

# Empathy and conflict resolution: The mediating role of displaced aggression

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### Abstract

Het doel van deze studie was om te onderzoeken of verplaatste agressie de relatie tussen empathie en conflictoplossing medieert. Om dit mediatiemodel te toetsen zijn de relaties tussen empathie en conflictoplossing, empathie en verplaatste agressie, en verplaatste agressie en conflictoplossing, door middel van een enquête onder 102 adolescenten onderzocht. Op basis van de resultaten van de huidige studie medieert verplaatste agressie de relatie tussen empathie en conflictoplossing niet. Echter, er is wel gevonden dat meisjes hoger dan jongens scoren op empathische betrokkenheid en dat perspectiefname is geassocieerd met het positief oplossen van problemen, en het minder plannen van wraak en uiten van gedragsmatige verplaatste agressie. Rumineren over woede wordt geassocieerd met minder zwichten en meer terugtrekken tijdens een conflict. Tevens wordt het plannen van wraak geassocieerd met het minder zwichten en positief oplossen van problemen, en met meer escalatie van een conflict. Tot slot wordt gedragsmatige verplaatste agressie geassocieerd met het minder positief oplossen van conflicten en met meer escalatie. Meisjes hebben meer dan jongens de neiging om gedragsmatige verplaatste agressie te vertonen.

*Trefwoorden:* empathie, conflictoplossing, verplaatste agressie, adolescenten, geslacht

### Abstract

The aim of the study was to investigate whether displaced aggression mediates the relation between empathy and conflict resolution. To test this mediation model the interactions between empathy and conflict resolution, empathy and displaced aggression and displaced aggression and conflict resolution were examined by administering a questionnaire among 102 high school adolescents. Based on the present study, displaced aggression did not mediate the relation between empathy and conflict resolution. However, we did find that girls score higher on empathic concern than boys and that perspective taking is associated with more positive problem solving and less revenge planning and behavioral displaced aggression. Furthermore, anger rumination is associated with more withdrawal and less compliance. Also, revenge planning is associated with less positive problem solving and compliance, and with more conflict engagement. Finally, behavioral displaced aggression is associated with less positive problem solving and more conflict engagement. Girls tend to engage more in behavioral displaced aggression than boys.

*Keywords:* empathy, conflict resolution, displaced aggression, adolescents, gender

Empathy and conflict resolution: The mediating role of displaced aggression  
Adolescence is a period in which conflicts with parents increase (De Goede, Branje, & Meeuws, 2009). These conflicts can lead to depression, conduct problems and antisocial behavior of the adolescent (Bradford, Vaughn, & Barber, 2008; Klahr, McGue, Iacono, & Burt, 2011). Therefore, it is important to understand more about which factors influence how conflicts are being solved. According to Kurdek (1994), four conflict resolution styles can be differentiated: positive problem solving, conflict engagement, withdrawal and compliance.

Recent studies imply that empathy may be an important predictor of conflict resolution (De Wied, Branje, & Meeus, 2007). Most researchers agree that empathy consists of both a cognitive and an affective component (Davis, 1983; Decety & Jackson, 2004; De Vignemont & Singer, 2006; Preston & De Waal, 2002; Shamay-Tsoory, 2011). According to Davis (1983), empathic concern is the affective component of empathy and perspective taking is the cognitive component of empathy. Empathic concern is the tendency to experience feelings of warmth, compassion and concern for others. Perspective taking is the tendency or ability to shift perspectives and adopt the perspective of others.

Recent studies also imply that aggression may be another important predictor of conflict resolution. Aggression has been extensively studied over the years. This is not remarkable given that aggression is considered to be a major social problem (Devine, Gilligan, Miczek, Shaikh, & Pfaff, 2004). Previous research has focused primarily on the distinction between direct and indirect forms of aggression as a response to provocation (Archer, 2004; Denson, Pedersen, & Miller, 2006). However, more recent studies imply that displaced aggression should be considered if we intend to understand more about responding to provocation, resolving conflicts and also about the role of empathy on aggression (Denson et al., 2006). Displaced aggression occurs when a person is provoked and is unwilling or unable to retaliate against the original provocateur and subsequently aggresses against a seemingly innocent target (Marcus-Newhall, Pedersen, Gonzales, & Miller, 2000).

