Mediating effects of negative emotions in parent–child conflict on adolescent problem behavior

Kuang-Hui Yeh
Institute of Ethnology, Academia Sinica, Nankang, Taipei, Taiwan

Hierarchical regression analyses were used to study four types of negative emotions (rage, resentment, perceived threat, and self-blame) as possible mediators of the effect of parent–child conflict on internalizing (psychosomatic symptoms and social withdrawal) and externalizing (violent aggression and deviance) behavior in 724 adolescents. After controlling for demographic variables, the results showed that for both parents conflict had a positive main effect on internalizing and externalizing behavior. Of the four types of negative emotions, rage was the strongest mediator to mediate the effect of conflict on violent aggression, and resentment was the strongest mediator to mediate the effect of conflict on psychosomatic symptoms, social withdrawal, and deviant behavior. Implications and limitations of the study are discussed, and suggestions for future research are offered.

Key words: externalizing problem, internalizing problem, mediator, parent–child conflict, rage, resentment.

Introduction

The impact of the parent–child relationship on adolescent adjustment has been a topic of concern in several disciplines, including education, psychology, psychiatry, sociology, and social work. For many years, clinicians have treated parent–child conflict as a critical source of adolescent problem behavior (Foster & Robin, 1988). Even in the large number of studies testing normal adolescents, parent–child conflict has been found to contribute to adolescent maladjustment, including depression (Deković, 1999; Greenberger & Chen, 1996), low self-esteem (Deković; Shek, 1997), conduct problems at school (Chiu, Shiu, & Lee, 2002; Shek), antisocial behavior (Shek & Ma, 2001), as well as emotional distress and a poor sense of well-being (Shek, 1998). However, there has been little research on the underlying processes that could explain how parent–child conflict results in adolescent problem behavior. As a result, there are no procedures that have been proven effective in improving adolescent adjustment by enhancing parent–child relations.

It has been suggested that parent–adolescent conflict might result in adolescent maladjustment, because the conflict can be regarded as a stressor that affects the emotional life of the adolescent (Shek, 1997). For many adolescents, parent–child conflict is the primary source of stress in their daily life (Chan, 1998). Adolescents often yearn for guidance or support when disagreeing with parents, especially when seeking increased personal autonomy. Strong disagreement, leading to negative emotion, might gradually reduce the adolescent’s emotional regulation ability, which in turn leads to maladjustment. Whether the conflict triggers problem behavior depends on the adolescent’s cognitive appraisal of the conflict, as well as the level of negative emotion aroused in the adolescent. If the adolescent interprets the conflict as natural or constructive, the result can be a neutral or positive outcome (Holmbeck, 1996). If, however, the adolescent interprets the disagreement negatively, then negative emotion is easily aroused, and the likely result is problem behavior.

I propose that parent–child conflict in daily life is stressful or unpleasant and the source of four types of negative emotions: rage, resentment, perceived threat, and self-blame, which are triggered by different types of conflict situations. These four negative emotions are introduced as possible mediators of the relationship between parent–child conflict and adolescent psychological maladjustment.

Rage is a state of extreme, violent, or uncontrollable anger characterized by impulsiveness; it tends to be expressed when faced with an attack to one’s self-esteem (Anderson, 2001). It was chosen for the present study not only because it is frequently associated with parent–child conflict, but also because it is considered to be a core antecedent of violent or aggressive behavior (Rule & Nesdale, 1976; Swinford, DeMaris, Cernkovich, & Giordano, 2000). Rage is especially likely to be a mediator when the conflict leads to behavior that is violent.

Resentment is a feeling of indignant displeasure or persistent ill will directed at a target regarded as involved in perpetrating an injustice, insult, or injury against one (Retzinger, 1985). Although both rage and resentment stem from anger, rage is more immediate, explosive, intense, impulsive, and uncontrollable than resentment. Unlike rage,
which is often an outbreak of public anger and accompanied by distorted facial expressions and intense verbal or physical counterattacks, resentment is generally characterized as a bitter indignation and an implosive anger that is not delivered, but directed inward after having been treated unfairly or offended. Roth, Assor, Niemiec, Ryan, and Deci (2009) recently found that resentment towards parents mediated the relationship between a conflict caused by withdrawal of parental love and an adolescent’s emotional dysfunction and academic disengagement. This finding implies that the mediating role of resentment is especially likely when the adolescent’s behavior expresses an internalizing problem, because resentment and internalizing problems share an inward focus.

