

# The effect of divorce and co-parenting on emotional problems: The role of conflict at home and resilience.

Master Thesis Youth Studies

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### **Abstract**

Experiencing a divorce or separation of one's parents may increase children's emotional problems, and this negative impact of divorce may be particularly strong for children who experience high levels of conflict at home. Resilience may contribute to fewer emotional problems. The current research investigates if divorce and co-parenting are associated with emotional problems in adolescents and if conflict at home influences these associations. In addition, it is examined if resilience influences the possible relationship between co-parenting and emotional problems. For this research, cross-sectional data were used, and two samples were derived, and both consisted of Dutch adolescents between 12 - 17 years. Sample 1 (N=5326) consisted of divorced and non-divorced families. Sample 2 (N=806) consisted of divorced families only. Results show that having divorced parents was associated with having more emotional problems. Co-parenting was not associated with more emotional problems. Conflict at home did not influence the strength of the association between either divorce or co-parenting and emotional problems but was directly associated with having more emotional problems. Resilience was only associated with fewer emotional problems. Therefore, prevention strategies should focus on reducing conflict at home after divorce (either with or without co-parenting) and increase resilience among adolescents.

*Keywords:* divorce, separation, co-parenting, adolescents, conflict, conflict at home, resilience

### **Samenvatting**

Het ervaren van gescheiden ouders kan bijdragen aan meer emotionele problemen bij jongeren terwijl co-ouderschap een beschermende werking kan hebben. Conflicten thuis kunnen de relaties tussen gescheiden ouders en emotionele problemen en co-ouderschap en emotionele problemen beïnvloeden. Een hogere weerbaarheid bij kinderen in gezinnen met co-oudersschapsregelingen is mogelijk gelinkt aan lagere emotionele problemen. In het huidige onderzoek wordt onderzocht of scheiden en co-ouderschap gerelateerd zijn aan emotionele problemen en de mogelijke rol van conflicten thuis en weerbaarheid. Voor dit onderzoek zijn cross-sectionele data gebruikt, en er zijn 2 groepen geselecteerd die bestaan uit Nederlandse adolescenten tussen de 12 - 17 jaar oud. Groep 1 (N=5326) bestaat uit gescheiden en niet gescheiden families. Groep 2 (N=806) bestaat uit alleen gescheiden families. Resultaten tonen aan dat gescheiden ouders gelinkt is aan meer emotionele problemen bij jongeren. Tussen co-ouderschap en emotionele problemen is geen link gevonden. Conflicten thuis beïnvloeden de associatie tussen echtscheiding, co-ouderschap en emotionele problemen niet, maar is wel direct gelinkt aan het hebben van emotionele problemen. Een hogere weerbaarheid is direct gelinkt aan minder emotionele problemen. Dus preventie strategieën zouden moeten focussen op de reductie van conflicten thuis (met of zonder co-ouderschap) en het verhogen van de weerbaarheid onder adolescenten.

*Sleutelwoorden:* scheiding, scheiden, uit elkaar gaan, co-ouderschap, adolescenten, conflict, conflict thuis, weerbaarheid

## **Introduction**

Adolescence is a period that is often experienced as stressful (Dahl and Gunnar 2009) and may become even more stressful when experiencing parental divorce (Barret and Turner, 2005; Amato, 2001; Amato 2006). During the last decade, the number of children in one-parent households increased by approximately 110.000 children from 2010 to 2019 (NIJ, 2019). Experiencing a divorce may lead to depressive episodes since this stressful life event is a predictor of emotional problems (Barret and Turner, 2005) and may lead to higher stress levels throughout life (Dissing, Dich, Andersen, Lund, Rod, 2017). Emotional problems include depression, anxiety, shyness, and low self-esteem (Paclikova, Veselska, Bobakova, Palfiova, Geckova, 2019). However, if parents choose co-parenting after divorce/separation, this may reduce the chance of developing emotional problems among adolescents (Amato and Gilbert, 1999; Bauserman, 2002), and the likelihood of developing higher stress levels (Turunen, 2017). Thus, it is important to examine how divorce and co-parenting affect adolescent's emotional problems. In the current study, the term divorce will be used for both divorced and separated parents.