Results on gender differences in conflict resolution, empathy and displaced aggression are inconsistent. This might be due to variations in method use, conceptualization and many other reasons (Dalton & Ortegren, 2011). Therefore, this study will address gender differences in these concepts. Also, previous research has not been able to explain the relation between empathy and conflict resolution. Previous research found that aggression is related to both empathy and conflict resolution. In this study, we intend to establish if these findings also apply to displaced aggression. Therefore, the main aim of this study is to investigate whether displaced aggression mediates the relation between empathy and conflict resolution.

### **Gender differences**

Research on gender differences in conflict resolution indicates that girls use more compromising, obliging, and avoiding conflict resolution styles than boys (Owens, Daly, & Slee, 2005). Kurdek (1994) identified four conflict resolution styles that are based on behavioral observations of Gottman and Krokoff (1989). Positive problem solving involves trying to understand the others' position and using constructive reasoning tactics to work out compromises. Conflict engagement involves being verbally abusive, angry, defensive or attacking, or losing self-control. Withdrawal involves avoiding the problem, avoidant talking and becoming distant. Compliance involves accepting the resolution of the other without asserting one's own position. De Wied and colleagues (2007) found that adolescent girls use positive problem solving, withdrawal and compliance more frequently than adolescent boys in conflicts with peers. However, both girls and boys prefer positive problem solving over the other three conflict resolution styles (De Wied et al., 2007). Although both boys and girls prefer positive problem solving in conflicts with peers, girls engage more in conflict with their mothers than boys during adolescence (Steinberg, 1987).

Research on gender differences in empathy suggests that girls have a greater capacity for understanding others' thoughts and feelings than boys (Klein & Hodges, 2001). In addition, research indicate that girls have higher levels of empathy than boys (Cassels, Chan, Chung, & Birch, 2010; De Wied et al., 2007; Lennon & Eisenberg, 1987). Cassels and colleagues (2010) found that girls rate themselves higher on both empathic concern and perspective taking than boys. Contrary to these results, Rueckert, Branch and Doan (2011) found only a significant gender difference in empathic concern.

Boys intend to enact more direct aggression than girls (Archer, 2004; Archer, 2009; Card, Stucky, Sawalani, & Little, 2008). However, no significant gender differences are found in displaced aggression (Archer, 2004; Archer, 2009; Card et al., 2008). Denson and colleagues (2006) distinguished three components of displaced aggression. First, there is angry rumination, an affective component consisting of the tendency to focus on one's anger following provocation. Also, it refers to thinking repeatedly about anger, which contributes to the maintenance and intensification of angry feelings (Sukhodolsky, Golub, & Cromwell, 2001). Second, there is revenge planning, a cognitive component consisting of the tendency to hold a grudge for a prior provocation and plan for retaliation. The last component is behavioral displaced aggression, a behavioral component consisting of the tendency to engage in displaced aggression. Previous studies imply that girls engage more in sadness rumination than boys (Jose & Brown, 2008; Peled & Moretti, 2007; Yoder & Lawrence, 2011), which contains the aspect of repeatedly thinking about a stressful event or emotion, just like anger rumination. No significant gender differences are found in revenge planning and displaced aggression

(Denson et al. 2006). Ruminating enhances revenge planning and displaced aggression (Bettencourt, Talley, Benjamin, & Valentine, 2006; Maxwell, 2004; Peled & Moretti, 2007; Sukhodolsky, Golub, & Cromwell, 2001).

### **Empathy and Conflict Resolution**

Although empathy and conflict resolution both received a lot of attention in previous research, only recent studies imply that empathy may be an important predictor of conflict resolution (De Wied et al., 2007). De Wied and colleagues (2007) show that higher levels of empathic concern are related to less conflict engagement and more positive problem solving. Empathic concern is not related to withdrawal and compliance. Contrary to these results, Björkqvist, Österman and Kaukiainen (2000) show that both empathic concern and perspective taking correlate with withdrawal and peaceful conflict resolution, but hardly with aggression, an aspect of conflict engagement. Because of these contradictory results, the relation between empathy and conflict resolution should be further examined.

### **Empathy and Displaced Aggression**

Previous research on empathy also addressed the relation between empathy and aggression. Empathy mitigates the likelihood of aggressive behaviors, and high levels of empathy predicts more pro-social behavior in school-aged children and early adolescents (Carlo, Raffaelli, Laible, & Meyer, 1999; Eisenberg, Miller, Shell, McNalley, & Shea, 1991; Kaukiainen et al., 1999; Miller, & Eisenberg, 1988). Similarly, Mehrabian (1997) reported that empathy was negatively related to aggression and violence among college students. Empathy is an important factor in the motivation and ability to inhibit harmful behavior like aggression (Kilpatrick, Bissonnette, & Rusbult, 2002; Konrath, O'Brien & Hsing, 2010; Richardson, Hammock, Smith, Gardner, & Signo, 1994). Therefore, empathy may also play an important role in the inhibition of displaced aggression.