Perceived threat is a negative emotion caused by the anticipation of harm from an event perceived as potentially stressful (Carpenter, 2005; Folkman, Lazarus, Gruen, & DeLongis, 1986). It has been identified as a possible mediator in the relationship between parent–child conflict and psychological maladjustment in adolescents (Yeh, Tsao, & Chen, 2010), especially when the conflict also creates an internalizing problem, such as anxiety or depression.

Self-blame is attribution to the self of responsibility for a conflict, along with associated feelings, such as guilt and regret. There is evidence that character self-blame (an esteem-related, relatively unmodifiable source associated with the belief that one deserves to be blamed for past negative outcomes), but not behavioral self-blame (a modifiable source that can avoid future negative outcomes), is significantly associated with depression and helplessness (Miller & Porter, 1983; Wu, 1996). This finding implies that adolescents who habitually blame themselves and feel regret and guilt for conflict with their parents are likely to develop problem behaviors, especially internalizing problems (e.g. social withdrawal), if the conflict persists.

Despite the relatively high comorbidity of externalizing and internalizing problems in adolescence, there are certain distinctions between them. Previous studies have supported that different types of negative emotions (Eisenberg et al., 2001) or cognitive regulation styles (Garnefski, Kraaij, & van Etten, 2005) relate, respectively, to externalizing and internalizing problems. In this study, I distinguish externalizing from internalizing problems in order to clarify the different mediating mechanisms of four types of negative emotional arousals due to parent–adolescent conflict. I did not address anxiety and depression as outcomes in the study because they are emotionally complex and tend to be confounded with the potential mediators of primary interest. Rather, clear behavioral outcomes were chosen as the dependent variables. Specifically, psychosomatic symptoms and social withdrawal were chosen to represent internalizing problems, and violent and deviant behavior was chosen to represent externalizing problems.

According to the preceding discussion, I hypothesize that rage primarily mediates the association between parent–child conflict and violent aggression problems, because rage is easily exposed when the conflict originates from inappropriate parenting behavior, such as abuse, disrespect, or attack on an adolescent’s self-esteem. In turn, it is likely to be a trigger, resulting in violent or reactive aggression towards parents and others (Reckling & Buirski, 1996). Resentment, perceived threat, and self-blame are hypothesized to primarily mediate the association between parent–child conflict and internalizing problems. The mediation is expected because resentment is likely to be caused by conflict due to perceived parental injustice or love withdrawal, perceived threat caused by severe parent–child conflict, and self-blame caused by the adolescent’s coping style (feeling blame, regret, and guilt for conflict with parents). These negative emotional arousals might result in later internalizing problems, because they all share an inward focus.

Method

Participants and procedure

The participants were 724 students (347 males and 377 females) in grade 7 (M age = 13.34 years, SD = 0.50) from nine middle schools in Taiwan. With the consent of their teachers and parents, they completed a 30-min self-report questionnaire with separate father and mother sections. The questionnaire was presented in class in a counterbalanced order (father–mother or mother–father). Participation was voluntary, and confidentiality was ensured. Approximately 84% of the participants lived with both parents. The average age of the fathers was 44.46 years (SD = 5.54), and of the mothers, 41.16 years (SD = 4.92). Most parents (59.4% of fathers, 55.5% of mothers) were middle-class technicians and service or sales workers. Approximately one-quarter (26.5%) of the mothers were housewives.

Measures

Parent–child conflict. The 20-item scale measuring parent–child conflict was adapted from the Parent–Child Interaction Scale-Short Form (Yeh & Bedford, 2004), which has been supported as a valid measure of parent–child relations in Taiwanese samples (Yeh, Liu, Huang, & Yang, 2007; Yeh et al., 2010). Each item describes a potential conflict situation (e.g. chores, curfew, friends, and grades). Participants indicated both the frequency and intensity of the conflict on a four-point scale ranging from 0 (‘never, has no impact on my life’) to 3 (‘always, has great impact on my life’). If the frequency was rated at ‘never’ (0), the intensity was set at ‘has no impact’ (0). Each item was presented separately for the father and the mother.
Sample items are ‘Father/mother objects to the extracurricular activities in which I participate’, and ‘Father/mother intervenes in my choice of friends’. The total score is the sum of the frequency and intensity ratings. Internal consistency (Cronbach’s alpha) was acceptable for both the father (0.86 for frequency, 0.88 for intensity) and the mother (0.88, 0.89) versions.

