

Marital Conflict and Early Adolescents' Self-Evaluation: The Role of Parenting Quality and Early Adolescents' Appraisals

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Abstract Cognitive appraisals and family dynamics have been identified as mediators of the relationship between marital conflict and children's adjustment. Surprisingly little research has investigated both mediational processes in the same study. Guided by the cognitive-contextual framework and the spillover hypothesis, the present study integrated factors from both theories early adolescents' appraisals of threat and self-blame, as well as perceived parenting quality as mediators of the link between early adolescents' perception of marital conflict and their self-evaluations (self-esteem and scholastic competence). Analyses were based on the first two waves of an ongoing longitudinal study. Participants were 176 two-parent families, and their early adolescents (50.5% girls) whose mean age was 10.61 years at Time 1 ($SD = 0.40$) and 11.63 years at Time 2 ($SD = 0.39$). Structural equation modeling analyses indicated that parenting quality and early adolescents' perceived threat provided indirect pathways between marital conflict and early adolescents' self-esteem 1 year later when controlling for their initial level of self-esteem. With respect to scholastic competence, only fathers' parenting was an indirect link. Self-blame did not play a role. Implications for understanding the mechanisms by which exposure to marital conflict predicts early adolescents' maladjustment are discussed.

Keywords Marital conflict · Children's appraisals · Parenting quality · Early adolescents' self-esteem · Scholastic competence

Introduction

One of the most upsetting life stressors for children is exposure to frequent and prolonged parental arguing (e.g., Davies et al. 2002). Indeed, the deleterious effects of marital conflict on children's internalizing and externalizing problems are well documented (see the meta-analysis by Buehler et al. 1997). Less well understood are the effects of marital conflict on other aspects of children's psychological well-being such as general and domain-specific self-evaluation, leaving the picture of child adjustment outcomes incomplete. Although Grych and Fincham (1990) noted this important potential outcome almost 20 years ago, since then, children's self-evaluation in the context of marital conflict have remained mostly unexplored in the research literature. The aim of the present study is to address this gap by examining the link between marital conflict and change in early adolescents' self-esteem and perceived scholastic competence.

Self-Evaluation in Early Adolescence

Self-evaluation is a multi-facet construct which refers to one's positive and negative attribution of the self (Harter 2003). Harter (2003) distinguishes between a global evaluation, also called self-esteem or self-worth, and self-evaluations of attributes within specific domains such as cognitive and social domains. One focus of the present study will be on self-esteem conceptualized as the individual's valuation of their whole sense of self. Very recent longitudinal studies indicated that self-esteem is a significant predictor of mental health outcomes. In particular, low self-esteem predicts increased depression across adolescence (Orth et al. 2008, Study 1) as well as future mental and physical health problems, substance abuse, and deviant

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behavior in adulthood (Boden et al. 2008; Trzesniewski et al. 2006). Thus, the findings of these longitudinal studies presenting self-esteem as a predictor of internalizing and externalizing problems underline that self-esteem is a construct distinct from these two broad areas of adjustment.

A second focus of the present study will be on one domain specific self-evaluation: scholastic competence. Harter (2003) classified the various domain-specific self-concepts into peer-salient concepts (domains which are more important for peers) and parent-salient concepts (domains which are more important for parents). Since the present study investigated the influence of parental behavior, specifically marital conflict, we focus only on the parent-salient self-concept of scholastic competence. The associations between self-esteem and scholastic competence are of low to moderate size (Harter 2003; Marsh et al. 2006). While self-esteem is strongly related to well-being measures, the scholastic self-concept correlates consistently with academic achievement (Rosenberg et al. 1995). Correlation coefficients for scholastic self-concept and academic achievement in different studies were of moderate to high size (Marsh et al. 2006; Rosenberg et al. 1995). These findings indicate independent functions of self-esteem and scholastic competence for adolescents' development. Thus, this supports Harter's proposition to distinguish between global and domain-specific self-evaluation (Harter 2003).

With respect to the development of self-evaluation, research has shown that self-evaluation fluctuates throughout middle childhood and early adolescence. Indeed, in a meta-analysis, the rank-order stability of self-esteem ratings between the ages 6 and 11 was $r = .40$; significantly lower than in adolescence and young and middle adulthood (Trzesniewski et al. 2003). Changes in social relationships during early adolescence (Harter 2006) are discussed as potential explanations for the instability in self-evaluation at that age period. Given that self-evaluation is less stable during early adolescence and more vulnerable to the influences of significant others (Harter 2006), it appears likely that adverse family processes such as marital conflict could negatively influence early adolescents' self-evaluation. A previous study found a negative association between marital conflict and self-esteem one year later among middle adolescents (Doyle and Markiewicz 2005). In addition, the same study corroborated findings by Ghazarian and Buehler (2010) that showed a strong link between marital conflict and school achievement: the more severe marital conflict was the lower the child's achievement in school. Further studies showed that family stress not only affects school outcomes but also relates to self-evaluations of scholastic competence (Campbell et al. 2002; Russell and Diener 2010). Thus, one can expect that marital conflict is negatively related to self-esteem, and also to scholastic competence.

Children's Appraisals of Threat and Self-Blame

One explanation why marital conflict leads to diminished self-esteem and scholastic competence is given by the cognitive-contextual approach (Grych and Fincham 1990). This theoretical framework points to the importance of including children's perspective on and appraisals of marital conflict when investigating the subject. According to this theoretical approach, marital conflict is a heavy burden for children and adolescents, in particular if they perceive it as frequent, intense, and poorly resolved. Within this framework, it is argued that the association between perception of marital conflict and children's maladjustment is mediated by the children's appraisals and interpretations of the conflict. It is assumed that children or adolescents ascertain the severity of the conflict, and assess their feelings of threat imposed by the conflict. Further, they collect more information to understand the reasons of the conflict, for instance, whether they are responsible for it, and how they can cope with the situation (Grych and Fincham 1990). Consistent with these theoretical assumptions, many studies have demonstrated that appraisals of threat and self-blame increase children's risk for maladjustment (e.g., Gerard et al. 2005; Grych et al. 2003; Harold and Conger 1997; Shelton and Harold 2008). Thus, findings on the association between children's and adolescents' appraisals of marital conflict and internalizing and externalizing problems is well established.

Despite this large body of literature on the subject of maladjustment in general, the role of children's appraisals in the link between marital conflict and early adolescents' self-evaluation remains unexplored. Grych and Fincham (1990) theorized that children who tend to perceive themselves as the cause of marital conflict or blame themselves for conflict might suffer decrements in self-evaluation. However, a recent meta-analysis only included three studies on the mediational role of cognitive processes for the association between marital conflict and self-esteem (Rhoades 2008). The results showed a moderate and significant effect size so that overall maladaptive cognitions (self-blame, threat, control and coping efficacy) were associated with lower self-esteem in the context of marital conflict. The present study aims to explore whether early adolescents' appraisals of threat and self-blame mediate the link between marital conflict and early adolescents' self-esteem and scholastic competence.

Parenting Quality

Another seminal theoretical approach, which refers to the link between marital conflict and children's adjustment is the spillover hypothesis (Erel and Burman 1995).

