CrossMark

The effects of affective and cognitive empathy on adolescents' behavior and outcomes in conflicts with mothers

Caspar J. Van Lissa [a,*], Skyler T. Hawk [b], Wim H.J. Meeus [c,d]

[a] Faculty of Social Sciences, Erasmus University Rotterdam, 3062 PA Rotterdam, The Netherlands
[b] The Chinese University of Hong Kong, Shatin, NT, Hong Kong
[c] Adolescent Development, Utrecht University, 3584 CS Utrecht, The Netherlands
[d] Developmental Psychology, Tilburg University, 5037 AB Tilburg, The Netherlands

A R T I C L E   I N F O

A B S T R A C T

The current study investigated whether manipulations of affective and cognitive empathy have differential effects on observed behavior and self-reported outcomes in adolescent–mother conflict discussions. We further examined how these situational empathy inductions interact with preexisting empathic dispositions. To promote ecological validity, we conducted home visits to study conflict discussions about real disagreements in adolescent–mother relationships. We explored the roles of sex, age, and maternal support and power as covariates and moderators. Results indicated that the affective empathy manipulation had no significant effects on behavior, although a trend in the hypothesized direction suggested that affective empathy might promote active problem solving. The cognitive empathy manipulation led to lower conflict escalation and promoted other-oriented listening for adolescents low in dispositional cognitive empathy. State–trait interactions indicated that the empathy manipulations had significant effects on self-reported outcomes for adolescents lower in dispositional empathic concern. For these adolescents, both manipulations promoted outcome satisfaction, but only the cognitive manipulation promoted perceived fairness. This suggests that cognitive empathy, in particular, allows adolescents to distance themselves from the emotional heat of a conflict and listen to mothers' point of view, leading to outcomes perceived as both satisfying and fair. These findings are relevant for interventions and clinicians because they

* Corresponding author.
  E-mail address: vanlissa@fsw.eur.nl (C.J. Van Lissa).

demonstrate unique effects of promoting affective versus cognitive empathy. Because even these minimal manipulations promoted significant effects on observed behavior and self-reported outcomes, particularly for low-empathy adolescents, stronger structural interventions are likely to have marked benefits.

Introduction

Increased conflict with parents is normal during adolescence as youths strive for greater autonomy (Laursen & Collins, 2004). If such conflicts are not resolved constructively, however, they can lead to maladjustment (Branje, Van Doorn, Van der Valk, & Meeus, 2009). Therefore, it is important to study factors that may promote prosocial conflict resolution. A promising candidate is adolescents' empathy. Across different relationship contexts, empathy is associated with conflict-related constructs such as lower aggression and greater prosocial behavior (for reviews, see Eisenberg & Miller, 1987; Miller & Eisenberg, 1988). Moreover, recent research suggests that adolescents' *dispositional* empathy development is accompanied by a shift toward more prosocial conflict resolution behaviors with parents (Van Lissa, Hawk, Branje, Koot, & Meeus, 2016). The current study set out to investigate whether experimentally induced *situational* empathy similarly promotes prosocial conflict behaviors and mutually beneficial outcomes in adolescent–mother conflict discussions. In doing so, we paid special attention to the distinction between affective empathy and cognitive empathy (Davis, 1983): Affective empathy refers to other-oriented emotional responses, and cognitive empathy refers to the process of considering others' points of view. Although the distinction between these empathy dimensions is widely acknowledged in the literature (e.g., Davis, 1983; Eisenberg, Spinrad, & Sadovsky, 2006), relatively little is known about potentially different effects of these empathy dimensions on behaviors and outcomes in conflicts. The current study sought to contribute to this literature by examining differential effects of experimentally induced situational affective versus cognitive empathy on observed behavior and self-reported outcomes in adolescent–mother conflicts. We also examined the role of dispositional empathy and potential state–trait interactions between the empathy manipulations and preexisting empathic dispositions.

Empathy and adolescent–parent conflict resolution

Studying adolescent–parent conflict resolution is important because the way in which these conflicts are resolved has implications for adolescents' adjustment (Branje et al., 2009). Moreover, the obligatory and permanent nature of adolescent–parent relationships allows adolescents to practice effective conflict resolutions behaviors for future peer and romantic relationships (Adams & Laursen, 2001; Van Doorn, Branje, Van der Valk, De Goede, & Meeus, 2011). Observational methods have long been used to investigate conflict behavior because they offer high ecological validity despite being costly and time-consuming (Kurdek, 1994). Although self-report questionnaires can be readily administered to larger samples, they may introduce bias because relationship members are not trained observers and have a stake in the discussion (Hahlweg, Kaiser, Christensen, Fehm-Wolfsdorf, & Groth, 2000). These concerns may be especially pertinent when studying adolescents because adolescents' reports of conflict behavior toward parents are affected by their attachment relationship even when questionnaires are administered immediately post-conflict (Feeney & Cassidy, 2003). Moreover, children's and parents' perceptions of conflict diverge temporarily during adolescence (Van Lissa et al., 2015), which suggests that observers' reports may be more objective than self-reports. With regard to the specific behaviors that have been examined, self-report research has focused primarily on two negative behaviors, conflict escalation and withdrawal, and two prosocial behaviors, problem solving and compliance, without asserting one's own standpoint (Kurdek,

1994). Observational research has further identified *listening* as a passive prosocial behavior that is frequently displayed by adolescent daughters in conflict discussions with mothers (Branje, 2008).

In addition to studying the *process* of conflict resolution, researchers have argued that it is also important to examine conflict *outcomes* (Recchia, Ross, & Vickar, 2010). Even if an empathy manipulation increases adolescents' prosocial behavior, outcomes may remain relatively unaffected, for example, if parents' behaviors exert greater influence. Measuring outcomes enables examining whether change in children's behavior is paralleled by improved conflict outcomes. Moreover, by assessing both adolescents' and parents' perceptions of outcomes, it is possible to establish whether an empathy manipulation improves outcomes for adolescents, parents, or both. Conflict outcomes have been operationalized most commonly in terms of their fairness—that is, whether conflicts were win–lose or ended in compromise (Adams & Laursen, 2001; Recchia et al., 2010)—but also in terms of the way adolescents felt in the aftermath of the conflict (Adams & Laursen, 2001). Adolescent–parent conflict outcomes tend to reflect the power asymmetry inherent in these relationships, with adolescents mainly needing to accept win–lose outcomes and experiencing neutral or angry affect (Adams & Laursen, 2001; Recchia et al., 2010). Because outcomes are generally unfavorable for adolescents, they might also benefit personally from resolving conflicts more amicably. Empathy might play a role in promoting prosocial conflict resolution behaviors and more satisfying and fair conflict outcomes.

