

Exploring the Mediators Between Interparental Conflicts and Adolescents' Mental Health Problems

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Abstract

The present study examined the mediational role of parenting, adolescents' appraisals of their parents' marital conflict, and their emotional bonding with their parents in the relationship between interparental conflicts and adolescents' mental health problems. In this study, the adolescents' fathers and mothers completed scales assessing marital attributions and marital conflict coping style, which, in turn, assessed the seriousness of their marital conflict. The mothers also assessed their children's behavioral problems. The adolescents completed measures appraising interparental conflict, their emotional bonding with their parents, and their depressive symptoms. The results indicated that the more severe the interparental conflict was, the more the adolescents blamed themselves for it. Further, they also felt a weaker emotional bonding with their parents. The triadic data analysis suggested that the adolescents considered interparental conflicts as severe when the mothers exhibited withdrawal behavior, while the fathers showed aggressive behavior. With regard to emotional bonding with parents, the mothers' severe marital attribution elevated the fathers' withdrawal from conflict behavior, thereby weakening the adolescents' emotional bonding. However, gender differences were observed in the pathways between the mediators and the children's outcomes. The appraisal of self-blame was related to externalizing problems only for the sons. In addition, the emotional bonding with their mothers was associated only with the daughters' depressive symptoms. With respect to the role of parenting, the care component in parenting mediated the negative marital attribution and children's behavioral problems. The results are discussed in relation to the comprehensive model of the mediational hypotheses.

Key words: marital conflict, parental conflict, emotional bonding, mental health, adolescents

Introduction

Adolescence is a transitional period in which children prepare themselves to be separated from their families of origin and find their own identities. Because this is a transitional and critical period, the exposure to interparental conflicts would probably have negative effects on the adolescents' mental health and their expectations about the future (Utsunomiya, 2005). Therefore, the current study is designed to explore the mediators that would explain the relationship between interparental conflicts and adolescents' mental health problems.

The relationship between interparental conflicts and

the psychological adjustment of children has been addressed in developmental psychopathological studies (Cummings, Davies, & Campbell, 2000). Previous studies have shown the negative consequences of interparental conflicts on children with respect to externalizing problems (i.e., aggressive behavior and behavior problems) and internalizing problems (i.e., depression and anxiety) (Cummings et al., 2000). Previous studies using both school-aged children and late adolescents have constantly shown the relationship between interparental conflicts and children's negative outcomes (Amato & Afifi, 2006; Davies & Windle, 2001; Turner & Barrett, 1998). However, although the relationship appears to be robust, the process explaining the relationship is yet to be clarified. There are three

promising hypotheses accounting for the relationship: the spillover effect (Erel & Burman, 1995; Jenkins, Dunn, O'Connor, Rasbash, & Simpson, 2005), the emotional security hypothesis (Davies & Cummings, 1994), and the cognitive-contextual framework (Grych & Fincham, 1990).

The spillover effect hypothesis (Erel & Burman, 1995) emphasizes the role of parenting style as a mediator between marital conflict and children's outcomes. The negative effect of interparental conflicts is related to a parenting style that has a low positive affection and a high negative affection. It is considered that such a negative parenting style, in turn, is related to children's behavioral and psychological problems. Numerous studies are consistent with this hypothesis, such as those showing that negative interparental communication is related to negative parent-child communication (Kitzmann, 2000; Johnson, 2001) and that severe interparental conflicts are related to negative parenting behavior (e.g., lower emotional responsivity and critical discipline) (Sturge-Apple, Davies, Boker, & Cummings, 2004; Webster-Stratton & Hammond, 1999).

The emotional security hypothesis (Davies & Cummings, 1994), which is based on attachment theory, proposes that a history of exposure to interparental conflicts harms children's perception of positive and stable family bonds (i.e., emotional security) and thus affects their emotional and behavioral problems. Studies concerning the emotional security hypothesis have shown that children who had deficient emotional security tended to respond to interparental conflicts with higher negative emotional reactivity and behavioral involvement or dysregulation. Children's emotional security affects not only their perception of their parents and family relationships but also of the world. Thus, emotional security is presumed to be the mediator between interparental conflicts and children's

outcomes; this hypothesis was supported by a longitudinal study (Cummings, Schermerhorn, Davies, Goeke-Morey, & Cummings, 2006).

Another hypothesis, the cognitive-contextual framework (Grych & Fincham, 1990), focuses on how children appraise interparental conflicts. If children assess interparental conflicts as hostile, aggressive, and poorly resolved (severe conflict property), they feel more threatened and helpless owing to the conflicts (threats) and blame themselves for the same (self-blame). The perceptions of threats and self-blame are, in turn, associated with the internalizing and externalizing behaviors of children (Grych, Fincham, Jouriles, & McDonald, 2000; Grych, Harold, & Miles, 2003; Grych, Seid, & Fincham, 1992).

Furthermore, some studies assert that both the emotional security hypothesis and the cognitive-contextual framework are important processes that explain children's outcomes (Mann & Gilliom, 2002; Turner & Barrett, 1998). Thus, previous studies concerning interparental conflicts and children's outcomes have emphasized the children's own experiences of the conflicts. In concordance with these previous studies, the current study focuses on the mediational role of children's perception of interparental conflicts and their emotional bonding with their parents.

Although a number of studies show the relationship between interparental conflicts and children's outcomes, few studies focus on late adolescents (Bickham & Fiece, 1997) or use multiple reporters, including children, mothers, and fathers. Therefore, the current study was designed to examine the relationship between interparental conflicts and children's adjustment problems using late adolescents and their parents as samples in order to clarify the mediational process of this relationship in the triads of parents and children. Figure 1 illustrates the hypothesis model in the present study.