### **Displaced Aggression and Conflict Resolution**

Little research is available about the relation between displaced aggression and conflict resolution. Recent research investigated revenge planning, behavioral displaced aggression and sadness rumination, but not anger rumination, as predictors of conflict resolution. Research on anger rumination did indicate that anger rumination predicts aggression (Peled & Moretti, 2007), which is related to shortcomings in problem solving (Jaffee & D'Zurilla, 2003; Smithmyer, Hubbard, & Simons, 2000; Tucker, McHale, & Crouter, 2003). Research on sadness rumination found that rumination does not lead to active problem solving, but does not lead to withdrawal (Nolen-Hoeksema, Wicso, Lyubomirsky, 2008; Sukhodolsky et al., 2001). Because both sadness and anger rumination contain the aspect of repeatedly thinking about a stressful event or emotion, these results might also apply to anger rumination. Research about revenge planning found that revenge planning is positively correlated with direct physical aggression, trait

hostility, negative reciprocity, and failing to come up with effective problem solutions (Denson, et al., 2006; Vasquez, Osman, & Wood, 2012). No research has studied behavioral displaced aggression as a predictor of conflict resolution. However, reactive aggression (aggressing directly against the source of initial provocation) is related to problems in cognitive and social-cognitive functioning (Orobio de Castro, Merk, Koops, Veerman, & Bosch, 2005; Orobio de Castro, Veerman, Koops, Bosch, & Monshouwer, 2002; Schippel, Vasey, Cravens-Brown, & Bretveld, 2003). Behavioral displaced aggression might be a delayed form reactive aggression and therefore it's effect on conflict resolution might be similar.

### Present study

The aim of the present study is to investigate whether displaced aggression mediates the relation between empathy and conflict resolution. The expectations associated with this study are shown in Figure 1.

First, we will examine gender differences in conflict resolution, empathy and displaced aggression. With regard to conflict resolution, we hypothesize that girls will score higher on positive problem solving, conflict engagement, withdrawal and compliance than boys. For empathy, we hypothesize that girls score higher on both empathic concern and perspective taking. With regard to displaced aggression, we hypothesize that girls will score higher on anger rumination, revenge planning and behavioral displaced aggression than boys.

To test whether displaced aggression mediates the relation between empathy and conflict resolution, we use a mediation model. Before testing the mediation model, we will first examine whether empathy predicts conflict resolution. We expect that both empathic concern and perspective taking positively predict positive problem solving and negatively predict conflict engagement, compliance and withdrawal. Secondly, we will examine whether empathy predicts displaced aggression. We expect that both empathic concern and perspective taking negatively predict anger rumination, revenge planning and behavioral displaced aggression. Third, we will investigate whether displaced aggression predicts conflict resolution. We expect that anger rumination, revenge planning and behavioral displaced aggression will negatively predict positive problem solving. Also, we expect that anger rumination and revenge planning will positively

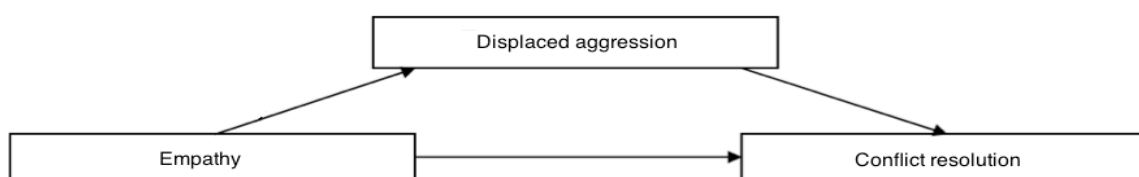


Figure 1. Model of expectations regarding the effect of empathy on conflict resolution

predict withdrawal and compliance. At last, we expect that behavioral displaced aggression will positively predicts conflict engagement and withdrawal.

## Method

### Participants

Our sample consisted of 102 adolescents, of which 53 boys (52%) and 49 girls (48%). Participants ranged from age 14 to 16, ( $M = 14.62$ ,  $SD = .61$ ). Participants came from a Dutch secondary school in The Hague and were all in the 9th grade. Two different educational tracks were represented, with 76.2 % of the adolescents in pre-professional training (havo), and 23.8 % of the adolescents in pre-university schooling (vwo).

