Empirical Article

Emerging Adulthood
2023, Vol. 11(5) 1196–1210


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DOI: 10.1177/21676968231183029
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Parent-Adolescent Transmission of Socioeconomic Status: Testing Serial Mediation of Conflict Behaviors, Emotion Regulation, and Empathy

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Abstract

In this study, we investigated whether the intergenerational transmission of SES is mediated by parental and adolescents' conflict behaviors, emotion regulation, and empathy. Longitudinal serial mediation analyses were performed on a subset of adolescents (M_{age} = 13.03) and their parents from the RADAR cohort study (N = 320, 52.2% boys) in the Netherlands. Results showed partial support for intergenerational transmission of SES, mostly between mothers and girls. However, no mediation effect was found, primarily because parental SES was mostly unrelated to parental conflict behaviors. Parental conflict behaviors did affect adolescent conflict behaviors, emotion regulation, and empathy, which in turn were associated with SES outcomes in young adulthood. This study nuances the proposition of the *family stress model* that parents from a lower SES background – as a result of economic stress – display less constructive and more destructive conflict behaviors.

Keywords

intergenerational transmission, socioeconomic status, conflict behaviors, empathy, emotion regulation

Adolescents are likely to achieve a similar socioeconomic status (SES) in adulthood as their parents. For example, adolescents who complete a higher level of education generally have higher educated parents (Hertz et al., 2008), and adolescents who receive a higher income tend to have parents with a higher income (Link-Gelles et al., 2016). The intergenerational transmission of SES is commonly studied from a sociological perspective (e.g., Burger, 2016), however, less is known about how family dynamics in the household, such as conflict resolution, may contribute to adolescents ending up with a similar SES as their parents (Heckman & Mosso, 2014).

Differences in how parents resolve conflicts within the nuclear family may over time contribute to the transmission of SES. Such a socialization process as mediating mechanism of SES transmission would be in line with the interactionist perspective (Conger & Donnellan, 2007) According to the interactionist perspective, structural factors such as parental SES positively affect the development of adolescents' psychosocial competencies (i.e., social causation), and adolescent psychosocial competencies positively affect young adulthood SES outcomes (i.e., social selection). Though several studies have assessed (parts of) the interactionist perspective (Martin et al., 2010), little is known about the potential role of specific family dynamics, such as conflict resolution, in SES transmission.

Socioeconomic Differences in Parental Conflict Behaviors

Conflicts in families become increasingly prevalent as children become adolescents (Laursen, 1998). The discrepancy between adolescents' desire for more independence and autonomy and the reservedness of parents' to grant that provides ground for conflicts (Laird et al., 2003). During conflicts within the family, constructive and destructive behaviors may be displayed (McCoy et al., 2013; Van Lissa et al., 2016). Constructive conflict behaviors include for example being supportive and taking the other person's perspective, and are generally aimed to solve a problem. Destructive conflict behaviors include for example emotional outbursts and saying things that are regretted later, and generally result in further conflict engagement (Kurdek, 1994).

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Parents from a lower SES background experience more economic stress than parents from a higher SES background (*family stress model*; Conger et al., 1994), potentially provoking more destructive conflict behaviors, which adolescents tend to imitate (Granic & Patterson, 2006). Draining economic hardships and financial stress may also make parents less emotionally available and less sensitive to the needs of their adolescents. Previous studies suggest that parents with a lower SES background display less constructive conflict behavior, such as being supportive, and more destructive conflict behaviors, such as hostility, compared to parents from a higher SES background (Hosokawa & Katsura, 2017).

Adolescents of parents who display less constructive and more destructive conflict behaviors towards each other tend to display less constructive and more destructive conflict behaviors towards their parents (Van Doorn et al., 2007). Hence, it could be argued that adolescents from a lower SES background may be at a higher risk of developing more destructive and less constructive conflict behaviors than adolescents from a higher SES background.

Parental Conflict Behaviors Shape Adolescent Emotion Regulation and Empathy

Besides shaping adolescents' conflict behaviors, parental conflict behaviors also impact the broader psychosocial development of adolescents, such as emotion regulation or empathy (Cummings & Davies, 2002; Van Lissa et al., 2017). Family conflicts are explicit, commonplace situations which provide opportunities to practice and refine broader psychosocial competencies (Steinberg & Silk, 2002), such as empathy – the ability to share and understand others' thoughts and feelings (Hoffman, 2001) – and emotion regulation – managing emotional arousal to promote adaptive behavior (Morris et al., 2007). In families with higher levels of destructive conflict behaviors, adolescents are more vulnerable to developing psychological and behavioral problems (Kader & Roman, 2018; Tucker et al., 2003). In contrast, higher levels of constructive conflict behaviors in the family help adolescents develop problem solving skills and effective communication (McCoy et al., 2013). Hence, families in which parents and adolescents respectfully explore differences in interests during family conflicts, patiently listen, and accept emotional reactions during conflicts provide circumstance that are likely to facilitate the broader development of adolescent empathy and emotion regulation (Stocker et al., 2007).

Adolescent Emotion Regulation and Empathy

Several psychosocial competencies – related to adolescents' conflict behaviors, emotion regulation and empathy – have been found to contribute to intergenerational SES transmission (Deming & Kahn, 2018). For example, adolescents of parents with a higher SES background are reported to have higher levels of emotional stability (Schofield et al., 2011), personal efficacy (Groves, 2005), and the capacity to delay gratification (Webley & Nyhus, 2006), all in turn contributing to better SES outcomes. Furthermore, more socially competent adolescents have been found to attain a higher level of education (Stepp et al., 2011), are more likely to be employed as adults (Clausen & Jones, 1998), and have a higher income (Martin et al., 2010). Similarly, adolescents with more self-control tend to have more academic success (Razza & Raymond, 2013) and are more likely to find and keep a job (Daly et al., 2015). Hence, the intergenerational transmission of SES is potentially mediated by the effect of parental conflict behaviors on adolescent psychosocial competencies, such as empathy and emotion regulation, though comprehensive longitudinal research is scarce.

Gender Differences in Conflict Behavior

Which conflict behaviors are transmitted within the family may differ between genders. For example, gender role expectations elicit more compromising behavior in women and more competitive behavior in men during conflicts (Brahnam et al., 2005). However, while women are typically more caring and considerate towards others than men during conflicts, men are more likely than women to reconcile after a conflict (Benenson & Wrangham, 2016). As adolescents mature, both their understanding of such gender-role expectations as well as socialization pressures increase (Hill & Lynch, 1983; Van der Graaff et al., 2014). Within families, girls express more negativity towards parents than boys, but also withdraw from conflicts with parents more than boys (Branje et al., 2009; 2013). Possibly, girls express more emotional variability than boys during conflicts with parents, (Branje, 2018), with higher levels (and stronger transmission) of both constructive as well as destructive conflict behaviors.