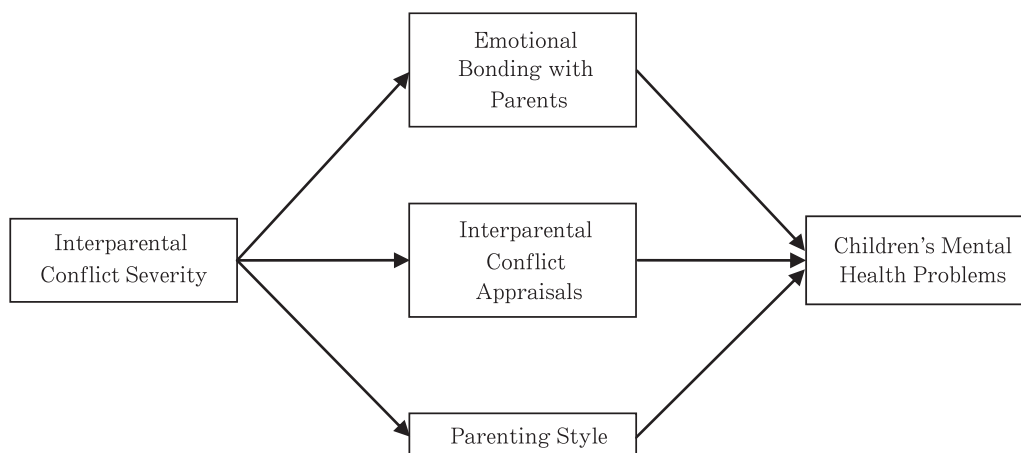


Figure 1 Conceptual Model of the Relationship between Interparental Conflict and Children's Outcomes

Method

Participants

The present study was conducted as part of the longitudinal research project, "Developmental Psychopathological Longitudinal Study concerning Child Development and Familial Mental Health" (Sugawara et al., 2002). This project began in August 1984, recruiting 1,320 expectant mothers with the help of gynecologists in an urban city near Tokyo, Japan. Further, longitudinal follow-up surveys were conducted thrice during pregnancy and 10 times after delivery. The present data were collected in 2004—the nineteenth year of follow-up—and a total of 761 people (225 fathers, 279 mothers, and 257 adolescent children) responded. Only the information relevant to test our hypotheses is reported here, and the data from 182 fathers ($M = 50.6$ years), 242 mothers ($M = 47.1$ years), and 251 children (120 boys and 131 girls, $M = 17.6$ years) were used. The mean marital duration was 22.0 years ($SD = 2.9$). With respect to maternal employment, 74.5% of the mothers were employed. Approximately 90% of the family income exceeded four million yen.

Procedures

Batteries of questionnaires concerning individual, marital, and familial topics were sent to fathers, mothers, and adolescent children by mail. Each family member was asked to fill out the questionnaires separately and not discuss the items before completely filling out the questionnaire. All the participants were given an explanation about the purpose of the study and were made to sign the forms of informed consent.

Measures

The Japanese Version of the Relationship Attribution Measure (RAM; Fincham & Bradbury, 1992; Kawashima, Ito, Sugawara, Sakai, Sugawara, & Kitamura, 2008): The RAM assesses parents' perceptions of partner behaviors, focusing on the attributions made for eight hypothetical negative partner behaviors (e.g., "your husband criticizes something you do"). For each hypothetical partner behavior, the respondents were asked to rate the extent of their agreement with six statements on a 7-point scale ranging from "strongly disagree" to "strongly agree." The six statements were used to assess three types of causal attribution dimensions (locus, stability, and globality) and three types of responsibility attribution dimensions (intent, motivation, and blame). An overall negative attribution index for negative partner behavior was computed as the sum of 48 items (six statements for eight stimulus events), with higher scores reflecting more negative relationship attributions. Cronbach's alpha for the RAM composite index in the present sample was satisfactory (.94 for fathers and .95 for mothers). However,

the RAM scores were positively skewed for both fathers and mothers, and a logarithmic transformation was conducted for further analysis.

Marital Conflict Coping Scale: The Marital Conflict Coping Scale was developed to assess parents' coping behaviors with respect to marital conflicts, referring to items from the Conflict Tactics Scale (CTS; Straus, Hamby, Boney-McCoy, & Sugarman, 1996). Parents were asked to rate how often they engaged in various behaviors during recent disagreements. The list of behaviors included the examples of three assertive behaviors (e.g., "argue over to reach an agreement"), two aggressive behaviors (e.g., "do something to hurt my partner"), and six withdrawal behaviors (e.g., "do not pay much attention to what my partner says") on a 4-point scale ranging from "Never" to "Always." Cronbach's alpha was sufficient for assertive and withdrawal behaviors (.70 and .71, respectively), but not for aggressive behavior (.51). Because the alpha for aggressive behavior was expected to be low for the use of only two items, all the three types of behaviors were used for further analysis.

Parental Bonding Instrument (PBI; Parker, Tupling, & Brown, 1979; Sugawara, et al., 2002): Two parenting constructs—10 items measuring care (e.g., "Speak to my child in a warm and friendly voice") and 6 items measuring control (e.g., "Try to control everything my child does")—were rated by parents on the basis of their daily parenting practices, using a 4-point scale ranging from "Very unlikely" to "Very likely." Cronbach's alpha was .80 and .81 for the "care" subscale and .71 and .69 for the "control" subscale for fathers and mothers, respectively.

Children's Perceptions of Interparental Conflicts (CPIC; Grych et al., 1992): The CPIC is a questionnaire that assesses children's appraisals of interparental conflict on the basis of three dimensions of interparental conflict: Conflict Properties, Threat, and Self-blame. Twenty items from the CPIC were used in the present study (12 items for Conflict Properties, 5 items for Threat, and 3 items for Self-blame). The items were scored from "Disagree = 1" to "Agree = 4," with 4 reflecting more negative forms of conflict and its appraisal. The result of the confirmatory factor analysis was consistent with that in Grych et al. (1992), and the sample items for each dimension were as follows: "Even after my parents stop arguing they stay mad at each other (Conflict Properties)," "When my parents argue I worry that one of them will get hurt (Threat)," and "My parents' arguments are usually about me (Self-blame)." The reliabilities for these subscales were satisfactory (Cronbach's alpha was .74 to .85). However, the Self-blame score was positively skewed, in line with the study by Bickham & Fieck (1997), and a logarithmic transformation was conducted for further analysis.