### Procedure

The research team and school administration staff jointly decided which classes would participate. Four classes with a tutor hour were selected. The participants were told that, as part of a bachelor research, next week a survey about feelings and personality would be administered. Passive parental consent was obtained from all eligible students. All students were informed that participation was voluntary and confidential, and that even if they agreed to participate, they could withdraw at any stage without explanation. No adolescents opted out. The research team visited the school and asked participating adolescents to fill out the survey during class. The research team introduced the survey briefly, told participants to fill out the survey individually and gave instructions about filling in the survey. The presence of a member of the research team encouraged complete responding and prevented collaboration among the adolescents. It took the participants approximately 20 minutes to complete the survey. Respondents received candy after completing the survey.

### Measures

**Conflict resolution.** Conflict resolution with the mother was measured with a Dutch version of Kurdek's (1994) Conflict Resolution Style Inventory (CRSI). The CRSI measures four conflict resolution styles: positive problem solving (PS), conflict engagement (CE), withdrawal (WI), and compliance (CO). According De Wied and colleagues (2007), all subscales of the Dutch version have shown good reliability (PS,  $\alpha = .91$ ; CE,  $\alpha = .83$ ; WI,  $\alpha = .88$ ; CO,  $\alpha = .77$ ). Cronbach's reliability of the current study shows different results. CE and PS have good reliability (CE,  $\alpha = .85$ ; PS,  $\alpha = .84$ ), WI has an adequate reliability ( $\alpha = .74$ ) and CO has relatively low reliability ( $\alpha = .55$ ).

Participants were asked to indicate how often they revealed particular conflict resolution strategies when having an argument or conflict with their mother on a 5-point Likert scale ranging from 1 ("never") to 5 ("always"). Positive problem solving (5 items) involves trying to understand the others' position and using constructive reasoning tactics to work out compromises (e.g. "Trying to find solutions that are acceptable for both of us"). Conflict engagement (5 items) involves being verbally abusive, angry,

defensive or attacking, or losing self-control (e.g. "Letting myself go, and saying things I do not really mean"). Withdrawal (5 items) involves avoiding the problem, avoiding talking, and becoming distant (e.g. "Not listening to her anymore"). Compliance (5 items) involves accepting the resolution of the other without asserting one's own position (e.g. "Not defending my opinion").

**Empathy.** Empathy was measured with the empathic concern scale (EC) and the perspective taking scale (PT) of a Dutch version of Davis's (1980) Interpersonal Reactivity Index (IRI). In a study with undergraduates both EC ( $\alpha = .80$ ) and PT ( $\alpha = .79$ ) showed good reliability (Pulos, Elison, & Lennon, 2004). De Corte and colleagues (2007) have further demonstrated reliability in the Dutch version of the IRI. Both EC and PT had satisfactory internal reliability (EC,  $\alpha = .73$ ; PT,  $\alpha = .73$ ). Cronbach's reliability of the current study shows different results. EC has relatively low reliability ( $\alpha = .56$ ), and PT has almost adequate reliability ( $\alpha = .68$ ).

Participants were asked to indicate the extent to which each item describes them on a 5-point Likert scale ranging from 1 ("does not describe me well") to 5 ("describes me very well"). Empathic concern (7 items) involves respondents' feelings of warmth, compassion, and concern for others (e.g. "I often have tender, concerned feelings for people less fortunate than me"). Perspective taking (7 items) involves spontaneous attempts to adopt the perspectives of other people (e.g. "I try to look at everybody's side of a disagreement before I make a decision").

**Displaced Aggression.** Displaced aggression was measured with a Dutch adaptation of Denson and colleagues' (2006) Displaced Aggression Questionnaire (DAQ). The DAQ consists of three subscales: anger rumination (AR), revenge planning (RP) and behavioral displaced aggression (BD). According to Denson and colleagues (2006), the internal reliability for all subscales is high (AR,  $\alpha = .92$ , BD,  $\alpha = .91$ , RP,  $\alpha = .91$ ). To date, no reliability study is conducted on a Dutch adaptation of the DAQ. However, like the English version of the DAQ, Cronbach's reliability of the current study was good for all subscales (AR,  $\alpha = .87$ , BD,  $\alpha = .87$ , RP,  $\alpha = .87$ ).