**Negative emotional arousal.** Negative emotional arousal was measured by asking the adolescents about their negative feelings or experiences arising from conflict with their parents. Four scales were developed by the author to measure the four types of conflict-related emotion discussed earlier (rage, resentment, perceived threat, and self-blame). All items were taken from previously published scales, and modified to be specifically applicable to parent-child conflict. Each item was presented separately for the father and the mother. Participants indicated their agreement with each item on a six-point scale ranging from 0 (‘strongly disagree’) to 5 (‘strongly agree’).

Rage was assessed by asking the adolescents to appraise harm to their self-esteem and sudden emotional impulses accompanied by the feeling of losing control during conflict with their parents. This 12-item scale was adapted from the Reactive Anger and Anger Control subscales of the Adolescent Anger Rating Scale (Burney & Kromrey, 2001) and from the Anger-Arousal subscale of the Multidimensional Anger Inventory (Siegel, 1986). Example items are: When I get into a conflict with my father/mother, ‘he/she makes me feel out of control’, and ‘I can’t keep from yelling or shouting at him/her’. Cronbach’s alpha was satisfactory for both the father (0.91) and the mother (0.91) versions.

Resentment was assessed by asking the adolescents about feelings of unfairness, being ignored, revenge, or feeling mortified during the conflict. The 14 items were adapted from the Social Characteristics and Personal Goals and Standards subscales of the Comparative Feeling of Inferiority Index (Dixon & Strano, 1989). Example items are: When I get into a conflict with my father/mother, ‘I feel mortified’ and ‘I curse or talk back silently’. Cronbach’s alpha was satisfactory for both the father (0.91) and the mother (0.91) versions.

Perceived threat was assessed by asking the adolescents to estimate their incurred harm or loss after the conflict and to assess their feelings of worry about it. The 12 items were adapted from the Rejection by Others, Negative Evaluation by Others, and Loss of Desired Other/Objects subscales of the Threat Appraisal Scale (Prevention Research Center, 1999). Example items are: after getting into conflict with my father/mother, ‘I worry I won’t be supported by him/her anymore’ and ‘I am afraid of being punished by him/her’. Cronbach’s alpha was satisfactory for both the father (0.92) and the mother (0.93) versions.

Self-blame was defined in terms of character, as proposed by Janoff-Bulman (1979). The adolescents were asked to assess their self-attributions that arose after the conflict and their enduring feelings of guilt associated with the conflict. The scale has nine items. Example items are: after getting into conflict with my father/mother, ‘I feel regret’ and ‘I feel disappointed in myself’. Cronbach’s alpha was satisfactory for both the father (0.94) and the mother (0.94) versions.

**Internalizing behavior problems.** Two self-report scales were used to measure internal behavior problems. Participants indicated the frequency of the specific problem behaviors on a six-point scale ranging from 0 (‘never’) to 5 (‘always’).

Psychosomatic complaints were measured by a 17-item scale. The items were adapted from the Somatic Complaints, Thought Problems, and Attention Problems subscales of the Child Behavior Checklist–Youth Self-Report Form (CBCL-YSR) for ages 11–18; Achenbach, 1991). Cronbach’s alpha for the scale was 0.92.

Social withdrawal was measured by a 10-item scale. The items assessed adolescent behavior, such as refusing to talk with others or being secretive, passive, dispirited, or timid. They were selected from the Withdrawal subscale of the CBCL-YSR (Achenbach, 1991) and the Withdrawal/Timidity subscale of the Adolescent Social Behavior Scale (Hung, 1997). Cronbach’s alpha for the scale was 0.85.

**Externalizing behavior problems.** Two self-report scales were used to measure external behavior problems on the same six-point scale used for internalizing problems.

Violent aggression was measured by an eight-item scale. The items assessed severe aggression or violent behavior in adolescents. They were taken from the Physical and Verbal Aggression subscales of the Aggression Questionnaire (Buss & Perry, 1992) and from the Aggressive Behavior subscale of the CBCL-YSR. Cronbach’s alpha for the scale was 0.79.