Emotional Bonding with Parents: Two items from the Parent-Child Relations of Mutual Trust (Sakai, 2001; Sakai, Sugawara, Maeshiro, Sugawara, & Kitamura, 2002), “Do you like your mother?” and “Do you like your father?” were used to measure the emotional bonding with mothers and fathers on a 7-point scale, with 7 reflecting the highest level of emotional bonding with parents.

Children’s Mental Health Problems: Children’s mental health problems were measured by using both self-reports and mothers’ appraisal reports.

The Japanese version of the Zung Self-rating Depression Scale (SDS; Fukuda & Kobayashi, 1973) comprises 20-item self-rated scales that measure depressive symptoms using a 4-point scale, with higher scores reflecting more severe depressive symptoms. Cronbach’s alpha for the scale was .77.

The Child Behavior Checklist (the parent form of the CBCL; Achenbach, 1991) consists of 17 items dealing with behavioral problems (i.e., externalizing problems) and 11 items dealing with social anxiety and neurotic problems (i.e., internalizing problems). The items were scored from 0 (not true) to 2 (very true or often true), and higher scores indicated that mothers were more observant of their children’s problems. Cronbach’s alpha for the Externalizing subscale and Internalizing subscale was .88 and .84, respectively. The item means for each subscale were used for further analysis.

Results

Descriptive Statistics and Preliminary Analyses

Table 1 shows the means and standard deviations for boys and girls. The gender differences in the means of the variables were assessed using t tests. Gender differences were found in the children’s ratings, but not in the parental ratings. The scores of the interparental conflict properties were higher for the boys and those of emotional bonding with parents and depressive symptoms were higher for the girls.

Preliminary analyses were also conducted to examine whether it was valid to test the mediational models (Tables 2-5). With respect to the hypothesized mediators and outcome variables (Table 2), a significant relationship was observed between self-reported depression and the children’s emotional bonding with their parents in both the boys and girls; however, a relationship was observed between depression and the perception of interparental conflicts only in the boys. Further, a significant relationship was observed between self-blame and internalizing or externalizing problems only in the boys. With respect to the hypothesized explanatory variables and parenting variables (Table 3), a negative relationship was observed between the negative attribution (RAM) and positive parenting (care). The fathers’ withdrawal behavior was significantly related to the control parenting style for the boys, and the fathers’

Table 1 Samples’ demographic and descriptive statistics for each gender

	Boys (N=120)		Girls (N=131)		Gender differences <i>t</i> (249)
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Father’s variable					
Withdrawal behavior	9.8	(2.8)	9.1	(2.8)	
Aggressive behavior	1.2	(1.2)	1.0	(1.1)	
Assertive behavior	4.0	(1.6)	4.4	(1.8)	
Negative attribution	108.5	(42.3)	101.0	(47.9)	
Care parenting	29.8	(4.3)	29.9	(4.3)	
Control parenting	10.0	(2.7)	10.2	(2.7)	
Mother’s variables					
Withdrawal behavior	9.9	(2.8)	9.5	(2.9)	
Aggressive behavior	1.2	(1.0)	1.0	(.9)	
Assertive behavior	5.0	(1.7)	4.4	(1.8)	
Negative attribution	122.7	(47.8)	110.1	(45.4)	
Care parenting	31.8	(4.5)	32.7	(4.1)	
Control parenting	10.4	(2.9)	10.4	(2.8)	
Externalizing problem	.16	(.21)	.20	(.28)	
Internalizing problem	.16	(.25)	.15	(.27)	
Children’s variables					
Conflict properties	25.1	(7.5)	23.3	(6.8)	2.06*
Threat	10.3	(3.8)	10.9	(3.6)	
Self-blame	4.8	(2.1)	4.4	(1.9)	
Emotional bonding with fathers	5.0	(1.6)	5.4	(1.6)	2.01*
Emotional bonding with mothers	5.4	(1.5)	6.0	(1.2)	3.81**
Depressive symptoms	42.1	(7.6)	44.7	(7.2)	2.84**

Notes: ***p* < .01 **p* < .05

Table 2 Correlations among CPIC subscales, emotional bonding, and children's mental health problems

	1	2	3	4	5	6	7	8
1. Conflict properties		.38**	.24**	-.25**	-.14	.07	.05	-.11
2. Threat	.30**		.18*	.06	.11	.01	-.10	.01
3. Self-blame	.20*	.24**		.08	.07	.07	.23*	.16
4. Emotional bonding with fathers	-.28**	-.06	-.12		.71**	-.23**	-.07	.00
5. Emotional bonding with mothers	-.11	.08	-.10	.61**		-.30**	-.02	-.01
6. Depression symptoms	.22*	.28**	.30**	-.39**	-.28**		.15	.24**
7. Externalizing problem	.02	-.04	.26**	.02	-.04	.13		.63**
8. Internalizing problem	-.12	.07	.22*	.02	-.02	.35**	.33**	