According to this hypothesis, negative emotions from the marital conflict “spill over” to the parent–child relationship, leading, for instance, to lower parenting quality. The emotional distress that is part and parcel to marital conflict decreases the likelihood that parents will provide their children with warmth, support, and structure, which in turn negatively affect children’s psychological well-being (O’Donnell et al. 2010). Various longitudinal studies have supported the assumption of a link between marital conflict and parent–child relationship quality (e.g., Doyle and Markiewicz 2005; Harold and Conger 1997; Schoppe-Sullivan et al. 2007), with medium-sized negative effects between marital conflict and supportive parenting behaviors (see the meta-analysis by Krishnakumar and Buehler 2000).

Yet, to the authors’ knowledge, there is only one study examining parenting quality as a mediator between marital conflict and children’s self-evaluation in particular (Doyle and Markiewicz 2005). This longitudinal study, using adolescents’ self-reports, indicated that parenting quality (parental warmth and psychological control) did indeed mediate the link between adolescents’ awareness of marital conflict and subsequent decreases in self-esteem. Further studies also indicate positive relationships between parenting quality and adolescents’ self-esteem (e.g., Bulanda and Majumdar 2009; Lamborn et al. 1991) and scholastic competence (Bronstein et al. 2005; Kokkinos and Hatzinikolaou 2011), lending support to the relevancy of the spillover hypothesis in explaining the negative effect of marital conflict on children’s self-evaluation.

Even though there is some evidence that mothers and fathers bear different roles in the life of their adolescent children (Larson and Richards 1994), most studies on the impact of parenting on children’s and adolescents’ development refer to composite measures of maternal and paternal parenting, or focus only on maternal parenting. Three recent studies on the relationship between parenting and self-esteem in middle and late adolescence, however, differentiated between parenting of mothers and fathers (Bulanda and Majumdar 2009; Milevsky et al. 2007; Plunkett et al. 2007). The three studies came to the conclusion that both fathers’ and mothers’ parenting substantially and independently contributed to adolescents’ self-esteem. However, for early adolescence, no study so far has investigated the association of maternal and paternal parenting separately for self-evaluation or the mediational role of both parents’ parenting for the relationship between marital conflict and self-evaluation. Based on the evidence reported above, we sought to investigate both maternal and paternal parenting quality as mediators of the link between marital conflict and early adolescents’ self-esteem and scholastic competence.

An Integrative Model of Children’s Appraisals and Parenting Quality

Only, two studies known to date (O’Donnell et al. 2010; Stocker et al. 2003) have assessed adolescents’ appraisals and parenting simultaneously in a comprehensive regression model but the outcome variable was not self-evaluation. These studies provide support for both the role of adolescents’ appraisals (threat and self-blame) as well as parenting quality (negativity, warmth and rejection) in explaining the link between marital conflict and adolescents’ internalizing problems both concurrently (Stocker et al. 2003) as well as longitudinally (O’Donnell et al. 2010). In addition, Harold and colleagues found that both adolescents’ appraisals and parent–child hostility (as reported by parents and observers) provided indirect links between marital conflict and change in adolescents’ maladjustment over time (Harold and Conger 1997). Thus, as the effects of marital conflict on children’s adjustment are mediated by multiple processes rather than a single one (Emery et al. 1992), the present study aims to provide an integrated and comprehensive model with self-evaluation as an outcome variable.

Also, research indicates that integrating multiple theories into a comprehensive model typically provides a better representation of given data than considering single processes alone (e.g., Davies et al. 2002). In addition, testing competing theoretical positions can provide a powerful assessment of a model’s validity that goes above and beyond testing a theoretical model against a null model (Fincham et al. 1994). Thus, based on the cognitive-contextual approach and the spillover hypothesis, both adolescents’ appraisals of marital conflict and parenting quality should be included in one model. Consequently, the relative importance of each mediator could be examined. We expected that both constructs would mediate the link between marital conflict and early adolescents’ self-esteem and scholastic competence.

The Present Study

The existing literature is limited in that only few studies have examined adolescents’ self-evaluations as outcome variables in the context of marital conflict. By considering global and specific self-evaluation as outcome variables, we will contribute to the requirement of Grych and Fincham (1990) to investigate the impact of marital conflict on a wide range of adjustment indicators. Existing literature is further limited in that none of these studies have examined early adolescents’ appraisals and parenting in the same model as mediators to self-evaluation. By integrating

cognitive and familial processes, the present study adds to the debate about the interconnected nature of mediators from cognitive, emotional and familial areas (Davies et al. 2002; O'Donnell et al. 2010; Stocker et al. 2003).

In sum, the main purpose of the present study was to use an integrative longitudinal model to examine early adolescents' appraisals and parenting quality as mediators of the link between marital conflict and early adolescents' self-evaluation. Figure 1 illustrates the theoretical model that constitutes the foundation of the present study. Based on studies from middle adolescence we hypothesized that marital conflict is negatively related to early adolescents' self-esteem and to their scholastic competence after controlling the initial level of self-evaluation (H1). In accordance with the cognitive-contextual approach, we expected that adolescents' appraisal of threat and self-blame mediate the link between marital conflict and self-evaluations across time (H2). In line with the spillover hypothesis, mothers' and fathers' parenting quality was hypothesized to mediate the link between marital conflict and self-evaluations across time (H3). Taking into account the integrative model, it was hypothesized that both adolescents' appraisals and parenting quality mediate the link between marital conflict and self-evaluations across time (H4). Thus, the present study contributes to existing literature by investigating the effects of marital conflict on an understudied aspect of children's development: self-evaluation in early adolescence by relying on an integrative model of the mediational effects of adolescents' appraisals and parenting quality for this association.

Method

Procedure

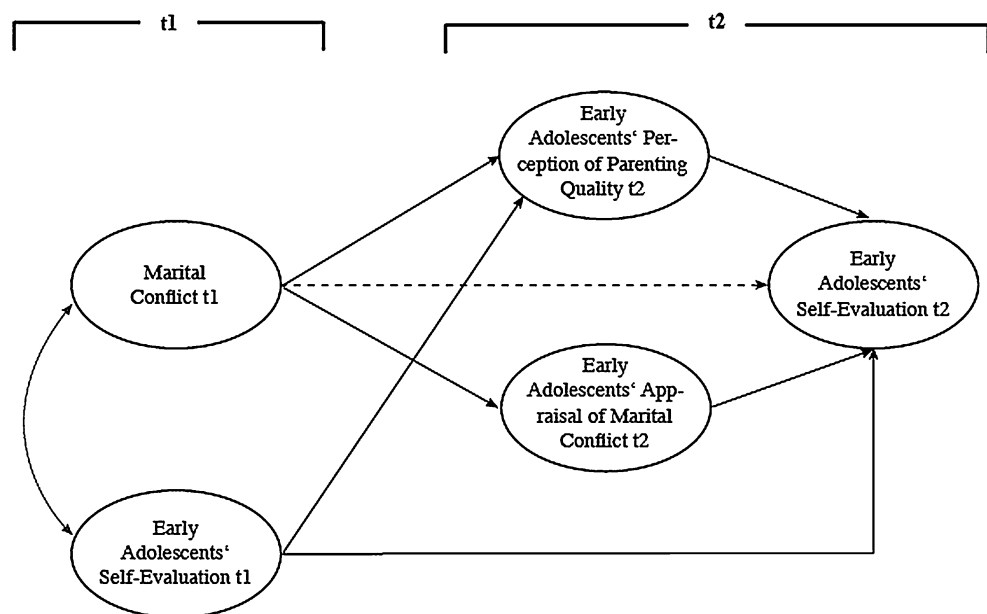
The analysis was based on the first (2008) and second assessment (2009) of an ongoing longitudinal study in the German-speaking part of Switzerland. Most of the families (77.3%) were recruited through their children's schools in the city of Basel, Switzerland, and the surrounding area. A smaller percentage of the families (22.7%) were recruited through residents' registration offices. The average response rate was 17% (22.6% for school recruitment and 10.5% for registration office recruitment), which is comparable to that of other studies including several family members (e.g., 17.8% by Davila et al. 2003). For the study, the participation of mother and child was mandatory for inclusion into the study.