Deviant behavior was measured by an 18-item scale. Most of the items were adapted from the Delinquent Behavior subscale of the CBCL-YSR, with the remainder taken from the Activity Experience Scale (Yang & Wu, 1988). The latter items were chosen because they address commonly prohibited behaviors in Taiwanese high schools that are not tapped by the CBCL-YSR. Cronbach’s alpha for the scale was 0.85.

**Results**

Means, standard deviations, and correlations for all major variables were calculated separately for the father and the
mother versions (Table 1). The mean differences between father and mother on the magnitude of conflict and the mediators (rage, resentment, perceived threat, and self-blame) were all significant \[ t(723) = -9.40, -4.28, -4.21, -4.41, \text{and} -3.19, \text{respectively; all} \ p < 0.001 \]. Conflict magnitude and negative emotions were greater with the mother than the father, perhaps because the mother is more likely to be the primary caregiver and interacts more with the adolescent, thereby creating more opportunity for conflict and the arousal of negative emotion.

The correlation patterns for the mother and father were almost identical. The greater the conflict, the more the adolescents recognized their emotional arousal, and the more internalizing (psychosomatic symptoms and social withdrawal) and externalizing (violent aggression and deviant behavior) problem behaviors they reported. With the exception of self-blame, which was not associated with deviant behavior or violent aggression for either parent, the greater the adolescents’ negative emotional arousal due to conflict, the more internalizing and externalizing problem behaviors they reported. All the internalizing and externalizing problem behaviors correlated moderately and significantly with one another.

Demographic variables (adolescents’ sexes, family structures, both parents’ education levels) were entered into Block 1 in the hierarchical regression analyses as control variables. Conflict was entered into Block 2 to test its main effect on problem behaviors. The four negative emotions were entered simultaneously into Block 3 to test their mediating effects on the relation between conflict and the four types of problem behaviors.

**Internalizing problems**

The results for internalizing problems are summarized in Table 2.

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Table 1  Means, standard deviations, and Pearson correlations for major variables

<table>
<thead>
<tr>
<th>Variables</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>M (mother)</th>
<th>SD (mother)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Parent–child conflict</td>
<td>0.56*</td>
<td>0.62*</td>
<td>0.55*</td>
<td>0.31*</td>
<td>0.17*</td>
<td>0.42*</td>
<td>0.29*</td>
<td>0.30*</td>
<td>0.28*</td>
<td>33.79</td>
<td>21.14</td>
</tr>
<tr>
<td>2. Rage</td>
<td>0.57*</td>
<td>0.63*</td>
<td>0.75*</td>
<td>0.29*</td>
<td>0.21*</td>
<td>0.52*</td>
<td>0.40*</td>
<td>0.40*</td>
<td>0.30*</td>
<td>17.27</td>
<td>14.67</td>
</tr>
<tr>
<td>3. Resentiment</td>
<td>0.52*</td>
<td>0.73*</td>
<td>0.77*</td>
<td>0.44*</td>
<td>0.44*</td>
<td>0.61*</td>
<td>0.53*</td>
<td>0.34*</td>
<td>0.30*</td>
<td>28.27</td>
<td>16.97</td>
</tr>
<tr>
<td>4. Perceived threat</td>
<td>0.34*</td>
<td>0.25*</td>
<td>0.39*</td>
<td>0.74*</td>
<td>0.64*</td>
<td>0.37*</td>
<td>0.30*</td>
<td>0.16*</td>
<td>0.12*</td>
<td>25.30</td>
<td>17.22</td>
</tr>
<tr>
<td>5. Self-blame</td>
<td>0.15*</td>
<td>0.17*</td>
<td>0.38*</td>
<td>0.65*</td>
<td>0.75*</td>
<td>0.34*</td>
<td>0.33*</td>
<td>0.06</td>
<td>0.04</td>
<td>12.51</td>
<td>9.00</td>
</tr>
<tr>
<td>6. Psychosomatic symptoms</td>
<td>0.40*</td>
<td>0.47*</td>
<td>0.56*</td>
<td>0.36*</td>
<td>0.33*</td>
<td>–</td>
<td>0.67*</td>
<td>0.33*</td>
<td>0.33*</td>
<td>24.77</td>
<td>18.38</td>
</tr>
<tr>
<td>7. Social withdrawal</td>
<td>0.29*</td>
<td>0.36*</td>
<td>0.47*</td>
<td>0.27*</td>
<td>0.25*</td>
<td>0.67*</td>
<td>–</td>
<td>0.31*</td>
<td>0.27*</td>
<td>15.79</td>
<td>10.30</td>
</tr>
<tr>
<td>8. Violent aggression</td>
<td>0.27*</td>
<td>0.34*</td>
<td>0.30*</td>
<td>0.17*</td>
<td>0.07</td>
<td>0.33*</td>
<td>0.31*</td>
<td>–</td>
<td>0.57*</td>
<td>6.40</td>
<td>4.84</td>
</tr>
<tr>
<td>9. Deviant behavior</td>
<td>0.28*</td>
<td>0.29*</td>
<td>0.29*</td>
<td>0.13*</td>
<td>0.03</td>
<td>0.33*</td>
<td>0.27*</td>
<td>0.57*</td>
<td>–</td>
<td>5.53</td>
<td>6.33</td>
</tr>
</tbody>
</table>