Notes: Correlation coefficients for girls and boys ** $p < .01$ * $p < .05$

Table 3 Correlations among dependent variables in the hypothesis models

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Marital duration		-.11	.02	-.03	.07	-.11	.07	.11	.08	-.19	.03	.02	.20	-.05	-.03
2. Maternal employment	.09		-.02	.06	.05	.03	.11	-.08	-.02	.06	.01	-.05	-.03	.09	-.13
3. Income	-.04	.09		-.10	-.13	.03	.06	-.19	-.09	.12	-.21*	.12	-.11	.06	.14
4. Father's withdrawal	-.06	-.07	-.02		.30**	-.26*	.25*	-.03	.14	-.06	.36**	-.30**	-.04	-.06	.09
5. Father's aggression	.05	.04	-.09	.09		.20	.17	.09	.17	.12	.15	-.16	.26*	.11	-.16
6. Father's assertion	.04	.24	.08	-.38**	.06		-.12	-.02	.15	.21	-.06	.32**	.26*	.03	.01
7. Father's RAM	-.18	-.08	-.17	.24*	.21	.02		.01	.19	.00	.22	-.31**	.18	-.12	.01
8. Mother's withdrawal	.09	.06	.03	-.01	-.09	-.03	.06		.20*	-.49**	.47**	.04	.12	-.15	-.01
9. Mother's aggression	-.15	-.06	.10	.07	-.05	.11	.26	.18		.00	.18	-.11	.10	-.01	.05
10. Mother's assertion	.26*	.02	.14	.00	.01	.09	-.16	-.28**	.21		-.20*	.10	.17	.18	.05
11. Mother's RAM	-.05	.18	.07	.04	.09*	.00	.25*	.30**	.14	.01		-.19	.10	-.30**	.01
12. Father's care	-.05	-.06	-.15	-.13	-.10	.22	-.22*	-.14	-.12	-.03	-.21*		-.07	.24*	.06
13. Father's control	.07	.02	.22*	.26*	.08	-.01	.21	.10	.21*	.12	.18	-.25*		-.11	-.04
14. Mother's care	.04	-.06	.07	-.05	.07	-.02	-.09	.00	-.34**	-.14	-.05	.18	-.29**		-.07
15. Mother's control	-.12	.10	.03	.22*	-.12	-.33**	.07	-.10	.14	-.06	.18	-.10	.22	-.26**	

Notes: Correlation coefficients for girls and boys. 1-3 = demographic variables, 4-6 = fathers' conflict coping, 8-10 = mothers' conflict coping, 12-13 = fathers' parenting, 14-15 = mothers' parenting ** $p < .01$ * $p < .05$

Table 4 Correlations between the hypothesized dependent and independent variables (for boys)

	CP	Threat	SB	Bond with Mo.	Bond with Fa.	Dep.	EP	IP
Marital duration	.03	-.06	-.21	-.08	.03	-.16	.07	-.07
Maternal employment	.04	-.22	-.11	-.11	-.09	-.02	.06	-.11
Income	-.11	-.08	-.20	-.07	-.12	-.01	.04	.07
Father's withdrawal	.08	.07	.11	-.25**	-.03	.06	-.08	.20
Father's aggression	.03	-.11	-.13	-.02	-.06	-.04	.16	-.03
Father's assertion	-.06	.05	.07	.36**	.10	-.19	.01	-.14
Father's RAM	.13	-.08	.11	.04	-.03	.06	.00	.13
Mother's withdrawal	.18	.18	.29**	-.13	-.21*	.19	.00	.12
Mother's aggression	.22*	.00	.00	-.24*	-.21*	.19	.06	.24*
Mother's assertion	-.04	.05	.10	-.01	.11	-.05	.08	.07
Mother's RAM	.31**	.09	-.09	.09	-.07	.12	.13	.07
Father's care	-.06	-.03	.09	.11	.15	-.13	-.09	-.18
Father's control	-.10	.07	-.19	-.19	-.13	.17	.22*	.22
Mother's care	-.01	-.03	.20*	.20*	.25**	-.33**	-.21*	-.32**
Mother's control	-.02	-.10	-.10	-.10	-.05	.20	.31**	.43**

Notes: CP = Conflict properties, SB = Self-blame, Bond with Mo (Fa) = Bonding with mothers (fathers), Dep = Depressive symptoms, EP = Externalizing problems, IP = Internalizing problems ** $p < .01$ * $p < .05$

aggressive and assertive behavior were related to their control parenting style for the girls.

With respect to parental variables and the hypothesized mediators with respect to boys (Table 4), there were significant relationships between the mothers' negative attribution and withdrawal or aggressive

behavior and the boys' severe interparental conflict assessment, threats, or self-blame. The emotional bonding with parents negatively correlated with the parents' withdrawal or aggressive behavior. The positive parenting (care) was related to fewer mental health problems in boys.

Table 5 Correlations between the hypothesized dependent and independent variables (for girls)

	CP	Threat	SB	Bond with Mo.	Bond with Fa.	Dep.	EP	IP
Marital duration	.18	.11	-.02	-.15	-.07	-.00	.00	.09
Maternal employment	.01	-.08	.12	-.13	-.09	-.09	-.05	-.05
Income	-.15	.00	.09	.11	.25*	-.13	.09	.02
Father's withdrawal	.18	-.05	.02	-.24*	-.25*	.06	-.09	.06
Father's aggression	.43**	.27*	.10	-.09	-.12	.03	-.23*	-.22
Father's assertion	.22	.20	.27	-.02	.06	.10	-.10	-.20
Father's RAM	.19	.03	-.08	-.14	-.16	-.11	-.20	-.11
Mother's withdrawal	.25**	.23*	.12	-.11	-.13	.10	.18	.18
Mother's aggression	.16	.25**	.07	-.02	-.05	-.06	.10	-.04
Mother's assertion	-.03	.07	.08	.19*	.13	.02	-.01	-.02
Mother's RAM	.22	.06	.11	-.14	-.24**	.00	.23*	.16
Father's care	-.07	.25**	-.07	-.02	.11	.06	.09	.14
Father's control	.23*	.21*	.19	.03	-.06	.04	.05	.08
Mother's care	.04	.09	-.13	.06	.05	-.04	-.23*	-.05
Mother's control	-.06	.03	.01	.08	.05	.09	.28**	.24*

Notes: CP = Conflict properties, SB = Self-blame, Bond with Mo (Fa) = Bonding with mothers (fathers), Dep = Depressive symptoms, EP = Externalizing problems, IP = Internalizing problems ** $p < .01$ * $p < .05$

For the girls (Table 5), the fathers' aggressive or assertive behavior and the mothers' withdrawal or aggressive behavior were related to more severe interparental conflict appraisals. The emotional bonding with parents had a negative relationship with the fathers' withdrawal behavior. With respect to mental health problems, mothers' negative attribution and negative parenting style were related to more externalizing problem, but fathers' aggressive behavior lowered the level of that, contrary to the hypothesis.