Furthermore, adolescents have a more intense relationship with their mother than their father in terms of receiving support and sharing activities, but also in terms of conflicts and expressed negativity (Branje et al., 2013; De Goede et al., 2009). If the majority of conflicts between parents and adolescents are resolved by the mother, it could be expected that mothers' conflict behaviors have more impact on adolescents' conflict behaviors than fathers' conflict behaviors (Chung et al., 2009). However, other studies find no gender differences in conflict behaviors (Mastrotheodoros et al., 2019; Staats et al., 2018), suggesting that conflict behaviors are transmitted similarly between mothers and fathers, and adolescent girls and boys.

Present Study

In this study, we investigated if the intergenerational transmission of SES is mediated by the intergenerational

transmission of conflict behaviors, emotion regulation, and empathy. To answer this research question, we focused on five subquestions: RQ1) Does parental SES affect parents' constructive and destructive conflict behaviors?; RQ2) Do parents' constructive and destructive conflict behaviors affect adolescent's constructive and destructive conflict behaviors, emotion regulation, and empathy?; RQ3) Do adolescent's constructive and destructive conflict behaviors, emotion regulation, and empathy affect SES outcomes in young adulthood?; RQ4) Is the effect of parental SES on young adulthood SES mediated by the effect of parental constructive and destructive conflict behaviors on adolescent constructive and destructive conflict behaviors, emotion regulation, and empathy?; RQ5) Are there gender differences in the intergenerational transmissions of SES and of conflict behaviors?

We hypothesize H1) that parents with a higher SES display more constructive and less destructive conflict behaviors; H2) that parents' constructive conflict behaviors positively affect adolescents' constructive conflict behaviors, emotion regulation, and empathy; and parents' destructive conflict behaviors positively affect adolescents' destructive conflict behaviors, but negatively affect adolescents' emotion regulation and empathy; H3) that adolescents' constructive conflict behaviors, emotion regulation, and empathy positively predict SES outcomes in young adulthood, and adolescents' destructive conflict behaviors negatively predict SES outcomes in young adulthood; H4) that the effect of parental SES on young adulthood SES is mediated by the effect of parental conflict behaviors on adolescent conflict behaviors, emotion regulation, and empathy (i.e., serial mediation); and H5) that the transmission of SES and conflict behaviors is more prominent for mothers (than fathers) and for girls (than boys).

Method

Participants and Procedure

Data from the ongoing longitudinal RADAR study was used (Branje & Meeus, 2018). At baseline, 497 adolescents from secondary schools across the province of Utrecht and four main cities in the Netherlands were enrolled as focal participants (56.7% boys; M_{age} = 13.03, SD = .46). A total of 1081 families were contacted, of which 470 refused and 114 did not provide informed consent. Six annual measurement waves were conducted from 2006 to 2012, during which data was also collected from mothers, father, siblings, and best friend. From the seventh wave onwards, measurements were collected biannually, primarily from focal participants and their partners.

For participants to be part of the final sample, data on parental SES (T1) and data on young adulthood educational attainment and income (T10) had to be available. At T1, parental SES was reported for 436 participants. At T10, 365 participants were still enrolled, of which 321 participants had indicated their highest level of educational attainment. One participant provided data on their educational attainment in young adulthood, but neither parent's SES was reported, and was therefore excluded from all analyses. The final sample consisted of 320 participants (M_{age} = 25.7 years old; SD = 0.44; 52.2% male). Contrasting the baseline sample (N = 497) to the final sample (N = 320), attrition analyses showed that participants who dropped out – or did not provide data on measures relevant to this study – were more often boys (χ^2 (1) = 8.28, $p < .01$) who were relatively older (t (495) = 5.20, $p < .001$), with relatively lower educated mothers (t (432) = 5.96, $p < .001$) and fathers (t (387) = 4.05, $p < .001$). Furthermore, adolescents who dropped out self-reported having less constructive conflict behaviors than those who were retained in the study (t (394) = 2.57, $p < .01$), but no other attrition biases were observed in our mediators.

Measures

Parental Socioeconomic Status. Parental SES was assessed at baseline (T1) with both mother's and father's highest level of completed education. Educational attainment was measured on a 6-point scale, reflecting the following ordinal categories: (1) primary school or less, (2) lower secondary school, (3) higher secondary school, (4) vocational education, (5) higher vocational education, and (6) university. Parental SES was calculated as the mean score of father's educational attainment and mother's educational attainment. Parental SES, mother's educational attainment, and father's educational attainment all ranged from 2 to 6. For 19 participants (5.9%), educational attainment of either one of the parents was missing: in these cases, the educational attainment of the other parent was used as singular measure of parental SES.

Educational Attainment. Educational attainment at age 26 (T10) was assessed on a 6-point scale, reflecting the ordinal categories of (1) primary school or less, (2) lower secondary school, (3) higher secondary school, (4) vocational education, (5) higher vocational education, and (6) university. Educational attainment ranged from 1 to 6.

Income. Income at age 26 (T10) was measured on a scale from 1 (<€300 net per month) to 11 (>€3.000), with incremental steps of €300.

Constructive Conflict Behaviors. Constructive conflict behaviors were self-reported by mothers and fathers at T1 and by adolescents at T2, using the Problem Solving subscale (5 items; e.g., "Negotiating and compromising"; '1 – never' to '5 – always') of the Conflict Resolution Style Questionnaire (CRSQ; Kurdek, 1994). Mothers reported on their conflict behaviors towards father and adolescent, fathers towards mother and adolescent, and adolescent towards mother and father. Constructive conflict behaviors of mothers ranged from 2.30 to 5.00, of fathers from 2.20 to 5.00, of girls from 1 to 4.50, and of boys from 1 to 5.

Reliability of constructive conflict behaviors was good for all raters (ranging from α = .77 to α = .86). Items were used to estimate separate latent factors of constructive conflict behaviors for mothers, fathers, and adolescents, and separate latent factors of destructive conflict behaviors for mothers, fathers, and adolescents. A higher score indicates more constructive behaviors during conflicts.

Destructive Conflict Behaviors. Destructive conflict behaviors were self-reported by mothers and fathers at T1 and by adolescents at T2, using the Conflict Engagement subscale (5 items; e.g., "Personally attack him/her"; '1 – never' to '5 – always') of the Conflict Resolution Style Questionnaire (CRSQ; Kurdek, 1994). Destructive conflict behaviors of mothers ranged from 1 to 3.60, of fathers from 1 to 3.40, of girls from 1 to 3.80, and of boys from 1 to 3.40. The reliability of destructive conflict behaviors was good for all raters (ranging from α = 0.72 to α = 0.85), and was estimated similarly as constructive conflict behaviors.