Families were contacted for the first interview after returning the signed letter of consent. In each participating family, a trained interviewer conducted standardized interviews with the adolescent and the mother at their homes. Separate questionnaires, along with a postage-paid envelope, were left for the husband or partner to complete and return on their own. Thus, mothers were the primary adult respondent whereas father's data was gathered for complementation. Each family received 30 Swiss Francs (equivalent to 29 U.S. Dollars) for participation.

Participants

The original sample at Time 1 consisted of $N = 246$ fourth graders and their mothers. Of these 246 families, 228

Fig. 1 The integrative model of the present study. Adolescents' perception of parenting and their appraisals of marital conflict as parallel mediators for the relationship between marital conflict and adolescents' self-evaluation



participated again at Time 2 (attrition rate of 7.3%). In the current study, we report on the subsample of 176 2-parent families (163 families (92.6%) with both biological parents, 10 families (6.1%) with a step-parent, and three families (1.3%) with adoptive or foster parents), remaining intact between assessment times 1 and 2. Of these families, $n = 120$ fathers participated. The subsample included 87 boys and 89 girls with a mean age of 10.61 years ($SD = 0.40$; range = 9–12 years) at Time 1 and 11.63 years ($SD = 0.39$; range = 10–13 years) at Time 2. At the first time point, the majority of the parents (93.8%; $n = 165$) were married, with mean marriage duration of 14.47 years ($SD = 4.82$; range = 1–42 years). Most of the parents were Swiss (about 81%) and the average age was 42.66 years ($SD = 4.83$) for mothers and 45.20 years ($SD = 5.30$) for fathers at Time 1. With respect to education, 7.4% of mothers and 5.1% of the fathers had completed only the 9 years of compulsory schooling, the majority finished formal job training (67.6% of mothers; 51.7% of the fathers), and 24.4% of the mothers and 42.6% of the fathers had a university degree. The sample was biased toward higher education compared to the Swiss population overall (Federal Statistical Office 2010).

Measures

Two members of the research team translated independently all the measures that were only available in English into German. The translations were discussed intensively within the team and revised when necessary. Reliability and validity of the German translations were tested in a study of 50 10-year-old children. The present analyses were based on adolescents' and parents' reports on marital conflict at Time 1, adolescents' Time 2 appraisals of threat and self-blame concerning marital conflict and adolescents' reports on parenting at Time 2. Further, adolescents' reports on self-concept from Time 1 and Time 2 were included in the analyses.

Parents' Negative Conflict Resolution

Although several studies demonstrated that it is important to examine marital conflict from the perspective of the child (e.g., Grych and Fincham 1990), in the present study, both parents' reports on negative conflict resolution were used in addition to adolescents' report on marital conflict. Both perspectives in one model may lead to a more valid picture of the processes in the family. At Time 1, the mother and father completed the subscales conflict engagement and withdrawal from the Conflict Resolution Styles Inventory (CRSI; Kurdek 1994; German adaptation by Gölde and Walper 2000). They indicated how frequently (1 = *never* to 5 = *always*) they use each of the

styles when having an argument or disagreement with their partner. In a second part, they rated the same items also for their partner's behavior. Both subscales had a high internal consistency: conflict engagement (four items; e.g., "Letting myself go, and saying things I do not really mean."; $\alpha = .81-.87$) and withdrawal (4 items; e.g., "She/He doesn't listen to me anymore."; $\alpha = .83-.87$). Self- and partner-reports of each conflict resolution style were averaged into one score in each style (mother's conflict engagement, father's conflict engagement, mother's withdrawal, and father's withdrawal). This procedure was justified by the intercorrelations between self-report on a specific conflict resolution style, and the respective partner report (r s between .44 and .57; see Siffert and Schwarz 2011b).

Early Adolescents' Perception of Marital Conflict

Children completed the three subscales frequency, intensity, and resolution of the Children's Perceptions of Interparental Conflict (CPIC; Grych et al. 1992; German adaptation by Gölde and Walper 2001) at Time 1. Sample items include, "My parents often argue." (frequency; three items; $\alpha = .72$), "Even after my parents stop arguing they stay mad at each other." (intensity; two items; $\alpha = .61$), and "My parents find a solution." (resolution; three items; $\alpha = .74$). These items were rated from 1 (*never*) to 5 (*very often*).

Early Adolescents' Appraisals of Threat and Self-Blame

To assess self-blame at Time 2, the respective subscale from the CPIC (Grych et al. 1992; Gölde and Walper 2001) was used. Self-blame reflects the extent to which children blamed themselves for parents' marital conflict and felt that they were the topic of parents' conflict (four items; e.g., "It's usually my fault when my parents argue."; 1 = *never* to 5 = *very often*; Cronbach's $\alpha = .74$).

Perceived threat was also assessed at Time 2 with the respective subscale from the CPIC for younger children (CPIC-Y; McDonald and Grych 2006; German version by Schwarz and Siffert 2010). The threat subscale reflects adolescents' fears and worries when conflict occurs (six items; e.g., "I get scared when my parents have disagreements."; 1 = *never* to 5 = *very often*; Cronbach's $\alpha = .89$).

Early Adolescents' Perception of Parenting Quality

To assess early adolescents' perception of parenting quality, three subscales were used at Time 2. Parental warmth was assessed with the Zurich Brief Questionnaire for the Assessment of Parental Behaviors (ZKE; Reitzle et al.

2001). Children completed the 12 items separately for their mothers and fathers (e.g., “My mother/father compliments me, when I did well.”), using a scale ranging from 1 (*not true*) to 3 (*absolutely true*), Cronbach’s $\alpha = .73$ (ratings of mothers) and $.75$ (ratings of fathers).

Early adolescents’ perspective of parents’ authoritarian parenting was measured with the German translation of the respective subscale of the Parenting Practices Questionnaire (Robinson et al. 1995). Children reported separately on their mothers’ and fathers’ authoritarian parenting on a 5-point scale ranging from 1 (*never*) to 5 (*very often*). The subscale consists of 11 items (e.g., “My mother/father threatens me, when she/he wants to punish me.”), Cronbach’s $\alpha = .77$ for mothers and $\alpha = .79$ for fathers.