### **Parental divorce and emotional problems**

Living in a broken family (i.e., living with one-parent or living in a stepfamily) after divorce may lead to more emotional problems (Rattay, von der Lippe, Lampert, 2014; Balistreri, Alvira-Hammond, 2016; Paclikova, et al, 2019). An explanation for this relationship may be that living in a broken family leads to less contact with both parents in comparison to living in a non-divorced family (Amato, 2001; Amato, 2006). Less contact with parents is associated with a lack of communication and may lead to less family support or less positive family communication, while family support and communication are protective factors associated with emotional problems (Klemera, Brooks, Chester, Magnusson, Spencer, 2017; Heerde and Hemphill, 2018;). Results of the longitudinal study of Dujardin et al. (2016) showed that adolescents who experience less parental support are less likely to communicate about experiences and distress with their mothers, which is linked to more depressive symptoms. The current study aims to investigate if adolescents of divorced families are more likely to develop emotional problems. In line with the literature, it is expected that adolescents from divorced families are more likely to develop emotional problems compared to adolescents from non-divorced families (Hypothesis 1).

### **Co-parenting and emotional problems**

As stated above, parental divorce's adverse effect can be that children have less contact with one or both parents (Amato, 2001, Amato 2006). Contact with parents is an important factor in adolescent's lives because a healthy parent-child relationship is positively associated with their psychological well-being (Ruhl, Dolan, and Buhrmester, 2014; Paclikova et al., 2019). Frequent positive parent-child interaction with both parents may reduce emotional problems (Balistreri, Alvira-Hammond, 2016). Since research showed that, over time, fathers were less likely to be involved in their children's lives (Amato, 2006; Kelly, 2007), whereas mothers were not less likely to be involved (Gratz, 2017). To encourage contact with both parents after divorce, in 2009, a new law was implemented in the Netherlands to force parents who divorce to develop a parenting plan (NJB, 2009; Rijksoverheid, 2020). This new law aims to secure parents to be more actively involved in the lives of their children when they get a divorce (NJB, 2009; Rijksoverheid, 2020). The new law is also implemented to encourage co-parenting, meaning that there is an equal division of care and parenting tasks, costs, and promotes respect for one another and makes important decisions together (Rijksoverheid, 2020). Co-parenting contributes to more contact with both parents, which is associated with adolescent's healthier psychological well-being (Ruhl, Dolan, and Buhrmester, 2014).

In 2013, almost a fifth of divorced parents in the Netherlands chose to co-parent their children (Poortman and Van Gaalen 2017). Adolescents of co-parenting families seem to display less emotional problems than non-co-parenting families (Amato and Gilbert, 1999; Bauserman, 2002) and show equal levels of adjustment problems compared to non-divorced families (Nilsen, Breivik, Wold, and Boe, 2018; Nielsen, 2017). In a review study of 60 studies, Nielsen (2018) found that children living in co-parenting families had overall better outcomes throughout their life than children living in one-parent families. However, it is important to consider that not every child fared better by living in a co-parenting family. Families who chose to co-parent were more likely to be willing and able to meet the high demands (e.g., cooperation and flexibility) of co-parenting (Poortman and Van Gaalen, 2017). Co-parenting families seem to display better child-parent relationships and increased father involvement and authoritative parenting, which are positively associated with emotional adjustment after divorce (Bauserman, 2002; Nilsen, et al., 2018). Therefore, the second aim of this study is to examine the relationship between co-parenting and emotional problems. Based on the literature, it is hypothesized that co-parenting after divorce will be

linked to lower levels of emotional problems than non-co-parenting after divorce (Hypothesis 2).

### **The role of conflict at home**

A factor that could influence the relationship between divorce and emotional problems is perceived conflict at home. Conflict at home is likely to increase emotional problems among adolescents of divorced families (Mechanic, and Hansell, 1989). In addition, the longitudinal study of Booth and Amato (2001) found that low conflict at home compared to high conflict at home increased lower psychological well-being after divorce. An explanation may be that divorce may remove a child from a high conflict-ridden home and, therefore, experiencing conflict on a daily base disappears (Booth and Amato, 2001). However, parents of high-conflicted families were less likely to meet children's needs, such as preventing or overcoming emotional problems after divorce (Karela and Petrogiannis, 2018). In addition, conflict is linked to lower quality of parent-child attachment, and during a divorce to loyalty conflicts (Leys, Arnal, Hecke, Fossion, 2020). Feeling stuck between parents and lower quality of parent-child attachment is linked to higher chances of emotional problems (Klemera et al. 2017; Johnson, Litland, Hallstrom, 2018). Therefore, the third aim of this study is to create a better understanding of how conflict at home influences the relationship between divorce and emotional problems. It is hypothesized that conflict at home moderates the effect of divorce on children's' emotional problems. It is expected that conflict at home will increase the chance that children will develop emotional problems after divorce (Hypothesis 3).