Statistics for fathers are below the diagonal, and those for mothers are above the diagonal. Statistics on the diagonal (bold) are correlations between the father and the mother. * \( p < 0.01 \).

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**Psychosomatic symptoms**

Two control variables, sex (\( \beta = 0.18, \ p < 0.05 \)) and the father’s education level (\( \beta = -0.09, \ p < 0.05 \)), were significantly associated with psychosomatic symptoms in the adolescents. Specifically, female adolescents or adolescents with fathers with a low education level were most vulnerable to these symptoms. With demographic variables controlled, both conflict with the father (\( \beta = 0.40, \ p < 0.01 \)) and that with the mother (\( \beta = 0.41, \ p < 0.01 \)) had a positive main effect on adolescents’ psychosomatic symptoms. The more conflict there was, the more severe the adolescents’ psychosomatic symptoms. This main effect was partially mediated by all four types of negative emotions for the father (the Sobel test, \( z = 2.49, 6.06, 2.08, \) and \( 2.03, \) for rage, resentment, perceived threat, and self-blame, respectively, all \( p < 0.05 \)) and by all but self-blame for the mother (\( z = 2.69, 6.92, \) and \( 2.06, \) all \( p < 0.05 \)). However, among the mediating effects, resentment was the most powerful.

**Social withdrawal**

Three control variables, sex (\( \beta = 0.11, \ p < 0.05 \)), father’s education (\( \beta = -0.10, \ p < 0.05 \)), and family structure (\( \beta = 0.09, \ p < 0.05 \)), were significantly associated with adolescents’ social withdrawal. Female adolescents or adolescents with fathers with a low education level or who lived in a single-parent household were most vulnerable to social withdrawal. With demographic variables controlled, both conflict with the father (\( \beta = 0.29, \ p < 0.01 \)) and that with the mother (\( \beta = 0.29, \ p < 0.01 \)) had a positive main effect on adolescents’ social withdrawal. The greater the conflict, the more the adolescents withdrew socially. For the father, this main effect was fully mediated by resentment (the Sobel test, \( z = 6.54, \ p < 0.001 \)); for the mother, it was fully mediated by resentment and self-blame (\( z = 7.44 \) and \( 2.22, \) for resentment and self-blame, respectively, both \( p < 0.05 \)).
Table 2  Betas from the hierarchical regression analyses for parent–child conflict, and negative emotions predicting internalizing problems

<table>
<thead>
<tr>
<th>Predictors</th>
<th>Psychosomatic symptoms</th>
<th>Social withdrawal</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Father</td>
<td>Model 1</td>
</tr>
<tr>
<td></td>
<td>Mother</td>
<td>Model 2</td>
</tr>
<tr>
<td></td>
<td>Father</td>
<td>Model 2</td>
</tr>
<tr>
<td></td>
<td>Mother</td>
<td>Model 2</td>
</tr>
<tr>
<td></td>
<td>Model 2</td>
<td>Model 3</td>
</tr>
<tr>
<td>Sex†</td>
<td>0.18***</td>
<td>0.17***</td>
</tr>
<tr>
<td>Father’s education‡</td>
<td>-0.09*</td>
<td>-0.10**</td>
</tr>
<tr>
<td>Mother’s education‡</td>
<td>-0.01</td>
<td>-0.01</td>
</tr>
<tr>
<td>Family structure§</td>
<td>0.06</td>
<td>0.05</td>
</tr>
<tr>
<td>Parent–child conflict</td>
<td>0.40***</td>
<td>0.13***</td>
</tr>
<tr>
<td>Negative emotions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rage</td>
<td>0.12*</td>
<td>0.13**</td>
</tr>
<tr>
<td>Resentment</td>
<td>0.32***</td>
<td>0.38***</td>
</tr>
<tr>
<td>Perceived threat</td>
<td>0.09*</td>
<td>0.08**</td>
</tr>
<tr>
<td>Self-blame</td>
<td>0.10*</td>
<td>0.06</td>
</tr>
<tr>
<td>ΔR²</td>
<td>0.05</td>
<td>0.16</td>
</tr>
<tr>
<td>ΔF</td>
<td>9.14***</td>
<td>142.35***</td>
</tr>
</tbody>
</table>