Primary Analyses

In order to test the hypothesis that parenting, emotional bonding with parents, and cognitive aspects mediate the relationship between interparental conflict and children's outcomes, three stages of analyses were conducted. First, only the adolescents' data were used as hypothesized explanatory and mediational variables (Figure 2). Second, only the parental data were used as hypothesized explanatory and mediational variables (Figure 3). Finally, all the variables were included to analyze the triadic model (Figures 4 and 5). Each analysis used observed variables and the children's gender as a moderator variable and was examined using the SPSS-Amos (Arbuckle & Wothke, 1999). For each analysis, all the hypothesized paths were initially included, and subsequently, the paths that did not reach the significant level were eliminated. The remaining paths are illustrated in Figures 2-5.

For the first model, using the children's data as explanatory and mediator variables, gender differences were observed (Figure 2). There was no gender difference for the paths from conflict properties to mediator variables, threat, self-blame, and emotional bonding with fathers. However, the paths from the mediator variables to the outcome variables varied by gender. Both threat and self-blame appeared to be the predictors

of mental health problems for the boys, but only self-blame was related to the internalizing and externalizing problems for the girls. The emotional bonding with fathers played the role of mediators only for the boys (Figure 2).

For the second model also, using parental variables as explanatory and mediator variables, gender differences were observed (Figure 3). For the boys, the mothers' negative marital attribution (RAM) was related to the fathers' aggressive behavior and mothers' control parenting style, which in turn were related to more externalizing problems and internalizing problems, respectively. For the girls, the fathers' negative attribution was related to their lower care quality, but contrary to the hypothesis, a higher care quality positively correlated with the daughters' internalizing problems. The mothers' negative attribution was related to their higher withdrawal and less assertive behavior and lower care quality. The mothers' withdrawal and assertive behaviors were related to more externalizing problems in the daughters, and the mothers' lower care quality was related to both the internalizing and externalizing problems.

Using the triadic data, the final models were tested (Figures 4 and 5). Since the gender difference was also observed, all the path models were not equivalent for the boys and girls. However, the two path models had some commonalities. The paths from the mothers' negative attribution to emotional bonding with parents via the fathers' withdrawal behavior were common for the boys and girls, but the path from bonding with mothers to depressive symptoms was only seen in the girls' data. The mothers' withdrawal behavior, which was affected by the mothers' RAM, and the fathers' aggressive behavior were both related to the children's appraisals of conflict severity (conflict property) and, in

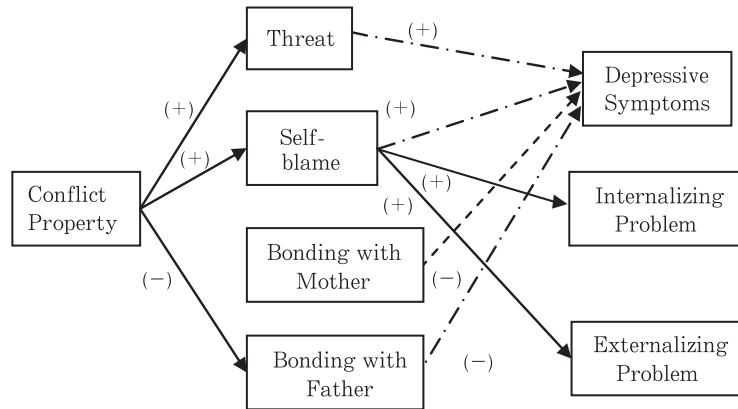


Figure 2 Relationship between Children's Appraisals on Interparental Conflict and Children's Outcomes

Results of two path analyses using boys' and girls' data. Solid line signifies the paths that were significant for both boys and girls. Broken and dotted lines indicate the paths that were significant only in boys' data, and the broken line indicates the path that was significant only in girls' data. (+) and (-) represent the valences of the paths. $\chi^2(17) = 19.26, p = .31, GFI = .96, RMSEA = .033$ for boys, and $\chi^2(18) = 24.01, p = .16, GFI = .96, RMSEA = .051$ for girls.