Manipulations of situational affective and cognitive empathy are likely to have different effects on conflict behavior. According to theorists, affective empathy inhibits aggressive behavior directly and motivates individuals to alleviate others' distress (Feshbach & Feshbach, 2011). Consequently, affective empathy might reduce negative behavior and promote prosocial behavior even at adolescents' own expense. Cognitive empathy, on the other hand, involves distancing oneself from the heat of the argument and considering the other's perspective, which might also reduce negative behavior, promote listening, and help individuals to reach more mutually beneficial outcomes (e.g., Sandy & Cochran, 2000). The experimental literature provides some support for such differential effects on conflict-related behaviors and outcomes. For instance, an affective empathy manipulation led participants to cooperate in prisoner's dilemmas even when their opponent had proven to be untrustworthy (Batson & Ahmad, 2001). Similarly, affective empathy motivated participants to comply with opponents' demands in negotiations, which diminished participants' outcomes but increased opponents' satisfaction (Galinsky, Maddux, Gilin, & White, 2008). In the same study, cognitive empathy helped participants to uncover hidden agreements and negotiate better outcomes for both parties. Furthermore, cognitive empathy was found to inhibit aggressive escalation in response to provocation and to increase interpersonal sensitivity (Richardson, Hammock, Smith, Gardner, & Signo, 1994). A limitation of this experimental work, however, is its lack of ecological validity. These studies relied on simulated conflict discussions between strangers or hypothetical social dilemmas. Ecological validity could be improved by studying the effect of empathy on discussions of preexisting disagreements that are of personal significance to participants.

In addition to manipulations of situational empathy, preexisting empathic dispositions are likely to predict conflict-related behaviors and outcomes. Affective *empathic concern* refers to the dispositional tendency to experience sympathy toward others' distress, and cognitive *perspective taking* refers to the tendency to consider others' points of view (Davis, 1983). A recent 6-year longitudinal study found that adolescents' development of dispositional empathic concern and perspective taking was associated with decreasing escalation and increasing problem solving, although these links were stronger for perspective taking (Van Lissa et al., 2016). Furthermore, empathic concern was positively associated with compliance, whereas perspective taking was negatively correlated with withdrawal. An additional cross-sectional study on college students similarly found that empathic concern was significantly correlated with compliance in conflicts with friends, whereas perspective taking was negatively correlated with aggression and positively correlated with problem solving with friends and siblings (Richardson et al., 1994). These findings suggest that dispositional empathic concern and perspective taking might predict lower negative conflict behavior and greater constructive conflict behaviors, although these links might be stronger for perspective taking. One limitation of the existing developmental literature, however, is that most studies have relied on adolescent self-reports. Because adolescent self-reports of conflict behavior tend to be biased (Feeney & Cassidy, 2003), there has been

a call for observational research on empathy and conflict behavior (Adams & Laursen, 2001; Van Lissa et al., 2016).

Finally, manipulations of situational empathy are likely to interact with empathic dispositions. A recent study found that an empathy intervention was more effective in adolescents with high callous–unemotional traits, which involve lower dispositional empathy, than in adolescents with low callous–unemotional traits (Dadds, Cauchi, Wimalaweera, Hawes, & Brennan, 2012). This suggests that empathy manipulations might be more effective for adolescents lower in dispositional empathy.

Roles of sex and adolescent-perceived relationship quality

Sex might predict the way in which adolescents express their empathic responses in behavior. According to gender intensification theory, socialization pressures encourage girls to display more emotional and caring behavior than boys (Pettitt, 2004). Indeed, girls report higher levels of dispositional empathy (Eisenberg et al., 2006; Hawk et al., 2013) and greater prosocial conflict behavior toward peers (e.g., de Wied, Branje, & Meeus, 2007). Paradoxically, parent–daughter conflicts are more frequent and more negative than parent–son conflicts (Branje, Laursen, & Collins, 2013). This suggests that it is important to investigate sex differences, but inconsistencies in the literature preclude the formulation of specific hypotheses.

Whether adolescent–parent conflict contributes to the constructive renegotiation of relationship roles depends in part on relationship quality, which is reflected in adolescent-perceived support and parental power (Branje et al., 2013). Supportive adolescent–mother relationships show less conflict, but the opposite holds when mothers are high in power (De Goede, Branje, & Meeus, 2009). Furthermore, support and power might interact with empathy manipulations. When adolescents perceive mothers as supportive, they might be more inclined to consider mothers' emotions and point of view, which could enhance the effects of the empathy manipulations. When mothers are perceived as powerful, adolescents take a less active role in conflicts (Branje, 2008), in which case manipulations might have weaker effects.

The current study

We examined effects of manipulations of affective and cognitive situational empathy on observed behavior and self-reported outcomes in adolescent–parent conflicts. We hypothesized that both the affective and cognitive manipulations of situational empathy would lead to lower conflict escalation (Feshbach & Feshbach, 2011; Sandy & Cochran, 2000). We further hypothesized that the affective manipulation would promote problem solving and compliance (Batson & Ahmad, 2001; Galinsky et al., 2008), whereas the cognitive empathy manipulation would promote problem solving and listening (Galinsky et al., 2008; Richardson et al., 1994). With regard to self-reported outcomes, on the one hand, we considered the possibility that both empathy manipulations would promote outcome satisfaction compared with the control condition because we hypothesized that both manipulations would promote prosocial conflict behaviors and thus lead to more amicable discussions. On the other hand, we considered the possibility that the affective manipulation would lead to lower satisfaction and fairness because affective empathy may lead adolescents to reduce mothers' distress at personal expense. We predicted that the cognitive manipulation would promote both satisfaction and fairness (Galinsky et al., 2008). With regard to dispositional empathy, we predicted that both empathic concern and perspective taking would predict lower escalation and higher problem solving but that these effects would be stronger for perspective taking (Van Lissa et al., 2016). Furthermore, we predicted that empathic concern would predict compliance, whereas perspective taking would predict lower withdrawal. Finally, we predicted state–trait interactions, expecting that the empathy manipulations would have stronger effects for adolescents who scored lower in dispositional empathy (Dadds et al., 2012). Finally, we explored the roles of sex, age, and perceived maternal support and power as covariates and moderators.