*p < 0.05, **p < 0.01, ***p < 0.001. †Sex is a dummy variable (1 = female, 0 = male). ‡Education is an ordinal variable (1 = elementary school, 2 = middle school, 3 = high school, 4 = junior college, 5 = university, 6 = graduate school), but is treated as continuous in the regression model. §Family structure is a dummy variable (1 = single-parent family, 0 = two-parent family).
As with psychosomatic symptoms, resentment was the most influential mediator of adolescents’ social withdrawal of the four negative emotions.

**Externalizing problems**

The results for externalizing problems are summarized in Table 3.

**Violent aggression**

Two control variables, sex ($\beta = -0.15$, $p < 0.05$) and the father’s education level ($\beta = -0.11$, $p < 0.05$), were negatively associated with adolescents’ violent aggression. Male adolescents, or those whose fathers had a low education level, were most vulnerable to violent aggression. With demographic variables controlled, both conflict with the father ($\beta = 0.28$, $p < 0.01$) and that with the mother ($\beta = 0.32$, $p < 0.01$) had a positive main effect on adolescents’ violent aggression. The greater the conflict, the more violent the adolescents were. For both the father and the mother, this main effect was fully mediated by rage and resentment (the Sobel test, father: $z = 4.01$ and 2.05, both $p < 0.05$; mother: $z = 4.56$ and 2.89, both $p < 0.01$). Rage was the most influential mediator of adolescents’ violent aggression of the four negative emotions.

**Deviant behavior**

Two control variables, sex ($\beta = -0.10$, $p < 0.05$) and family structure ($\beta = 0.10$, $p < 0.05$), were significantly associated with adolescents’ deviant behavior. Male adolescents or those living in a single-parent family were most vulnerable to deviant behavior. With demographic variables controlled, both conflict with the father ($\beta = 0.28$, $p < 0.01$) and with the mother ($\beta = 0.29$, $p < 0.01$) had a positive main effect on adolescents’ deviant behavior. The greater the conflict, the more the adolescents exhibited deviant behavior. This main effect was partially mediated only by resentment for both the father (the Sobel test, $z = 3.31$, $p < 0.001$) and the mother ($z = 3.73$, $p < 0.001$).

**Discussion**

Adolescents have frequent conflicts with their parents about psychological adjustment issues. The close relation of these issues to the arousal of negative emotions in adolescents complicates the underlying mechanism. Controlling for demographic variables, the current study confirmed previous findings (Shek, 1998; Shek & Ma, 2001; Yeh et al., 2010) that the more conflicts adolescents have with either their father or their mother, the more they exhibit internalizing and externalizing problem behaviors. The present study goes further to reveal that specific negative emotions (rage, resentment, perceived threat, and self-blame) aroused by the conflict fully or partially mediate the effects of the conflict on adolescent problem behaviors. As expected, for both parents, the mediating effect of rage was stronger for violent aggression than for the other three problem behaviors. Previous studies have shown that conflict resulting from inappropriate parenting behavior can create aggression problems (Reckling & Buirski, 1996; Yeh et al., 2010) and also suggests that harsh, abusive, disciplinary practices engender feelings of rage in children (Guerney, Waldo, & Firestone, 1987). Results of this study indicated that the rage caused by the conflict with parents is likely to induce violent aggressive behavior. Future studies should identify what particular types of parent–child conflict generate adolescent rage in order to generate solutions for reducing the risk of parent–child conflict leading to adolescent violence.