Emotion Regulation. Adolescents' emotion regulation was measured at age 14 (T2) with the Impulse Control Difficulties subscale (5 items; e.g., "When I'm upset, I become out of control") and the Difficulties Engaging in Goal-directed Behavior subscale (4 items; e.g., "When I'm upset, I have difficulty focusing on other things"), both from the Difficulties in Emotion Regulation Scale (DERS; Gratz & Roemer, 2004) Adolescents rated themselves on a scale from '1 – almost never' to '5 – almost always'. The DERS has an adequate external validity among adolescents (Neumann et al., 2010). The reliability of the two subscales combined was good (α = .80), with mean item scores ranging from 1 to 4.22 for girls and from 1 to 4.78 for boys. The 9 items of the two subscales were used to estimate a single latent factor of emotion regulation, with a higher score indicating that the adolescent is better at regulating emotions.

Empathy. Adolescents' empathy was measured at age 14 (T2) with the Empathic Concern subscale (7 items; e.g., "I am often quite touched by things that I see happen.") and the Perspective Taking subscale (7 items; e.g., "Before criticizing somebody, I try to imagine how I would feel if I were in their place"), both from the Interpersonal Reactivity Index (IRI; Bogaerts & De Doncker, 1994; Davis, 1980). Adolescents rated themselves on a scale from '0 – does not describe me well' to '4 – describes me very well', with a higher score indicating that an adolescent is more empathic. The external validity of the IRI was previously found to be adequate among adolescents (Hawk et al., 2013). The reliability of the two subscales combined was good (α = .78), with mean item scores ranging from 1.57 to 3.64 for girls and from .79 to 3.36 for boys. The 14 items of the two subscales were used to estimate a single latent factor of empathy, with a higher score indicating that the adolescent has more empathy.

Strategy of Analysis

Before the main analyses, we obtained descriptive statistics (Table 1) and correlations between variables of interest (Table 2). Research questions, hypotheses, and main analyses were pre-registered at the Open Science Framework: osf.io/9356c. All further materials for this study (including extensive model output, codebook, anonymized data and analysis syntax) are available at the same repository: osf.io/g23yj. First, latent factors of parental constructive conflict behaviors, parental destructive conflict behaviors, adolescent constructive conflict behaviors, adolescent destructive conflict behaviors, adolescent emotion regulation, and adolescent empathy were estimated in a measurement model. Manifest variables were loaded onto their corresponding latent factor, and constrained from cross-loading onto other latent factors. Residual covariances between manifest variables were also initially constrained, but unconstrained if modification indices suggest significant improvements in model fit. Some minor deviations from our pre-registration were made to ensure appropriate factor loadings and model fit.

Next, we estimated two separate structural models – for constructive conflict behavior (Model 1; Figure 1) and for destructive conflict behavior (Model 2; Figure 2) in order to answer our research questions. The models were identical in structure, except for the type of parental and adolescent conflict behavior. To understand if parental SES positively affects parents' constructive conflict behaviors (RQ1), we assessed the significance of the regression coefficient from parental SES to mothers' conflict behaviors and fathers' conflict behaviors in Model 1 and Model 2. To understand if parents' conflict behaviors positively affect adolescents' constructive conflict behaviors, emotion regulation, and empathy (RQ2), we assessed the significance of the respective regression coefficients in Model 1 and Model 2. And to understand if adolescent constructive conflict behavior (Model 1), destructive conflict behavior (Model 2), emotion regulation and empathy (both models) affect SES outcomes (RQ3), we assessed the significance of the respective regression coefficients.

Next, we investigated if the intergenerational transmission of conflict behaviors mediates the intergenerational transmission of SES (RQ4). We performed a number of serial mediation analyses along significant pathways. The mediating variables were not corrected for prior measures, as we aimed to investigate sequential associations across developmental timespans and not behavioral changes (as for example intended by Neppl and colleagues' (2016)).

We also tested for gender differences (RQ5) in both Model 1 and Model 2 (see Tables 3, 4, 5 and 6). Conflict behaviors of mothers and fathers were included in our models as separate variables. Potential gender differences between boys and girls in associations between conflict behaviors, empathy, emotion regulation, educational attainment and income were tested by constraining regression pathways step-by-step and assessing model fit improvements.