Method

Participants

Participants were 67 Dutch adolescent–mother dyads (32 girls; M_{age} = 15.51 years, SD = 1.16, mothers' M_{age} = 48.48 years, SD = 3.16). Of the adolescents, 1 was enrolled in preparatory vocational education (VMBO), 18 were enrolled in higher general education (HAVO, 27%), and 48 were enrolled in preparatory scholarly education (VWO, 72%). Of the mothers, 8 reported having vocational education, 3 had a high school education, and 56 had a college education or higher (84%). Most mothers were Dutch born (96%). Participants each received 12.50 euros.

Procedure

Adolescents completed online questionnaires and were visited at home for the conflict discussion 1 week later. During the home visit, mothers identified an unsolved conflict topic. Then, adolescents were randomly assigned to either the control condition or one of two empathy conditions: affective empathy or cognitive empathy (22 adolescents per condition; 1 missing due to technical error). Next, dyads were asked to discuss the conflict topic for 8 min and try to conclude within 8 min (based on Branje, 2008). If the discussion had not come to a natural conclusion within 8 min, participants were asked to take another 2 min to come to a conclusion. Conflict discussions were videotaped. To increase privacy, the experimenter waited in a separate room. Afterward, adolescents and mothers completed post-discussion questionnaires to evaluate their subjective satisfaction with the outcome of the discussion and perceived fairness of the outcome. Participants were fully debriefed.

Materials

Empathy manipulation

Based on Batson et al. (2003), we used a writing task to prime an empathic mindset. Engaging in point-of-view writing has been found to foster children's empathy (Brill, 2004) and is used, for example, in empathy-based interventions for violent offenders (Mann & Barnett, 2013). Adolescents were asked to write a short essay about the last time they discussed the conflict topic with their mothers. Participants in the affective and cognitive empathy conditions (affective/cognitive, respectively) were asked to do the following:

> "Write about the [feelings and emotions]/[standpoint, arguments, and goals] of your mother with regard to the discussion topic. Try to write only about the [feelings and emotions]/[standpoint, arguments, and goals] of your mother."

Participants in the control condition were instead asked to describe the objective circumstances (e.g., the conflict location, who was present). To reinforce the written priming task, adolescents in the experimental conditions (affective/cognitive, respectively) were then asked to maintain this focus on their mothers' emotions or perspective during the upcoming discussion:

> "During the discussion you are about to have with your mother, try to [be aware of her emotions]/ [imagine what you would think in her place]. Try to focus on your mother's [feelings and emotions. Try to sympathize with your mother]/[arguments and goals. Try to see things from your mother's point of view]."

As a manipulation check, three coders rated the essays for the number of references to mothers' emotions[1] (α = .99) and cognitions (α = .91). Adolescents in the affective empathy condition mentioned significantly more emotions (M = 3.00, SD = 2.47) than those in the control condition (M = 0.45, SD = 0.50)

---

[1] To explore whether a focus on mothers' emotions might have inadvertently increased adolescents' anger at mothers, essays were also coded for adolescents' own negative emotions. Only 5 adolescents mentioned their own negative emotions: 4 in the control condition and 1 in the affective condition. This suggests that self-focused negative emotions occurred primarily in the control condition—the only condition that did not instruct adolescents to adopt an other-oriented focus.

and the cognitive empathy condition (M = 0.23, SD = 0.53), $F(2, 63)$ = 18.12, p < .001. Adolescents mentioned significantly more cognitions in the cognitive condition (M = 2.36, SD = 1.56) than in the affective condition (M = 1.41, SD = 0.96) and the control condition (M = 0.32, SD = 1.71), and the affective and control conditions also differed significantly, $F(2, 63)$ = 11.07, p < .001.

Observed conflict behavior

Discussions were content coded by a trained observer blind to condition. We used a modified version of Dishion, Rivera, and Patras's (2002) *Relationship Process Code Training Manual* (see Branje, 2008). Active *escalation* refers to personal attacks and expressed anger. Passive *withdrawal* refers to refusing to discuss the problem further. Prosocial behavior was coded as *problem solving* when adolescents actively and constructively addressed the problem, as *listening* when they were passive but attentive, and as *compliance* when they agreed with their mothers. Two additional coders each coded a subset with very good reliability ($\bar{\kappa}_1$ = .81, n = 31; $\bar{\kappa}_2$ = .80, n = 19). Coders were instructed to code 1 participant at a time and to mark the exact beginning and ending of each type of behavior (in milliseconds) throughout the discussion. To control for variations in discussion length, we summed the amount of time each actor spent engaging in each behavior and divided by the total length of the discussion, which yielded a measure of the percentage of time spent in each category.

Self-report measures

Because Cronbach's alpha is known to underestimate test reliability, particularly when scales are not strictly unidimensional, we report two estimates of reliability: Cronbach's α and McDonald's ω_t, which reflects the proportion of test variance due to all common factors (Revelle & Zinbarg, 2009).

Dispositional empathy. Adolescents completed the empathic concern subscale (7 items, α = .61, ω_t = .77; e.g., "My mother's misfortunes do not usually disturb me a great deal" [reverse coded]) and the perspective taking subscale (7 items, α = .80, ω_t = .88; e.g., "I sometimes try to understand my mother better by imagining how things look from her perspective") of the Interpersonal Reactivity Index, adapted to measure empathy toward mothers, on 5-point scales (Davis, 1983; Dutch translation validated by Hawk et al., 2013).

Adolescent-perceived relationship quality. Participants rated the support subscale (9 items, α = .80, ω_t = .87; e.g., "Does your mother admire and respect you?") and the power subscale (6 items, α = .79, ω_t = .87; e.g., "To what extent is your mother the boss in your relationship?") of the Network of Relationships Inventory (Furman & Buhrmester, 1985) on 5-point scales ranging from *not at all* to *very much*.

Subjective conflict outcomes. Whereas previous work measured general affect in the aftermath of conflicts (Adams & Laursen, 2001), we aimed to measure satisfaction with the conflict outcome specifically. Furthermore, whereas previous work assessed outcome fairness categorically (Recchia et al., 2010), we aimed to obtain a continuous measure. Therefore, we devised two scales: *outcome satisfaction* (3 items; e.g., "How satisfied are you with the outcome of the discussion?") and *outcome fairness* (3 items; e.g., "How fair is the outcome of the discussion?"). Horn's (1965) parallel analysis suggested that, for both respondents, the two scales indeed formed two factors. Factor analyses with oblimin rotation revealed that each item loaded highly on its own subscale (all loadings between .54 and 1.00; all cross-loadings between .02 and .32). Reliability estimates for outcome satisfaction and fairness scales were good, particularly for scales with only 3 items (for adolescents: αs = .86 and .87 and ω_ts = .92 and .91, respectively; for mothers: αs = .90 and .84 and ω_ts = .96 and .92, respectively).

