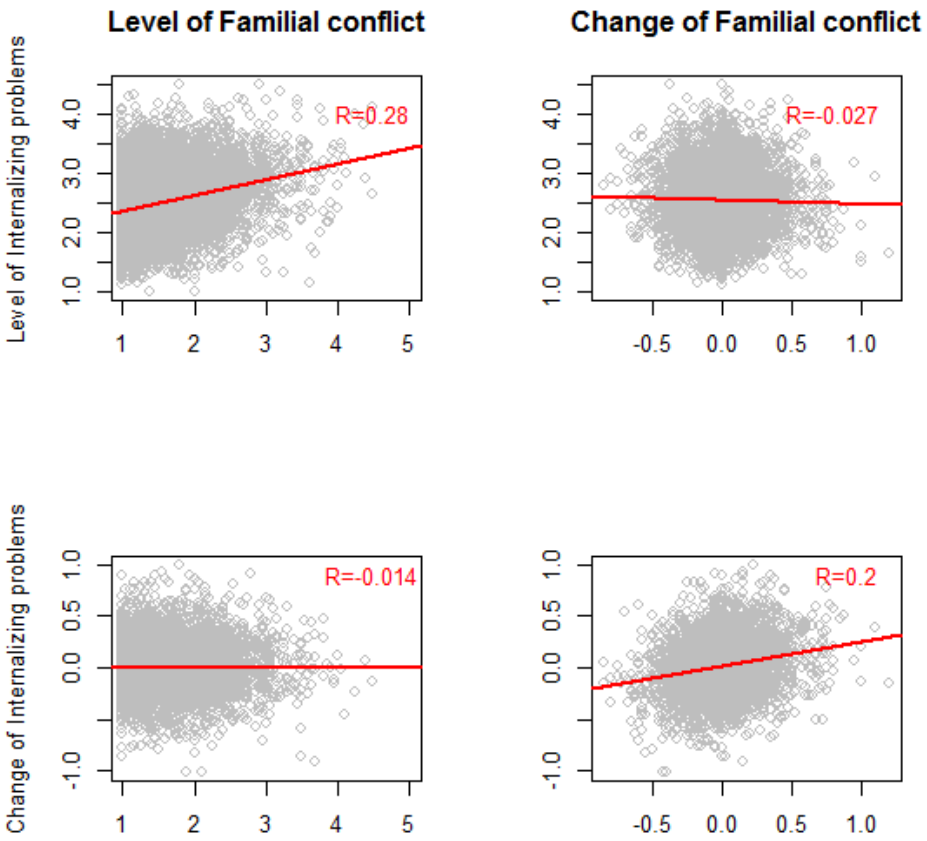


Figure 24. Associations between Familial Conflict and Internalizing Problems

Associations between familial conflict and self-concept.

The model adequately fit the data, χ^2 (102) = 6220.315, p < .000, CFI = .85, TLI = .82, RMSEA =.062 (90% CI, .061–.063). Of key interest are the associations between the intercept and linear slope factors across familial conflict and self-concept. The intercept of familial

conflict was significantly negatively associated with the intercept of self-concept (b = -2.04, p <.001), indicating adolescents who experienced higher level of familial conflict reported weaker levels of self-concept. The slope of familial conflict was also significantly associated with the slope of self-concept (b =- .42, p <.001), indicating adolescents who experienced a faster rate of increase in familial conflict reported a faster rate of decrease in self-concept. No associations were found between the intercept of familial conflict and the slope of self-concept (b = -0.01, p =.33), as well as between the slope of familial conflict and the level of self-concept (b = .01, p =.29). (See Figure 25)

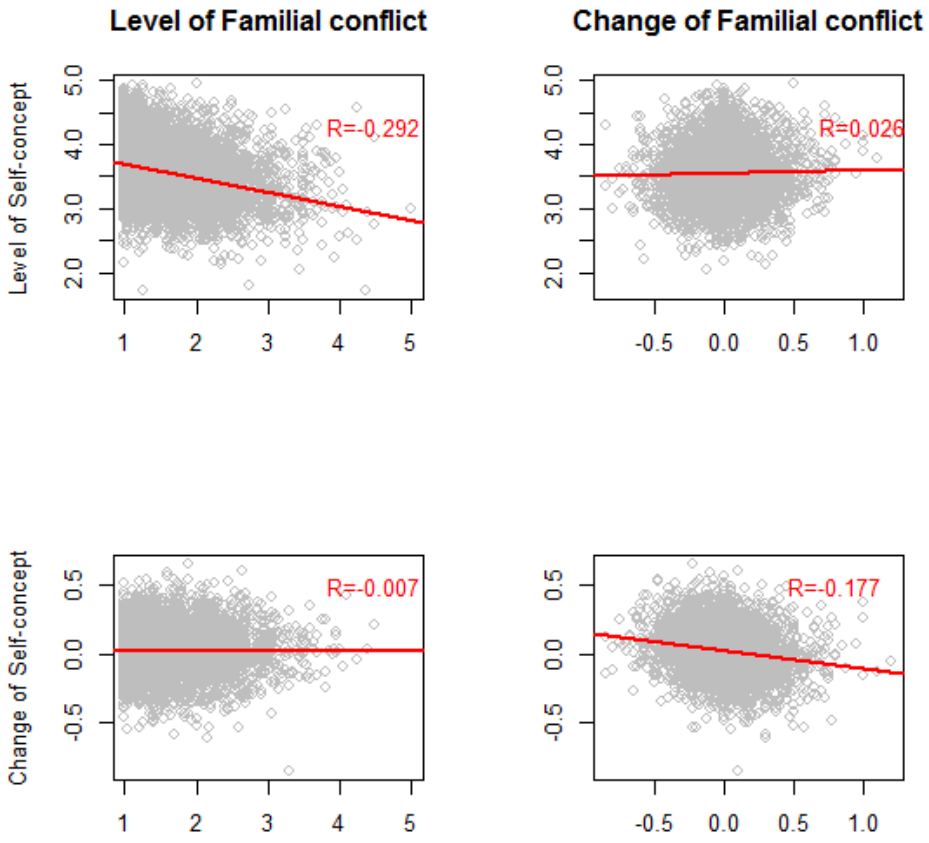


Figure 25. Associations between Familial Conflict and Self-concept

Associations between familial conflict and academic stress.

The model adequately fit the data, χ^2 (133) = 7168.036, p < .000, CFI = .91, TLI = .90, RMSEA =.045 (90% CI, .044–.045). Of key interest are the associations between the intercept and linear slope factors across familial conflict and academic stress. Note that a higher score on this factor indicates lower levels of academic stress and a lower score on this factor indicates higher levels of academic stress. The intercept of familial conflict was significantly negatively associated with the intercept of academic stress (b = -.29, p <.001), indicating adolescents who experienced higher level of familial conflict reported higher level of academic stress. The slope of familial conflict was also significantly negatively associated with the slope of academic stress (b = -1.37, p <.001), indicating adolescents who experienced a faster rate of increase in familial conflict reported a faster rate of increase in academic stress. The intercept of familial conflict was significantly associated with the slope of academic stress (b = .06, p <.001), indicating that adolescents who experienced higher level of familial conflict reported a slower rate of decrease in academic stress. The slope of familial conflict was significantly associated with the level of academic stress, indicating that adolescents who experienced a faster rate of increase in familial conflict reported a lower level of academic stress (b = 1.08, p <.001), (See Figure 26)

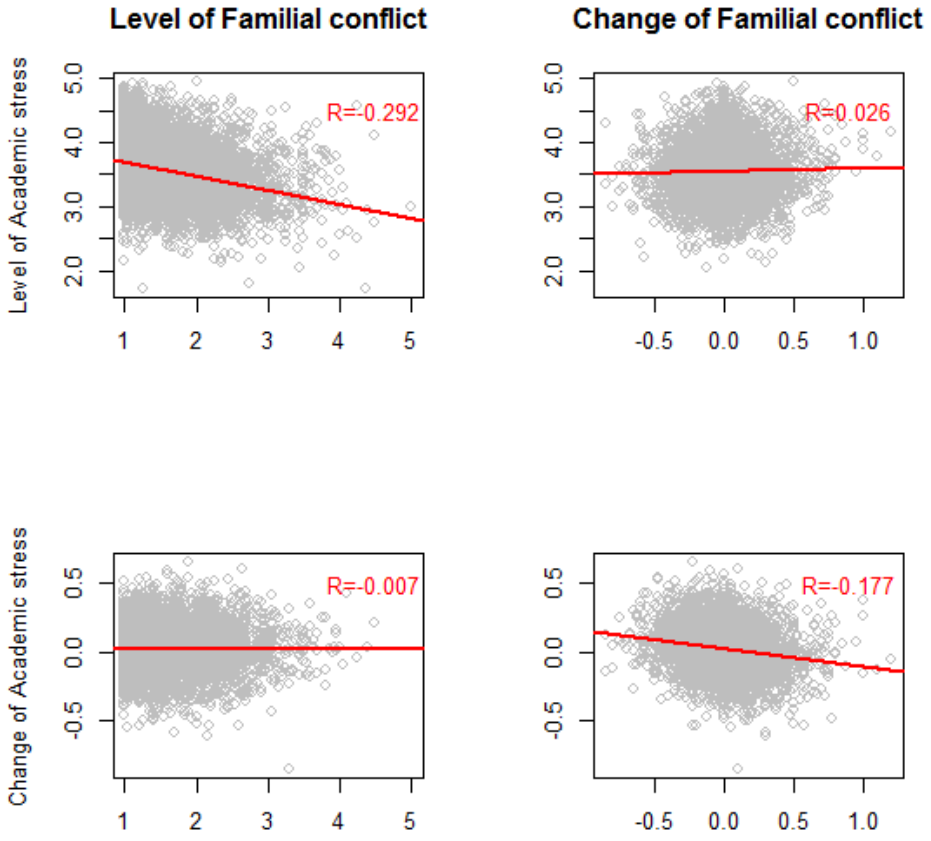


Figure 26. Associations between Familial Conflict and Academic Stress

Associations between familial conflict and social stress.

The model adequately fit the data, χ^2 (116) = 5012.755, p < .000, CFI = .92, TLI = .91, RMSEA =.044 (90% CI, .043–.045). Of key interest are the associations between the intercept and linear slope factors across familial conflict and social stress. The intercept of familial conflict was significantly associated with the intercept of social stress (b = .43, p <.001), indicating adolescents who experienced higher levels of familial conflict reported higher levels of social stress. The slope of familial conflict was also significantly associated with the slope of social stress (b = .83, p <.001), indicating adolescents who experienced a faster rate of increase in familial conflict reported a faster rate of increase in social stress. The slope of familial conflict

was significantly negatively associated with the level of social stress, indicating that adolescents who experienced a faster rate of increase in familial conflict reported a lower level of social stress (b = -.57, p <.001). However, no association was found between the intercept of familial conflict and the rate of increase in social stress (b = -.01, p =.54). (See Figure 27)

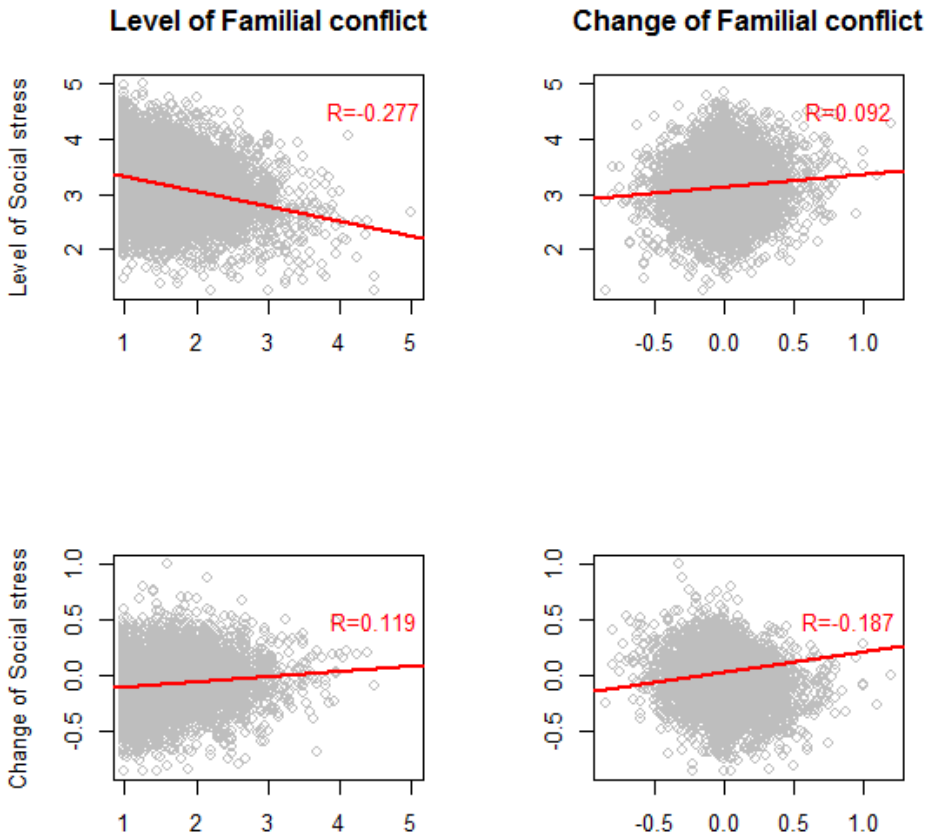


Figure 27. Associations between Familial Conflict and Social Stress

Associations between parenting quality and externalizing problems.