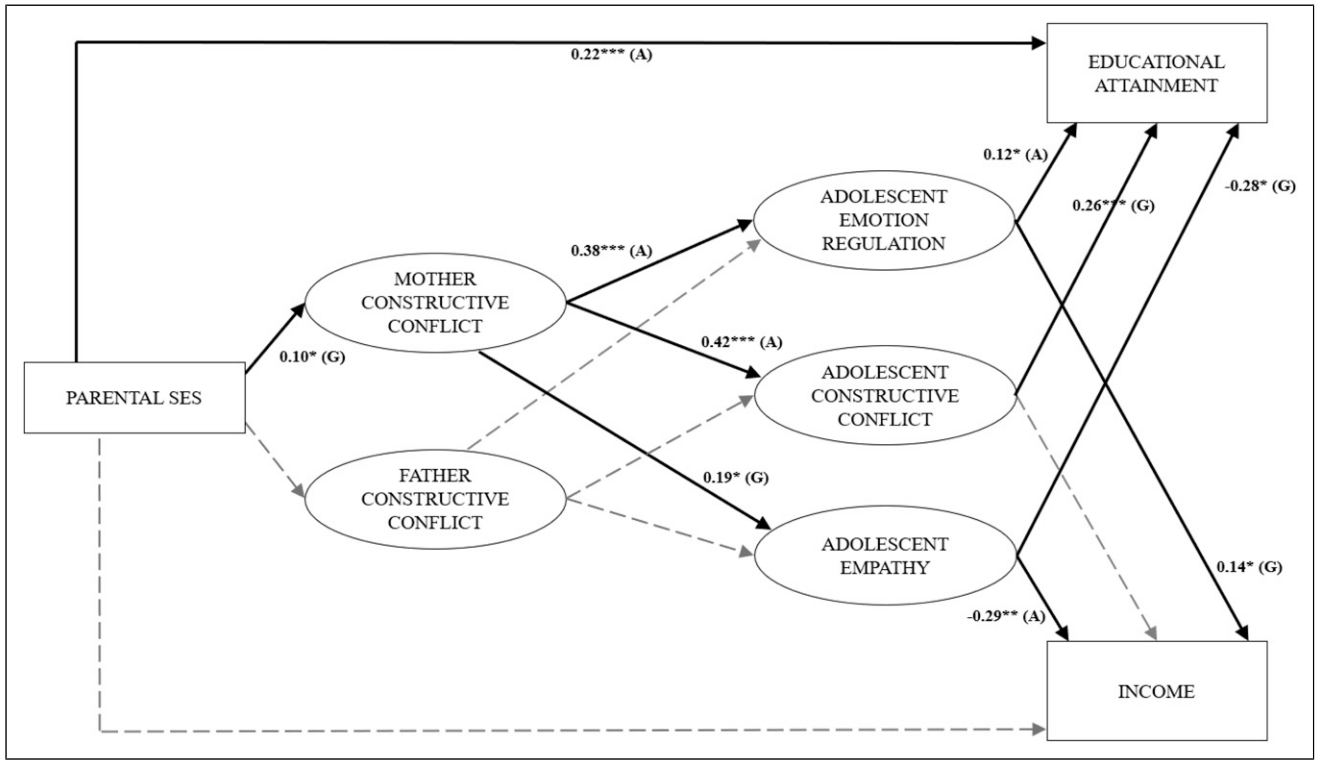

Figure 1. Constructive Conflict model. All regression coefficients of the Constructive Conflict model can be found in Table 1. *N.B.* (A) = significant for all adolescents with no gender differences; (G) = significant for girls only; (B) = significant for boys only. Dashed lines indicate non-significant associations. *p < .05; **p < .01; ***p < .001.

Results

Preliminary Analyses

Descriptive statistics and baseline gender comparisons can be found in Table 1. Correlations between variables of interest can be found in Table 2. A confirmatory factor analysis was performed to assess measurement model fit of the proposed factor structure (see Strategy of Analysis). Modification indices suggested to unconstrain several residual covariances between manifest variables. After implementation of modification indices (ΔMI > 10.83) our model fit was reasonably good; CFI = .90, TLI = .90, RMSEA = .03 (Shi et al., 2019). Structural model fit indices suggest good fit of the destructive conflict behaviors model to the data (CFI = .98; TLI = .93; RMSEA = .02), and decent fit of the constructive conflict behaviors model (RMSEA = .07; CFI/TLI < .84, suggesting a relatively well-fitting baseline model and relatively low correlations among model variables (West et al., 2012)).

RQ1: *Parental SES and Parents' Conflict Behaviors*

Parental SES was positively related with mothers' constructive conflict behaviors (β = .10, p < .05), but not with fathers' constructive conflict behaviors, nor with mothers' and fathers' destructive conflict behaviors. Hence, contrary to our expectations (H1), parental SES is mostly not associated with parental conflict behaviors.

RQ2: *Parental Conflict Behaviors and Adolescent Conflict Behaviors*

In line with expectations (H2), mothers' constructive conflict behaviors were positively related to adolescents' constructive conflict behaviors at age 14 (β = .42, p < .001). Mothers who display more constructive conflict behaviors have adolescents who display more constructive conflict behaviors. Similarly, mothers' destructive conflict behaviors were also positively related to adolescents' destructive conflict behaviors at age 14, but more so for girls (β = .32, p < .01) than for boys (β = .20, p < .05). Mothers who display more destructive conflict behaviors have adolescents who display more destructive conflict behaviors. Contrary to expectations (H2), fathers' constructive and destructive conflict behaviors were not related with adolescents' constructive and destructive conflict behaviors.

RQ2: *Parental Conflict Behaviors and Adolescent Emotion Regulation and Empathy*

In line with expectations (H2), mothers' constructive conflict behaviors were positively related with adolescents' emotion regulation at age 14 (β = .38, p < .001). Mothers who

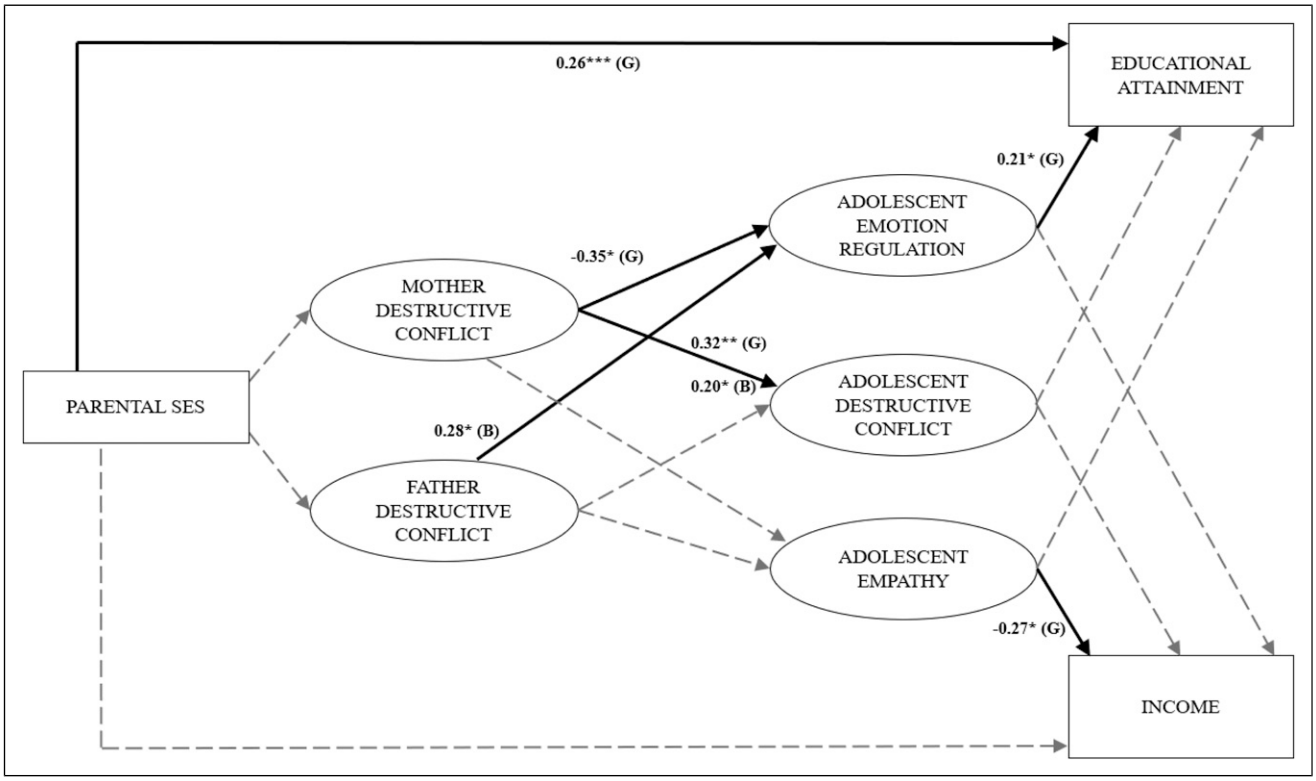

Figure 2. Destructive Conflict model. All regression coefficients of the Destructive Conflict model can be found in Table 2. *N*.B. (A) = significant for all adolescents with no gender differences; (G) = significant for girls only; (B) = significant for boys only; dashed line = non-significant regardless of adolescent gender. *$p < .05$; **$p < .01$; ***$p < .001$.