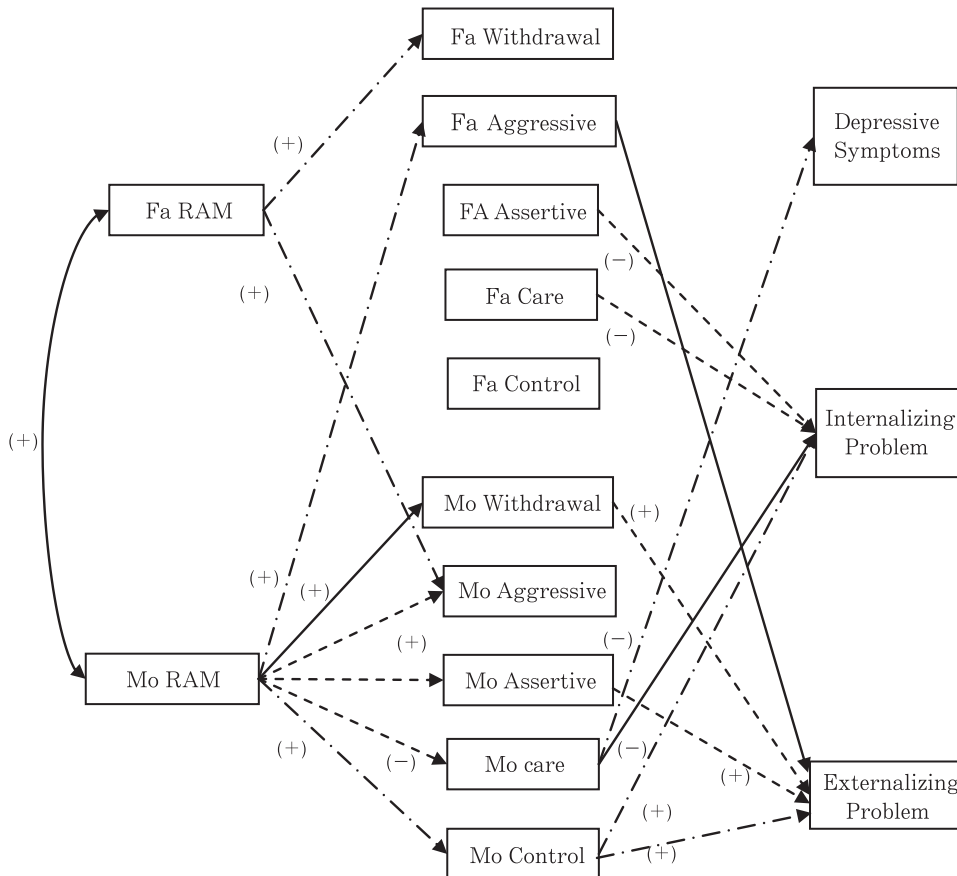


Figure 3 Relationship between Interparental Conflict and Children's Outcomes Using Parental Variables as Mediators

Results of two path analyses using boys' and girls' data. Mo = mothers, Fa = fathers. Solid lines signify the paths that were significant for both boys and girls. Broken and dotted lines indicate the paths that were significant only in boys' data, and the broken line indicates the path that was significant only in girls' data. (+) and (-) represent the valences of the paths. The valence of the path from fathers' aggressive behavior to children's externalizing problem was positive for boys and negative for girls. $\chi^2(82) = 91.26, p = .23, GFI = .87, RMSEA = .038$ for boys, and $\chi^2(80) = 86.38, p = .29, GFI = .88, RMSEA = .032$ for girls

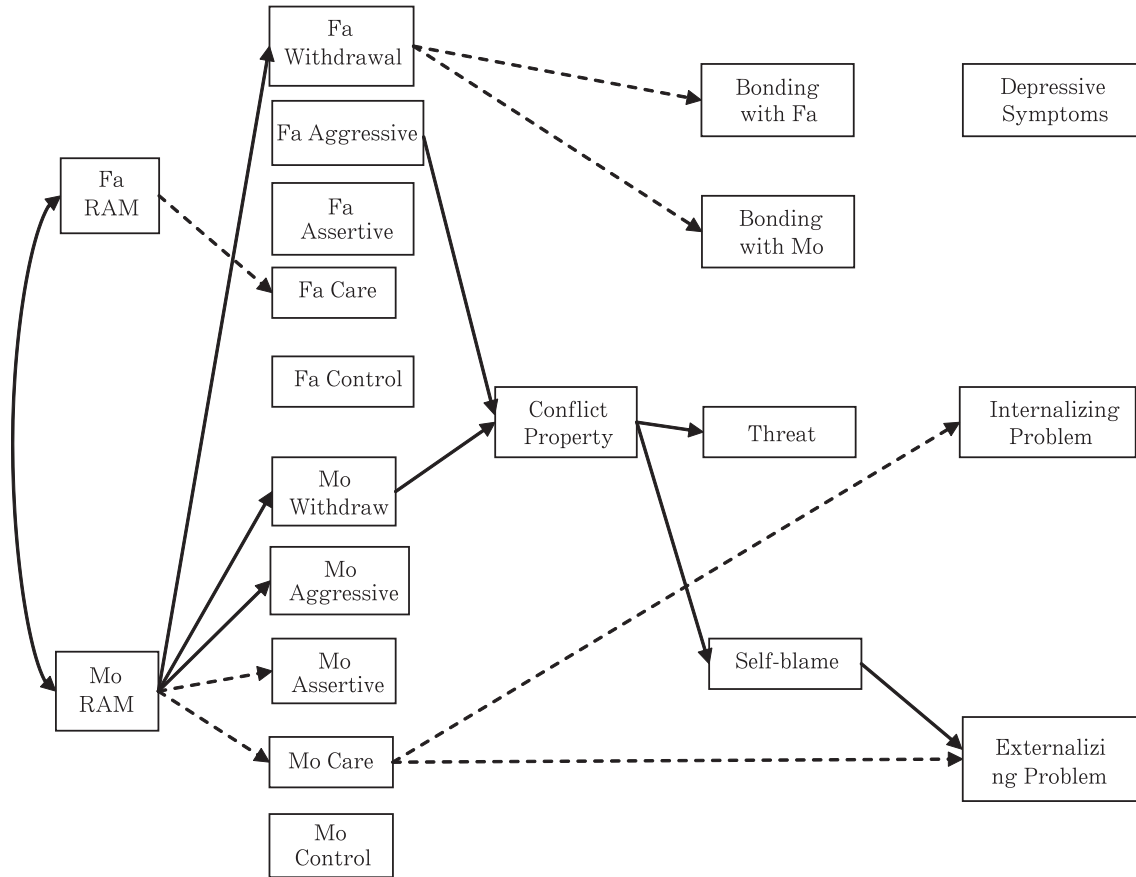


Figure 4 Mediation Model Using Parenting, Emotional Bonding, and Appraisals as Mediators (for Boys)
Result of a path analysis using boys' data. Mo = mothers, Fa = fathers. Solid lines signify the significant positive paths. Broken lines indicate the significant negative paths. $\chi^2(167) = 249.78, p = .00, GFI = .78, RMSEA = .082$

turn, to threat and self-blame for both the boys and girls. However, the path from self-blame to the externalizing problems was only seen in the boys' data. The mothers' negative marital attribution also decreased their care quality and led to more externalizing problems for both the boys and girls. However, with respect to the internalizing problems, higher care quality reduced the boys' problems, but increased the girls' problems, which was inconsistent with the hypothesis.