Results

We used a model building approach. The baseline regression model included experimental condition, dispositional empathy, demographics (age and sex), and perceived support and power. The effect of condition was analyzed using two dummy variables, which can be interpreted as the difference

between the control condition and the affective condition (*affective contrast*) and the difference between the control condition and the cognitive condition (*cognitive contrast*). We tested whether adding interactions of condition with dispositional empathy, demographics, or relationship variables and adding interactions of demographics with relationship variables significantly increased explained variance. In the second step, those interactions that significantly increased explained variance were added. For the sake of parsimony, the resulting model was pruned by removing nonsignificant effects if model fit remained unaffected. Final models are presented in Table 1.[2]

Behavioral data

None of the predictors explained significant variance in observations of mothers' conflict behaviors. Therefore, we report only adolescents' observed behaviors.

Escalation

In partial support of hypotheses, the cognitive empathy manipulation led to significantly lower escalation compared with the control condition. The affective contrast, however, was nonsignificant (Fig. 1A). Girls displayed more escalation ($M = 8.38$) than boys ($M = 3.88$). Finally, both greater support and power predicted less escalation.

Problem solving

Although this effect did not reach significance, a trend in the hypothesized direction suggested that the affective empathy manipulation might lead to greater problem solving compared with the control condition (Fig. 1B). Furthermore, in line with predictions, dispositional perspective taking positively predicted problem solving, as did adolescents' age.

Listening

In line with predictions, an interaction between the cognitive contrast and dispositional perspective taking indicated that the cognitive manipulation significantly increased listening for adolescents low in dispositional perspective taking ($B = 8.74$, $t = 2.05$, $p < .05$) but not for those higher in perspective taking ($B = -5.70$, $t = -1.55$, $p = .13$) (Fig. 1C). The interaction between the affective contrast and sex indicated that the affective manipulation led to lower listening for boys ($B = -14.04$, $t = -3.54$, $p < .001$) but increased listening for girls ($B = 10.92$, $t = 2.37$, $p = .02$). Similarly, an interaction between dispositional empathic concern and sex indicated that empathic concern positively predicted listening for girls ($B = 8.81$, $t = 1.99$, $p = .05$) but not for boys ($B = -3.19$, $t = -0.85$, $p = .40$). Finally, the interaction between the cognitive contrast and maternal power revealed no significant differences between the control and cognitive conditions at ±1 standard deviation of maternal power. The affective empathy manipulation, on the other hand, led to lower listening when maternal power was low ($B = -13.45$, $t = -2.58$, $p = .01$) and greater listening when power was high ($B = 10.33$, $t = 2.07$, $p = .04$) (Fig. 1D).

Compliance and withdrawal

None of the predictors explained significant variance in adolescents' compliance and withdrawal. On average, compliance occurred in 33 dyads ($M_{\text{percentage of observation}} = 0.99$) and withdrawal occurred in 41 dyads ($M_{\text{percentage of observation}} = 5.30$).

---

[2] Adolescents' post-discussion questionnaires contained a single-item measure of anger during the conflict discussion with a 5-point scale ranging from *agreeable* to *angry*. Most adolescents' answers were in the agreeable–neutral range; only 1 reported moderate anger. Controlling for adolescents' anger did not change the significance of any of the other effects in the models, and anger did not significantly predict any of the dependent variables except mothers' outcome fairness ($\beta = -.31$, $p = .01$).

Table 1
Summary of regression analyses.

Model	Predictor	B	SE	β	p	η_p^2
Adolescents' negative behavior, R^2 = .58, F(5, 19) = 5.22, p = .004						
	Main effects					
	Intercept	6.13	1.33		.000	
	Affective contrast	−3.86	2.51	−.26	.142	.25
	Cognitive contrast	−5.92	2.48	−.39	.028	
	Sex	2.25	1.03	.35	.041	.20
	Support	−8.20	2.03	−.74	.001	.46
	Power	−4.21	1.72	−.43	.024	.24
Adolescents' problem solving behavior, R^2 = .17, F(3, 58) = 3.96, p = .01						
	Main effects					
	Intercept	28.05	2.47		.000	
	Affective contrast	6.65	3.49	.27	.062	.06
	Cognitive contrast	2.44	3.45	.10	.482	
	PT	7.11	2.27	.38	.003	.14
Adolescents' listening behavior, R^2 = .55, F(14, 47) = 4.05, p < .001						
	Main effects					
	Intercept	61.99	2.00		.000	
	Affective contrast	−1.56	2.85	−.07	.587	.01
	Cognitive contrast	1.52	2.78	.07	.588	
	EC	2.81	3.20	.12	.384	.01
	PT	2.70	3.56	.16	.452	.03
	Sex	−7.16	2.01	−.66	.001	.09
	Support	−5.99	3.01	−.26	.052	.08
	Power	0.85	3.05	.05	.782	.00
	Interactions					
	Affective contrast * PT	2.21	6.11	.07	.719	.16
	Cognitive contrast * PT	−11.32	4.48	−.40	.015	
	Affective contrast * Sex	12.48	3.22	.67	.000	.24
	Cognitive contrast * Sex	4.44	2.80	.24	.119	
	Affective contrast * Power	20.87	7.42	.44	.007	.27
	Cognitive contrast * Power	−9.27	4.59	−.30	.049	
	EC * Sex	6.00	2.58	.26	.024	.10
Adolescents' outcome satisfaction, R^2 = .47, F(10, 55) = 4.92, p < .001						
	Main effects					
	Intercept	3.41	0.14		.000	
	Affective contrast	0.23	0.19	.14	.223	.06
	Cognitive contrast	0.30	0.19	.19	.116	
	EC	0.76	0.35	.47	.031	.01
	Sex	0.09	0.08	.11	.273	.01
	Age	0.07	0.07	.11	.301	.02
	Support	1.02	0.23	.63	.000	.11
	Interactions					
	Affective contrast * EC	−0.91	0.43	−.33	.036	.23
	Cognitive contrast * EC	−1.75	0.43	−.63	.000	
	Support * Sex	−0.47	0.18	−.29	.012	.07
	Support * Age	0.83	0.19	.56	.000	.18
Adolescents' outcome fairness, R^2 = .29, F(8, 57) = 2.85, p = .01						
	Main effects					
	Intercept	3.83	0.15		.000	
	Affective contrast	0.04	0.20	.03	.838	.05
	Cognitive contrast	0.33	0.20	.21	.112	
	EC	0.20	0.36	.13	.588	.01
	Age	0.07	0.07	.11	.329	.02
	Support	0.83	0.24	.55	.001	.10
	Interactions					
	Affective contrast * EC	−0.11	0.44	−.04	.803	.09
	Cognitive contrast * EC	−0.93	0.42	−.35	.032	
	Support * Age	0.54	0.20	.38	.009	.11