Table 1. Regression Coefficients (and Standard Errors) of Associations in Constructive Conflict Model for Total Sample, for Boys, and for Girls.

	Total	Girls	Boys
Parental SES-> educational attainment	0.180** (0.05)	0.247*** (0.06)	0.132 (0.09)
Parental SES -> income	0.006 (0.06)	0.087 (0.07)	−0.120 (0.09)
Parental SES -> mother constructive conflict	0.050 (0.03)	0.097* (0.04)	−0.032 (0.05)
Parental SES -> father constructive conflict	0.034 (0.03)	0.022 (0.03)	0.048 (0.04)
Mother constructive conflict -> constructive conflict	0.434*** (0.08)	0.420*** (0.11)	0.421*** (0.11)
Mother constructive conflict -> emotion regulation	0.394*** (0.10)	0.377* (0.16)	0.389** (0.12)
Mother constructive conflict -> empathy	0.034 (0.06)	0.191* (0.09)	−0.032 (0.07)
Father constructive conflict -> constructive conflict	0.043 (0.10)	0.131 (0.16)	−0.019 (0.13)
Father constructive conflict -> emotion regulation	−0.133 (0.12)	−0.055 (0.22)	−0.190 (0.12)
Father constructive conflict -> empathy	−0.056 (0.08)	−0.026 (0.11)	−0.071 (0.10)
Constructive conflict -> educational attainment	0.075 (0.06)	0.260*** (0.08)	−0.028 (0.10)
Constructive conflict -> income	−0.070 (0.06)	0.167 (0.09)	0.077 (0.11)
Emotion regulation -> educational attainment	0.090 (0.06)	0.168** (0.06)	0.027 (0.09)
Emotion regulation -> income	−0.078 (0.06)	0.135* (0.06)	−0.132 (0.08)
Empathy -> educational attainment	0.029 (0.08)	−0.282* (0.12)	0.155 (0.13)
Empathy -> income	0.006 (0.06)	−0.353** (0.11)	−0.221 (0.15)

*$p < .05$; **$p < .01$; ***$p < .001$.

Table 2. Regression Coefficients (and Standard Errors) of Associations in Destructive Conflict Model for Total Sample, for Boys, and for Girls.

	Total	Girls	Boys
Parental SES - > educational attainment	0.190*** (0.05)	0.264*** (0.06)	0.136 (0.09)
Parental SES - > income	0.005 (0.06)	0.096 (0.07)	−0.103 (0.09)
Parental SES - > mother destructive conflict	−0.058 (0.04)	−0.072 (0.06)	−0.008 (0.06)
Parental SES - > father destructive conflict	−0.006 (0.03)	0.016 (0.05)	−0.031 (0.05)
Mother destructive conflict - > destructive conflict	0.290*** (0.07)	0.323** (0.11)	0.203* (0.09)
Mother destructive conflict - > emotion regulation	−0.329** (0.10)	−0.349** (0.13)	−0.278 (0.15)
Mother destructive conflict - > empathy	0.094 (0.05)	0.054 (0.06)	0.041 (0.08)
Father destructive conflict - > destructive conflict	0.113 (0.06)	0.191 (0.10)	0.031 (0.07)
Father destructive conflict - > emotion regulation	0.152 (0.08)	0.036 (0.11)	0.278* (0.12)
Father destructive conflict - > empathy	0.084 (0.05)	0.097 (0.06)	0.073 (0.08)
Destructive conflict - > educational attainment	0.078 (0.09)	0.054 (0.10)	0.119 (0.15)
Destructive conflict - > income	0.082 (0.16)	−0.045 (0.12)	0.282 (0.16)
Emotion regulation - > educational attainment	0.138 (0.07)	0.213* (0.08)	0.064 (0.11)
Emotion regulation - > income	−0.049 (0.08)	0.121 (0.10)	−0.009 (0.11)
Empathy - > educational attainment	0.073 (0.08)	−0.128 (0.13)	0.146 (0.12)
Empathy - > income	−0.024 (0.08)	−0.267* (0.10)	−0.144 (0.13)

*$p < .05$; **$p < .01$; ***$p < .001$.

Table 3. Testing Gender Differences in Pathways of the Constructive Conflict model.

		AIC	BIC	$\Delta\chi^2$
1.	Reference model: Gender fully unconstrained	5863.4	6127.2	
2.	Parental SES -> educational attainment	5862.5	6122.5	1.18
3.	Parental SES -> income	5864.7	6124.7	3.48
4.	Parental SES -> mother constructive conflict	5865.4	6125.4	4.15*
5.	Parental SES -> father constructive conflict	5861.6	6121.6	0.25
6.	Mother constructive conflict -> Adolescent constructive conflict	5861.4	6121.4	0.00
7.	Father constructive conflict -> Adolescent constructive conflict	5861.9	6121.9	0.50
8.	Mothers constructive conflict -> emotion regulation	5861.4	6121.4	0.00
9.	Father constructive conflict -> emotion regulation	5861.7	6121.7	0.29
10.	Mothers constructive conflict -> empathy	5865.0	6125.0	4.28*
11.	Fathers constructive conflict -> empathy	5861.5	6121.5	0.10
12.	Adolescent constructive conflict -> educational attainment	5865.9	6125.9	5.83*
13.	Adolescent constructive conflict -> income	5861.8	6121.8	0.43
14.	Emotion regulation -> educational attainment	5863.0	6123.0	1.42
15.	Emotion regulation -> income	5866.9	6126.9	5.68*
16.	Empathy -> educational attainment	5866.0	6126.0	6.74**
17.	Empathy -> income	5861.8	6121.8	0.50

*$p < .05$; **$p < .01$; ***$p < .001$.

display more constructive conflict behaviors have adolescents who can better regulate their emotions. Partially in line with expectations, mothers' destructive conflict behaviors negatively affected emotion regulation at age 14 of girls ($\beta = -.35$, $p < .05$), but not of boys. Mothers who displayed more destructive conflict behaviors have girls who were worse at regulating their emotions. Contrary to our expectations, fathers' destructive conflict behaviors positively affected emotion regulation at age 14 of boys ($\beta = .28$, $p < .05$), but not of girls. Fathers who displayed more destructive conflict behaviors have boys who better regulated their emotions. Mothers' constructive conflict behaviors were also positively related with girls' empathy at age 14 ($\beta = .19$, $p < .05$), but not boys' empathy. Mothers who display more constructive conflict behaviors have girls who are more empathic. In contrast to our expectations, fathers' constructive conflict behaviors did not affect adolescents' emotion regulation nor empathy. Similarly, neither mothers' nor fathers' destructive conflict behaviors were related with adolescents' empathy.