The model adequately fit the data, χ^2 (127) = 3618.421, p < .000, CFI = .93, TLI = .92, RMSEA =.036 (90% CI, .037–.039). Of key interest are the associations between the intercept and linear slope factors across parenting quality and externalizing problems. The intercept of parenting quality was significantly negatively associated with the intercept of externalizing

problems (b = -.42, p <.001), indicating adolescents who experienced higher level of parenting quality reported lower level of externalizing problems. The slope of parenting quality was also significantly negatively associated with the slope of externalizing problems (b = -.55, p <.001), indicating adolescents who experienced a faster rate of increase in parenting quality reported a faster rate of decrease in externalizing problems. The slope of parenting quality was significantly negatively associated with the intercept of externalizing problems (b = -.37, p <.001), indicating that adolescents who experienced a faster rate of increase in parenting quality reported a lower level of externalizing problems. However, no association was found between the intercept of parenting quality and the slope of externalizing problems (b = .03, p =.12). (See Figure 28)

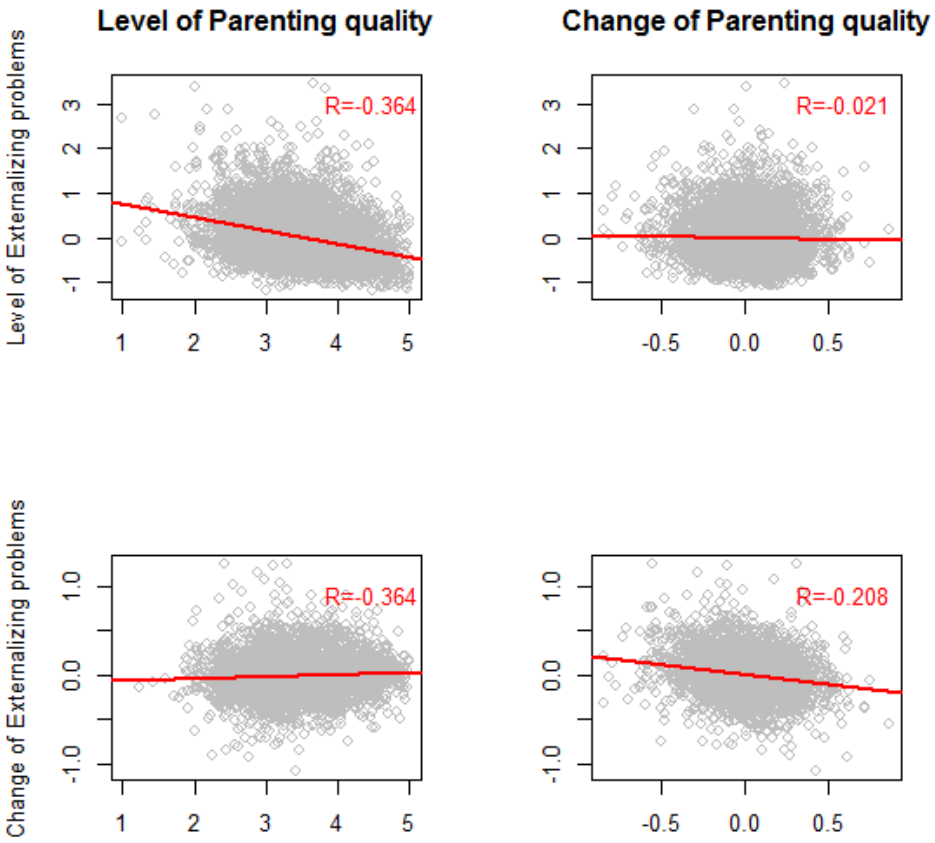


Figure 28. Associations between Parenting Quality and Externalizing Problems

Associations between parenting quality and internalizing problems.

The model adequately fit the data, χ^2 (95) = 3907.463, p < .000, CFI = .92, TLI = .91, RMSEA =.054 (90% CI, .052–.055). Of key interest are the associations between the intercept and linear slope factors across parenting quality and internalizing problems. The intercept of parenting quality was significantly negatively associated with the intercept of internalizing problems (b = -.39, p <.001), indicating adolescents who experienced the higher level of parenting quality reported the lower level of internalizing problems. The slope of parenting quality was also negatively associated with the slope of internalizing problems (b = -.37, p <.001), indicating adolescents who experienced a faster rate of increase in parenting quality reported a faster rate of decrease in internalizing problems. No associations were found between the intercept of parenting quality and the slope of internalizing problems (b = .03, p =.16), as well as between the slope of parenting quality and the level of internalizing problems (b = -.03, p =.29). (See Figure 29)

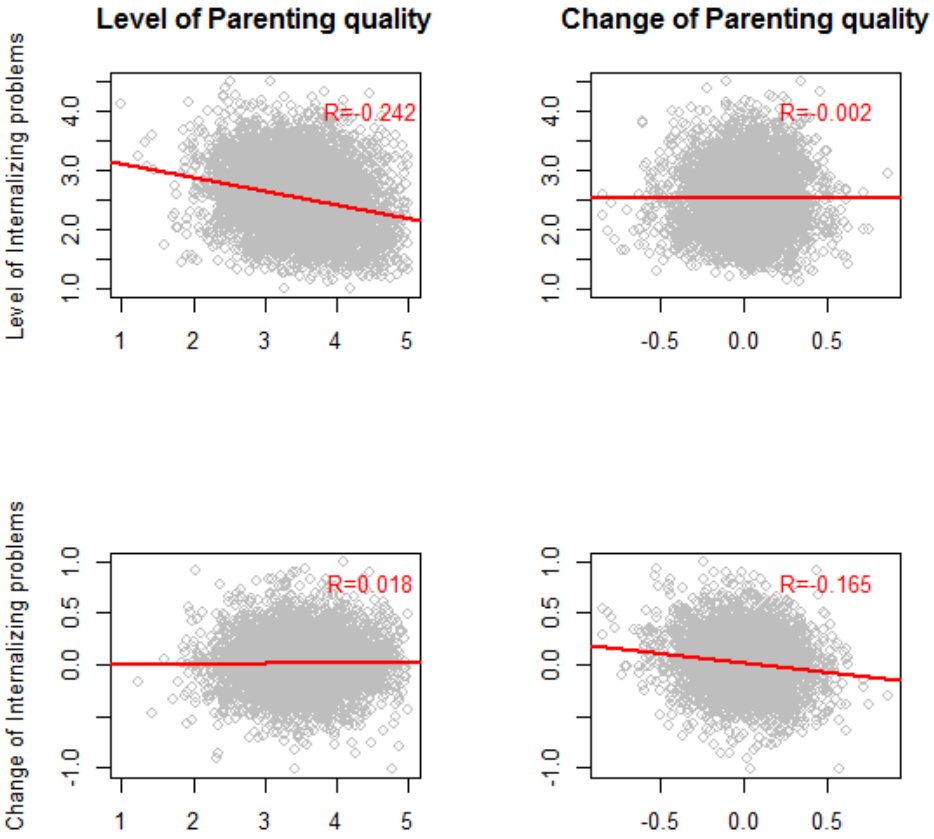


Figure 29. Associations between Parenting Quality and Internalizing Problems

Associations between parenting quality and self-concept.

The model adequately fit the data, χ^2 (102) = 6220.315, p < .000, CFI = .85, TLI = .82, RMSEA =.062 (90% CI, .061–.063). Of key interest are the associations between the intercept and linear slope factors across parenting quality and self-concept. The intercept of parenting quality was significantly associated with the intercept of self-concept (b = 1.54, p <.001), indicating adolescents who experienced higher level of parenting quality reported the stronger level of self-concept. The slope of parenting quality was also significantly associated with the slope of self-concept (b = .78, p <.001), indicating adolescents who experienced a faster rate of increase in parenting quality reported a faster rate of increase in self-concept. No associations

were found between the intercept of parenting quality and the slope of self-concept (b = -0.01, p =.41), as well as between the slope of parenting quality and the level of self-concept (b = -.01, p =.30). (See Figure 30)

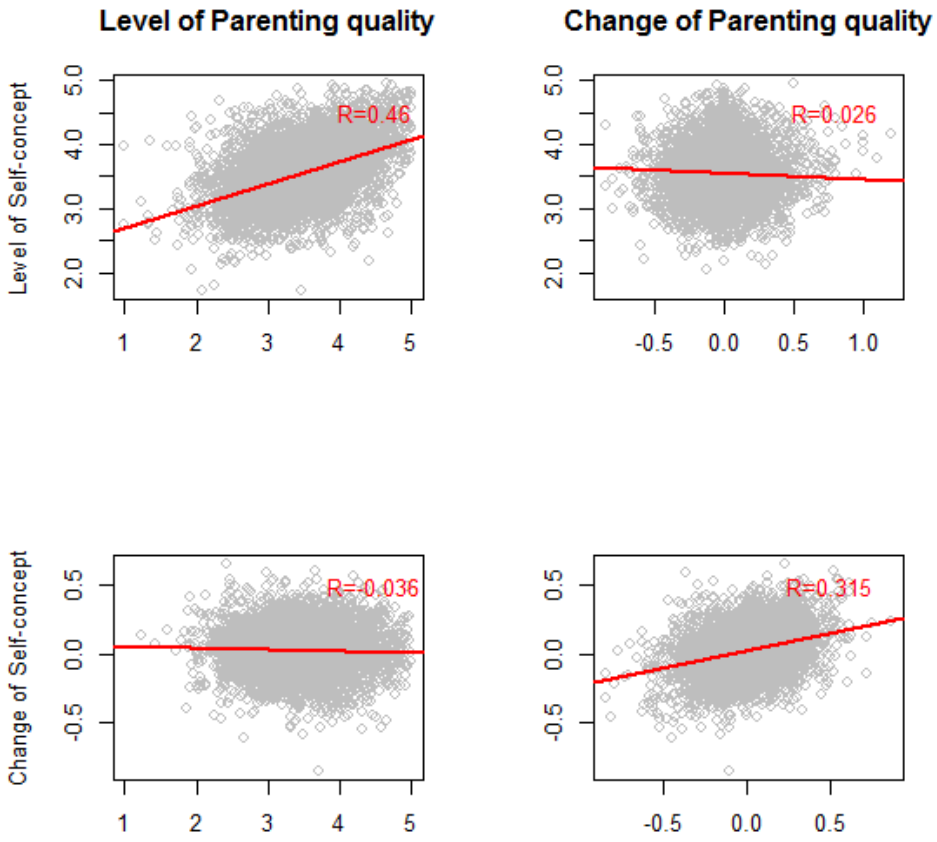


Figure 30. Associations between Parenting Quality and Self-concept

Associations between parenting quality and academic stress.