Note. Two-tailed *p* values are reported. PT, perspective taking; EC, empathic concern.
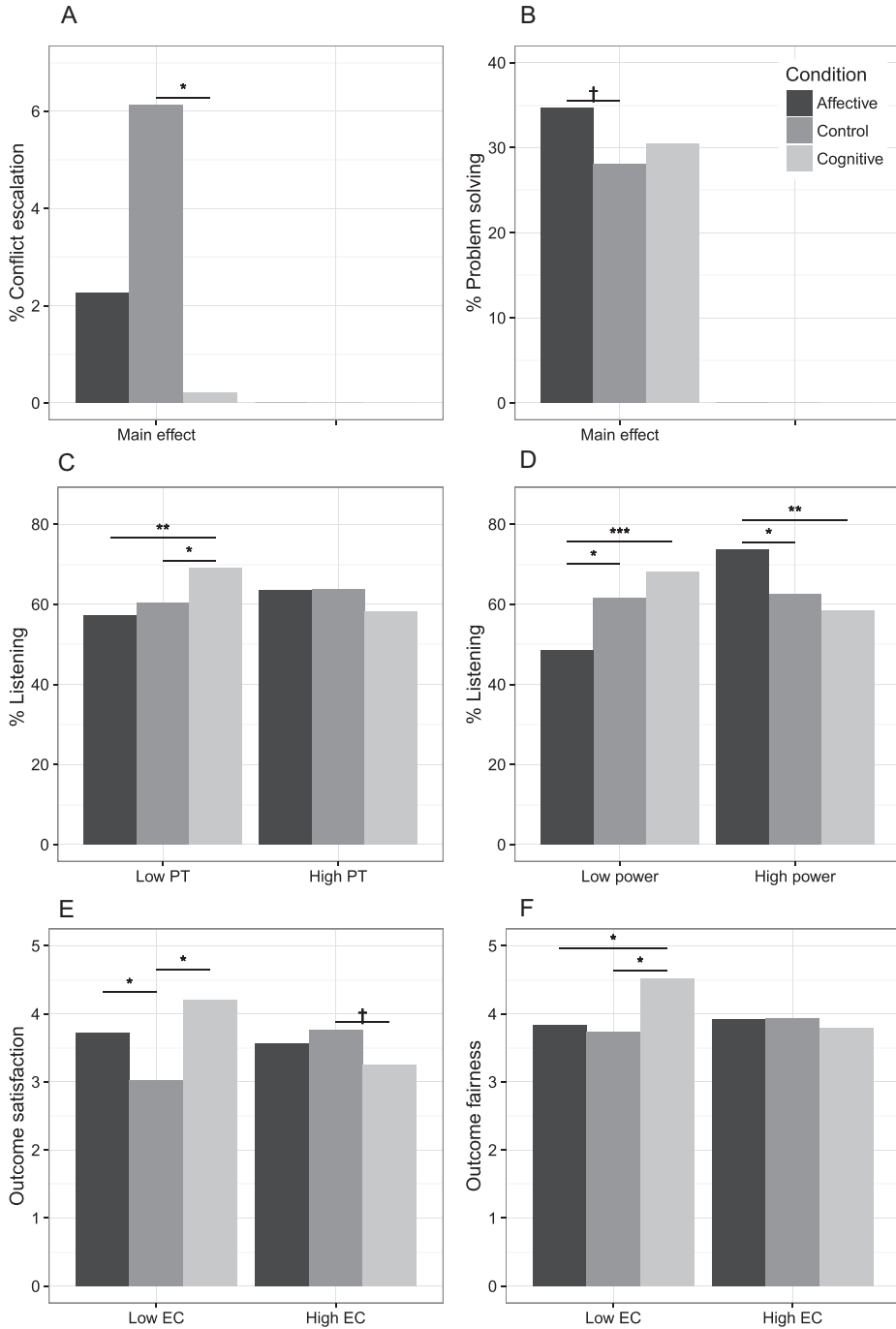
Fig. 1. Main effects and interactions with experimental condition. Interaction plots show the effect of condition at low and high levels (±1 standard deviation) of the moderator. Perspective taking (PT) and empathic concern (EC) are abbreviated. Two-tailed *p* values are represented by the following symbols: † ⩽ .06; * * * < .05; ** < .01; *** < .001.

Self-report data

Adolescents' outcome satisfaction

A significant interaction between dispositional empathic concern and condition revealed that both the affective empathy manipulation ($B = 0.69$, $t = 2.51$, $p = .02$) and the cognitive empathy manipulation ($B = 1.17$, $t = 4.18$, $p < .001$) increased outcome satisfaction for individuals with lower, but not higher, dispositional empathic concern (Fig. 1E). Furthermore, a significant interaction between sex and maternal support indicated that support predicted outcome satisfaction more strongly for boys ($B = 1.49$, $t = 4.83$, $p < .001$) than for girls ($B = 0.55$, $t = 2.02$, $p < .05$). Finally, an interaction between age and support indicated that support positively predicted outcome satisfaction for older adolescents ($B = 1.98$, $t = 5.35$, $p < .001$) but not for younger adolescents ($B = 0.06$, $t = 0.24$, $p = .81$).

Mothers' outcome satisfaction

None of the predictors explained significant variance in mothers' outcome satisfaction.

Adolescents' outcome fairness

In line with hypotheses, a significant interaction between dispositional empathic concern and condition revealed that the cognitive empathy manipulation significantly increased outcome fairness for individuals with lower empathic concern ($B = 0.79$, $t = 2.78$, $p < .01$) but not for those with higher empathic concern ($B = -0.13$, $t = -0.44$, $p = .66$) (Fig. 1F). The affective empathy manipulation did not affect outcome fairness. An interaction between age and support indicated that maternal support positively predicted outcome fairness for older adolescents ($B = 1.46$, $t = 3.68$, $p = .001$) but not for younger adolescents ($B = 0.21$, $t = 0.78$, $p = .44$).