Table 4. Testing Gender Differences in Pathways of the Destructive Conflict model.

		AIC	BIC	$\Delta\chi^2$
1.	Reference model: Gender fully unconstrained	5859.7	6123.5	
2.	Parental SES -> educational attainment	6019.4	6279.4	45.13***
3.	Parental SES -> income	6021.1	6281.1	44.80***
4.	Parental SES -> mother destructive conflict	6018.8	6278.8	40.87***
5.	Parental SES -> father destructive conflict	6018.6	6278.6	42.23***
6.	Mother destructive conflict -> Adolescent destructive conflict	6019.1	6279.1	39.78***
7.	Father destructive conflict -> Adolescent destructive conflict	6019.5	6279.5	46.05***
8.	Mothers destructive conflict -> emotion regulation	6018.3	6278.3	38.73***
9.	Father destructive conflict -> emotion regulation	6019.7	6279.7	46.19***
10.	Mothers destructive conflict -> empathy	6018.1	6278.1	42.33***
11.	Fathers destructive conflict -> empathy	6018.1	6278.1	44.90***
12.	Adolescent destructive conflict -> educational attainment	6018.2	6278.2	45.49***
13.	Adolescent destructive conflict -> income	6020.5	6280.5	44.33***
14.	Emotion regulation -> educational attainment	6019.2	6279.2	42.42***
15.	Emotion regulation -> income	6018.9	6278.9	43.12***
16.	Empathy -> educational attainment	6020.2	6280.3	45.60***
17.	Empathy -> income	6018.5	6278.5	45.79***

*$p < .05$; **$p < .01$; ***$p < .001$.

Table 5. Mean Scores (SD) on Variables of Interest, Including Gender Comparisons.

	Parents	Mothers	Fathers	*t*-value
Parental SES	4.27 (1.23)	4.12 (1.42)	4.45 (1.43)	−3.51**
Constructive conflict	3.80 (0.36)	3.88 (0.45)	3.72 (0.49)	4.54***
Destructive conflict	1.79 (0.37)	1.89 (0.52)	1.68 (0.46)	5.71***
	Adolescents	Girls	Boys	
Educational attainment	4.35 (1.50)	4.45 (1.36)	4.26 (1.61)	−1.12
Income	5.82 (2.62)	5.61 (2.32)	6.02 (2.86)	1.39
Constructive conflict	3.05 (0.78)	2.96 (0.76)	3.13 (0.79)	1.95
Destructive conflict	1.52 (0.57)	1.63 (0.68)	1.42 (0.44)	−3.17**
Empathy	2.31 (0.51)	2.50 (0.50)	2.13 (0.46)	−6.68***
Emotion regulation	2.89 (0.71)	2.83 (0.72)	2.95 (0.69)	1.00

*$p < .05$; **$p < .01$; ***$p < .001$.

RQ3: *Adolescent Conflict Behaviors, Emotion Regulation, and Empathy, and Young Adulthood SES*

In contrast to our expectations (H3), adolescent constructive and destructive conflict behaviors at age 14 were mostly unrelated with SES outcomes at age 26, except for the positive association between girls' constructive conflict behaviors and educational attainment ($\beta = .26$, $p < .001$). Girls who displayed more constructive conflict behaviors attained a higher level of educational attainment.

As expected (H3), adolescent emotion regulation at age 14 was positively related with educational attainment at age 26 ($\beta = .12$, $p < .05$; Figure 1), but more so for girls than for boys ($\beta = .21$, $p < .05$; Figure 2). Adolescents who better regulated their emotions attained a higher level of education in young adulthood. We found some evidence that girls with better emotion regulation at age 14 attain a higher income at age 26 ($\beta = .14$, $p < .05$), but overall, emotion regulation is mostly not related to income.

Opposite to our expectations (H3), adolescent empathy was negatively related with SES outcomes. Empathy at age 14 was negatively related with educational attainment at age 26 for girls ($\beta = -.28$, $p < .05$), but not boys when controlled for constructive conflict behaviors. Girls who were less empathic attained a higher level of education. However, when controlling for destructive instead of constructive conflict behaviors, empathy at age 14 was unrelated to educational attainment and income at age 26. Empathy at age 14 was negatively related with income at age 26 ($\beta = -.29$, $p < .01$), when controlling for constructive conflict behaviors. Adolescents who were less empathic attained a higher income. When controlling for destructive instead of constructive conflict behaviors, empathy at age 14 was only negatively associated with income at age 26 for girls ($\beta = -.27$, $p < .05$)

Table 6. Correlations Between Variables of Interest Split Out by Adolescents' Gender; for Girls Above the Diagonal and for Boys Below the Diagonal.

	Girls										
Boys	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
1. Parental SES		0.31***	0.10	0.18*	0.05	0.14	−0.11	0.03	−0.12	0.16	0.09
2. Educational attainment	0.11		0.28***	0.08	−0.06	0.23**	−0.09	0.01	−0.15	−0.05	0.24**
3. Income	−0.10	0.31***		0.11	0.04	0.10	−0.13	−0.16*	−0.14	−0.16	0.19
4. Mother constructive conflict	−0.05	−0.15*	0.04		0.19*	0.30***	−0.33***	−0.10	−0.13	0.19*	0.21**
5. Father constructive conflict	0.09	0.01	−0.03	0.26***		0.12	−0.17*	−0.46***	−0.11	0.02	0.02
6. Adolescent constructive conflict	0.06	0.02	−0.01	0.26***	0.06		−0.19*	−0.16*	−0.24**	0.38***	0.06
7. Mother destructive conflict	−0.01	0.06	−0.06	−0.37***	−0.12	−0.06		0.13	0.29***	0.08	−0.24**
8. Father destructive conflict	−0.05	−0.01	−0.06	−0.08	−0.42***	0.00	0.13		0.17*	0.11	−0.01
9. Adolescent destructive conflict	−0.08	0.02	0.17*	−0.11	−0.11	−0.22**	0.21**	0.06		−0.08	−0.69***
10. Adolescent empathy	0.01	0.07	−0.08	−0.05	−0.07	0.42***	0.05	0.08	−0.03		−0.04
11. Adolescent emotion regulation	0.01	0.01	−0.10	0.20**	−0.04	0.20**	−0.15*	0.14	−0.58***	−0.08	

*p < .05; **p < .01; ***p < .001.