The model adequately fit the data, χ^2 (144) = 7281.581, p < .000, CFI = .91, TLI = .90, RMSEA =.045 (90% CI, .044–.046). Of key interest are the associations between the intercept and linear slope factors across parenting quality and academic stress. Note that higher scores on this factor indicate lower levels of academic stress and lower scores on this factor indicate higher levels of academic stress. The intercept of parenting quality was significantly associated with the

intercept of academic stress (b = .30, p <.001), indicating adolescents who experienced the higher level of parenting quality reported the lower level of academic stress. The slope of parenting quality was also significantly associated with the slope of academic stress (b = .88, p <.001), indicating adolescents who experienced a faster rate of increase in parenting quality reported a faster rate of decrease in academic stress. The intercept of parenting quality was significantly negatively associated with the slope of academic stress (b = -.30, p <.001), indicating that adolescents who experienced the higher level of parenting quality reported a slower rate of increase in academic stress. However, no association was found between the slope of parenting quality and the level of academic stress (b = -.09, p = .08), (See Figure 31)

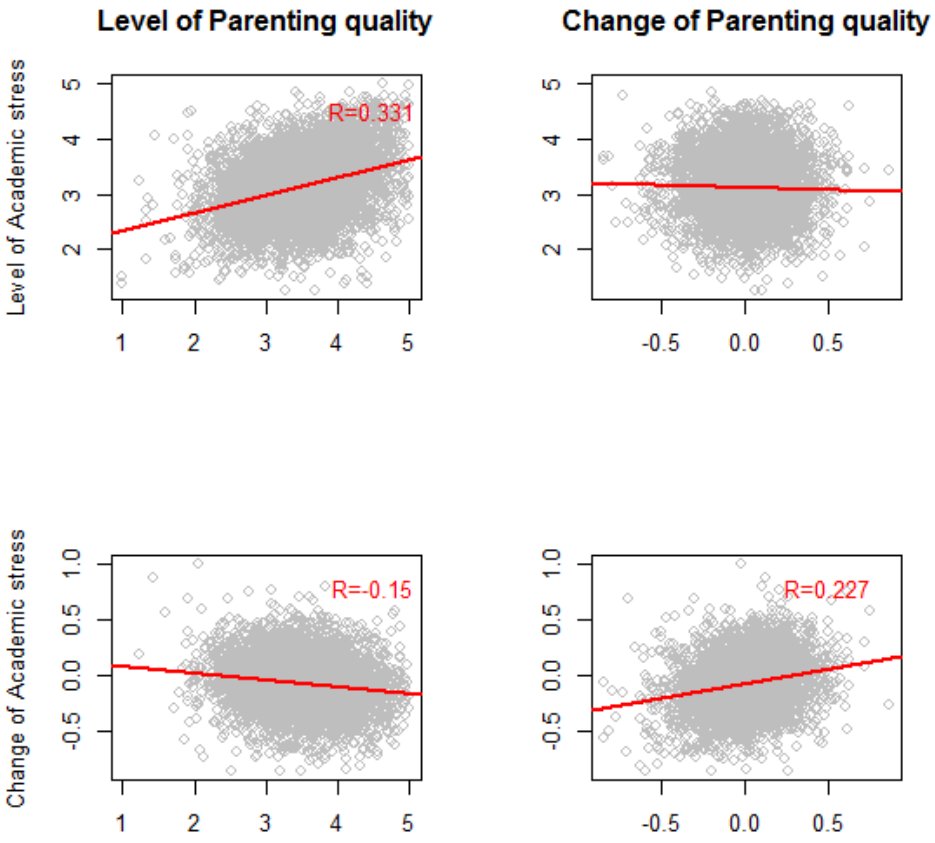


Figure 31. Associations between Parenting Quality and Academic Stress

Associations between parenting quality and social stress.

The model adequately fit the data, χ^2 (127) = 5605.440, p < .000, CFI = .92, TLI = .91, RMSEA =.048 (90% CI, .046–.049). Of key interest are the associations between the intercept and linear slope factors across parenting quality and social stress. The intercept of parenting quality was significantly negatively associated with the intercept of social stress (b = -.48, p <.001), indicating adolescents who experienced the higher level of parenting quality reported the lower level of social stress. The slope of parenting quality was also significantly negatively associated with the slope of social stress (b = -.72, p <.001), indicating adolescents who experienced a faster rate of increase in parenting quality reported a faster rate of decrease in social stress. The level of parenting quality was significantly associated with the slope of social stress, indicating that adolescents who experienced the high level of parenting quality reported a slower rate of increase in social stress (b = .45, p <.001). However, no association was found between the intercept of parenting quality and the rate of increase in social stress (b = .03, p =.52). (See Figure 32).

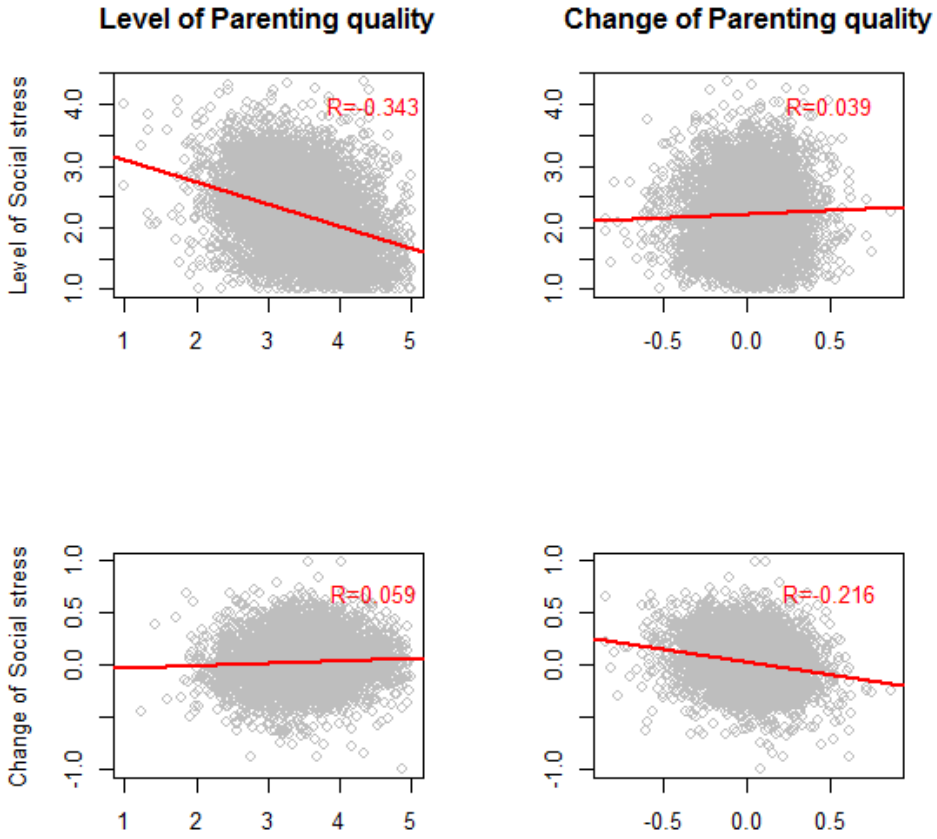


Figure 32. Associations between Parenting Quality and Social Stress

Exploration of moderating effect of a group membership on the associations between family functioning and child outcomes

The next set of analyses explored the group differences (i.e. non-divorced group vs. ever-divorced group) in associations between family functioning and child outcome, given consistent significant relationships between the intercept and slope of family functioning and the intercept and slope of child outcomes. Multi-group analyses were conducted in Mplus (Muthen & Muthen, 1998-2007), using the two latent factor model that addressed the relationship between family functioning and child outcomes. Unfortunately, due to the lack of power for divorced group compared to the complexity of the model, the intended multi-group model did not converge.

Alternatively, in order to simplify the model, scaled scores of family functioning and child outcomes at each wave based on factor loadings on each factor of interest were created. Then, multi-group analyses against a latent growth curve model were run to test the group differences between family functioning and child outcomes (See Figure 33).

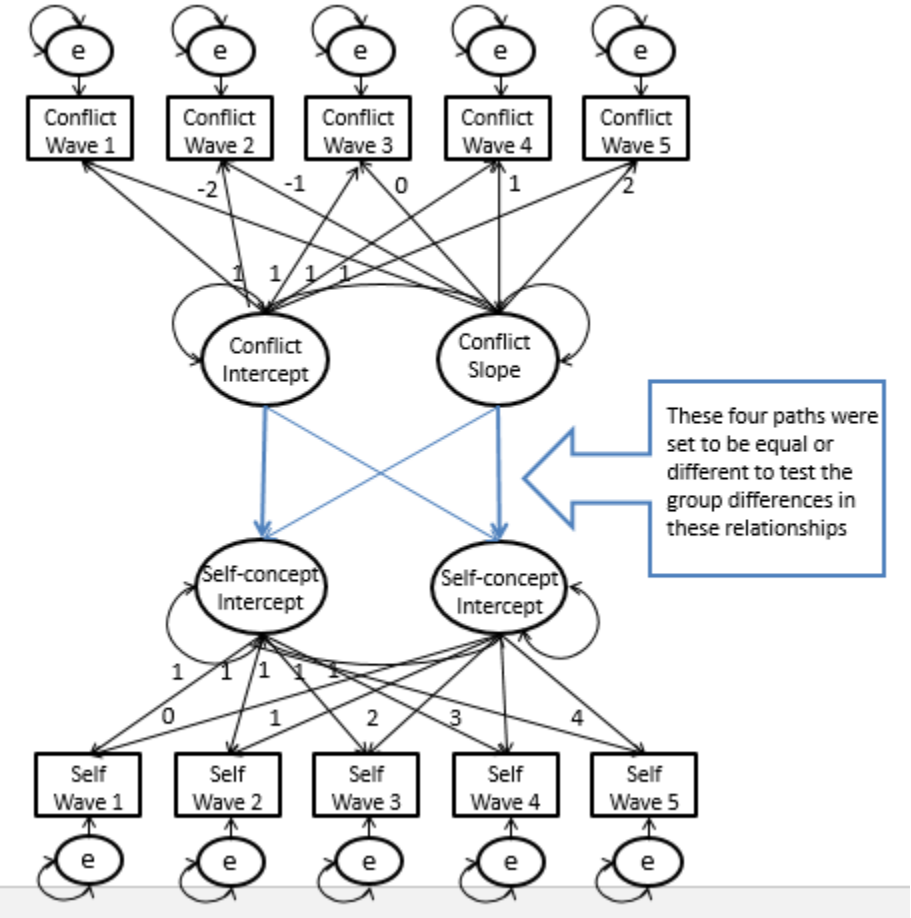


Figure 33. An example of a multi-group model with scaled scores at each wave

For each model presented in the results, a model was first fit, allowing for all possible group differences in the associations between family functioning and child outcomes, then a second model was fit in which significant parameters were constrained to be equal across groups. These nested models were compared in order to test for statistically significant group differences in the associations of interest. Parameter estimates and chi-square difference test statistics were reported along with RMSEA, CFI, and other model fit indices in the result section.

Again, 10 of these multi-group models (2 family functioning variables and 5 child outcome variables) were run. Only results that showed significant group differences in the associations of interest were presented here.

Group differences in associations between familial conflict and self-concept.

The multi-group model that allowed for the group differences in the associations between familial conflict and self-concept resulted in a significantly better model fit, χ^2 (Δ4) = 9.221, p < .10, CFI = .96, TLI = .96, RMSEA =.033 (90% CI, .031–.036), than constraining the associations to be equal across groups. Particularly, the model that allowed the group differences in the association between the intercept of familial conflict and the intercept of self-concept showed the significant difference, χ^2 (Δ1) = 4.287, p < .05, CFI = .96, TLI = .96, RMSEA =.033 (90% CI, .031–.036). The intercept of familial conflict was more strongly associated with the intercept of self-concept in non-divorced group (b = -.29, p <.001), than in ever-divorced group (b = -.29, p <.001). This result indicates that adolescents who did NOT experience parental divorce reported that their self-concept was more negatively influenced by experiencing familial conflict, than adolescents who ever experienced parental divorce did. (See Figure 34).

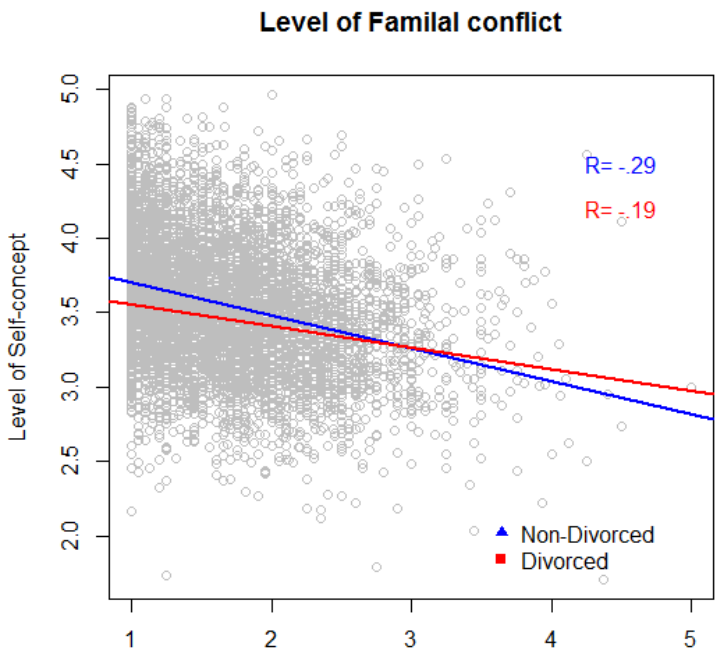


Figure 34. Differences in the Association between the Level of Familial Conflict and the Level of Self-Concept by group

Group differences in associations between parenting quality and externalizing problems.