Participants were asked to indicate the extent in which they use rumination, revenge planning and behavioral displaced aggression on a 5-point Likert scale ranging from 1 ("extremely uncharacteristic of me") to 5 ("extremely characteristic of me"). Anger rumination (10 items) describes the tendency to focus on one's anger following a provocation (e.g., "I keep thinking about events that angered me for a long time"). Revenge planning (11 items) describes the tendency to hold a grudge for a prior provocation and plan for retaliation (e.g. "The more time that passes, the more satisfaction I get from revenge"). Behavioral displaced aggression (10 items) describes the tendency to engage in displaced aggression (e.g. "If someone made me angry I would likely vent my anger on another person").



### Strategy of analysis

Independent samples *t*-tests were conducted to investigate gender differences in the subscales of the CRSI, IRI and DAQ. Multiple regression analyses were conducted to examine if empathy predicted conflict resolution, if empathy predicted displaced aggression, and if displaced aggression predicted conflict resolution. At last, the mediation model was tested with multiple regression analyses with the empathy measures and displaced aggression measures as predictors of conflict resolution.

## Results

### Descriptive statistics

Data were analyzed using SPSS, version 20.0, with a  $\alpha = .05$  significance level. Table 1 shows means and standard deviations of the subscales of the IRI, the CRSI and the DAQ and Pearsons' correlation coefficient between the subscales of the IRI, the CRSI and the DAQ. The correlation coefficient is a commonly used measure of the size of an effect. Values of  $\pm .1$  represent a small effect, values of  $\pm .3$  represent a medium effect and values of  $\pm .5$  represent a large effect.

### Test statistics

**Gender differences.** We expected that girls would score higher on PS, CE, WI and CO than boys. In line with our hypothesis, a significant gender difference in CE was found,  $t(100) = -2.42, p < .01$ , with higher scores for girls ( $M = 2.12, SD = 0.98$ ) than for boys ( $M = 1.71, SD = 0.77$ ). Contrary to our hypotheses, no significant gender differences in PS, WI and CO emerged. We expected that girls would score higher than boys on both ET and PT. In line with our hypothesis, a significant gender difference in EC were found,  $t(100) = -4.12, p < .01$ , with higher EC scores for girls ( $M = 3.53, SD = 0.50$ ) than for boys ( $M = 3.14, SD = 0.45$ ). Contrary to our hypothesis, no significant gender differences in PT were found. We expected that girls would score higher on AR, RP and BD than boys. In line with our hypothesis, a significant gender difference in BD was found,  $t(100) = -2.36, p < .01$ , with higher BD scores for girls ( $M = 2.42, SD = .65$ ) than for boys ( $M = 2.10, SD = .73$ ). Contrary to our hypotheses, no significant gender differences were found in AR and RP.

**Empathy as a predictor of conflict resolution.** We hypothesized that both EC and PT would positively predict PS and negatively predict CE, CO and WI. The results indicated that the model with EC and PT as predictors of PS was significant. The two predictors explained 18.8 % of the variance, a moderate effect,  $R^2 = .19, F(2,99) = 11.47, p < .01$ . In line with our hypothesis, PT did positively predict PS ( $\beta = .46, t = 4.66, p < .01$ ). Contrary to our hypotheses, EC did not predict PS, and EC and PT did not significantly predict CE, WI or CO, suggesting models with little explanatory power.

**Empathy as a predictor of displaced aggression.** We hypothesized that both EC and PT would negatively predict AR, RP and BD. The results indicated that the models with EC

and PT as predictors of RP and BD were significant. The two predictors explained 18.6% of the variance in RP, a moderate effect,  $R^2 = .19$ ,  $F(2, 99) = 11.28$ ,  $p < .01$ . The two predictors explained 11.5% of the variance in BD, a moderate effect,  $R^2 = .12$ ,  $F(2, 99) = 6.46$ ,  $p < .01$ . In line with our hypotheses, PT did negatively predict RP ( $\beta = -.36$ ,  $t = -3.63$ ,  $p < .01$ ) and BD ( $\beta = -.37$ ,  $t = -3.54$ ,  $p < .01$ ). Contrary to our hypotheses, EC did not predict AR, RP or BD, and EC and PT did not predict AR, suggesting models with little explanatory power.