Discussion

The present study tested the theory-driven models on the explanatory mechanisms of the links between interparental (marital) conflicts and children's mental health problems, on the basis of the spill-over hypothesis, the emotional security hypothesis (Davies & Cummings, 1994), and the cognitive-contextual framework (Grych & Fincham, 1990). This comprehensive analysis supported the argument that both emotional security and cognitive aspects played important roles in the explanatory process between interparental conflict and children's outcomes (Mann & Gilliom, 2002; Turner

& Barrett, 1998). The results obtained from the tests of the full theoretical model supported the mediational role of mothers' care quality, the emotional bonding with mothers, and children's self-blame appraisals.

Some indicators have been proposed to measure the severity of interparental conflicts. An example of such indicators evaluated by children is the CPIC (Grych, Seid, & Fincham, 1992); a part of it was used in the present study. An example of indicators evaluated by parents is the O'Leary-Porter Scale (Porter & O'Leary, 1980), which assesses the exposure of children to hostile interparental conflict. However, we chose to use parental evaluation for the "real" dyadic marital conflict, for which the scales assessing parents' marital attribution and conflict coping behaviors were chosen. As a result, it is shown that interparental conflicts that were evaluated as severe by children were characterized by mothers' withdrawal behavior and fathers' aggressive behavior. It is indicated that measuring not only overt but also covert interparental conflict could reveal children's experiences of "real" interparental conflicts. This result supported the prior study that used an observational method (Sturge-Apple, Davies, & Cummings,

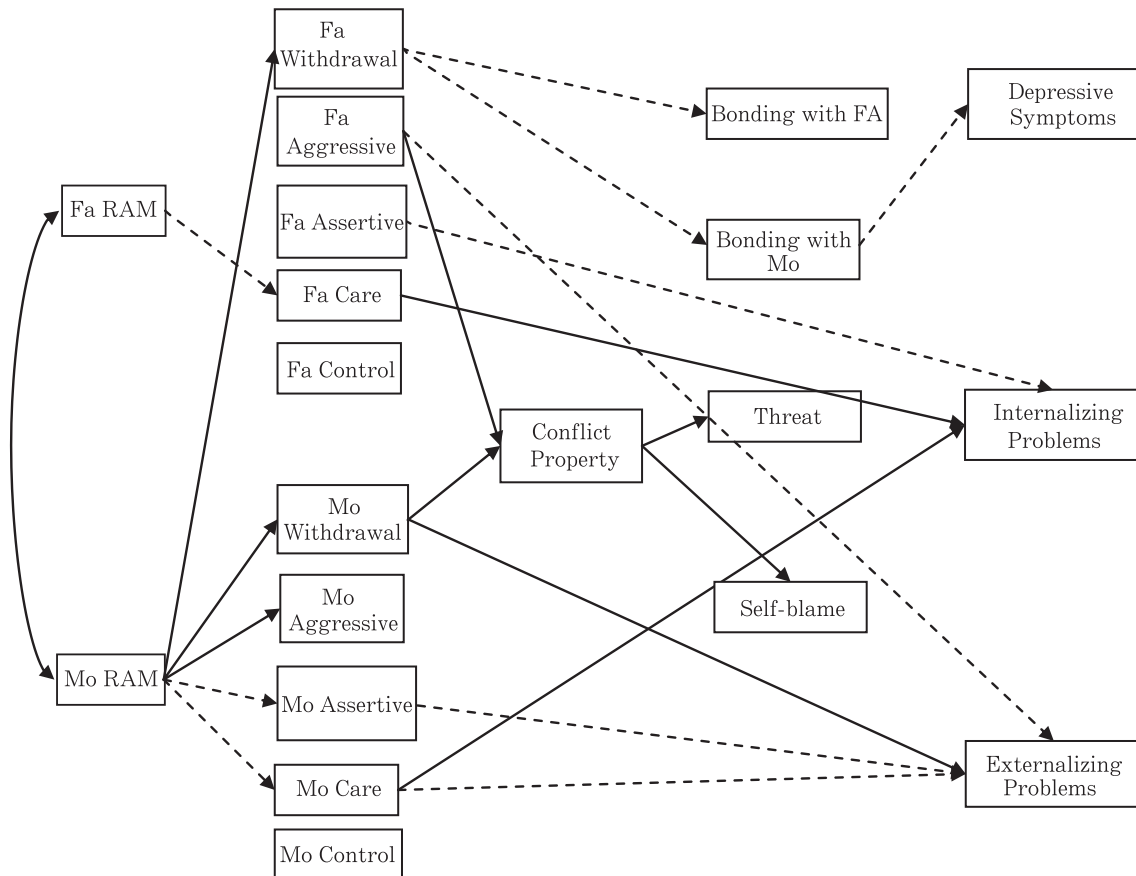


Figure 5 Mediation Model Using Parenting, Emotional Bonding, and Appraisals as Mediators (for Girls)
 Result of a path analysis using boys' data. Mo = mothers, Fa = fathers. Solid lines signify the significant positive paths. Broken lines indicate the significant negative paths. $\chi^2(161) = 223.11, p = .00, GFI = .79, RMSEA = .072$

2006), in which interparental withdrawal, rather than hostility, had a higher effect on children's psychological problems. The present result also indicates the importance of mothers' marital attribution in determining the severity of interparental conflicts through fathers' and mothers' conflict coping style.