The multi-group model that allowed for the group differences in the associations between parenting quality and academic stress resulted in a significantly better model fit, χ^2 (Δ4) = 8.409, p < .05, CFI = .95, TLI = .95, RMSEA =.041 (90% CI, .038–.043), than constraining the associations to be equal across groups. Particularly, the model that allowed the group difference in the association between the intercept of parenting quality and the intercept of academic stress showed the significant difference, χ^2 (Δ1) = 6.482, p < .0001, CFI = .95, TLI = .95, RMSEA =.041 (90% CI, .038–.043). The intercept of parenting quality was more strongly associated with the intercept of externalizing problems in non-divorced group (b = -.34, p <.001), than in ever-divorced group (b = -.13, p <.0001). This result indicates that adolescents

who did NOT experience parental divorce reported that their externalizing problems reduced more strongly by experiencing parenting quality, than adolescents who ever experienced parental divorce. (See Figure 35)

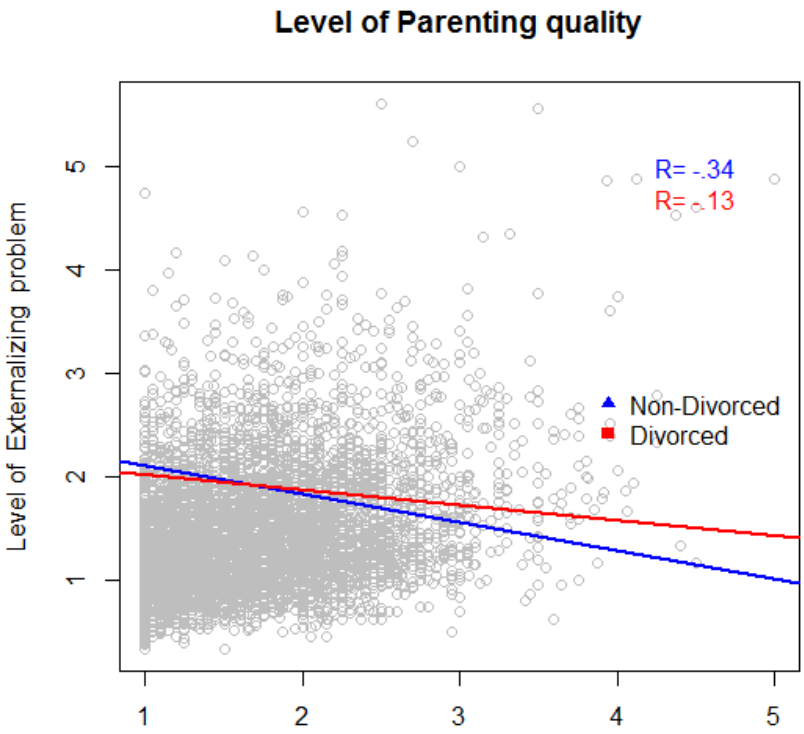


Figure 35. Differences in the Association between the Level of Parenting Quality and the Level of Externalizing Problems by group

Group differences in associations between parenting quality and academic stress.

The multi-group model that allowed for the group differences in the associations between parenting quality and academic stress resulted in a significantly better model fit, χ^2 ($\Delta 4$) = 12.055, $p < .05$, CFI = .93, TLI = .93, RMSEA =.053 (90% CI, .050–.055), than constraining the

associations to be equal across groups. Particularly, the model that allowed the group differences in the association between the intercept of parenting quality and the intercept of academic stress showed the significant difference, χ^2 (Δ1) = 11.006, p < .0001, CFI = .94, TLI = .93, RMSEA =.053 (90% CI, .050–.056). Again, note that the high mean of the intercept indicates the lower level of academic stress and the low mean of the intercept indicates the higher level of academic stress. The intercept of parenting quality was more strongly associated with the intercept of academic stress in non-divorced group (b = .38, p <.001), than in ever-divorced group (b = .18, p <.001). This result indicates that adolescents who did NOT experience parental divorce reported that their academic stress was more strongly alleviated by experiencing positive parenting quality, than adolescents who ever experienced parental divorce. (See Figure 36)

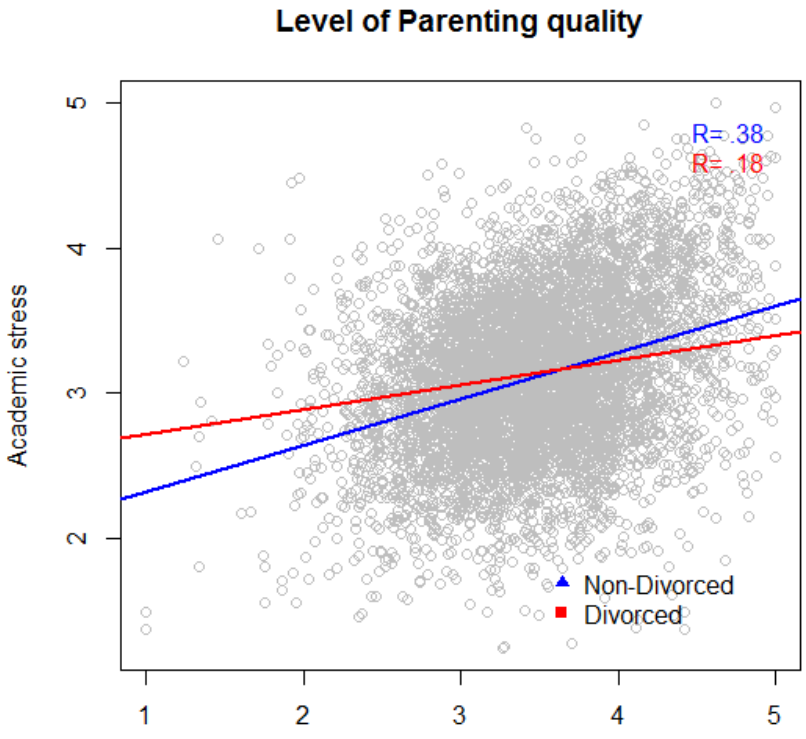


Figure 36. Differences in the Association between the Level of Parenting Quality and the Level of Academic Stress by group

Group differences in associations between parenting quality and social stress.

The multi-group model that allowed for the group differences in the associations between parenting quality and social stress did not result in significantly better model fit, χ^2 (Δ4) = 6.456, p = .17, CFI = .95, TLI = .95, RMSEA =.039 (90% CI, .041–.044), than constraining the associations to be equal across groups. However, the model that only allowed the group difference in the association between the intercept of parenting quality and the intercept of social stress showed the significant difference, χ^2 (Δ1) = 3.900, p < .05, CFI = .95, TLI = .95, RMSEA =.039 (90% CI, .041–.044). The intercept of parenting quality was more strongly associated with the intercept of social stress in the non-divorced group (b = -.42, p <.001), than in the ever-divorced group (b = -.27, p <.001). This result indicates that adolescents who did NOT experience parental divorce reported that their social stress was more strongly alleviated by experiencing positive parenting quality, than adolescents who ever experienced parental divorce. (See Figure 37).

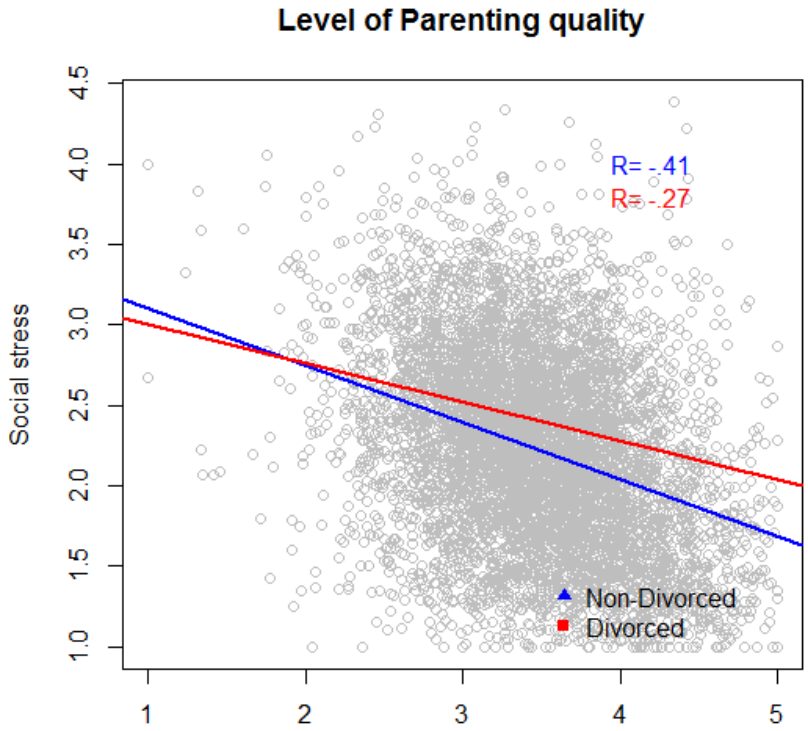


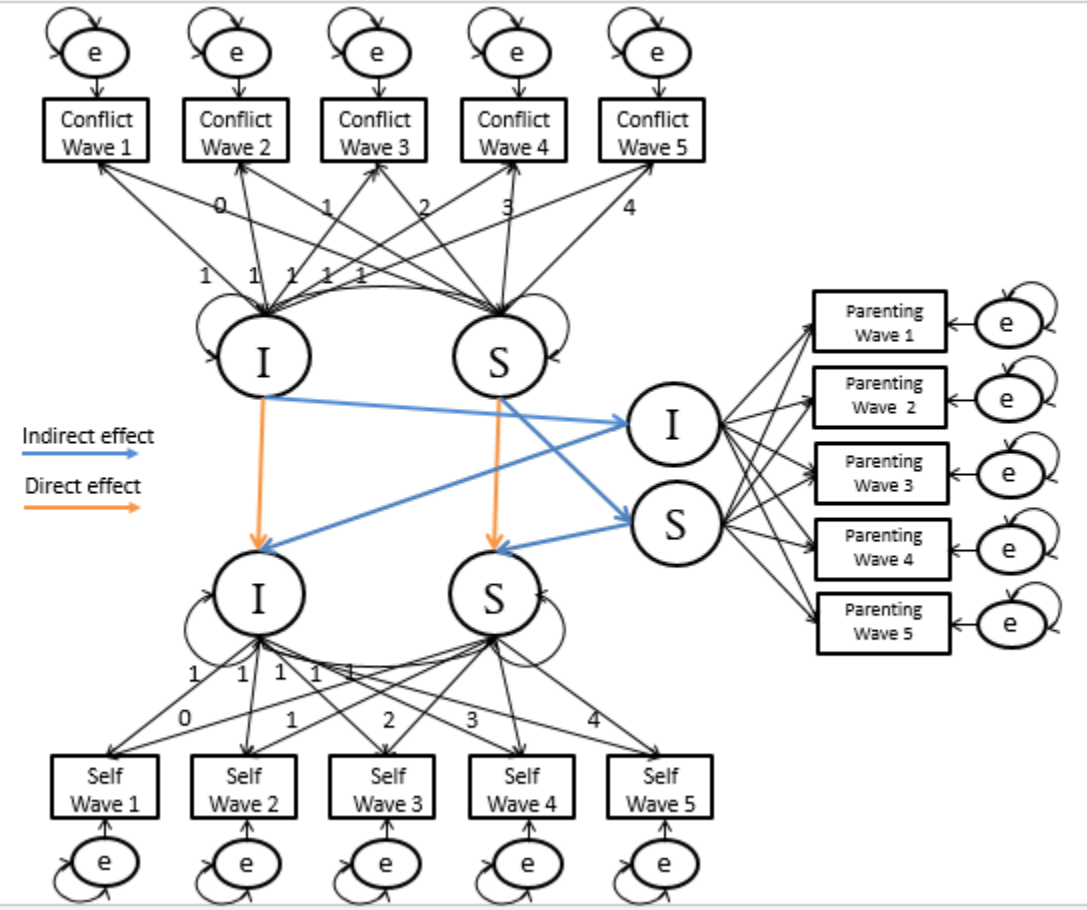
Figure 37. Differences in the Association between the Level of Parenting Quality and the Level of Social Stress by group

Hypothesis IV: The associations between familial conflict and child outcomes will be mediated through parenting quality.

Mediational Combined Model

To further investigate the mediating effect of parenting quality on the associations between the level and linear growth of familial conflict and child outcomes (i.e. Internalizing problems), a latent factor growth curve model with scaled scores at each wave were combined and then assessed simultaneously. Correlations were estimated between the intercept and slope factors within familial conflict or child outcomes. The intercept and slope factors of child outcomes were regressed on the intercept and slope factors of familial conflict and parenting

quality. Additionally, the intercept and slope factors of parenting quality were regressed on familial conflict. (See Figure 38).



Note. I : Intercept; S: Slope; Conflict : Familial conflict; Parenting: Parenting quality; Self: Self-concept.