If conflict continues after divorce in co-parenting families, it seems to increase the likelihood that children will feel stuck between the parents (BeckMeyer, Markham, Troilo, 2018). Feeling stuck between parents may increase feeling disloyal because of the feeling of letting one parent down by satisfying the needs of the other parent, which may lead to more emotional problems (Johnson, Litland, Hallstrom, 2018; Jeugdzorg Nederland, 2020). However, if parents chose co-parenting, it is found that adolescents often reported getting along well with both parents compared to children in single custody parent families (Fransson, Laftman, Ostberg, Hjern, Bergstrom, 2018). However, if an adolescent had a bad relationship with one of the parents in a co-parenting family, they had worse outcomes on emotional problems compared to living in single custody families (Sandler, Wheeler, and Braver, 2013). Therefore, it is expected that more conflict at home will negatively influence the protective effect of co-parenting on emotional problems (Hypothesis 4).

### **The role of resilience**

An underlying mechanism between co-parenting and emotional problems may be resilience because the chance of developing emotional problems is less likely if an adolescent has higher levels of resilience (Wolchik, Schenck, Sandler, 2009; Schaan and Vogele, 2016). Resilience has been defined in various ways but in these studies as ‘rebounding and recovering from adversity or change’ are consistent aspects within the definitions found of resilience. Also, resilience is different for every individual since every individual has its own opportunities, needs, and access to these opportunities (Kent, Davis, and Reich 2013; Southwick, Bonanno, Masten, Panter-Brick and Yehuda, 2014).

Studies found that co-parenting may contribute to being more resilient (Karela and Petrogiannis, 2020), and higher levels of resilience may protect adolescents from developing emotional problems after divorce (Wolchik, Schenck, Sandler, 2009; Schaan and Vogele, 2016). Lower levels of resilience are related to decreased recovering mechanisms after divorce and may increase emotional problems. It is also found that resilience mediates the relationship between the experience of divorce and emotional problems, such as anxiety and depression (Schaan and Vogele, 2016). Possible factors to increase resilience are childhood protective factors such as a healthy attachment relationship, good caregiving, and emotion regulation skills (Southwick, et al., 2014). These protective factors may be strengthened by co-parenting because cooperative co-parenting positively influence these protective factors. Therefore, children of cooperative co-parenting parents are expected to be more resilient to divorce-related stressors (Ruhl, Dolan, and Buhrmester, 2014; Paclikova, et al., 2019). Thus, the last aim of the current study is to examine if resilience mediates the relationship between co-parenting and emotional problems. In line with the literature, it is hypothesized that higher levels of co-parenting will be linked to higher levels of resilience, and higher levels of resilience are expected to be linked to lower emotional problems (Hypothesis 5).

### **The current study**

Taking these previous studies into account, the goal of this study is to gain more insight into 1) the relationship between parental divorce and emotional problems, and the moderating role of conflict at home, see *Figure 1*, and 2) the relationship between co-parenting after parental divorce and emotional problems, and the moderating role of conflict at home, see *Figure 2*. This study will also investigate the extent to which the adolescents’ resilience will mediate the relationship between co-parenting and emotional problems, see *Figure 2*. The overall goal

is to guide policymakers when developing an intervention based on reducing possible negative effects of parental divorce.

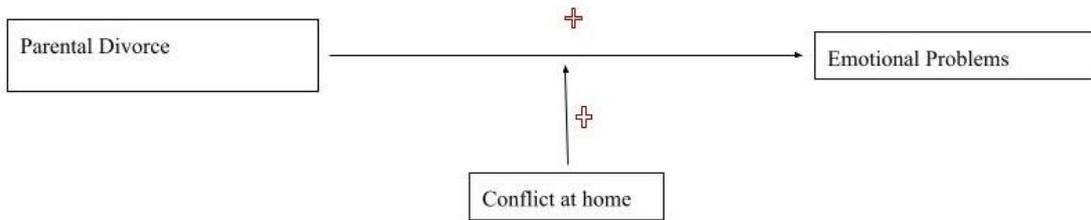


Figure 1. Research model 1, describing the expected relationship between the variables among the group of adolescents with divorced and non-divorced parents.