Mothers' outcome fairness

None of the effects hypothesized for mothers' outcome fairness was significant. However, the interaction between adolescents' age and perceived maternal support, which we also found for adolescents, was replicated for mothers' outcome fairness, $R^2 = .12$, $F(3, 62) = 2.83$, $p < .05$. Specifically, maternal support positively predicted mothers' perceived outcome fairness for older adolescents ($B = 0.79$, $t = 2.17$, $p = .03$) but not for younger adolescents ($B = -0.36$, $t = -1.88$, $p = .07$).

Discussion

The aim of the current study was to examine whether experimentally induced affective empathy and cognitive empathy promote prosocial conflict behaviors and mutually beneficial outcomes in adolescent–mother conflict discussions and to examine interactions with dispositional empathy and adolescent-perceived relationship quality. With regard to observed conflict behavior, we found a non-significant trend in the hypothesized direction for the affective empathy manipulation. The cognitive empathy manipulation, on the other hand, led to reduced escalation and promoted listening for adolescents low in dispositional perspective taking (Richardson et al., 1994). These findings suggest that both empathy manipulations promoted different prosocial behaviors; affective empathy might have motivated active prosocial behavior directly, whereas cognitive empathy prompted adolescents to take some emotional distance from the conflict, as evidenced by lower escalation, and to gather information about mothers' viewpoints by listening before acting. With regard to self-reported outcomes, we found that, for adolescents low in empathic concern, both the affective and cognitive empathy manipulations promoted outcome satisfaction, but only the cognitive manipulation promoted perceived outcome fairness. This suggests that both empathy manipulations may have promoted more amicable discussions, but only the cognitive empathy induction made adolescents feel like they gained ground in terms of fairer outcomes. The empathy manipulations did not affect mothers' perceived outcomes, which suggests that adolescents felt like they achieved more satisfying and fairer outcomes, without mothers feeling like they had compromised on either of these dimensions (although they did not report improvements either). Together, these results provide the first causal

evidence that affective and cognitive empathy manipulations have unique effects on observed behavior and self-reported outcomes in adolescent–mother conflicts.

State–trait interactions

We found several state–trait interactions, where our manipulations had significant effects only for low-empathy adolescents. For example, the cognitive empathy manipulation promoted listening only for adolescents low in perspective taking. Because adolescents high in perspective taking habitually imagine themselves in others' positions (Davis, 1983), they likely have clear working models of their mothers' perspectives to rely on. Youths low in perspective taking might attempt to compensate for their lack of preexisting insight by attentively listening to their mothers. Because dispositional perspective taking also predicted greater problem solving, adolescents who habitually take their mothers' perspective might know how to anticipate mothers' concerns and more readily negotiate a compromise. Furthermore, all effects of the empathy manipulations on conflict outcomes were moderated by dispositional empathic concern. This might reflect a ceiling effect similar to the one found by Dadds and colleagues (2012), whose empathy-related intervention benefited only low-empathy adolescents. This interpretation is bolstered by a recent study that found that low-empathy adolescents experienced significantly more conflict with parents than either moderate-empathy or high-empathy adolescents (Van Lissa et al., 2015). Thus, for low-empathic concern adolescents, there may be greater room for improvement. Adolescents higher in empathic concern, in contrast, might already resolve conflicts with mothers in a satisfying and fair manner regardless of the empathy manipulations.

Sex differences

In line with previous research, we found that girls displayed more escalation toward mothers than did boys (Branje et al., 2013). Furthermore, both the affective empathy manipulation and dispositional empathic concern predicted promoted listening for girls but not for boys. Thus, girls might express their empathic concern more readily in behavior by listening attentively. These findings are in line with gender intensification theory, which suggests that girls are encouraged to express their emotions and show caring behavior (Pettitt, 2004). More surprising, the affective empathy manipulation led to less listening for boys. Perhaps boys are not socialized to express affective empathy by engaging in other-oriented listening behavior. Unfortunately, it remains unclear what behaviors boys in the affective condition engaged in instead of listening because there were no interactions between sex and the affective empathy manipulation for any of the other behaviors. Finally, we found that perceived support predicted outcome satisfaction more strongly for boys than for girls. This might represent a ceiling effect; mother–daughter relationships tend to be most supportive of all parent–child relationships (Branje et al., 2013). If mothers vary more in the amount of support they give to sons, these differences could end up having a larger effect.

Associations with adolescent-perceived relationship quality

Our results indicated that adolescent-perceived relationship quality predicted both observed behavior and self-reported outcomes. Although higher levels of both maternal support and power predicted less escalation toward mothers, they likely do so for different reasons. Supportive relationships are generally more harmonious, whereas power is associated with elevated conflict frequency (De Goede et al., 2009). Perhaps adolescents with powerful mothers avoid escalating conflicts because altercations are already abundant. Moreover, adolescents who perceived their mothers as powerful responded to the affective empathy manipulation by listening more, whereas adolescents who perceived their mothers as low in power responded by listening less. Branje (2008) similarly found that daughters took a more active role in conflicts with mothers when they perceived a smaller power discrepancy. Both findings are in line with the well-established finding that less powerful individuals are more attentive in negotiations than powerful ones (Keltner, Gruenfeld, & Anderson, 2003).

Interaction effects between age and perceived maternal support indicated that support predicted adolescents' self-reported outcome satisfaction and both respondents' fairness perceptions more strongly when adolescents were older. These interaction effects are in line with the expectancy violation realignment perspective on adolescent–parent relationships (Branje et al., 2013; Collins & Luebker, 1994); youths expect to gain increasing autonomy at an earlier age than parents are ready to grant it, which leads to a temporary increase in emotional distance during early adolescence. From mid to late adolescence, adolescents' and parents' perspectives realign again (Van Lissa et al., 2015). Thus, older adolescents might be more receptive to mothers' support than younger adolescents, leading them to resolve conflicts with supportive mothers in a way that is more satisfying and fair to both parties.

Strengths and limitations

The current study had several strengths relative to previous research. Although the distinction between affective empathy and cognitive empathy is widely acknowledged, this was the first attempt to study differential effects of these empathy dimensions in conflict discussions about real disagreements in preexisting relationships rather than hypothetical interactions with strangers. The current study had high ecological validity because the discussions were conducted in participants' homes rather than in a laboratory setting. Furthermore, trained coders analyzed video-recordings of conflict behaviors with a high temporal resolution, whereas previous studies often relied on retrospective self-report measures that may be biased (e.g., Van Lissa et al., 2016). The dyadic design allowed us to investigate whether manipulations affected only adolescents' observed behavior and self-reported outcomes or affected mothers' as well. Finally, the inclusion of dispositional empathy measures and situational empathy inductions allowed for a novel investigation of state–trait interactions.