Table 7. Serial Mediation Analyses to Test if Psychosocial Transmission From Mothers to Girls Mediates SES Transmission.

	Indirect Effect		Bootstrapped CI	
	β	SE	Lower	Upper
1. Parental SES -> mother constructive conflict -> Girls constructive conflict -> educational attainment	0.01	0.01	0.00	0.02
2. Parental SES -> mother constructive conflict -> Girls emotion regulation -> educational attainment	0.01	0.00	0.00	0.01
3. Parental SES -> mother constructive conflict -> Girls empathy -> educational attainment	−0.01	0.00	−0.01	0.00

*p < .05; **p < .01; ***p < .001.

but not for boys. Girls who were less empathic attained a higher income. Hence, empathy at age 14 was mostly unrelated with educational attainment at age 26, but mostly negatively related with income at age 26.

RQ4: *Intergenerational conflict transmission as mediating mechanism of intergenerational SES transmission*

Comprehensive serial mediation analyses were performed to assess if the intergenerational transmission of SES was mediated by the intergenerational transmission of parents' conflict behaviors to adolescent's conflict behaviors, emotion regulation, and empathy. Serial mediation indicates that all effects are transmitted by way of an intervening effect, thus requiring significant individual pathways (Agler & De Boeck, 2017). Following this requirement, three serial mediation analyses were performed (Table 7): i) from parental SES to mothers' constructive conflict behaviors to girls' constructive conflict behaviors to girls' educational attainment; ii) from parental SES to mothers' constructive conflict behaviors to girls' constructive conflict behaviors to girls' emotion regulation to girls' educational attainment; and iii) from parental SES to mothers' constructive conflict behaviors to girls'

empathy to girls' educational attainment. For all indirect pathways in the serial mediation analyses, we estimated bias-corrected bootstrapped confidence intervals with 1000 samples. None of the serial mediation analyses yielded a significant indirect pathway. Neither did the singular mediation analyses – as part of the serial mediation analyses – yield a significant indirect pathway.

In our destructive conflict model (Figure 2), no associations were found between parents' educational attainment and parents' destructive conflict behaviors. Consequently, no serial mediation analyses were performed. From these consistent null findings we conclude that the transmission of educational attainment is not mediated by the transmission of parental conflict behaviors to adolescent conflict behaviors, emotion regulation, and empathy.

Discussion

The aim of the present study was to examine if the intergenerational transmission of socioeconomic status is mediated by the intergenerational transmission of parental conflict behaviors and adolescent conflict behaviors, emotion regulation, and empathy. Contrary to our expectations, the intergenerational transmission of SES was not mediated by the intergenerational transmission of conflict behaviors, emotion regulation, or empathy. More specifically, parents' SES was mostly unrelated to parents' conflict behaviors. Parents' conflict behaviors were mostly positively associated with adolescents' conflict behaviors, emotion regulation and empathy, though considerable gender differences were observed.

Both intergenerational transmission of SES and of conflict behaviors was stronger for mothers and girls than for fathers and boys. Adolescent emotion regulation was mostly positively related with young adulthood SES outcomes, and adolescent empathy was mostly negatively related with young adulthood SES outcomes. Adolescent constructive and destructive conflict behaviors were mostly unrelated with young adulthood SES outcomes. These findings have several theoretical and practical implications.

Our findings offer little to no support for the *family stress model* and the *social causation hypothesis* (Conger & Donnellan, 2007). Previous studies have suggested that parents with a higher educational attainment have more knowledge and resources to display positive parenting behaviors (Bornstein & Bradley, 2003), and specifically, constructive conflict behaviors (Hoff et al., 2002), but we mostly found no differences in conflict behaviors between lower and higher educated parents. Conflict behaviors of parents remained mostly unaffected by economic hardships and financial stress associated with their socioeconomic status, except that mothers with a higher SES displayed more constructive conflict behaviors than mothers with a lower SES. The positive associations between parental SES and mothers' constructive conflict behaviors, and mother's constructive conflict behaviors and adolescent's psychosocial outcomes does support the notions of the *family stress model*, however, effects are small and outnumbered by null associations. In light of these findings, it is important to further identify how parents – and adolescents – from a low SES background manage to resolve conflicts effectively despite stress and strain, and at what potential cost (Chen et al., 2011).

Our findings offer more support for the *social selection hypothesis* (Conger & Donnellan, 2007), indicating that parents' conflict behaviors affect adolescent's conflict behaviors, emotion regulation, and empathy, which in turn are associated with young adulthood SES outcomes. Hence, parents may shape adolescent's emotion regulation and empathy through day to day interactions (e.g., conflicts) and these psychosocial competencies (e.g., emotion regulation) select adolescents into a particular educational level and into a job with a particular income in young adulthood. Though these findings appear to have possible practical implications, it must be noted that the process of intergenerational SES transmission is longitudinal and complex, involving several factors beyond the influence of family interactions (such as genetic predispositions, social policies, or even luck; see for example Mackenbach, 2017). The practical implications of our findings must therefore not be overstated or misinterpreted.

The extent to which SES was transmitted in our sample was smaller than we expected based on previous research. We found a moderate positive association between parental educational attainment and adolescent educational attainment, though several previous studies found a stronger positive association (Hertz et al., 2008). Contrary to our hypotheses, we observed no association between parental educational attainment and adolescents' income: this is likely due to the age at which we measured income (Black & Devereux, 2011). Education-driven income differences start to manifest from age 30 to 40, when individuals with a university education may start to seize better paid (career) opportunities, whereas most vocational educated individuals have then achieved a (relatively lower paid) career ceiling.

Alternatively, the null association between parents' SES and parents' conflict behaviors may be the result of a sampling bias and survivorship bias yielding a relatively 'high functioning' low SES subsample (Fakkel et al., 2020; Green et al., 2022). Families with a low SES background experience (or perceive) more thresholds to research participation – for example, due to financial stress – which could result in the inclusion and retention of relatively well-functioning low SES families. Similarly, higher levels of destructive conflict behaviors in low (or high) SES families can in itself be a reason for non-participation or attrition. When researching socioeconomic differences in development, it is important to consider how socioeconomically representative the sample is of the population as a whole, but also how representative participants with a low SES background are of their respective low SES population. Attrition analyses suggest no skewed drop-out regarding parental conflict behaviors, or adolescent

emotion regulation and empathy, but a higher drop-out among adolescents with less constructive conflict behaviors. Hence, while attrition appears to not result in a particularly high functioning low SES subsample, the initial baseline inclusion may have already done so. In the absence of relevant non-inclusion data this remains somewhat speculative.