Mothers’ and fathers’ supervision was assessed with the German translation of a questionnaire of Lamborn et al. (1991). The subscale is divided into two parts with two different questions (“How important is it for your mother/father, to know...” and “How exactly does your mother/father usually know...”) regarding the same two behaviors (...“what you are doing after school?” and ...“what you are doing in your spare time?”). A third item from the original scale, which asked for going out in the evening, was omitted given the young age of our adolescents. The items were rated on a 4-point-Likert scale from 1 (*not important/not exactly*) to 4 (*very important/exactly*). Internal consistency in the current sample was $\alpha = .79$ for mothers and $\alpha = .87$ for fathers. Mother’s and father’s scores for the three parenting domains (i.e., warmth, authoritarian parenting, and monitoring) formed separate latent variables of maternal parenting quality and paternal parenting quality.

Early Adolescents’ Self-Evaluations

Self-evaluations were assessed with the Self-Perception-Profile for Children (SPPC; Harter 1985; German version: Wünsche and Schneewind 1989) at Time 1 and 2. To measure early adolescents’ *self-esteem*, two subscales were used: self-assertiveness and self-worth. Self-assertiveness items included “Some children feel good about the way they act... but ...other children often do not feel good about the way they act.” (six items; $\alpha = .69$ at Time 1 and $.74$ at Time 2). Self-worth items included “Some children are happy with themselves... but ...other children are unhappy with themselves.” (six items; $\alpha = .65$ at Time 1 and $.76$ at Time 2). To assess early adolescents’ *scholastic competence*, the respective subscale from the SPPC was used, again at Time 1 and 2. Sample item included “Some kids often forget what they learn... but... other kids can remember things easily.” (six items; $\alpha = .83$ at Time 1 and $.86$ at Time 2).

Strategy of Analyses

To evaluate our hypotheses, we used structural equation modeling analyses based on the maximum likelihood approach using Analysis of Moment Structures (AMOS; Arbuckle 2007). Incomplete data were handled with ML estimation in AMOS. The structural equation models consisted of four latent constructs (parents’ negative conflict resolution (Time 1), early adolescents’ perception of marital conflict (Time 1), and early adolescents’ perception of parenting quality (Time 2). Perceived threat (Time 2) and self-blame (Time 2) were used as observed indicators. The outcome variable self-esteem was assessed as a latent construct at both time points, scholastic competence was introduced to the model as a manifest construct also at both time points.

Separate models for mothers’ and fathers’ parenting as mediator variables and for self-esteem and scholastic competence as outcome variables were conducted. Thus, in the following we report on four separate structural equation models. The sample size did not allow for an analysis integrating all these indicators in one model. Even though adolescents’ reports on mothers’ and fathers’ parenting were highly correlated (r s between $.67$ and $.82$; see Table 1), we analyzed separate models for mothers and fathers due to theoretical assumptions. The error terms of both indicators of self-esteem (self-assertiveness and self-worth) across both time points were allowed to correlate. Also perceived threat, self-blame, and positive parenting quality were allowed to covary.

Structural equation modeling was used to test Hypothesis 1 on the direct effects of marital conflict on self-evaluations, the hypotheses on the mediational effects of adolescents appraisal of threat (H2) and their perception of parenting (H3) in the four models. For assessing the significance of these mediational or indirect effects in a non-recursive model, Sobel tests were performed (Sobel 1982). The method allows to compute the estimated asymptotic variance-covariance matrix of the indirect effects, and therefore to derive a confidence interval for the indirect effects separately. Further, chi-square difference tests were used to test the relative importance of each mediator in the link with early adolescents’ self-evaluation (H4). This procedure involves comparing the chi-square statistic values of different nested models.

Results

Preliminary Analyses

Table 1 contains the means, standard deviations, and inter-correlations of all indicators in the study. Low to moderate correlations were found among the proposed indicators.

Table 1 Intercorrelations and Means (with Standard Deviations) for Indicator Variables

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1 Mother's withdrawal t1	–																				
2 Father's withdrawal t1	.41 ^b	–																			
3 Mother's conflict eng. t1	.41 ^b	.41 ^b	–																		
4 Father's conflict eng. t1	.43 ^b	.45 ^b	.45 ^b	–																	
5 Conflict frequency t1 (CR)	.24 ^b	.26 ^b	.30 ^b	.31 ^b	–																
6 Conflict resolution t1 (CR)	-.28 ^b	-.26 ^b	-.26 ^b	-.17 ^a	-.58 ^b	–															
7 Conflict intensity t1 (CR)	.16	.17 ^a	.14	.18 ^a	.43 ^b	-.49 ^b	–														
8 Warmth mother t2 (CR)	-.12	-.10	-.24 ^b	.00	-.32 ^b	.30 ^b	-.25 ^b	–													
9 Warmth father t2 (CR)	-.07	-.12	-.12	-.05	-.29 ^b	.34 ^b	-.19 ^a	.67 ^b	–												
10 Authoritarian parent. M. t2 (CR)	-.01	.04	.22 ^b	-.07	-.26 ^b	-.10	.09	-.54 ^b	-.41 ^b	–											
11 Authoritarian parent. F. t2 (CR)	-.04	.05	.12	-.03	-.22 ^b	-.08	.09	-.40 ^b	-.47 ^b	.82 ^b	–										
12 Monitoring mother t2 (CR)	-.09	-.07	-.08	.01	-.16 ^a	.26 ^b	-.18 ^a	.40 ^b	.29 ^b	-.28 ^b	-.20 ^b	–									
13 Monitoring father t2 (CR)	-.14	-.10	-.15	-.04	-.11	.22 ^b	-.14	.32 ^b	.41 ^b	-.31 ^b	-.24 ^b	.78 ^b	–								
14 Perceived threat t2 (CR)	.06	.12	.11	.20 ^a	.15	-.28 ^b	.22 ^a	-.16	-.16	.18 ^a	.22 ^b	.09	.02	–							
15 Self-blame t2 (CR)	.01	.08	.09	-.02	.28 ^b	-.23 ^b	.27 ^b	-.23 ^b	-.22 ^b	.22 ^b	.17 ^a	-.20 ^b	-.21 ^b	.16	–						
16 Self-assertiveness t1 (CR)	-.05	-.09	-.09	-.07	-.17 ^a	.18 ^a	-.04	.29 ^b	.27 ^b	-.23 ^b	-.26 ^b	.26 ^b	.25 ^b	-.18 ^a	-.07	–					
17 Self-worth t1 (CR)	-.05	-.16 ^a	-.25 ^b	-.22 ^b	-.32 ^b	.14	-.12	.37 ^b	.37 ^b	-.29 ^b	-.28 ^b	.17 ^a	.18 ^a	-.08	-.09	.59 ^b	–				
18 Self-assertiveness t2 (CR)	-.07	-.05	-.17 ^a	-.03	-.07	.15	-.16	.28 ^b	.31 ^b	-.25 ^b	-.31 ^b	.21 ^b	.17 ^a	-.33 ^b	-.12	.40 ^b	.30 ^b	–			
19 Self-worth t2 (CR)	.00	-.08	-.16 ^a	-.05	-.06	.07	-.16 ^a	.27 ^b	.33 ^b	-.31 ^b	-.32 ^b	.12	.17 ^a	-.18 ^a	-.18 ^a	.34 ^b	.37 ^b	.68 ^b	–		
20 Scholastic competence t1 (CR)	-.06	-.15	-.21 ^b	-.08	-.17 ^a	.16	-.06	.36 ^b	.27 ^b	-.22 ^b	-.24 ^b	.27 ^b	.25 ^b	-.09	-.13	.53 ^b	.45 ^b	.30 ^b	.29 ^b	–	
21 Scholastic competence t2 (CR)	.06	-.04	-.12	.02	-.10	.25 ^b	-.16 ^a	.23 ^b	.38 ^b	-.18 ^a	-.18 ^a	.27 ^b	.27 ^b	-.13	-.10	.34 ^b	.24 ^b	.48 ^b	.50 ^b	.57 ^b	–
<i>M</i>	1.95	2.24	2.06	1.84	1.62	4.46	1.46	2.73	2.67	1.94	1.94	3.34	3.07	2.09	1.34	3.08	3.30	3.13	3.25	3.17	3.18
<i>SD</i>	0.72	0.83	0.73	0.69	0.53	0.64	0.57	0.22	0.25	0.52	0.52	0.61	0.78	0.99	0.46	0.43	0.46	0.42	0.49	0.56	0.58