Despite these benefits, the current study had several shortcomings. The primary limitation is the small sample, which limits the generalizability of results and did not allow us to examine whether conflict behaviors mediated the effects of the empathy manipulations on outcomes. Furthermore, fathers were not included. This might also limit generalizability because there are known differences between conflicts with mothers and conflicts with fathers (Branje et al., 2013). Another limitation is that withdrawal and compliance were observed too infrequently to analyze, limiting the range of conflict behaviors we were able to investigate. Finally, it should also be noted that we used measures of adolescents' perceived relationship quality, which might not fully correspond with objective reality (Furman & Buhrmester, 1985). Adolescents' perceptions of relationship quality are likely to correlate with their own behaviors and self-reported outcomes more strongly, whereas more objective measures of relationship quality might predict both adolescents' and mothers' behaviors and self-reports to a greater extent.

Future research directions and implications

The current study reveals several potential directions for future research. First of all, the pattern of associations we found for dispositional empathy differed from the effects of the empathy manipulations, which suggests that these measures and manipulations capture different aspects of empathy. Thus, the convergent validity of these scales and manipulations remains to be investigated. Moreover, our manipulation check revealed that the affective empathy manipulation prompted an increase in spontaneous cognitions about mothers, whereas the reverse did not apply. Many theorists consider perspective taking to be a pathway to empathic concern (e.g., Eisenberg et al., 2006). However, other studies have reported spontaneous perspective taking in response to emotional stimuli (e.g., Hawk, Fischer, & Van Kleef, 2011), and one recent study found that development of empathic concern precedes and predicts the development of perspective taking during adolescence (Van Lissa et al., 2014). Together, these findings might suggest that a focus on emotions can motivate individuals to engage in spontaneous perspective taking. Finally, we found that withdrawal and compliance behaviors hardly occurred during the videotaped conflict discussions despite the fact that previous research found that adolescents report engaging in both of these behaviors when resolving conflicts with parents (Van Lissa et al., 2016). One potential explanation for the low frequency of withdrawal and com-

pliance might be that our instructions to discuss the topic for 8 min implicitly curtailed behaviors such as walking away (withdrawal) and adolescents complying with mothers without asserting their own standpoints. This raises the question of whether, in naturally occurring conflicts, adolescents might engage in these behaviors primarily when they want to terminate a discussion. Future research might investigate whether compliance and withdrawal are part of the *process* of resolving conflicts during an ongoing discussion, as they have been considered in studies using self-report questionnaires (e.g., Kurdek, 1994), or whether these behaviors are more akin to outcomes in the sense that they capture aspects of the way in which conflicts have been resolved. This discrepancy also highlights the importance of observing conflict resolution behavior as it unfolds in addition to relying on retrospective self-report measures.

Conclusions

We examined common and unique effects of affective and cognitive empathy manipulations on observed behavior and self-reported outcomes in the context of adolescent–mother conflict discussions about real disagreements. A trend in the hypothesized direction suggested that the affective empathy manipulation might promote adolescents' problem solving, but only cognitive empathy led to lower escalation and promoted other-oriented listening for adolescents low in dispositional perspective taking. For adolescents low in empathic concern, both manipulations promoted outcome satisfaction, but only cognitive empathy promoted adolescents' perceptions of outcome fairness without mothers feeling like their outcomes were less fair. This is important because conflict frequency might decrease over time when adolescents feel that conflict topics have been adequately addressed. Cognitive empathy, in particular, seems to help adolescents distance themselves from the heat of a conflict and other viewpoints, leading to outcomes perceived as both satisfying and fair. Although many adolescent intervention programs promote affective or cognitive aspects of empathy (Caprara, Luengo Kanacri, Zuffiano, Gerbino, & Pastorelli, 2015; Frey, Nolen, Edstrom, & Hirschstein, 2005; Lewis et al., 2013), little has been known about differential effects of these empathy dimensions on interpersonal behavior and outcomes and ways in which empathy interventions might interact with dispositional empathy. Thus, the current study has implications for empathy-based interventions because it highlights the importance of distinguishing between affective empathy and cognitive empathy and of distinguishing between dispositional empathy and situational empathy. Moreover, state–trait interactions indicated that low-empathy adolescents particularly benefited from the empathy manipulations. Because even a minimal manipulation had significant effects, a stronger structural intervention might have marked benefits for low-empathy adolescents.

References

Adams, R., & Laursen, B. (2001). The organization and dynamics of adolescent conflict with parents and friends. *Journal of Marriage and the Family, 63*, 97–110.

Batson, C. D., & Ahmad, N. (2001). Empathy-induced altruism in a prisoner's dilemma II: What if the target of empathy has defected? *European Journal of Social Psychology, 31*, 25–36.

Batson, C. D., Lishner, D. A., Carpenter, A., Dulin, L., Harjusola-Webb, S., Stocks, E. L., ... Sampat, B. (2003). "As you would have them do unto you": Does imagining yourself in the other's place stimulate moral action? *Personality and Social Psychology Bulletin, 29*, 1190–1201.

Branje, S. J. T. (2008). Conflict management in mother–daughter interactions in early adolescence. *Behaviour, 145*, 1627–1651.

Branje, S. J. T., Laursen, B., & Collins, W. A. (2013). Parent–child communication during adolescence. In A. L. Vangelisti (Ed.), *The Routledge handbook of family communication* (2nd ed., pp. 271–286). New York: Routledge.

Branje, S. J. T., Van Doorn, M. D., Van der Valk, I. E., & Meeus, W. (2009). Parent–adolescent conflicts, conflict resolution types, and adolescent adjustment. *Journal of Applied Developmental Psychology, 30*, 195–204.

Brill, F. (2004). Thinking outside the box: Imagination and empathy beyond story writing. *Literacy, 38*(2), 83–89.

Caprara, G., Luengo Kanacri, B., Zuffiano, A., Gerbino, M., & Pastorelli, C. (2015). Why and how to promote adolescents' prosocial behaviors: Direct, mediated and moderated effects of the CEPIDEA school-based program. *Journal of Youth & Adolescence, 44*, 2211–2229.

Collins, W. A., & Luebker, C. (1994). Parent and adolescent expectancies: Individual and relational significance. *New Directions for Child and Adolescent Development, 1994*(66), 65–80.

Dadds, M. R., Cauchi, A. J., Wimalaweera, S., Hawes, D. J., & Brennan, J. (2012). Outcomes, moderators, and mediators of empathic-emotion recognition training for complex conduct problems in childhood. *Psychiatry Research, 199*, 201–207.