It must be noted that the main aim of the RADAR study as a cohort is to investigate family dynamics in two-parent families with Dutch nationality/ethnicity, and as such provides detailed data on conflict behaviors, emotion regulation, and empathy. This study specifically examined effects of variation in SES, not necessarily involving families from the lowest part of the SES spectrum. Considering all, it could be argued that reusing high quality secondary data outweighs the burden placed on (more socioeconomically diverse) participants for new longitudinal data collections.

Our finding that mothers' – but not fathers' – conflict behaviors were positively related with adolescents' conflict behaviors is in line with previous research that suggests a predominant role of mothers and girls in conflict transmission (Branje et al., 2013; De Goede et al., 2009). It has been argued that in the less intense father-adolescent relationship, conflict transmission is lagged (Van Doorn et al., 2011). At a later stage in adolescence, fathers' conflict behaviors could be as impactful on adolescents' conflict behaviors, empathy, and emotion regulation as mothers' conflict behaviors. However, we found that mothers' and fathers' destructive conflict behaviors had gender-specific opposite effects on adolescents' psychosocial development, which seems to indicate that fathers' impact is qualitatively different from mothers' impact.

In partial support of hypotheses, we found that several adolescents' psychosocial competencies were positively related with SES outcomes, particularly for girls. For example, emotion regulation was positively related with educational attainment and income, but more so for girls than boys. Constructive conflict behaviors were positively related with educational attainment for girls but not boys. However, contrary to hypotheses, we also found that some psychosocial competencies were negatively related with SES outcomes, and that these associations differed considerably between boys and girls. For example, the association between empathy and income is negative for both girls and boys. Gender differences were observed in the extremes of this association: the majority of high empathy, low income adolescents are girls, whereas the majority of low empathy, high income adolescents are boys. Previous research suggests that individuals with higher levels of empathy prefer a people-oriented career over a technology-oriented career, with a corresponding lower and higher income (Pantovic-Stefanovic et al., 2015) Within the same sector, less empathic individuals may negotiate a higher income than more empathic individuals (Amanatullah & Morris, 2010). Gender role expectations may also reinforce lower levels of empathy in boys, whereas lower levels of empathy in girls (for example during negotiations) could result in considerable backlash (Judge et al., 2012). Future research could further disentangle gender differences, direction of causality, or potential confounding variables in the negative association between empathy and income (Piff et al., 2010).

Educational attainment and income were similar for girls and for boys, but the associations between psychosocial competencies and SES outcomes differed considerably between girls and boys. This suggests that SES outcomes are achieved through different processes for girls than for boys. Possibly, the educational and occupational performance of boys is measured primarily by objective standards, whereas the performance of girls is additionally judged by psychosocial (or stereotypical) standards. Future research on SES transmission and social mobility should aim to further identify gender differences in processes relevant for SES attainment (Martin et al., 2010; Schofield et al., 2011), while simultaneously scrutinizing systemic factors upholding such (unfair) gender expectations.

It must be noted, however, that the gender differences we observed may in part be influenced by our sample composition. Despite considerable retention efforts over 10 waves and 15 years of data collection, attrition has been skewed towards boys with lower educated parents. This attrition may obscure our understanding of psychosocial transmission and SES transmission from parents to boys in the population. Possibly, gender differences in psychosocial transmission and SES transmission are smaller or even absent in the population. For example, we found that mothers' destructive conflict behaviors is negatively related with girls' but not boys' emotion regulation, and that fathers' destructive conflict behaviors is positively related with boys' but not girls' emotion regulation. Among boys who dropped out, however, emotion regulation could be negatively affected by mothers' and fathers' destructive conflict behavior (i.e., similar to mothers and girls). In fact, higher levels of destructive conflict behaviors and poorer emotion regulation resemble characteristics of family dysfunction that are known to contribute to research attrition (Kazdin et al., 1993). If these boys had been retained, fathers' destructive conflict behaviors would likely be more similarly (un)associated to boys' and girls' emotion regulation. Future cross-sectional research could attempt to replicate our study in a sample with more participants from a lower SES background and more boys. Future longitudinal research projects should consider oversampling boys from a lower SES background at baseline (Fakkel et al., 2020).

Furthermore, maximum scores on destructive conflict behaviors and minimum scores on constructive conflict behaviors were rare if not almost entirely absent in our sample. Though small differences in conflict behaviors can nonetheless be meaningfully interpreted, most parents with relatively higher scores on destructive conflict behaviors or relatively lower scores on constructive conflict behaviors are still predominantly constructive during conflicts. However, self-reporting one's conflict behaviors may contribute to a

more favorable appearance on paper compared to reality (Johnson & Hall, 2018). Future research could incorporate observational measures of conflict behaviors to reduce social desirability bias or recall bias, though other biases may occur instead. Alternatively, previous measures of conflict behavior could be controlled for (in a mediation framework) to understand how changes in conflict behavior are associated with parental SES and young adulthood SES.

Conclusion

These findings contribute to our understanding of how family dynamics influence SES transmission. Though the intergenerational transmission of conflict behaviors was not found to mediate the intergenerational transmission of SES, family dynamics have a considerable impact on adolescents' SES outcomes. In particular, mothers' constructive and destructive conflict behaviors shape adolescents' conflict behaviors as well as their emotion regulation and empathy. Adolescents' psychosocial competencies mostly have a positive contribution to SES outcomes, however, too much empathy can be counter-effective, particularly for girls' income. In contrast to the proposition of the *family stress model* (Conger et al., 1994), that parents with a low SES are more likely to engage in parenting practices that interfere with healthy psychosocial development of adolescents, the findings of this study do not reveal such differences in parenting, and more specifically in conflict behavior. Future research should consider other parenting practices than conflict behavior to identify processes in SES transmission between parents and children.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: This study is supported by Nederlandse Organisatie voor Wetenschappelijk Onderzoek (024.001.003).

Transparency and Openness Statement

The raw data, pre-registration, analysis syntax, and codebook/variable overview are all publicly available through the project created at the Open Science Framework (OSF; osf.io/g23yj). Any specific questions related to the materials are best directly addressed to the researcher(s).

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Supplemental Material

Supplemental material for this article is available online.

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