As expected, for both parents, the mediating effect of resentment for internalizing problems was supported; it was the strongest of the four negative emotions. Roth et al. (2009) found that resentment towards parents resulting from parental withdrawal of love, mediated the relationship between improper parenting and poor control of emotions and academic disengagement in adolescents. In that study, a conflict was most likely to induce adolescent resentment towards parents when the conflict resulted from parental conditional negative regard (i.e. parents withdrawing attention and affection when their adolescent failed to act as they expected). In such cases, conflict led to poor regulation of emotion and behavior problems via resentment towards parents. This explanation of parent–child conflict leading to problem behavior via poor regulation of resentment was supported by the findings of this study, especially adolescent psychosomatic symptoms and social withdrawal. However, for both parents, the mediating effect of resentment on externalizing problems was also significant, and particularly resulted in deviant behavior. This is an unexpected result. The possible reasons may be: (i) the outlet of resentment might not always be inward, but sometimes outward when repression of indignant displeasure is exhausted. The most likely result is deviance; (ii) resentment is a complicated emotion that blends anger, spite, hatred, and bitterness. It might be expressed inwardly or outwardly, depending on the situation; and (iii) the medium correlation or co-occurrence between internalizing and externalizing problems in the present study is also a possible source. No matter what the reason is, the link between this ignored emotion and adolescent problem behavior deserves more attention.

For both the father and the mother, perceived threat had a significant mediating effect with psychosomatic symptoms, but not social withdrawal behavior. However, when perceived threat was entered alone rather than
<table>
<thead>
<tr>
<th>Predictors</th>
<th>Violent aggression</th>
<th>Deviant behavior</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Father</td>
<td>Mother</td>
</tr>
<tr>
<td>Demographic control variables</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sex†</td>
<td>-0.16***</td>
<td>-0.11***</td>
</tr>
<tr>
<td>Father’s education‡</td>
<td>0.11***</td>
<td>0.12**</td>
</tr>
<tr>
<td>Mother’s education‡</td>
<td>0.01</td>
<td>0.00</td>
</tr>
<tr>
<td>Family Structure§</td>
<td>0.07</td>
<td>0.06</td>
</tr>
<tr>
<td>Parent–child conflict</td>
<td>0.28***</td>
<td>0.07</td>
</tr>
<tr>
<td>Negative emotions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rage</td>
<td>0.22***</td>
<td>0.26***</td>
</tr>
<tr>
<td>Resentment</td>
<td>0.11***</td>
<td>0.07</td>
</tr>
<tr>
<td>Perceived threat</td>
<td>0.07</td>
<td>0.07</td>
</tr>
<tr>
<td>Self-blame</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ΔR²</td>
<td>0.04</td>
<td>0.07</td>
</tr>
<tr>
<td>d.f.</td>
<td>7.25***</td>
<td>61.05***</td>
</tr>
<tr>
<td>ΔF</td>
<td>4.719</td>
<td>57.18</td>
</tr>
</tbody>
</table>

*p < 0.05, **p < 0.01, ***p < 0.001. †Sex is a dummy variable (1 = female, 0 = male). ‡Education is an ordinal variable (1 = elementary school, 2 = middle school, 3 = high school, 4 = junior college, 5 = university, 6 = graduate school), but is treated as continuous in the regression model. §Family structure is a dummy variable (1 = single-parent family, 0 = two-parent family).
simultaneously with the other three mediators in Block 3 in the regression analysis, it had a significant mediating effect for both psychosomatic symptoms and social withdrawal behavior for the father (the Sobel test, $z = 5.48$ and 4.30 for psychosomatic symptoms and social withdrawal, respectively, both $p < 0.01$) and the mother ($z = 5.50$ and 4.82, both $p < 0.01$), but its mediating effects for violent aggression and deviant behavior were not significant (the Sobel test, for father: $z = 1.93$ and 0.99, all $p > 0.05$). This result indicates that, as expected, the perceived threat did mediate the relationship between parent–child conflict and psychosomatic symptoms and social withdrawal, if the effect of the high correlation among the four type of emotional arousal on the mediating effect is removed. Using structural equation modeling, Yeh et al. (2010) showed that the more parent–child conflict adolescents report, the more threat they perceive, which in turn, leads to greater maladjustment in the adolescent, especially in terms of internalization. In that study, however, internalizing problems were represented by anxiety and depression, not by psychosomatic symptoms and social withdrawal, as in the present study. Both sets of findings together imply that a wide range of internalizing symptoms, regardless of whether they are emotion related or behavior related, can be triggered by perceived threat. In general, adolescents who still live with their parents after intense conflict might worry about gridlock or negative outcomes in their daily interactions with their parents (Adams & Laursen, 2001). Adolescents who are immature or overly dependent on their parents might lack proper coping strategies for handling conflict with them (Chiu et al., 2002). In such cases, perceived threat is a risk factor linking conflict with internalizing problems.