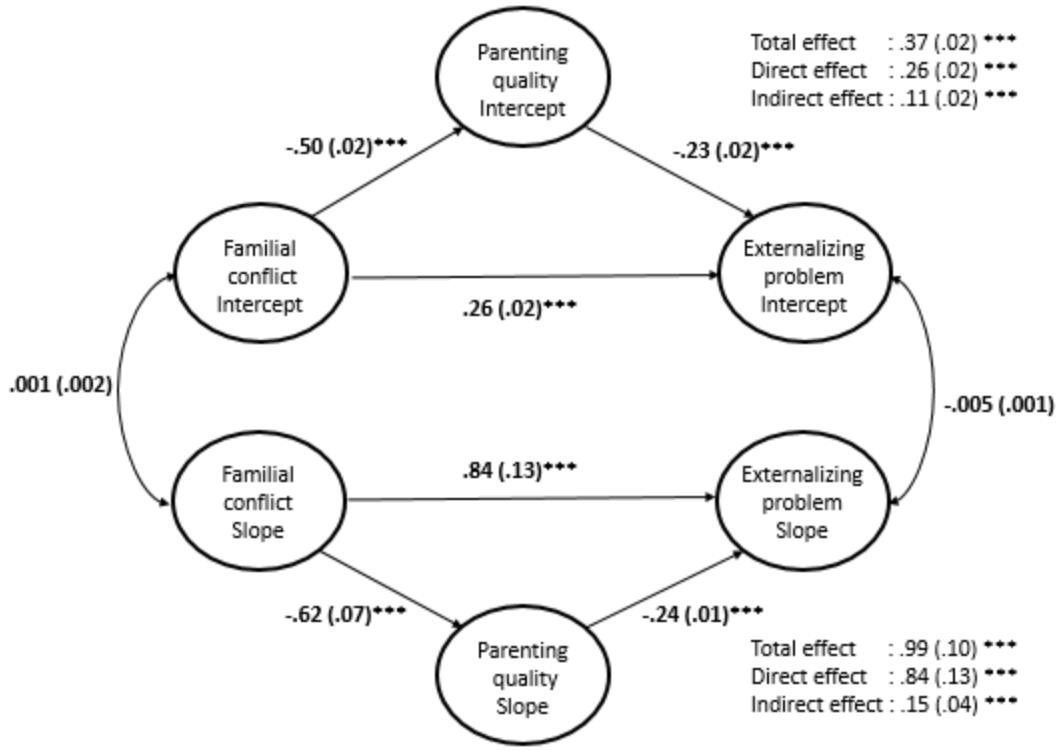
Figure 38. An example model of familial conflict and child outcomes mediated through parenting quality

All told, five of these combined models were run to investigate the mediating effect of parenting quality on the associations between familial conflict and child outcomes. Using Indirect command in Mplus, the significance of direct, indirect, and total effects were tested simultaneously.

Mediating effect of parenting quality on the associations between familial conflict and externalizing problems.

The mediational model resulted in a good model fit, χ^2 (170) = 1278.446, p < .0001, CFI = .96, TLI = .95, RMSEA =.032 (90% CI, .031–.034). The association between the intercept of familial conflict and the intercept of externalizing problems was mediated through the intercept of parenting quality (*indirect effect* = .11, p <.001), suggesting the level of familial conflict lowers the level of parenting quality, which, then leads to the higher level of externalizing problems. The intercept of familial conflict also directly influenced the intercept of externalizing problems (*direct effect* = .26, p <.001), suggesting that the level of direct exposure to familial conflict leads to the higher level of externalizing problems.

Further, the association between the slope of familial conflict and the slope of externalizing problems was mediated through the slope of parenting quality (*indirect effect* = .15, p <.001), suggesting the increase of familial conflict results in the decrease in parenting quality, which, then leads to the increase in externalizing problems. The slope of familial conflict directly influenced the slope of externalizing problems (*direct effect* = .84, p <.001), suggesting that the increase in direct exposure to familial conflict leads to the increase in externalizing problems. (See Figure 39)



Note: *p <.05. **p <.01 ***p <.001.

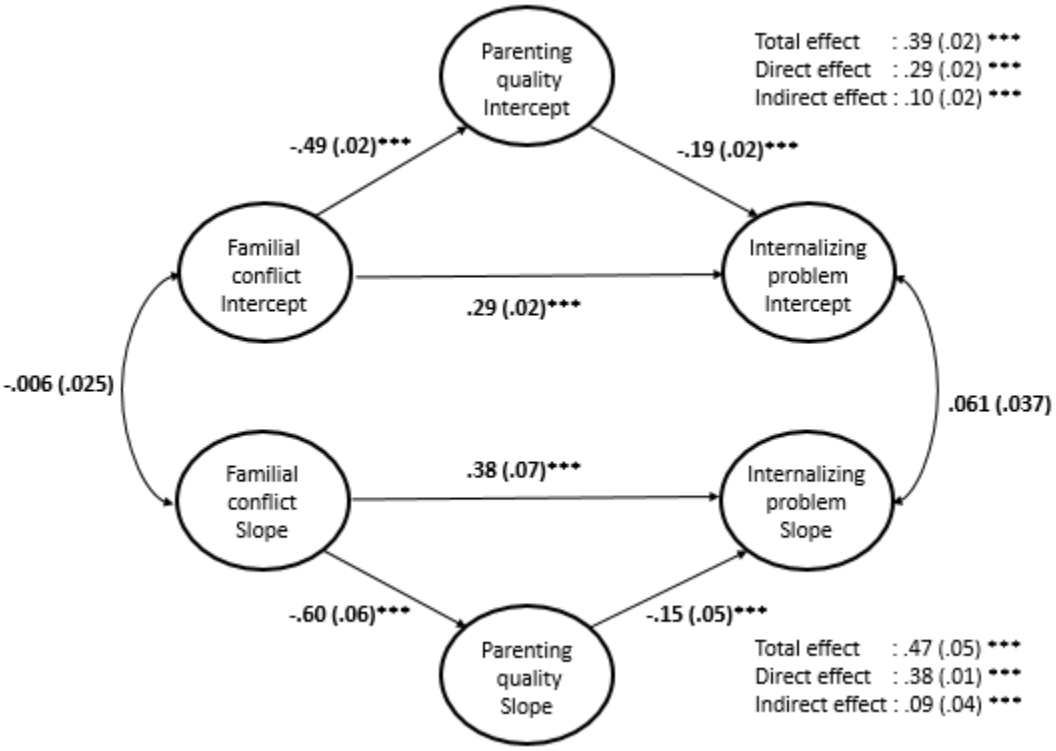
Figure 39. Mediational Model of Parenting Quality on the Associations between Familial Conflict and Externalizing Problems.

Mediating effect of parenting quality on the associations between familial conflict and internalizing problems.

The mediational model resulted in a good model fit, χ^2 (155) = 3288.464, p < .0001, CFI = .87, TLI = .87, RMSEA =.057 (90% CI, .055–.058). The association between the intercept of familial conflict and the intercept of internalizing problems was mediated through the intercept of parenting quality (*indirect effect* = .09, p <.001), suggesting the level of familial conflict lowers the level of parenting quality, which, then leads to the higher level of internalizing problems. The intercept of familial conflict also directly influenced the intercept of internalizing

problems (*direct effect* = .29, p <.001), suggesting that the level of direct exposure to familial conflict leads to the higher level of internalizing problems.

Further, the association between the slope of familial conflict and the slope of internalizing problems was mediated through the slope of parenting quality (*indirect effect* = .09, p <.001), suggesting the increase of familial conflict results in the decrease in parenting quality, which, then leads to the increase in internalizing problems. The slope of familial conflict directly influenced the slope of internalizing problems (*direct effect* = .38, p <.001), suggesting that the increase in direct exposure to familial conflict leads to the increase in internalizing problems. (See Figure 40)



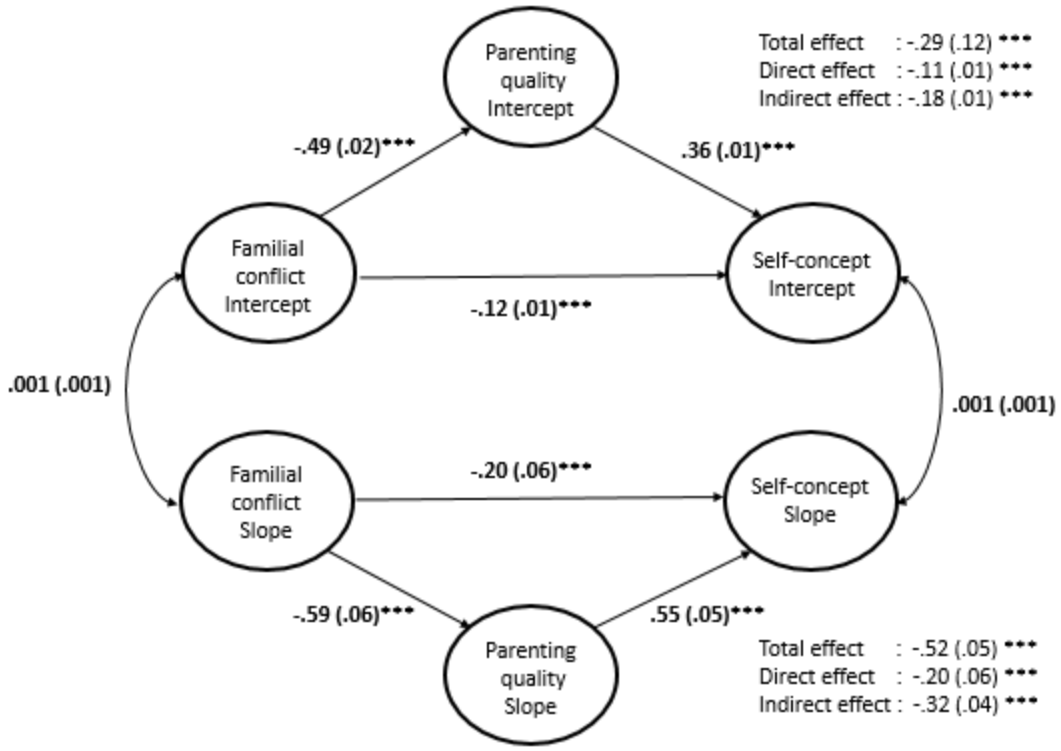
Note: *p <.05. **p <.01 ***p <.001.

Figure 40. Mediational Model of Parenting Quality on the Associations between Familial Conflict and Internalizing Problems.

Mediating effect of parenting quality on the associations between familial conflict and self-concept.

The mediational model resulted in a good model fit, χ^2 (170) = 1745.160, $p < .0001$, CFI = .94, TLI = .94, RMSEA =.038 (90% CI, .037–.040). The association between the intercept of familial conflict and the intercept of self-concept was mediated through the intercept of parenting quality (*indirect effect* = -.18, $p < .001$), suggesting the level of familial conflict lowers the level of parenting quality, which, then leads to the lower level of self-concept. The intercept of familial conflict also directly influenced the intercept of self-concept (*direct effect* = -.11, $p < .001$), suggesting that the level of direct exposure to familial conflict leads to the lower level of self-concept.

Further, the association between the slope of familial conflict and the slope of self-concept was mediated through the slope of parenting quality (*indirect effect* = -.32, $p < .001$), suggesting the increase in familial conflict results in the decrease in parenting quality, which, then leads to the decrease in self-concept. The slope of familial conflict directly influenced the slope of self-concept (*direct effect* = -.20, $p < .001$), suggesting that the increase in direct exposure to familial conflict leads to the decrease in self-concept. (See Figure 41)



Note: **p* <.05. ***p* <.01 ****p* <.001.

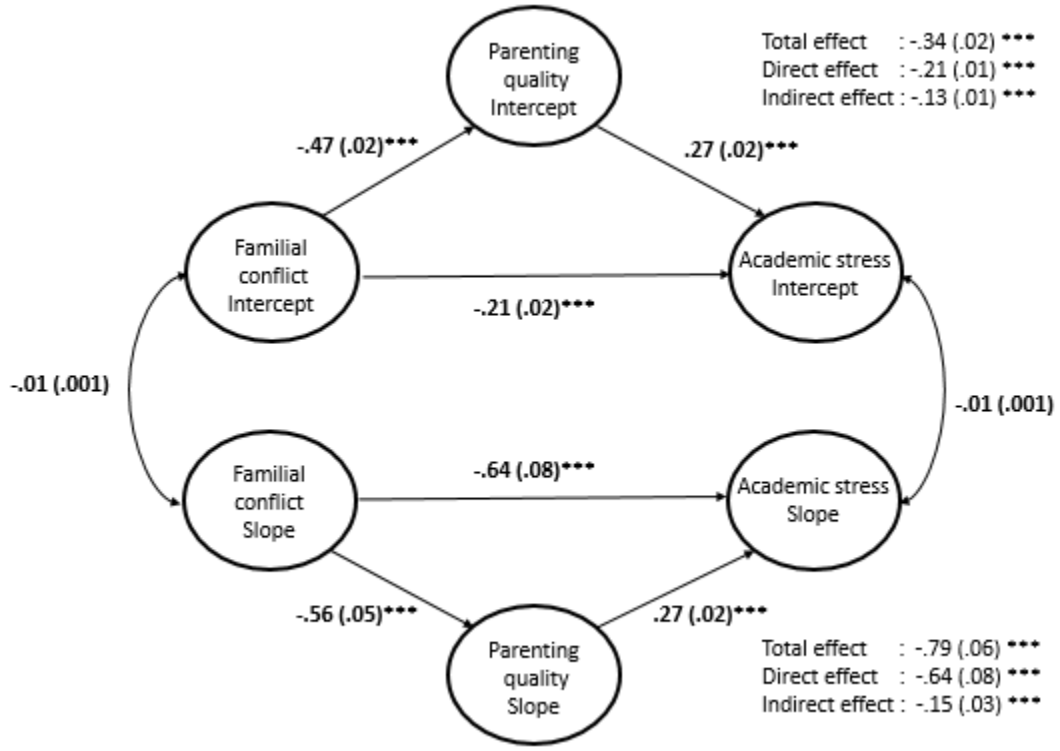
Figure 41. Mediational Model of Parenting Quality on the Associations between Familial Conflict and Self-concept.