Ns range from 147 to 176. CR child report

^a $p \leq .05$; ^b $p \leq .01$ (two-tailed)

In addition, *t*-tests for independent samples did not reveal gender differences in adolescents' perception of marital conflict (frequency, intensity, resolution), their appraisals of marital conflict (threat, self-blame), their perception of parenting quality (mothers' and fathers' warmth, authoritarian parenting, monitoring), and their self-evaluations (self-assertiveness, self-worth, scholastic competence). However, *t*-tests for dependent samples showed differences in adolescents' perception of mothers' and fathers' parenting. More precisely, adolescents reported higher monitoring of mothers ($M = 3.35$, $SD = .54$) compared to fathers ($M = 3.11$, $SD = .64$), $t(175) = 8.14$, $p < .001$. Further, they rated mothers' warmth ($M = 2.96$, $SD = .23$) higher than fathers' warmth ($M = 2.60$, $SD = .29$), $t(175) = 6.91$, $p > .001$. No difference in the reporting of the early adolescent was found for mothers' and fathers' authoritarian parenting. With respect to negative conflict resolution, mothers' and fathers' self-reports on conflict engagement and withdrawal differed significantly. Mothers reported more conflict engagement ($M = 2.06$, $SD = .73$) than fathers ($M = 1.83$, $SD = .68$), $t(166) = 4.00$, $p < .001$. Vice versa, fathers withdrew more often ($M = 2.23$, $SD = .83$) than mothers ($M = 1.95$, $SD = .72$), $t(166) = -4.24$, $p < .001$.

The measurement models for self-esteem (including the five related latent and two manifest constructs and their intercorrelations) and scholastic competence (including three latent and four manifest constructs and their intercorrelations) were examined prior to the structural model analyses. All four models fit the data well.¹ The first step for investigating the mediation model and Hypothesis 1 was to test for a significant direct effect from marital conflict on early adolescents' self-esteem and scholastic competence (Baron and Kenny 1986).

When controlling for early adolescents' initial level of self-esteem, we found no direct effect of marital conflict on their self-esteem 1 year later ($\beta = .07$, $p = .40$); the same was true for scholastic competence ($\beta = -.11$, $p = .15$). Thus, early adolescents' appraisals and parenting quality could not be examined as mediators in the link between marital conflict and early adolescents' self-evaluations. However, a predictor variable can be related to an outcome

variable indirectly through an intervening variable (MacKinnon et al. 2002). Thus, early adolescents' appraisals and parenting quality were examined as indirect effects in the four following models.

Structural Equation Analysis of the Two Overall Models Predicting Self-Esteem

The two overall models testing the indirect effects of early adolescents' appraisals (threat and self-blame; H2) and mothers' and fathers' quality (H3) in predicting their *self-esteem* are presented in Fig. 1. The theoretical models including mothers' or fathers' parenting provided a good fit to the data (see Fig. 2). Both were factorial invariant across time, model with maternal parenting: $\Delta\chi^2(1, n = 176) = 0.607$, $p = .44$; model with paternal parenting: $\Delta\chi^2(1, n = 176) = 0.455$, $p = .50$.

The standardized path coefficients in both models indicate that parents' negative conflict resolution was significantly linked with their children's perception of marital conflict. There was also in both models a positive association between early adolescents' self-esteem at Time 1 and Time 2. Furthermore, early adolescents' self-esteem at Time 1 was significantly related with their perception of parenting quality, but no links with their appraisals of threat and self-blame were found. Considering covariances between the indirect pathways, only early adolescents' awareness of parenting quality and their appraisal of self-blame were linked. No association was found between parenting quality and threat, and between self-blame and threat.

With respect to the indirect path from marital conflict via appraisal of threat to self-esteem (H2), early adolescents' perception of marital conflict at Time 1 was in both models significantly associated with early adolescents' appraisal of threat 1 year later, which, in turn, was negatively linked with their self-esteem at Time 2. However, this result was not found in either of the two models for their appraisal of self-blame (H2). Even though early adolescents' awareness of marital conflict was positively linked with their appraisals of self-blame across the 1-year period, there was no significant association between self-blame and early adolescents' self-esteem at Time 2.

Further, early adolescents' perception of marital conflict was positively related with their perception of parenting quality of mother and father 1 year later, which, in turn, was significantly related with their concurrent self-esteem. The path coefficients in the models with mothers' and fathers' parenting were of comparable size. Thus, concerning Hypothesis 3, parenting quality of both mothers and fathers plays an indirect role in the link between marital conflict and early adolescents' self-esteem.

Sobel-tests were conducted to analyze the significance of indirect paths from adolescents' perceived marital

¹ According to Arbuckle (2007) and Browne and Cudeck (1993) the fit indices of the measurement models point to a good model fit. Model for maternal parenting and self-esteem: $\chi^2: 114.491$, $df = 85$, $p < .05$, $n = 176$; $\chi^2/df: 1.347$; $RMSEA: .045$ (90% CI: .019–.064); $CFI: .957$; $TLI: .932$. Model for paternal parenting and self-esteem: $\chi^2: 100.552$, $df = 85$, $p = .120$, $n = 176$; $\chi^2/df: 1.183$; $RMSEA: .032$ (90% CI: .000–.055); $CFI: .976$; $TLI: .962$. Model for maternal parenting and scholastic competence: $\chi^2: 78.525$, $df = 60$, $p < .05$, $n = 176$; $\chi^2/df: 1.309$; $RMSEA: .042$ (90% CI: .000–.066); $CFI: .964$; $TLI: .937$. Model for paternal parenting and scholastic competence: $\chi^2: 61.908$, $df = 60$, $p = .408$, $n = 176$; $\chi^2/df: 1.032$; $RMSEA: .013$ (90% CI: .000–.049); $CFI: .996$; $TLI: .993$.