**Displaced aggression as a predictor of conflict resolution.** We hypothesized that AR, RP and BD would negatively predict PS and would positively predict CE, WI and CO. The results indicated that the models with AR, RP and BD as predictors of PS, CE, WI and CO were significant. The three predictors explained 16.5% of the variance in PS, a moderate effect,  $R^2 = .17$ ,  $F(3, 98) = 6.45$ ,  $p < .01$ . The three predictors explained 32.2% of the variance in CE, a moderate effect,  $R^2 = .32$ ,  $F(3, 98) = 15.51$ ,  $p < .01$ . The three predictors explained 11.2% of the variance in WI, a moderate effect,  $R^2 = .11$ ,  $F(3, 98) = 4.12$ ,  $p < .01$ . The three predictors explained 13.5% of the variance in CO, a moderate effect,  $R^2 = .14$ ,  $F(3, 98) = 5.09$ ,  $p < .01$ . In line with our hypotheses, AR did positively predict WI,  $b = .27$ ,  $t(98) = 2.30$ ,  $p = .02$ , and CO,  $b = .44$ ,  $t(98) = 3.85$ ,  $p < .01$ . In addition, RP did negatively predict PS  $b = -.32$ ,  $t(98) = -2.89$ ,  $p < .01$ , and RP did positively predict CE,  $b = .22$ ,  $t(98) = 2.45$ ,  $p = .02$  and CO,  $b = -.23$ ,  $t(98) = -2.10$ ,  $p < .02$ . BD did negatively predict PS,  $b = -.26$ ,  $t(98) = -2.56$ ,  $p < .05$ , and BD did positively predict CE,  $b = .50$ ,  $t(98) = 5.33$ ,  $p < .01$ , which is also in line with our hypothesis. Contrary to our hypothesis, AR did not predict PS and CE, RP did not predict WI and BD did not predict WI and CO.

**Displaced aggression as a mediator between empathy and conflict resolution.** Based on the previous results, two mediator models could be compiled. Both RP and BD could mediate the relation between PT and PS.

Table 1. Means, standard deviations of and Pearsons' correlations between variables of the IRI, the CRSI and the DAQ

| Variable | <i>M</i> | <i>SD</i> | EC     | PT     | CE     | PS     | WI    | CO    | BD    | AR    | RP |
|----------|----------|-----------|--------|--------|--------|--------|-------|-------|-------|-------|----|
| EC       | 3.33     | 0.51      | -      |        |        |        |       |       |       |       |    |
| PT       | 2.96     | 0.59      | .41**  | -      |        |        |       |       |       |       |    |
| CE       | 1.91     | 0.89      | -.09   | -.22*  | -      |        |       |       |       |       |    |
| PS       | 3.07     | 0.87      | .10    | .43**  | -.47** | -      |       |       |       |       |    |
| WI       | 2.48     | 0.83      | .01    | -.01   | .17    | -.30** | -     |       |       |       |    |
| CO       | 2.07     | 0.63      | .16    | .10    | -.31** | .07    | .12   | -     |       |       |    |
| BD       | 2.19     | 0.72      | -.60   | -.33** | .53**  | -.30** | .25*  | -.05  | -     |       |    |
| AR       | 2.48     | 0.71      | .20*   | .00    | .19    | -.08   | .29** | .26** | .40** | -     |    |
| RP       | 2.25     | 0.78      | -.28** | -.41** | .34**  | -.31** | .11   | -.06  | .36** | .52** | -  |

\*  $p < .05$ . \*\*  $p < .01$ .

We expected that displaced aggression is a mediator between empathy and conflict resolution, therefore we hypothesized that RP and BD would mediate the relation between PT and PS. The results of the analysis indicated that RP and BD did not mediate the relation between PT and PS.

### **Discussion**

The aim of the present study was to examine whether displaced aggression mediates the relation between empathy and conflict resolution. Before testing the mediation model, we investigated gender differences in conflict resolution, empathy and displaced aggression. In addition, we tested the effect of empathy on conflict resolution, the effect of empathy on displaced aggression and the effect of displaced aggression and conflict resolution.

#### **Gender differences**

We hypothesized that girls would score higher on problem solving, conflict engagement, withdrawal and compliance than boys. We did not find gender differences on problem solving, withdrawal and compliance, contrary to previous research that indicated that girls use more compromising, obliging, and avoiding conflict resolution styles than boys (De Wied et al., 2007; Owens et al., 2005). This might be because De Wied and colleagues (2007) focused on conflict with peers instead of conflict with mothers. Steinberg (1987) has shown that adolescent girls do have more frequently conflicts with mothers than adolescent boys. In line with these findings, our results did indicate that girls scored higher on conflict engagement than boys.

We hypothesized that girls would score higher on empathic concern and perspective taking than boys. We found that girls scored higher on empathic concern than boys, in line with the research of Cassels and colleagues' (2010). However, we did not find significant gender differences in perspective taking, in line with the results of Rueckert and colleagues' (2011). It has been suggested by a number of studies that girls tend to report higher levels of emotion than boys (Dentl et al., 2010; Yang, Decety, Lee, Chen, & Cheng, 2008). Most of the items of the empathic concern scale tend to focus on negative emotions. Therefore, it is possible that what appears to be a gender difference in empathy is actually a difference in reported level of emotion.