Mediating effect of parenting quality on the associations between familial conflict and academic stress.

The mediational model resulted in a good model fit, χ^2 (170) = 2050.357, $p < .0001$, CFI = .93, TLI = .93, RMSEA =.042 (90% CI, .040–.044). Note, again, that higher scores on the academic stress factor indicates lower level of academic stress and lower scores on this factor indicates higher level of academic stress. The association between the intercept of familial conflict and the intercept of academic stress was mediated through the intercept of parenting quality (*indirect effect* = -.13, $p < .001$), suggesting the level of familial conflict lowers the level of parenting quality, which, then leads to the higher level of academic stress. The intercept of

familial conflict also directly influenced the intercept of academic stress (*direct effect* = -.21, *p* <.001), suggesting that the level of direct exposure to familial conflict leads to the higher level of academic stress.

Further, the association between the slope of familial conflict and the slope of academic stress was mediated through the slope of parenting quality (*indirect effect* = -.15, *p* <.001), suggesting the increase in familial conflict results in the decrease in parenting quality, which, then, leads to the increase in academic stress. The slope of familial conflict directly influenced the slope of academic stress (*direct effect* = -.64, *p* <.001), suggesting that the increase in direct exposure to familial conflict leads to the increase in academic stress. (See Figure 42)



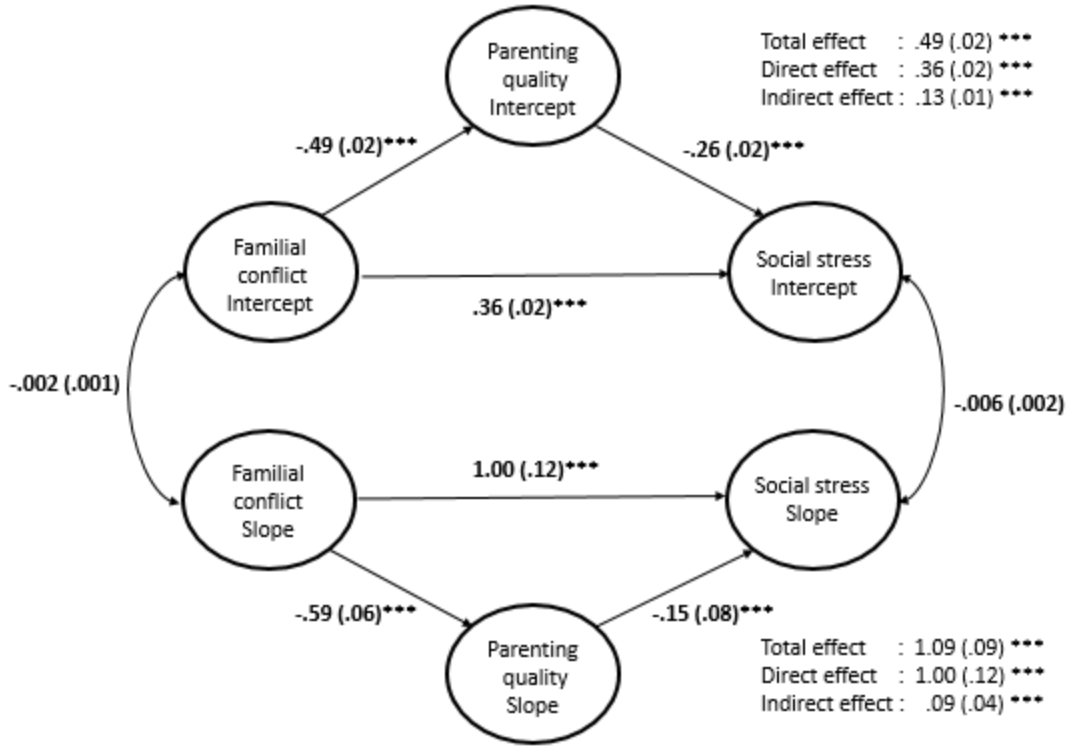
Note: *p <.05. **p <.01 ***p <.001.

Figure 42. Mediational Model of Parenting Quality on the Associations between Familial Conflict and Academic Stress.

Mediating effect of parenting quality on the associations between familial conflict and social stress.

The mediational model resulted in a good model fit, χ^2 (170) = 1426.483, $p < .0001$, CFI = .95, TLI = .95, RMSEA =.034 (90% CI, .033–.036). The association between the intercept of familial conflict and the intercept of social stress was mediated through the intercept of parenting quality (*indirect effect* = .13, $p < .001$), suggesting the level of familial conflict lowers the level of parenting quality, which, then, leads to the higher level of social stress. The intercept of familial conflict also directly influenced the intercept of social stress (*direct effect* = .36, $p < .001$), suggesting that the level of direct exposure to familial conflict leads to the higher level of social stress.

Further, the association between the slope of familial conflict and the slope of social stress was mediated through the slope of parenting quality (*indirect effect* = .09, $p < .001$), suggesting the increase of familial conflict results in the decrease in parenting quality, which, then, leads to the increase in social stress. The slope of familial conflict directly influenced the slope of social stress (*direct effect* = 1.00, $p < .001$), suggesting that the increase in direct exposure to familial conflict leads to the increase in social stress. (See Figure 43)



Note: *p <.05. **p <.01 ***p <.001.

Figure 43. Mediational Model of Parenting Quality on the Associations between Familial Conflict and Social Stress.

Discussion

This dissertation aimed to enhance the understanding of family functioning and adolescent outcomes in divorced families, while disentangling selection effects (the effect of preexisting conditions on child adjustment) from divorce-specific effects (the effects of divorce on child adjustment, while controlling for preexisting conditions) within its longitudinal framework. Overall, divorce is associated with lower levels of family functioning and adolescent outcomes. Specifically, selection effects were found for parenting quality, familial conflict, externalizing problems, internalizing problems, self-concept, and social stress, meaning adolescents in divorced group experienced diminished family functioning and behavioral and emotional

difficulties at the beginning of data collection. However, divorce specific effects were found for familial conflict and academic stress, suggesting that adolescents in divorced families experienced a steeper decrease in familial conflict and academic stress.

This study also aimed to examine how areas of family functioning were associated with various domains of adolescent outcomes. Consistently, the levels and changes of familial conflict were related to the levels and changes of externalizing problems, internalizing problems, self-concept, academic stress and social stress. In addition, the levels and changes of parenting quality were related to the levels and changes of externalizing problems, internalizing problems, self-concept, academic stress and social stress. Further, the study explored the possibility that family functioning was differently associated with adolescent outcome, depending on group membership (ever-divorced vs. non-divorced). With select adolescent outcomes, stronger associations between family functioning and adolescent outcomes were held for the non-divorced group.

The study also explored which mechanisms might be driving the associations within a sample of South Korean youth. Consistently, familial conflict led to more externalizing problems, internalizing problems, academic stress, and social stress by direct exposure to familial conflict (i.e., direct effect) and through disrupted parenting (i.e. indirect effect). Further, direct effects of familial conflict consistently exerted more influence on adolescent outcomes (i.e, externalizing problems, internalizing problems, academic stress and social stress), than did indirect effects.

Compared to numerous studies in these domains (i.e. family functioning or adolescent outcomes) of adjustment of divorced families in English-speaking countries, research that employs a longitudinal study of family functioning and adolescent outcomes in divorced families in non-English-speaking countries is remarkably scarce. As such, this dissertation also aimed to

offer comprehensive and nuanced pictures of adolescents' adjustment to parental divorce by comparing adolescents from divorced and continuously-married families in South Korea. A couple of culture-specific findings in this study includes 1) divorced families experience more familial conflict, yet, divorce seems to reduce familial conflict over time in South Korea (divorce-specific effect); 2) Adolescents who did NOT experience parental divorce felt that their pressure toward academic achievement accelerated more rapidly over time, than those who ever experienced parental divorce, while no overall difference in the level of academic stress was found.

All of these aims were addressed, verifying latent factors of family functioning and adolescent outcomes using exploratory structural equation modeling and running various latent growth curve models against a nationally representative sample of 5,578 South Korean youth, who were followed annually across five years.

Family functioning as a function of group memberships.

There was consistent support for the hypothesis that family functioning (i.e. familial conflict and parenting quality) will vary depending on the group memberships (i.e. non-divorced, divorced-prior, divorce during). First, adolescents who ever experienced parental divorce reported higher levels of familial conflict and lower levels of parenting quality than adolescents who never experienced parental divorce. However, the adolescents of divorced parents also experienced the steeper decrease in the level of familial conflict over time than their counter parts, while no difference was found between the adolescents in terms of changes in parenting quality. Together, these findings suggested selection effects for parenting quality; Both selection and divorce-specific effects were indicated for familial conflict.

The higher level of familial conflict and diminished effective parenting in divorced families, compared to non-divorce families, are in line with previous literature (Chung & Emery, 2010; Hetherington, 1999; Kelly & Emery, 2003; Yi, Yi, & Min, 2006). The selection effect for quality of parenting is consistent with findings that parenting problems often pre-existed, even before divorce (Shaw, Emery, & Tuer, 1993); however, the fact that there was no further divorce specific effect on parenting quality suggests that the stresses and challenges posed by divorce do not exacerbate parenting difficulties over time, above and beyond the initial level of parenting difficulties. Interestingly, in spite of the overall higher level of familial conflict in the divorced group (selection effect), divorce seems to reduce familial conflict over time in South Korea (divorce-specific effect).

Typically interparental conflict ends in two different ways among divorced parents. Divorced parents can resolve the conflict by renegotiating and transforming their relationship, while containing their own intra-individual issues (i.e. anger toward the former spouse). Otherwise, they can resolve the conflict by truly ending their relationship by simply disengaging from each other. Both approaches may have some costs (e.g., greater ambiguity for parents who try to adjust to a new role as a co-parent or further dropping out of an expartner's – and the children's lives following divorce), but both approaches also may have the benefit of exposing children to reduced interparental conflict (Shim, Rowen, & Emery, 2012). Although changing slowly, currently, limited co-parenting practices or joint custody arrangements occur in Korea to date. Thus, getting a divorce is likely to end or at least reduce a child's exposure to interparental conflict per se by one parent dropping out of the life of their children.

Additionally, gender effects were suggested, in that girls perceived higher levels of parenting quality than boys while boys experienced higher levels of familial conflict. No

differences were found in the rate of changes by gender for both familial conflict and parenting quality.

Adolescent outcomes as a function of group memberships.

There was consistent support for the hypothesis that adolescent outcomes (i.e. externalizing problems or internalizing problems) will vary depending on the group memberships (i.e. non-divorced, divorced-prior, divorce during). First, adolescents who ever experienced parental divorce reported higher levels of externalizing problems, internalizing problems, and social stress, as well as lower level of self-concept than adolescents who never experienced parental divorce. These higher overall adjustment problems in the divorced group resonate with earlier research findings (Allison & Furstenberg, 1989; Amato, 2001; Amato & Keith, 1991; Chung & Emery, 2010; Hetherington, 1999; Kim, 1993; Yi, Yi, & Min, 2006).

Contrary to the higher overall adjustment difficulties experienced in divorced adolescents, no differences were found between the adolescents in terms of changes in externalizing problems, internalizing problems, and self-concept. Together, only selection effects were suggested for externalizing problems, internalizing problems, and self-concept, which is consistent with earlier studies (Cherlin et al., 1998; Lansford et al., 2006; Storkesen et al., 2006), yet these results were inconsistent with a study that showed worsening anxiety symptoms in divorced children ages 4 to 7 (Strohschein, 2006). This inconsistent finding might be attributed to age differences in the samples of studies, as this study used a sample of adolescents ranging from 10 to14 years old. Taken together, divorce does not seem to exacerbate externalizing problems, internalizing problem, or the issue of weak sense of self-concept over a five year time-span in early to late adolescents.

Both selection and divorce-specific effects were indicated for social stress. Adolescents who experienced parental divorce during the data collection period reported higher levels of social stress and a steeper increase in the level of social stress than adolescents who did not experience parental divorce during the same period. Particularly, the effect of the timing of when a parental divorce took place, even though it is not as precisely measured as the time since divorce, warrants further discussion. This divorce specific effect only for the adolescents who experienced divorce during the time period when data was collected, reflects that the adjustment to divorce is on-going and has unfolding aspects of family processes. This unfolding and dynamic aspect of adjustment highlights the importance of a longitudinal study with multiple assessments, in order to understand nuanced adjustment and transitioning processes in divorced adolescents. Further, the fact that, unlike externalizing or internalizing problems, only social stress is sensitive to the timing of divorce lends support to the notion that consequences of divorce should also be understood with a distress perspective (i.e. stress or emotional pain), not just with disorder perspective (i.e. externalizing or internalizing problems).