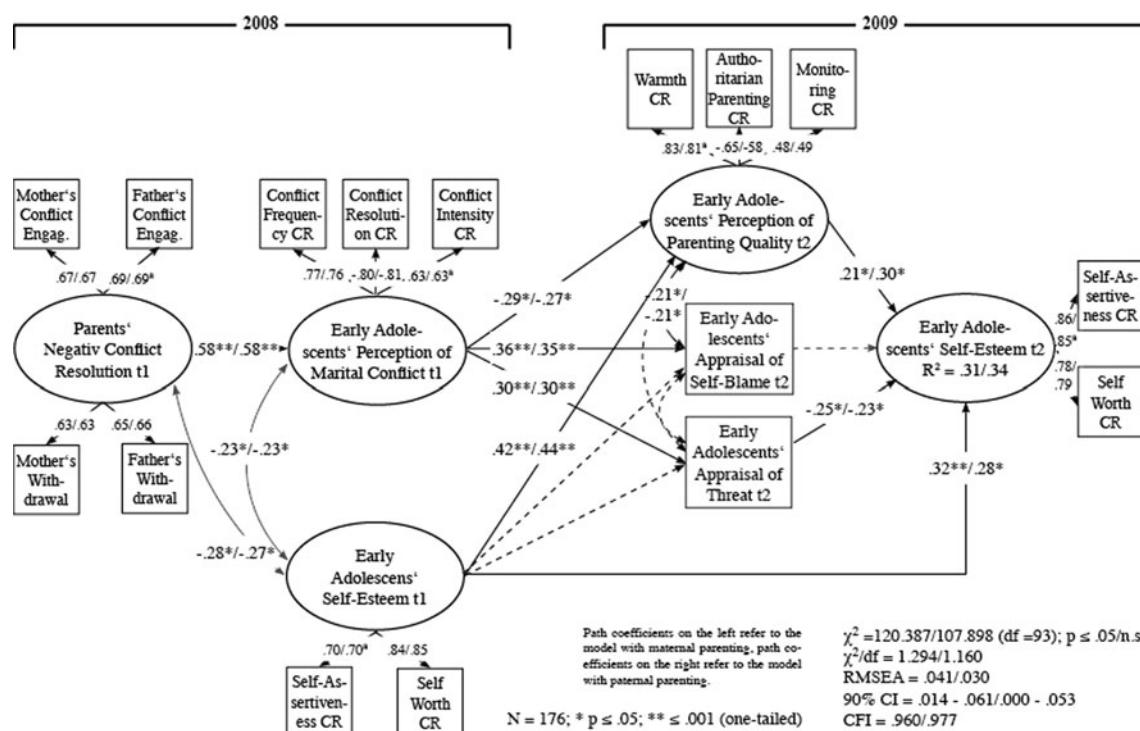


Fig. 2 Structural model of parents' negative conflict resolution, early adolescents' perceptions of marital conflict and their self-esteem at time 1 and early adolescents' perceptions of parenting quality, their

conflict to adolescents' self-esteem via adolescents' appraisal of threat and mothers' and fathers' parenting. The single indirect path via appraisal of threat was not significant, neither in the model with mothers' parenting, $z = 1.38$, $p = .168$, nor in the model with fathers' parenting: $z = 1.42$, $p = .156$. The same was true for the indirect path via mothers' parenting, $z = 1.64$, $p = .102$. The indirect path via fathers' parenting was significant at a trend level, $z = 1.91$, $p = .056$. However, analyses of the two indirect effects together revealed significant results in the model with mothers' parenting, $z = 2.23$, $p = .026$, and in the model with fathers' parenting, $z = 2.30$, $p = .021$.

In sum, early adolescents' perceptions of parenting quality of mothers and fathers together with their appraisals of threat, but not self-blame, were indirect pathways in the link between their perception of marital conflict and their self-esteem 1 year later after controlling for their initial level of self-esteem.

Structural Equation Analysis of the Overall Models Predicting Scholastic Competence

The two theoretical models again provided a good fit to the data, model with mothers' parenting, χ^2 : 120.387, $df = 93$, $p < .01$, χ^2/df : 1.679; RMSEA: .041 (90% CI: .014–.061); CFI: .904; model with fathers' parenting: χ^2 : 17.898,

appraisals of threat and self-blame and their self-esteem at time 2. Standardized path coefficients are presented. *a* Parameters set to 1.0 in the unstandardized solution. CR child report

$df = 93$, $p < .01$, χ^2/df : 1.535; RMSEA: .030 (90% CI: .000–.053); CFI: .921.

The coefficients in the two models for the associations between parents' negative conflict resolution, adolescents' perception of marital conflict, scholastic competence, adolescents' appraisals of threat and self-blame, and parenting quality did not differ substantially from the models presented in Fig. 2. The positive relationship between scholastic competence at Time 1 and Time 2 was somewhat higher than for self-esteem (model with mothers' parenting: $\beta = .54$, $p < .01$; model with fathers' parenting: $\beta = .47$, $p < .01$). Again, adolescents' perception of marital conflict was positively and significantly related to mothers' and fathers' parenting quality and appraisals of threat and self-blame. However, neither adolescents' appraisal of threat, nor their self-blame was significantly related to scholastic competence at Time 2 after controlling for the initial level at Time 1 in neither of the two models. With respect to scholastic competence H2 was not supported. Fathers' parenting quality was significantly linked to scholastic competence at Time 2 after controlling for scholastic competence at Time 1 ($\beta = .26$, $p < .01$) but not mothers' parenting quality. In partial accordance with H3, fathers' parenting indirectly linked marital conflict with scholastic competence.

Based on the results of the structural equation models, a Sobel-test was only conducted to test the indirect effect of

fathers' parenting. The test revealed a significant indirect effect of adolescents' perception of marital conflict to scholastic competence via fathers' parenting quality ($z = 2.064, p = .039$).

In sum, only the quality of fathers' parenting indirectly linked early adolescents' perception of marital conflict with scholastic competence 1 year later but not adolescents' appraisal of marital conflict and mothers' parenting quality.

Comparison of Theoretical Models

To test the hypothesis that early adolescents' appraisals as well as their perception of parenting quality are indirect pathways in the link between marital conflict and their self-evaluation (H4), we followed the procedure described in Davies et al. (2002) by comparing three different models. The specific paths estimated in each model are presented in Fig. 3. Non-significant paths of the model in Fig. 2, marked as dashed lines in both Figures, were constrained to zero.