With respect to the results consistent with the spill-over hypothesis (Erel & Burman, 1995), which is defined as measuring negative parenting in the relationship between interparental conflicts and children's outcomes, it was shown that negative attributions toward partner behaviors by parents are related to less affectionate parenting style. That is, those children whose parents engaged in serious conflicts, characterized by blaming each other, received less affectionate parenting. However, only mothers' care quality was related to the children's outcomes. The more affectionate the mothers' parenting was, the lesser was the number of externalizing problems for both the boys and girls. However, it was related to less internalizing problems for the boys but more internalizing problems for the girls. This inconsistent result was also observed in the fathers' negative attribution, affectionate parenting,

and the girls' internalizing problems. However, these results did not indicate that the severity of interparental conflicts leads to less internalizing problems for the girls, because the valence of the indirect effects calculated by the SPSS-Amos (Arbuckle & Wothke, 1999) was positive. It is beyond the scope of this study to clarify the relationship between parenting and children's outcomes; however, it is possible that serious marital attribution may result in a negative parenting style, in line with the spill-over hypothesis.

In relation to the emotional security hypothesis (Davies & Cummings, 1994), the mothers' negative attribution influenced the children's emotional bonding with their parents through fathers' withdrawal behavior. Thus, it is supposed that the withdrawal conflict coping style, which is characterized by withdrawal behavior in marital conflict and not making an attempt toward or postponing the conflict resolution, has negative effects on both how the children perceive interparental conflicts and the parent-child emotional bonding. It was also shown that the daughters' weak emotional bonding with their mothers was related to their depressive symptoms; however, no such

relationship was found between the boys and their mothers in the triadic analysis. Thus, the emotional security hypothesis was supported partially, as compared to the study conducted by Cummings et al. (2006), showing that emotional security contained the explanatory mechanism for both the internalizing and externalizing problems.

For the cognitive-contextual framework (Grych & Fincham, 1990), the children's appraisals of severe interparental conflicts were affected by the mothers' withdrawal and the fathers' aggressive behavior, and in turn, affected their appraisal of threat and self-blame for interparental conflicts, in line with the hypothesis. However, in relation to the outcome, only a path from the boys' self-blame to the externalizing problems reached the level of significance. The mediational role of self-blame between interparental conflict and the externalizing problems was in line with Shelton & Harold (2008), showing that self-blame is an important predictor of behavioral problems. The self-blame appraisals lead children to feel responsible for interparental conflicts and believe that they can control the conflicts, which in turn, gets the children with higher self-blame involved in the conflicts. However, their involvement often ends in failure, owing to which they feel frustrated and distressed, and behave in externalizing way (Grych & Fincham, 1990; Shelton & Harold, 2008). Contrary to this, the mediational role of threat appraisals, which is supported by preceding studies (Grych et al., 2003; Kim, Jackson, Conrad, & Hunter, 2008), was not supported in the triadic models in the present study. According to Grych et al. (2003), threat appraisals increase the risk of internalizing problems, such as anxiety and depression, in children. Our results suggested that the internalizing problems rated by the mothers were related to the parenting style and the emotional bonding with parents more than the children's threat appraisals were. Similarly, a recent study (Atkinson, Dadds, Chipuer, & Dawe, 2008) has shown that threat appraisals have multiple dimensions overlapping with the dimensions drawn from the emotional security hypothesis, such as attachment. Further investigation using a multidimensional scale for threat is needed to clarify the role of threat appraisals in the relationship between interparental conflicts and children's outcomes.

Additionally, the present findings indicated gender differences in the relationship patterns. Although many previous studies have reported gender differences in the models indicating the relationship among variables and not in the absolute values (Kerig, 1998), the present result showed gender differences in conflict properties and the assessment of interparental conflict severity experienced by children. According to the results, girls tended to be less exposed to interparental

conflicts, even though other scores reported by parents or threat and self-blame appraisals did not differ. Thus, it is possible that gender differences in the relationship patterns between interparental conflicts and children's outcomes may occur due to gender differences in the exposure to interparental conflicts, since girls are more protected from interparental conflicts. Since prior studies provide inconsistent results concerning gender differences in the mechanism between interparental conflicts and children's outcomes, the present results need to be considered with caution. Using not only maternal reports but also paternal ones indicated gender differences with respect to parents. Although many studies indicated the importance of the mother-child relationship, our result showed the important role played by fathers in the triad. The withdrawal behavior exhibited by fathers in marital conflicts had a unique influence on the children's emotional bonding with their parents, regardless of the children's gender. It is suggested that the fathers' commitment in marital conflicts may enhance the bond between family members.

All the findings have certain limitations. First, the present study is cross-sectional, and the evaluation of the causality cannot be established. Longitudinal data collection will more clearly explain the process of the relationship between interparental conflict and children's outcomes. Second, although we included multiple informants, that is, mothers, fathers, and children, it was noted that some of the measures used are ad hoc and need to be refined in future research. Moreover, the measures in the present study used questionnaires, and using observational methods for assessing marital conflicts or children's responses thereof might provide a more realistic picture of the relationship between interparental conflicts and children's outcomes. Third, the developmental level of children and parents should be considered. Previous studies showed that the relationship between interparental conflict and children's outcomes differed according to the children's development (Buehler, Anthony, Krishnakumar, Stone, Gerald, & Pemberton, 1997). Further, interparental conflict also differed across parents' development in marital relationships (Umberson, Williams, Powers, Chen, & Campbell, 2005). This is a theme for future research. Finally, the present study tested the variables guided by the spill-over hypothesis, the emotional security hypothesis, and the cognitive-contextual framework. However, other types of variables or processes, especially protective factors, may be needed to clarify the process and the development of relationship between interparental conflicts and children's outcomes. Despite these limitations, the results have some important implications for clinical intervention. The results have indicated that withdrawal as well as aggressive

behavior in interparental conflicts, which were affected by mothers' and fathers' negative attributions, could harm the parent-child bonding and lead to severe conflict appraisal. Thus, moderating parents' marital attribution can alleviate the severity of marital conflicts. Similarly, results showing that children's appraisal of interparental conflict is an important process leading to mental health problems suggest that the intervention targeted toward assisting the children in feeling less responsible for their parents' conflicts might alleviate their distress. Further investigation is needed to clarify the developmental process concerning the risks and protective factors mediating interparental conflict and children's outcomes.

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