Davis, M. H. (1983). Measuring individual differences in empathy: Evidence for a multidimensional approach. *Journal of Personality and Social Psychology, 44*, 113–126.

De Goede, I., Branje, S., & Meeus, W. (2009). Developmental changes in adolescents' perceptions of relationships with their parents. *Journal of Youth & Adolescence, 38*, 75–88.

de Wied, M., Branje, S. J. T., & Meeus, W. (2007). Empathy and conflict resolution in friendship relations among adolescents. *Aggressive Behavior, 33*, 48–55.

Dishion, T., Rivera, E. K., & Patras, J. M. (2002). *Relationship process code training manual: A system for coding relationship interactions*. Eugene: University of Oregon, Child and Family Center.

Eisenberg, N., & Miller, P. A. (1987). The relation of empathy to prosocial and related behaviors. *Psychological Bulletin, 101*, 91–119.

Eisenberg, N., Spinrad, T. L., & Sadovsky, A. (2006). Empathy-related responding in children. In M. Killen & J. G. Smetana (Eds.), *Handbook of moral development* (pp. 517–549). Mahwah, NJ: Lawrence Erlbaum.

Feeney, B. C., & Cassidy, J. (2003). Reconstructive memory related to adolescent–parent conflict interactions: The influence of attachment-related representations on immediate perceptions and changes in perceptions over time. *Journal of Personality and Social Psychology, 85*, 945–955.

Feshbach, N. D., & Feshbach, S. (2011). Empathy and education. In J. Decety & W. J. Ickes (Eds.), *The social neuroscience of empathy* (pp. 85–97). Cambridge, MA: MIT Press.

Frey, K. S., Nolen, S. B., Edstrom, L. V. S., & Hirschstein, M. K. (2005). Effects of a school-based social–emotional competence program: Linking children's goals, attributions, and behavior. *Journal of Applied Developmental Psychology, 26*, 171–200.

Furman, W., & Buhrmester, D. (1985). Children's perceptions of the personal relationships in their social networks. *Developmental Psychology, 21*, 1016–1024.

Galinsky, A. D., Maddux, W. W., Gilin, D., & White, J. B. (2008). Why it pays to get inside the head of your opponent. *Psychological Science, 19*, 378–384.

Hahlweg, K., Kaiser, A., Christensen, A., Fehm-Wolfsdorf, G., & Groth, T. (2000). Self-report and observational assessment of couples' conflict: The concordance between the Communication Patterns Questionnaire and the KPI observation system. *Journal of Marriage and the Family, 62*, 61–67.

Hawk, S. T., Fischer, A. H., & Van Kleef, G. A. (2011). Taking your place or matching your face: Two paths to empathic embarrassment. *Emotion, 11*, 502–513.

Hawk, S. T., Keijsers, L., Branje, S. J., Van der Graaff, J., de Wied, M., & Meeus, W. (2013). Examining the interpersonal reactivity index (IRI) among early and late adolescents and their mothers. *Journal of Personality Assessment, 95*, 96–106.

Horn, J. L. (1965). A rationale and test for the number of factors in factor analysis. *Psychometrika, 30*(2), 179–185. http://dx.doi.org/10.1007/BF02289447.

Keltner, D., Gruenfeld, D. H., & Anderson, C. (2003). Power, approach, and inhibition. *Psychological Review, 110*, 265–284.

Kurdek, L. A. (1994). Conflict resolution styles in gay, lesbian, heterosexual nonparent, and heterosexual parent couples. *Journal of Marriage and the Family, 56*, 705–722.

Laursen, B., & Collins, W. A. (2004). Parent–child communication during adolescence. In A. L. Vangelisti (Ed.), *Handbook of family communication* (pp. 333–348). Mahwah, NJ: Lawrence Erlbaum.

Lewis, K. M., Schure, M. B., Bavarian, N., DuBois, D. L., Day, J., Ji, P., ... Flay, B. R. (2013). Problem behavior and urban, low-income youth: A randomized controlled trial of positive action in Chicago. *American Journal of Preventive Medicine, 44*, 622–630.

Mann, R. E., & Barnett, G. D. (2013). Victim empathy intervention with sexual offenders: Rehabilitation, punishment, or correctional quackery? *Sexual Abuse, 25*, 282–301.

Miller, P. A., & Eisenberg, N. (1988). The relation of empathy to aggressive and externalizing/antisocial behavior. *Psychological Bulletin, 103*, 324–344.

Pettitt, L. M. (2004). Gender intensification of peer socialization during puberty. *New Directions for Child and Adolescent Development, 2004*(106), 23–34.

Recchia, H. E., Ross, H. S., & Vickar, M. (2010). Power and conflict resolution in sibling, parent–child, and spousal negotiations. *Journal of Family Psychology, 24*, 605–615.

Revelle, W., & Zinbarg, R. E. (2009). Coefficients alpha, beta, omega, and the GLB: Comments on Sijtsma. *Psychometrika, 74*, 145–154.

Richardson, D. R., Hammock, G. S., Smith, S. M., Gardner, W., & Signo, M. (1994). Empathy as a cognitive inhibitor of interpersonal aggression. *Aggressive Behavior, 20*, 275–289.

Sandy, S. V., & Cochran, K. M. (2000). The development of conflict resolution skills in children: Preschool to adolescence. In M. Deutsch & P. T. Coleman (Eds.), *The handbook of conflict resolution: Theory and practice* (pp. 316–342). San Francisco: Jossey-Bass.

Van Doorn, M. D., Branje, S. J. T., Van der Valk, I. E., De Goede, I. H. A., & Meeus, W. H. J. (2011). Longitudinal spillover effects of conflict resolution styles between adolescent–parent relationships and adolescent friendships. *Journal of Family Psychology, 25*, 157–161.

Van Lissa, C. J., Hawk, S. T., Branje, S., Koot, H. M., & Meeus, W. H. J. (2016). Common and unique associations of adolescents' affective and cognitive empathy development with conflict behavior towards parents. *Journal of Adolescence, 47*, 60–70.

Van Lissa, C. J., Hawk, S. T., Branje, S. J., Koot, H. M., Van Lier, P. A., & Meeus, W. H. (2015). Divergence between adolescent and parental perceptions of conflict in relationship to adolescent empathy development. *Journal of Youth & Adolescence, 44*, 48–61.

Van Lissa, C. J., Hawk, S. T., de Wied, M., Koot, H. M., van Lier, P., & Meeus, W. (2014). The longitudinal interplay of affective and cognitive empathy within and between adolescents and mothers. *Developmental Psychology, 50*, 1219–1225.