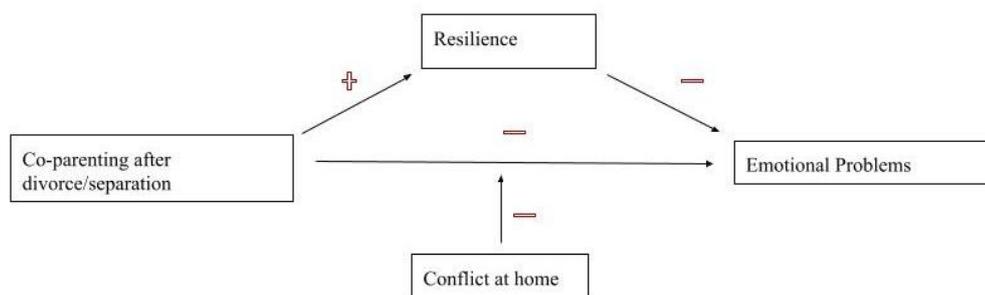


Figure 2. Research model 2, describing the expected relationship between the variables among the divorced group only.

## Methods

### Design and procedure

For this study, the dataset of the Peilstationsonderzoek 2019, a cross-sectional interdisciplinary research on the psychological and social development of Dutch adolescents, was used. A random selection of schools was made, and a random selection of classes followed this selection. Schools for secondary education were accepted to engage in this research if one of the school levels of VMBO, HAVO, and/or VWO had four grades and an independent school board. After selecting schools and classes, city and countryside school distribution was checked for correspondence with previous national distribution figures.

### Parents

of the children were asked in advance if they had any objections to their child’s participation, and if so, the child was excluded from the study (passive informed consent).

### Participants

The original dataset consisted of 5527 participants, but 203 participants were excluded, of which 55 participants outside the age range of 12 -17 years and 150 participants

with an unknown parental composition. The used sample for model 1 consisted of 5326 Dutch adolescents between 12 and 17 years old ( $M_{age}=13,97$ ,  $SD=1,381$ ), of which 51,2% was a boy, and 94,2% was of Dutch origin.

The used sample for model 2 only included children from divorced parents and filled in the co-parenting question. The sample consisted of 806 participants between 12 and 17 years old ( $M_{age}=14,07$ ,  $SD=1,375$ ), of which 52,0% was a boy, and 94.4% of Dutch origin.

### **Measures**

*Parental divorce* was measured by 1 item, with multiple answer possibilities on a nominal level. Two of the answers were useful for this research since the questionnaire asked, "do you live with both parents in one house?". The answer possibilities yes, and no, my parents are divorced or separated, were relevant. Everyone who had another answer was excluded from the dataset.

*Emotional problems* were tested through the existing scale of the Strength and Difficulties Questionnaire (Goodman, Meltzer & Bailey, 1998). It consists of 5 items on a 3-point Likert scale with the answer possibilities 1 (not true), 2 (partly true), and 3 (true for sure). It was about the past six month's behaviour, and the questions were connected to internalizing disorders, mood, and anxiety disorders. For example, adolescents were asked, "I often have a headache, belly pain, or I am nauseous". Chronbach's  $\alpha$  for model 1 were 0.73 and 0.77, and therefore it was a reliable scale.

*Co-parenting* was only measured among students who indicated that they do not live with both parents in one house. The question was: "How often are you in the other house?". The answer possibilities were; almost never, sometimes, on weekends, often, but less than half the time, and half the time.

*Conflict at home* was measured by 1 item on a 5-point Likert scale. The question is: "I feel stressed because of my home situation (like worries, problems, or conflict at home)". A score of 5 means that someone does feel stressed because of the home situation.

*Resilience* is measured by 1 item on a 5-point Likert-scale (1. 'totally disagree' to 5 'totally agree'). Adolescents were asked, "After a difficult period, I often recover fast". Totally agreeing indicates higher levels of resilience.