The first model (cognitive-contextual model) contained the indirect effect of early adolescents' appraisals in the link between marital conflict and early adolescents' self-evaluations. In this model, the paths labeled "1" and "2a" in Fig. 2 (representing the indirect effect of early adolescents' appraisals) were allowed to vary freely. The other paths, representing the indirect effects of parenting quality (labeled "2b" and "3" in Fig. 2), were fixed to zero. The second model (parenting model) represents the indirect effect of parenting quality in the link between marital conflict and early adolescents' self-evaluations. In this model, the paths labeled "1" and "2b" in Fig. 2 (representing the indirect effect of parenting quality) were

allowed to vary freely, whereas the other paths, representing the indirect effect of early adolescents' appraisals, were fixed to zero. The model with no restrictions is the overall model integrating both mechanisms (early adolescents' appraisals as well as parenting quality) in a single model. In this model, all paths were allowed to vary freely as demonstrated in Fig. 3 and presented in Fig. 2 for self-esteem.

With respect to the models predicting self-esteem, the combined models provided a better representation of the data than the cognitive-contextual model (model with mothers' parenting: $\Delta\chi^2 = 54.60, \Delta df = 4, p < .001$; model with fathers' parenting: $\Delta\chi^2 = 55.79, \Delta df = 4, p < .001$) and the parenting model (model with mothers' parenting: $\Delta\chi^2 = 42.47, \Delta df = 4, p < .001$; model with fathers' parenting: $\Delta\chi^2 = 41.01, \Delta df = 4, p < .001$).

Concerning scholastic competence, the comparison with the overall model was reduced to the model with fathers' parenting which turned out to be the only significant indirect path in the model. The combined model represented the data better than the model with fathers' parenting: $\Delta\chi^2 = 47.65, \Delta df = 4, p < .001$. Nevertheless, we have to consider that only fathers' parenting but not appraisal of threat was a significant indirect pathway between marital conflict and scholastic competence.

Thus, integrating early adolescents' appraisals as well as maternal or paternal parenting quality in one model provides a better picture of the mechanisms explaining the link between marital conflict and early adolescents' self-esteem, which confirms Hypothesis 4. With respect to scholastic competence, the main pathway seems to be through fathers' parenting.

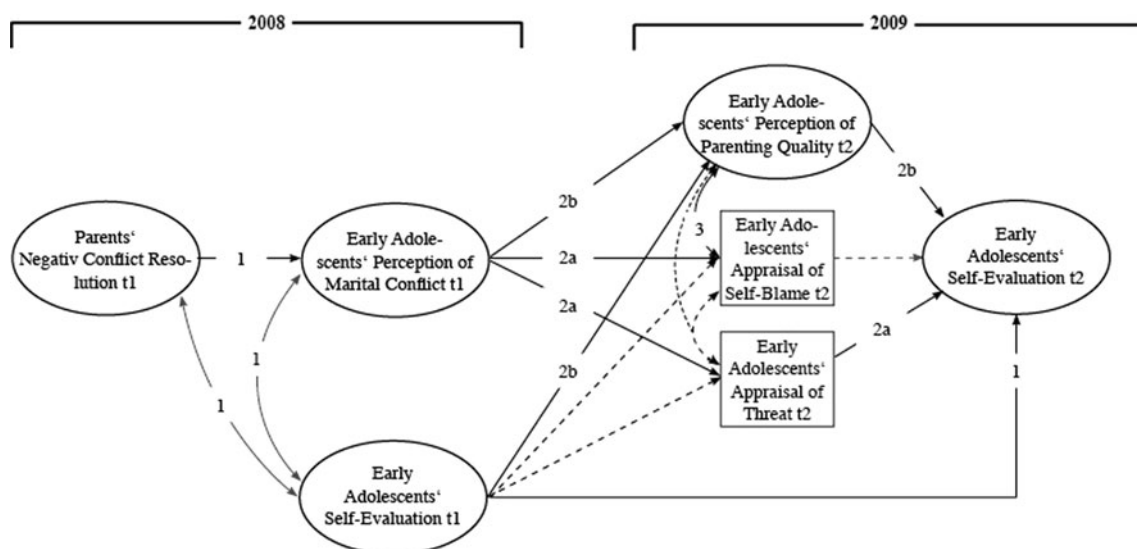


Fig. 3 A conceptual illustration of the alternative analytic models specified for testing the relative importance of each mediator in the link between marital conflict and early adolescents' self-evaluation

Discussion

The adverse effect of marital conflict on children's adjustment is well established (see the meta-analysis by Buehler et al. 1997). More recent research has focused on identifying processes that explain the link between marital conflict and children's adjustment. The present study refers to two seminal theoretical approaches that provide ideas about such mediational processes. One of them was the cognitive-contextual approach (Grych and Fincham 1990) which focuses on children's interpretation and appraisals of marital conflict. The other was the spillover hypothesis that proposed disruptions of the parent-child relationship as a reason for the negative effect of marital conflict for children's development. There is strong empirical evidence that corroborates both theoretical frameworks (e.g., Schoppe-Sullivan et al. 2007; Shelton and Harold 2008). However, studies that integrate both approaches in their analyses are rare (but see O'Donnell et al. 2010; Stocker et al. 2003). Thus, the aim of the present study was to test a model that integrates both theoretical approaches for a better explanation of adverse effects of marital conflict on early adolescents' adjustment. Further, we concentrated on an understudied outcome variable in an understudied age group: early adolescents' self-evaluations (self-esteem and scholastic competence). Therefore, we conducted structural equation modeling with data of two waves of a longitudinal study to test the direct effect of marital conflict on early adolescents' self-evaluation across a 1-year period and to test the indirect pathways in this association via early adolescents' appraisal of marital conflict (threat, self-blame) and via quality of mothers' and fathers' parenting. Analyses reveal that early adolescents' perception of marital conflict was indirectly related to a decrease in self-esteem through their perception of parenting quality of mothers and fathers and their appraisals of threat, but not through their appraisal of self-blame. Marital conflict was also indirectly related to a decrease of self-evaluated scholastic competence of the adolescents but only via fathers' parenting quality. The model comparison showed that both indirect pathways are needed for a better understanding of the link between marital conflict and early adolescents' long-term self-evaluation. Thus, we find some evidence for an integrative model of cognitive and familial mediators but we have to differentiate the findings for the global evaluation of self-esteem and the domain specific scholastic competence.

Contrary to our first hypothesis, no significant direct association between early adolescents' awareness of marital conflict and their long-term self-evaluations was found. Nevertheless, this finding is consistent with other studies documenting only indirect pathways between marital conflict and child adjustment (e.g., Davies et al. 2002; Harold

and Conger 1997). In their meta-analysis, Buehler et al. (1997) found that the effect size of marital conflict was low in samples in which the parental education was high. Given that the sample of the present study is biased toward higher education, this may be an explanation for the non-significant path. Even though there is no mediation, the results show that there are indirect effects of marital conflict on early adolescents' self-evaluation through their appraisals of the conflict and their perception of parenting.