As with perceived threat, when the mediators were entered alone rather than simultaneously in the regression analysis, self-blame significantly mediated the effect of the conflict on psychosomatic symptoms and social withdrawal for conflict both with the father (the Sobel test, $z = 3.54$ and 4.30 for psychosomatic symptoms and social withdrawal, respectively, both $p < 0.01$) and with the mother ($z = 3.82$ and 3.83, both $p < 0.01$), but it did not mediate the relationship between conflict and violent aggression or deviant behavior (the Sobel test, for father, $z = 1.40$ and 0.19, for violent aggression and deviant behavior, respectively; for mother, $z = 0.68$ and 0.12, all $p > 0.05$). Self-blame was defined in terms of character. In previous studies, character-related self-blame was found to significantly correlate with depressive symptoms and feelings of helplessness in adolescents (Miller & Porter, 1983; Wu, 1996). The present study went further by showing that if adolescents are used to blaming themselves or feeling regret and guilt for conflict with their parents, when the conflict persists, such reactions can lead to problem behavior, especially psychosomatic symptoms and social withdrawal.

The relation of sex to internalizing and externalizing problems was similar to that found in previous studies. Males had more serious externalizing problems, and females had more serious internalizing problems (cf. Broberg et al., 2001; Ronnlund & Karlsson, 2006). Researchers have suggested possible links among attachment, sex, and internalizing problems in adolescents. For example, girls have a greater need for approval than boys, which suggests increased vulnerability to internalizing problems in girls (Calvete & Cardeñoso, 2005). In addition, a lower education level for the father, which implies a low socioeconomic status (SES) for the adolescent’s family, was significantly associated with adolescent internalizing and externalizing problem behaviors. This result reconfirms previous results indicating a relationship between low SES and adolescent problem behaviors (Aslund, Starrin, Leppert, & Nilsson, 2009; Boyle & Lipman, 2002). The medium correlation between internalizing and externalizing problems in the present study suggests that they frequently co-occur, a relationship also found by O’Connor, Neiderhiser, Reiss, Hetherington, and Plomin (1998). Such co-occurrence is a vulnerable condition for adolescent adjustment problems that can even lead to suicide (Sourander, Helstela, Haavisto, & Bergroth, 2001).

The present study has limitations. First, it shares with all questionnaire survey studies the problems of common method variance and social desirability response bias. These are most likely to influence participants’ responses relating to the investigated variables, and thus might limit the predictive power of the results. Future research should include non-questionnaire or behavioral measures. Second, the use of cross-sectional data and the absence of experimental manipulation precluded assessment of causality or causal direction of the conflict–behavior relationship. In fact, there could be causality in both directions. The empirical findings suggested that adolescents with psychological symptoms are prone to a negative interpretation of their parents’ behavior, thereby increasing conflict (Chan, 1998; Shek, 1998). Delinquency might be the source of parent–adolescent conflict (Shek & Ma, 2001). Further, an adolescent’s personality might be a third variable contributing to both negative emotions in response to parent–child conflict and internalizing and externalizing problems. These issues should be further investigated in future research. This study controlled for sex in the mediating analyses. While sex might be a moderator of the relation between parent–child conflict and adolescents’ negative emotions, which in turn leads to internalizing and externalizing problems, this issue needs further investigation in the future. Finally, various types of conflict might be differently related to each of the four negative emotions. Although this study did not test this question, it is an important issue worthy of future investigation.

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Despite these limitations, this study has elucidated the processes underlying the effect of parent–child conflict on adolescent problem behaviors. It would also be useful to examine conflict between husbands and wives, rather than between parents and children, especially for certain cultures, such as US culture (Hsu, 1965), in which the husband–wife dyad, rather than the parent–child dyad, is the major axis of family interaction. Information about the effects of these types of family conflict would facilitate the development of interventions aimed at improving family relationships and individual adjustment.

References