More importantly, academic stress showed very intriguing and different pictures from the rest of the adolescent outcome variables. While NO difference in the overall levels of perceived academic stress was detected between the divorced group and non-divorced group, adolescents who did NOT experience parental divorce felt that their pressure toward academic achievement accelerated more rapidly over time than those who ever experienced parental divorce. In Korea, academic excellence and achievement is given the utmost importance in the students' life, particularly during the high school years. The competition for admission into a prestigious university is vehemently heated and begins very early on - from the elementary school years - because admission into a highly ranked university is not only expected to be the ticket to a great

career, but it also brings honor to the family (Jeong, 2010; Park & Kim, 2006). This unique failure to find a difference in academic stress across groups can be explained by the societal values and expectations held by all of the adolescents and their parents, regardless of the marital status of the parents. Further, the greater academic pressure felt in NON-divorced group can be the adolescents' reaction to higher parental expectations and investments in their childrens' academic-achievement related expenses (i.e. private tutoring in multiple subjects on a regular basis), as divorced families tend to face the added stress of adjusting to divorce, and managing life with tighter budgets.

Additionally, gender effects were suggested, such that boys exhibited higher levels of externalizing problems, held stronger levels of self-concept, and felt higher levels of academic stress than girls; however, girls experienced higher levels of internalizing problems and social stress than boys. Gender also played a role in the differences in the change of internalizing problems, where girls experienced a steeper increase in internalizing problems over time, while the boys' level of internalizing problems remained stagnant over time. Some of these findings are in line with previous reporting the gender differences in experiencing different levels and/or changes of externalizing and internalizing problems (Nagin & Tremblay, 1999; Scaramella, Cogner, & Simons, 1999; Sterba, Prinstein & Cox, 2007)

Associations between family functioning and adolescent outcomes, as well as the differences in the associations by group membership.

Associations between family functioning and adolescent outcomes with the combined group

There was consistent support for the hypothesis that family functioning would be associated with various adolescent outcomes. First, the level of familial conflict was related to the levels of externalizing problems, internalizing problems, self-concept, academic stress and

social stress. Adolescents who experienced and were exposed to a high level of familial conflict exhibited high levels of externalizing problems and internalizing problems, felt greater levels of academic and social stress, and felt weaker levels of self-concept, than adolescents who did not experience high levels of familial conflict. These results are in line with an extensive literature that robustly shows the detrimental effects of interparental conflict on child functioning (Amato & Keith, 1991; Cumming & Davies, 2010; Dadds et al., 1999; Emery, 1982; Harden et al., 2007; Johnston, Gonzales, & Campbell, 1987; Laumann-Billings & Emery, 2000).

Second, the change of familial conflict was related to the change of externalizing problems, internalizing problems, self-concept, academic stress and social stress. Adolescents who experienced and were exposed to greater increases in familial conflict over time exhibited faster increases in externalizing problems and internalizing problems, felt steeper increases in academic and social stress, and felt steeper decreases in self-concept, than adolescents who did not experience high levels of familial conflict. These findings bear significant importance in two ways. First, they contribute to the existing literature on how changes in familial conflict are associated with changes in various adolescent outcomes. Second, although the data presented in this study are correlational in nature, these findings are strengthened by using methodologically rigorous models with a longitudinal dataset. In family research, where implementing an experimental research design is very difficult, causal inferences can only be drawn using a quasi-causal experimental design (i.e. behavior genetics studies using twins) or intervention studies which examine the treatment effects of an intervention on targeted outcomes (Emery, 1999). In addition to these two types of studies that enable causal inferences of the relationships of interest, controlled longitudinal designs are one of best alternatives to capture a complete picture of adjustment processes and the intervention effects of intended programs within and across

individuals and families/groups. Using this longitudinal approach, this study showed that changes in familial conflict were consistently associated with changes in all of the outcome variables.

However, opposite pictures consistently emerged in the associations between parenting quality and adolescent outcomes. First, the levels of parenting quality were related to the levels of externalizing problems, internalizing problems, self-concept, academic stress and social stress. Adolescents who perceived their parental parenting as positive exhibited lower levels of externalizing problems and internalizing problems, felt lower levels of academic and social stress, and felt stronger sense of self-concept than adolescents who did NOT perceive their parental parenting as positive. These findings are, again, consistent with an extensive literature regarding the positive impact of authoritative parenting on various child outcomes (Cummings & Davies, 2010; Grych, 2005; Hetherington, 1999).

A second finding regarding parental quality and adolescent outcomes was the change of parenting quality was related to the changes of externalizing problems, internalizing problems, self-concept, academic stress and social stress. Adolescents who perceived their parental parenting as positive over time exhibited faster decreases in externalizing problems and internalizing problems, felt steeper decreases in academic and social stress, and felt steeper increases in self-concept, than adolescents who did NOT perceive their parental parenting as positive. As discussed above, the consistent effects of changes in parenting quality on various child outcomes bear significant importance methodologically and substantively in family research.

Exploration of the differences in the associations between family functioning and adolescent outcomes by group membership.

Further, there was also some support for the hypothesis that the associations between family functioning and child outcomes would vary depending on group membership. Out of ten multi-group models that tested the significance of the differences in associations between family functioning and adolescent outcomes, four models showed that either familial conflict or parenting quality was differently associated with various adolescent outcomes. First, adolescents who did NOT experience parental divorce perceived that experiencing or being exposed to familial conflict influenced their sense of self-concept more negatively than adolescents who ever experienced parental divorce.

While divorce may be an ending to the conflict for some families, conflict begins for some families at separation, and can endure during and even long after divorce (Emery, 1994). The familial conflict in this study reflects adolescents witnessing intense interparental conflict and experiencing maltreatment themselves. Unlike in the United States where post-divorce co-parenting practices have been emphasized and have gained more ground with an increase in joint custody arrangement, co-parenting practices or joint custody arrangements in South Korea are still a foreign concept and are not really implemented well by the legal system. As such, divorce in South Korea is likely to end or at least reduce a child's exposure to interparental conflict because it ends or at least reduces the two parents exposure to each other.

Additionally, the stronger association between familial conflict and self-concept in the non-divorced group calls attention to the role of conflict on child outcomes in general, regardless

of marital status. Several lines of research have studied the issues of ongoing conflict on child adjustment. First, children from divorced, but conflict-free homes have fewer behavior problems than children from continuously married but conflictual families (Forehand et al, 1994). Second, children from high-conflict divorces have more adjustment problems than those from low-conflict divorces (Forehand, McCombs, Long, & Brody, 1988: Shaw & Emery, 1987). Third, child adjustment improves in families in which conflict decreases within the first year following divorce (Kitzman & Emery, 1994). Fourth, children fare better after divorce if the marriage was high in conflict; however, they do worse if the marriage was low in conflict (Amato & Booth, 2001).

Related to parenting, adolescents who did NOT experience parental divorce showed that receiving positive parenting consistently reduced their externalizing problems and alleviated their academic stress or social stress more strongly than adolescents who ever experienced parental divorce. Although research examining these group differences in associations between parenting quality and adolescent outcome is lacking, one study showed that (change in) family functioning is associated with other aspects of family functioning, such as the non-resident parent's having more contact, and child outcomes, such as externalizing behaviors and internalizing symptoms. These patterns of associations were predominantly present in families who, upon filing for a divorce, were given mediation toward renegotiating family relationships, and these associations were not found in families who proceeded on to litigation upon divorce (Shim, Rowen, & Emery, 2012). Based on Family System theory (Munichin, 1985) which posits reciprocity influences within and between family subsystems and areas of functioning and outcomes, the researchers interpreted that the stronger associations in mediated families suggests that mediation helped those families continue to operate and function as a family system.

Although this study compares the differences between the associations across non-divorced vs. divorced adolescents, non-divorced families seem to operate more like mediated families who preserved a model of working as a system, than did the divorced families. Obviously, more evidence from empirical studies should be gathered, in order to draw conclusive and cogent conclusions regarding this speculation.

Parenting quality as a mediator

There was consistent support for the hypothesis that the associations between familial conflict and adolescent outcomes were mediated through parenting quality. Both the level and change of familial conflict indirectly influenced the level of changes of all adolescent outcome of this study through the level and change of parenting quality. First, the level of familial conflict lowered the level of parenting quality, which, then led to higher levels of externalizing problems, internalizing problems, academic stress and social stress, as well as to a weaker sense of self-concept. Second, the increase of familial conflict resulted in the decrease in parenting quality, which, then, led to the increase in externalizing problems, internalizing problems, academic stress, and in social stress, as well as to the decrease in the sense of self-concept.

At the same time, experiencing and being exposed to familial conflict also directly impacts all five adolescent outcomes being discussed. First, the level of direct exposure to familial conflict led to higher levels of externalizing problems, internalizing problems, academic stress and social stress, as well as to a weaker sense of self-concept. Second, the increase in direct exposure to familial conflict led to the increase in externalizing problems, internalizing problems, academic stress, and in social stress, as well as to the decrease in the sense of self-concept.

Previous studies have shown, robustly, two major pathways by which children are affected by interparental conflict. Specifically, interparental conflict itself has both direct effects and indirect effects through its disruption of parenting and subsequent harming of parent-child relationships (Cummings & Davies, 2010; Grych, 2005). Although the concept of familial conflict in this study includes adolescents experiencing maltreatment, as well as witnessing interparental conflict, this study strongly suggests that experiencing familial conflict is detrimental to various areas of child outcomes by direct exposure to familial conflict or through disrupted parenting (i.e. emotionally less available and lack of discipline) and ruptured parent-child relationships.

Further, this study extends previous findings in two ways. First, direct effects of familial conflict consistently exert more influence on adolescent outcomes (i.e, externalizing problems, internalizing problems, academic stress and social stress), than indirect effects. The effect sizes for the direct effects in this study were shown to be 3 to 10 times more than the effect sizes for indirect effects. In fact, children report that observing their parents fight is one of most distressing aspects of divorce (Grych & Fincham, 1990). Furthermore, conflict in the presence of children is more closely linked to their adjustment than conflict occurring in their absence (Hetherington, Cox, & Cox, 1982).

Second, the study also showed that the increase or decrease in familial conflict, not just the level of familial conflict, leads to better or worse child outcomes through both direct and indirect pathways.

This line of research has particular implications for the development of interventions for divorced families. Empirically identified pathways (i.e., direct exposure to conflict or indirect exposure through disrupted parenting) can guide the design and implementation of these

interventions, as modifying these pathways is hypothesized to protect and promote family functioning and children's adjustment and resilience (Grych, 2005). As such, the findings in this study indicate that interventions should include or focus on reduction in familial conflict (i.e. minimizing children's witnessing parental conflict), when it comes to targeting adolescents' internalizing symptoms, externalizing problems, and academic or social stress.

Contemplation of cultural similarities and differences through research findings

Broadly speaking, the risks and negative effects posed by divorce are consistently supported in this present study. There are, however, a few culture-specific divorce-related family functioning and child outcome findings in this study. First, unlike previous Korean studies which did not show the link between externalizing problems and divorce, this current study showed that divorce is a risk factor for both internalizing and externalizing problems in a Korean sample. This inconsistent finding (i.e. association between externalizing problem and divorce) might be attributed to differences in the research designs across the various studies. Most of the Korean divorce studies used a cross-sectional design. Additionally, externalizing problems are often not extensively studied, possibly due to the cultural emphasis on behavioral inhibition and self-discipline. The Korean studies also often used a single measure to assess aggressive behaviors or externalizing problems. This current study addresses all of these methodological weaknesses by using latent factors of the level and slope of externalizing problems in a longitudinal framework.

Second, another culture specific finding is that divorced families experienced more familial conflict, yet, divorce seems to reduce familial conflict over time in South Korea (divorce-specific effect). Again, children in divorced family are less likely to witness interparental conflict or to experience abusive parenting following divorce, as one parent tends to withdraw from the life of his/her own children. How this way of reduction in familial conflict

plays out for child outcomes warrants future studies that will inform ways to promote the well-being of children in Korea.

Third, the most culturally relevant findings in adolescent outcomes in this study are the levels and changes of academic stress experienced depending on group membership. Adolescents who did NOT experience parental divorce felt that their pressure toward academic achievement accelerated more rapidly over time than those who ever experienced parental divorce, while no difference in the level of academic stress was found. These findings reflect overall high societal pressure and expectations for high academic achievement in Korea, which, in turn, become internalized as belief of and attitude toward academic success and achievement. Yet, those adolescents whose parents are married seem to feel pressured more about their academic performance per se and also to feel worried that they might not live up to their parental expectation upon entering a university, than their peers from non-divorced families.