In Hypothesis 2, we expected an indirect pathway from marital conflict to self-evaluations via early adolescents' appraisals of threat and self-blame. The results support this hypothesis partly. As postulated, early adolescents' appraisal of threat played an important role in the link between their awareness of marital conflict and their self-esteem. An explanation for this result may be that adolescents' perceived threat is personally relevant and, therefore, is related to intrusive thoughts or feelings that are associated with inner distress and de-evaluation of the self (Gerard et al. 2005). In contrast, the self-rated scholastic competence was not affected by adolescents' appraisal of threat. Harter (2003) classified scholastic competence as a parent-salient self-concept. It may not be as affected by internal interpretations of the conflict as a general evaluation of the self. Instead, scholastic competence seems to be stronger influenced by previous academic achievement (Bouchey and Harter 2005; Kokkinos and Hatzinikolaou 2011). Unfortunately, in our study we do not have information about school grades. So, we could not test this assumption. Nevertheless, the present study supports the expectation of the cognitive-contextual approach that adolescents' appraisal of threat is an indirect pathway through which marital conflict affects self-esteem negatively.

Contrary to the Hypothesis 2 and to most other studies (e.g., Gerard et al. 2005; McDonald and Grych 2006; Shelton and Harold 2008; Stocker et al. 2003), early adolescents' appraisal of self-blame did not connect marital conflict and their self-evaluations, although there was a positive relationship between marital conflict and self-blame. A possible explanation for these non-significant associations is the low variance of the scale, given that most early adolescents in our study did not blame themselves for marital conflict (see Table 1). This methodological argument is underlined by findings from another study with the same data set which did not find a relationship between self-blame and internalizing and externalizing problems of the early adolescents (Siffert and Schwarz 2011a).

As expected in Hypothesis 3, we found support for the spillover hypothesis. Early adolescents who reported more severe marital conflicts, perceived mothers' and fathers' parenting quality less positive, which, in turn, led to

decreased self-esteem over time. In addition, perceived marital conflict was negatively related to fathers' parenting quality, which in turn decreased scholastic competence. As demonstrated in other studies (e.g., Krishnakumar and Buehler 2000), children who witness frequent, unresolved and intense conflicts between their parents tend to interpret parenting quality as less positive than children who witness little or no marital conflict. In the present study, the extent to which early adolescents' perception of parenting quality reflects parents' true behavior remains an open question, as only early adolescents' perspectives were assessed. Nevertheless, their perceptions and interpretations of a less positive parent–child relationship influence their “working models” of relationships in a negative way. Thus, the negative effects of marital conflict spill over to the early adolescents' internal representation of the relationship with the parents.

The present study differentiated between perceived mothers' and fathers' parenting quality. Although we could not integrate both into one model due to the high inter-correlations, the study supports the expectation that both mothers and fathers are important for early adolescents' self-esteem. This is in accordance with other studies on the relationship between mothers' and fathers' parenting and self-esteem (Bulanda and Majumdar 2009; Milevsky et al. 2007; Plunkett et al. 2007). However, the result that only fathers' parenting is associated with scholastic competence but not mothers' parenting is surprising. To our knowledge, no other study on the relationship between parenting and scholastic competence has investigated mothers' and fathers' parenting separately. So, an interpretation of this result is difficult. In a study on the association between parents' perception of scholastic competence and early adolescents' self-perception of scholastic competence, only fathers' perception not mothers' perception was significantly related to male adolescents' self-perception (Trent et al. 1996). From our perspective, the evidence is too weak to draw plausible conclusions about the different roles of fathers' and mothers' parenting for their adolescents' perception of scholastic competence.

An important aim of the study was to show that the integration of two theoretical approaches is a better representation of the reality than focusing only on one mediating process (H4). Therefore, two comprehensive models that included adolescents' appraisals of marital conflict and their perception of mothers' and fathers' parenting were tested. With respect to self-esteem as a dependent variable, Sobel-tests show that no single indirect effects are significant by themselves but that they are simultaneously. In addition, the model comparison in AMOS testing for the strength of an integrative model against models supporting solely one theory clearly show that marital conflict influences self-esteem through multiple pathways (Emery et al.

1992). Adolescents' appraisal of threat and their perception of parenting quality together are needed to represent the complex reality of the effects of marital conflict on adolescents' self-esteem.

For scholastic competence, the Sobel-tests revealed only an indirect path via fathers' parenting as significant but in the model comparison comprising both processes, appraisal of threat and fathers' parenting fitted better to the data than the single process model with fathers' parenting. Although the picture for scholastic competence is not as clear as those for self-esteem, it seems that here the spillover hypothesis is more strongly supported than the cognitive-contextual or the integrative model. This underlines that different processes are relevant for different aspects of early adolescents' self-evaluation.

In sum, the present study contributes to the debate about the interconnected nature of different processes such as cognitive, emotional, and family processes that can explain negative effects of marital conflict on children's adjustment (Davies et al. 2002; O'Donnell et al. 2010; Stocker et al. 2003). Since there are only a few studies that have investigated more than one of these processes, further research is needed on integrative models of all three processes (cognitive, emotional, and familial) with a broader range of outcome variables.

Many prior studies confirmed the mediational role of parenting quality and adolescents' appraisals in the relationship between marital conflict, and children's as well as adolescents' internalizing and externalizing problems, but studies have not investigated self-esteem and self-evaluated scholastic competence as outcome variables (see also Harold and Conger 1997; O'Donnell et al. 2010). Given the importance of low self-esteem of adolescents for problems in the long-term development (Boden et al. 2008; Orth et al. 2008; Trzesniewski et al. 2006), and of perceived scholastic competence for academic achievement (Bouchey and Harter 2005; Marsh et al. 2006; Rosenberg et al. 1995), the present study adds knowledge to the influences of dysfunctional family processes on the development of self-evaluation during the vulnerable period of early adolescence.

In interpreting the results of the study, some methodological shortcomings must be considered. First, the results of our study may only be generalizable to higher educated relatively well functioning families. Replications of our findings with other families (e.g., couples with lower socioeconomic status, with higher levels of distress, or divorced families) would be useful. Second, with $n = 89$ girls and $n = 87$ boys, the sample size was too small to analyze gender differences in a structural equation model. In the present study, most variables were assessed from the perspective of the adolescent. With respect to marital conflict, the inclusion of adolescents' perceptions and appraisals of

the conflict follows the requirements of the cognitive-contextual approach (Grych and Fincham 1990). However, mothers' and fathers' reports concerning marital conflict were included as well to validate early adolescents' awareness of marital conflict. Concerning self-esteem, we rely only on adolescents' report since an evaluation of oneself is needed here. However, it was not possible to build a measurement model of parenting quality based on parents' and adolescents' reports. This finding is in line with other studies, which have underlined that the perspectives of parents and adolescents on family processes are not coherent (Larson and Richards 1994). We restricted the design of the study to the predictor variable marital conflict assessed at Time 1, the mediator variables assessed at Time 2, and only the outcome variables were assessed at Time 1 and 2. The question whether change in marital conflict is related with change in adolescents' adjustment was beyond the scope of the present study, which focused on the mediational processes. With data available from three times of assessment, further analyses could be conducted that also consider effects of change in marital conflict.

In sum, the present study indicates that marital conflict appears to be as problematic for early adolescents' self-esteem as it is for other aspects of their adjustment when the adolescent interpreted it negatively. To maintain high self-esteem in light of marital conflict, adolescents should be supported in overcoming feelings of threat. Furthermore, the impairment of a positive parent–child relationship is as important as early adolescents' appraisals for the impact of marital conflict on adolescents' self-evaluation.

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