We hypothesized that girls would score higher on anger rumination, revenge planning and behavioral displaced aggression than boys. We did not find any gender differences in anger rumination. Our hypothesis was based on research about sadness rumination, because both sadness and anger rumination contain the aspect of repeatedly thinking about a stressful event or emotion (Jose & Brown, 2008; Peled & Moretti, 2007; Yoder & Lawrence, 2011). However, sadness rumination is about another emotion than anger rumination. Therefore it appears that the gender differences found in sadness rumination do not apply to anger rumination. Also, we did not find gender differences in revenge planning. Our hypothesis was based on the assumption that both anger

rumination and revenge planning contain the same aspect. This assumption appears to be incorrect. We were the first to investigate gender differences in behavioral displaced aggression. Based on the assumption that ruminating enhances the chance of displaying displaced aggression and the assumption that girls display more anger rumination than boys (Bettencourt, et al., 2006; Maxwell, 2004; Peled & Moretti, 2007; Sukhodolsky et al., 2001), we expected that girls would score higher on behavioral displaced aggression. In line with our hypothesis, girls scored higher on behavioral displaced aggression. However, no gender differences in anger rumination emerged. It might be that anger rumination is not a predictor of behavioral displaced aggression.

### **Empathy and conflict resolution**

We hypothesized that empathic concern and perspective taking would positively predict positive problem solving and negatively predict conflict engagement, withdrawal and compliance. Congruent with the study of Björkqvist and colleagues (2000), we found that perspective taking positively predicts positive problem solving. However, their findings about empathy correlating with withdrawal is not supported by our results. Contrary to the results of de Wied and colleagues (2007), we did not find any relation between empathic concern and conflict resolution. This difference could be explained by the fact that De Wied and colleagues used Bryant's Index of Empathy for Children and Adolescents (IECA, 1982) to measure affective empathy, while we used the IRI to measure empathic concern, a form of affective empathy. It may be that the IECA taps a broader concept than the empathic concern subscale of the IRI and therefore, using this measurement results in a different outcome.

### **Empathy and displaced aggression**

We hypothesized that empathic concern and perspective taking would negatively predict anger rumination, revenge planning and behavioral displaced aggression. Recent research indicated that aggressive children and adolescents often have a low level of empathic concern (Burke, 2001; Bush, Mullis, & Mullis, 2000; Lovett & Sheffield, 2007). Our results did not confirm these findings for displaced aggression. However, in line with recent literature, our results revealed that perspective taking negatively predict behavioral displaced aggression and revenge planning (Carlo et al., 1999; Kaukiainen et al., 1999; Mehrabian, 1997; Richardson et al., 1994). Individuals with better perspective taking skills are more likely to comprehend how others might feel when harm is directed at them, and therefore may be less likely than peers to hurt others. In contrast, individuals with poorer perspective taking skills tend to make faulty, often hostile attributions regarding others' intentions and retaliate against others (Crick, 1995).

### **Displaced Aggression and Conflict Resolution**

We hypothesized that anger rumination would negatively predict positive problem solving and positively predict withdrawal. Instead, we found that adolescents anger

rumination positively predicted compliance. This is in contrast with Kurdek's (1994) definition of compliance, who stated that compliance involves accepting the resolution of the other without asserting one's own position. Although it may seem that adolescents who ruminate on anger comply, because they do not engage in conflict, they actually do not comply, because they stay angry. Our results also revealed that anger rumination positively predicted withdrawal. This is in line with previous research (Nolen-Hoeksema et al., 2008; Sukhodolsky et al., 2001). Regarding revenge planning, we hypothesized that revenge planning would negatively predict positive problem solving and compliance, and positively predict withdrawal. Our results stated that revenge planning negatively predict positive problem, this is in line with the study from Vasquez and colleagues' (2012). However, Vasquez and colleagues (2012) also suggested that people who think about revenge are more likely to withdraw themselves from conflict. Our results did not support this. However, we found a negative effect of revenge planning on compliance. This was expected because literature suggests that when people comply in a conflict, they tend to maintain relational harmony in conflict interactions and do not intend to take revenge (Trubisky, Tingtoomey, & Lin, 1991). Regarding to behavioral displaced aggression, we hypothesized that behavioral displaced aggression would negatively predict positive problem solving and positively predict conflict engagement and withdrawal. Our results confirmed our hypothesizes and were in line with previous research on reactive behavior and conflict resolution (Bettencourt et al., 2006). Reactive aggression has been found to be related to shortcomings in problem-solving strategies (Smithmyer et al., 2000). Notably, reactive behavior has some elements in common with behavioral displaced aggression. The emotional reaction of both reactive aggressive behavior and behavioral displaced aggression are the same. The only difference is that the source of the initial provocation or provocateur is not the same. Our study was the first to demonstrate that displaced aggression predicts conflict resolution. These results offer more understanding on how displaced aggression works in a conflict situation. Our study was also the first to translate the Displaced Aggression Questionnaire (DAQ) to Dutch. This Dutch version of the DAQ had a good reliability and can therefore be used for other studies concerning displaced aggression in the Netherlands.