Limitations and Conclusions

Although the present study provides many new findings regarding family functioning and adolescent outcomes in divorced families, these findings should be considered in light of several limitations. First, it is important to note that the data presented in this study are still correlational in nature. Although analyses were conducted in the context of a longitudinal design, causal mechanisms cannot be inferred between family functioning and adolescent outcomes. Second, though this study used nationally representative, longitudinal data, aspects of family functioning and adolescent outcomes were reported by adolescent themselves. This inherently invites the possibility that youth may have biased their responses to these measures in a positive direction. It is difficult to tell how the research findings would be different if multiple reporters provided information on family functioning and adolescent outcomes. However, having information from

multiple informants would reduce reporter bias and strengthen the credibility of the research findings in general. Third, the current research is relatively weak at addressing other culture-specific family processes such as living arrangements and the effect of remarriage on child outcomes. For example, Chung and Emery (2008) showed that, in South Korea, father custody is more common, contact with the nonresidential parent is less, remarriage may be more beneficial as remarried families join the two-parent structure to avoid the stigma of divorce in Korea. It will be important to study how these different family processes are associated with child outcomes, and to use this different cultural context to provide an interesting window into U.S. findings.

This dissertation aimed to provide a comprehensive understanding of disentangling selection effects from divorce-specific effects in family functioning and adolescent outcomes in divorced families within its longitudinal framework. In that regard, it was highly successful. Family functioning and child outcomes have selection effects and/or divorce specific effects, which also offer interesting culturally relevant divorce related phenomenon. The next step, therefore, will be to find a model that addresses bidirectional transactions between family functioning and between child outcomes. One promising option is to use a cross-lagged panel design that tests the directionality between variables of family functioning and child outcomes. In doing so, causal inferences between the variables could be drawn. Additionally, multiple informants, such as the teacher and parents of adolescents, would greatly reduce reporter bias. Further, exploring understudied areas of family functioning (i.e. living arrangement and the effect of remarriage) would offer a unique perspective on the cultural influence on family processes and child outcomes in divorced families.

Divorce has become a more widespread phenomenon in Korea, which poses risks and challenges to the families who experience one of the most difficult transitions that affects every

aspect of their lives. Given the increasing number of children and families who are affected by divorce, it is important to understand the comprehensive and unfolding adjustment processes of divorced families. Particularly, research emphasis should be placed on using controlled longitudinal designs with multiple informants in order to elucidate family processes and child outcomes. Changes in functioning and outcomes in divorced families emerge over time and can be latent, and parents' and children's perspectives on their own adjustment might not coincide with each other. Only controlled longitudinal designs can capture a complete picture of these adjustment processes and of the intervention effects of intended programs within and across individuals and families/groups. These theory-based and methodologically rigorous intervention studies are capable of informing basic research about family processes by determining whether changes in theorized mediating variables actually lead to changes in child outcomes.

This dissertation is the largest study of divorce and children's well-being ever conducted in South Korea. The primary findings include a) divorce is associated with lower levels of parenting quality and higher levels of familial conflict. However, familial conflict tends to decline over time, given limited joint child custody arrangements and limited opportunities to co-parent; b) divorce is also associated with more behavioral and emotional difficulties, yet, these difficulties do not become exacerbated over time; c) the levels and changes of family functioning (i.e. familial conflict and parenting quality) are consistently associated with the levels and changes of adolescent outcome. More specifically, stronger relationships between familial conflict and parenting quality are found for the non-divorced group. The levels and changes of familial conflict directly and indirectly influence the levels and changes of various adolescent outcomes. Overall, the effect sizes for this direct influence of familial conflict on adolescent outcomes are 3 to 10 times larger than the effects sizes for indirect effects.

Overall, the findings from this study suggest that selection effects are more evident than divorce-specific effects in family functioning and adolescent outcomes. However, using different kinds of latent growth curve models provides a more comprehensive understanding of the ways in which family functioning is associated with adolescents outcomes and through what mechanisms. Additionally, this study extends the previous literature by exploring the possibility of group differences in the associations between family functioning and child outcomes, by comparing the effect sizes of direct and indirect pathways through which familial conflicts lead to several adolescent outcomes, and by elucidating culturally relevant phenomenon related to divorce adjustment processes.

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Appendix A

Items by individual measures

Domain		Item	Measure (Self report)
Family Functioning			
Parenting Quality	Warmth	My parents always show me love and care.	
		My parents and I understand each other.	
		My parents and I tend to talk about things a fair amount.	
		I often talk to my parents about my thoughts and things that happen outside of the home.	
		My parents and I often make conversation.	
	Monitoring	My parents usually know my whereabouts.	
		My parents usually know who I am with.	
		My parents usually know what I do.	
		My parents usually know when I return.	
Family Conflict	Interparental conflict	I've often seen my parents using curse words with each other.	
		I've often seen my parent beating my other parent.	
	Adolescent abuse	It is pretty often that I get sworn at by parent(s).	
		I've been beaten pretty badly by my parent(s).	
Child Functioning			
School Adjustment		Pressure from my parents regarding my school achievements feels unbearable to me.	
		I could advance to a university or find myself a job up to my parental expectation.	
		I have a lot on my mind because of my schoolwork.	
		I don't have interest in my schoolwork, and cannot catch up despite trying.	
		I can talk to my teacher about things.	
		My teacher shows me concern and care.	
		I want to grow up to be like my teacher.	
		I often feel lonely at school.	
		I get along with friends at school.	
		I value my reputation among my friends at school.	

		I'm not in good health.
Externalizing Problems	Off-line externalizing behaviors	Have you jaywalked in the past year?
		Have you hopped on a vehicle without paying for it in the past year?
		Have you yelled at and defied your teacher in the past year?
		Have you cheated on tests at school in the past year?
		Have you misused money for school supplies or materials in the past year?
		Have you watched pornography in the past year?
		Have you played hooky in the past year?
		Have you bulled friends at school in the past year?
		Have you mocked or humiliated others in the past year?
		Have you threatened others in the past year?
		Have you drunk alcohol in the past year?
		Have you smoked in the past year?
		Have you beaten up someone in the past year?
		Have you taken someone's money or belongings in the past year?
		Have you stolen someone’s money or belongings in the past year?
		Have you run away from home in the past year?
		Have you had a sex in the past year?
		Have you gotten involved in a gang fight in the past year?
		Have you assaulted or harassed someone sexually in the past year?
		Have you gotten involved in paid sexual relationship(s) in the past year?
	on-line externalizing behaviors	Have you purposely transported false information on line in the past one year?
		Have you downloaded and used illegal software in the past year?
		Have you used someone's ID or identity in the past year?
		Have you lied about your gender or age when chatting on line in the past year?
		Have you used obscene or violent language on websites in the past year?
		Have you hacked someone's ID or websites in the past one year?

Internalizing problems	Anxiety	I worry about everything.
		Sometimes, I feel very anxious without a knowing why.
	Depression	I have little interest in much of anything.
		Sometimes, I feel very lonely without knowing why.
		Sometimes, I feel very sad and depressed without knowing why.
		Sometime, I feel suicidal without knowing why.
Emotion Regulation		I hit others to express my anger.
		If someone hits me, I hit the person back.
		I get into fights more often than the people around me.
		I have impulses to throw things away when I get upset.
		Sometimes I cannot stop the urge to hit someone.
		I feel like a bomb on the verge of exploding
		I feel like everything is going to be okay even when I am troubled.
		I try to let go of upsetting feelings.
		I try to calm myself down when feeling upset.
Perceived Stress		I get stressed out due to parental pressure regarding my school performance.
		Disagreement between my parents and me stresses me out.
		My parents' control over me stresses me out.
		Not being able to communicate with my parents stress me out.
		My poor school performance stresses me out.
		Assignments or tests stress me out.
		Boring schoolwork stresses me out.
		Getting bullied by friends stresses me out.
		Lack of approval from friends stresses me out.
		I worry about seeming inferior to my friends.
		I worry about being overweight or underweight.
		I worry about being too tall or too short.
		I worry about my appearance.
		Not being able to wear fashionable clothing stresses me out.
		My small allowance stresses me out.

		Not being about to have the things that I want stresses me out.
Self-concept	Self-view by self	I think of myself as a good-natured person.
		I think of myself as a capable person.
		I think of myself as a valuable person.
		Sometimes, I feel useless.
		Sometimes, I feel like a bad person.
		Overall, I feel like a failure.
		I think of myself as a troubled person.
		I think of myself as a delinquent youth.
	Self-view by others	People around me consider me a troubled person.
		People around me consider label me as a delinquent youth.
		People around me will heavily criticize me if I do something bad.
		People around me will humiliate me if I do something bad.
Self-Control		I tend to do the things that I want to do first, even if there is a test tomorrow.
		I give up easily when things get difficult and/or complicated.
		I tend to enjoy risky activities.
		I find joy in teasing or bullying other people.
		I tend to go blind if I lose temper.
		I tend not to finish class assignments on time.
Self-Efficacy		I can trust decision I make.
		I believe that I can solve my problems on my own.
		I live my life in my own way.

Appendix B

Factors	Subscales	Loadings	Individual Items
Familial conflict	Interparental conflict	*.72*	I've often seen my parents using curse words with each other.
			I've often seen my parent beating my other parent.
	Adolescent abuse	*.57*	It is pretty often that I get sworn at by parent(s).
			I've been beaten pretty badly by my parent(s).
Parenting quality	Warmth	*.76*	My parents always show me love and care.
			My parents and I understand each other.
			My parents and I tend to talk about things a fair amount.
			I often talk to my parents about my thoughts and things that happen outside of the home.
			My parents and I often make conversation.
	Monitoring	*.74*	My parents usually know my whereabouts.
			My parents usually know who I am with.
			My parents usually know what I do.
			My parents usually know when I return.
Externalising problems	Off-line externalizing behaviors	.89	Have you jaywalked in the past year?
			Have you hopped on a vehicle without paying for it in the past year?
			Have you yelled at and defied your teacher in the past year?
			Have you cheated on tests at school in the past year?
			Have you misused money for school supplies or materials in the past year?
			Have you watched pornography in the past year?
			Have you played hooky in the past year?
			Have you bulled friends at school in the past year?
			Have you mocked or humiliated others in the past year?
			Have you threatened others in the past year?
			Have you drunk alcohol in the past year?
			Have you smoked in the past year?
			Have you beaten up someone in the past year?
			Have you taken someone's money or belongings in the past year?
			Have you stolen someone's money or belongings in the past year?
			Have you run away from home in the past year?
			Have you had a sex in the past year?

			Have you gotten involved in a gang fight in the past year?
			Have you assaulted or harassed someone sexually in the past year?
			Have you gotten involved in paid sexual relationship(s) in the past year?
	on-line externalizing behaviors	.34	Have you purposely transported false information on line in the past one year?
			Have you downloaded and used illegal software in the past year?
			Have you used someone's ID or identity in the past year?
			Have you lied about your gender or age when chatting on line in the past year?
			Have you used obscene or violent language on websites in the past year?
			Have you hacked someone's ID or websites in the past one year?
	Self-Control	.25	I tend to do the things that I want to do first, even if there is a test tomorrow.
			I give up easily when things get difficult and/or complicated.
			I tend to enjoy risky activities.
			I find joy in teasing or bullying other people.
			I tend to go blind if I lose temper.
			I tend not to finish class assignments on time.
Internalizing problems	Anxiety	.78	I worry about everything.
			Sometimes, I feel very anxious without a knowing why.
	Depression	.73	I have little interest in much of anything.
			Sometimes, I feel very lonely without knowing why.
			Sometimes, I feel very sad and depressed without knowing why.
			Sometime, I feel suicidal without knowing why.
Self concept	Self-view by self	.41	I think of myself as a good-natured person.
			I think of myself as a capable person.
			I think of myself as a valuable person.
			Sometimes, I feel useless.
			Sometimes, I feel like a bad person.
			Overall, I feel like a failure.
			I think of myself as a troubled person.
			I think of myself as a delinquent youth.
	Self-Efficacy	.38	I can trust decision I make.
			I believe that I can solve my problems on my own.

			I live my life in my own way.
Academic stress	Stress_School *	-.67	My poor school performance stresses me out.
			Assignments or tests stress me out.
			Boring schoolwork stresses me out.
	School_adjustment_Academic *	.63	I have a lot on my mind because of my schoolwork.
			I don't have interest in my schoolwork, and cannot catch up despite trying.
	Stress_Parent *	-.44	I get stressed out due to parental pressure regarding my school performance.
			Disagreement between my parents and me stresses me out.
			My parents' control over me stresses me out.
			Not being able to communicate with my parents stress me out.
	School adjustment_Parent *	.36	Pressure from my parents regarding my school achievements feels unbearable to me.
			I could advance to a university or find myself a job up to my parental expectation.
Social stress	Stress_Material *	.80	Not being able to wear fashionable clothing stresses me out.
			My small allowance stresses me out.
	Stress_Appearance *	.80	I worry about being overweight or underweight.
			I worry about being too tall or too short.
			I worry about my appearance.
	Stress_Friend *	.53	Getting bullied by friends stresses me out.
			Lack of approval from friends stresses me out.
			I worry about seeming inferior to my friends.

Note. * subscales further created from two primary measures: School adjustment and Perceived stress.