### **Displaced aggression as a mediator**

We were the first to investigate whether displaced aggression mediates the direct effect of empathy and conflict resolution. However, no mediation model was significant. This might be because displaced aggression is a way to cope with conflict. It might be that displaced aggression is another conflict resolution style. This could be tested by comparing the DAQ with other questionnaires measuring conflict resolution. If the subscales of the DAQ correlate with the subscales of the other questionnaires, this could provide evidence about displaced aggression being another conflict resolution style.

### **Limitations**

The first limitation of our study was that the factor solution of the IRI initially reported by Davis (1980) was not confirmed. This might be the reason why the reliability of both subscales of the IRI was inadequate. Further research should use more reliable measures to measure empathy, for example the IECA. The second limitation is the sample structure. Our sample is based on one school in The Hague, a large city in the Netherlands, and contained only adolescents of the 9<sup>th</sup> grade of havo and vwo. Therefore the results cannot be generalized. One class received bad news just before filling in the questionnaires. Therefore, five out of twenty adolescents did not fill in the questionnaires and the other twenty might have been distracted while filling in the questionnaires. Thirdly, some concepts were not clear for the adolescents (e.g. 'zachtaardig'). We explained these concepts to them when they raised their hand to ask what the concepts meant, but some adolescents might not have understood the concepts and nevertheless filled in some answer. Finally, we used self-reports to measure conflict resolution styles. Adolescents might have answered in a more positive manner than in the they actually behave, because of social desirability or because they are not aware of which conflict resolution styles they use. Further research should examine conflict resolution by observation to identify the conflict resolution styles adolescents use in reality. These styles could be compared with self-reports, parent reports and/or friend reports.

### **Implications**

In this study, we found that higher levels of perspective taking were associated with more positive problem solving and less behavioral displaced aggression and revenge planning. These findings suggests that clinical interventions should focus on increasing perspective taking in adolescents. However, very little is known about the trainability of the affective and behavioral components of empathy (Lam, Kolomitro & Alamparambil, 2011). Therefore, research should focus on developing effective ways to train empathy, and more specifically perspective taking. Our findings also indicated that girls display more behavioral displaced aggression and use more conflict engagement than boys. These findings emphasizes the importance of research on girls' displaced aggression and antisocial behavior. Also, research should focus on developing effective interventions to reduce displaced aggression and antisocial behavior, especially in girls.

### **Conclusion**

Our research investigated if displaced aggression mediates the effect of empathy on conflict resolution. The results revealed that displaced aggression does not mediate between empathy and conflict resolution. However, we found that girls tend to score higher on conflict engagement, empathic concern and behavioral displaced aggression. Furthermore, we did find that adolescents with higher levels of perspective taking use more positive problem solving and less behavioral displaced aggression and revenge

planning. In addition, we found that adolescents who engage more in anger rumination use more compliance and withdrawal than adolescent who engage less in anger rumination. We also found that adolescents who engage more in revenge planning used less positive problem solving and more conflict engagement than adolescents who engage less in revenge planning. In addition, adolescents who engage more in revenge planning use compliance less often than adolescents who engage less in revenge planning. At last, our results suggests that adolescents who engage more in behavioral displaced aggression use less positive problem solving and more conflict engagement than adolescent who engage less in behavioral displaced aggression. Although our study did not confirm the mediation model, it indicated that displaced aggression is an important factor in the study of both empathy and conflict resolution. The results also indicated that specifically perspective taking is an important factor in reducing displaced aggression and negative conflict resolution. Future research and interventions should focus on how to increase perspective taking in adolescents, to reduce displaced aggression and dysfunctional conflict resolution.

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