### **Analysis plan**

The data was checked for unreliable data by looking for impossible values, inconsistencies, remarkable remarks, and missing data. SPSS automatically excluded missing data listwise and not pairwise since this was no more than 23 participants. All variables have

been checked on a normal distribution, linearity, and homoscedasticity. Normal distribution and homoscedasticity were not met. Therefore, a Mann-Whitney U test and a Chi-Square for the full sample and boys and girls separately were conducted for descriptive statistics. Furthermore, correlations were checked using Spearman's Rho. Before conducting the binary logistic regressions, the variable emotional problems were transformed into a dichotomous variable. Group 1 existed out of no/little emotional problems (scored -2 to 0), and group 2 existed out of emotional problems (0 to 3.4). Conflict at home was also dichotomized. Group 1 consists of people with no/few conflicts at home (scored 1 or 2), and group 2 consists of people with often or always conflict at home (scored 3 or 4).

A binary logistic regression was conducted to examine hypotheses 1 and 3, belonging to model 1 (see, *Figure 1*). In step 1, all control variables (gender, educational level, age) were added, and in step 2, the independent variable parental divorce was added to the model. In step three, conflict at home as a direct effect, and the interaction term of parental divorce\*conflict at home was added to examine the moderating role of conflict at home.

After testing model 1, participants without divorced parents were excluded from further analyses and adolescents who did not fill in time spent with parents. Assumptions for model 2 were checked, and again normal distribution and homoscedasticity were not met. Therefore, a Mann-Whitney U-test was conducted, and correlations were checked using Spearman's Rho.

To examine hypotheses 2, and 4, belonging to model 2 (see, *Figure 2*), a binary logistic regression was conducted. In step one, all control variables (gender, educational level, age) were added to the model. In step two, the independent variable co-parenting was added. In the third step, conflict at home as a direct effect, and the interaction term between co-parenting and conflict at home was added.

To test hypothesis 5, belonging to model 2 (see, *Figure 2*), a binary logistic regression mediation analysis was conducted to examine if resilience mediated the relationship between co-parenting and emotional problems. Resilience was first transformed into a dichotomous variable. Group 1 consisted of people not or little resilient (scored 1 to 3), and group 2 consisted of (very) resilient people (scored 4 or 5). The Baron and Kenny (1986) method was used. Therefore, in step 1, the main effect of co-parenting, controlled for gender, educational level, and age, was tested. In step 2, the effect of co-parenting on the mediating variable resilience was tested. In the third step, the effects of co-parenting and resilience on emotional problems were tested together after controlling for gender, educational level, and age.

## Results

### Descriptive statistics model 1

Descriptive statistics for the full sample (n= 5301) and boys and girls separately can be seen in Table 1. As seen in Table 1, 22.5% of the participants had divorced/separated parents. Girls reported higher emotional problems and conflict at home than boys ( $p < .001$ ).

Correlations between the variables can be found in Table 2. First, parental divorce was positively correlated with emotional problems and conflict at home, indicating that participants who reported that their parents divorced reported more emotional problems and conflict at home. Moreover, gender, educational level and age are also positively correlated to emotional problems and conflict at home. This indicates that being a girl, participating in havo/vwo, or being older is related to more emotional problems and/or conflict at home. In addition, educational level was negatively correlated to parental divorce, indicating that participants who reported that their parents divorced reported a lower educational level. Because gender, educational level, and age were correlated with the dependent and/or independent variable, these variables were used as control variables in the tested regression models.

**Table 1**

*Descriptive statistics for the full sample and separately for boys and girls*

	Total	Boys (51,2%)	Girls (48,7%)
Educational level (% VMBO/TL)	47.4%	48.9%	45.9%
Divorced (% Yes)	22.5%	22.9%	22.1%
Age	13.97 (1.38)	13.99 (1.37)	13.95 (1.39)
Emotional problems	0.00(1.00)	-0.34 (0.78)***	0.36 (1.08)***
Conflict at home	1.65 (0.98)	1.50 (0.86)***	1.81 (1.06)***

*Note.* The symbol \* indicates whether boys significantly differ from girls.

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ . SD: Standard Deviation.

**Table 2**

*Spearman correlation for the study variables*

	1	2	3	4	5	6
1. Gender <sup>1</sup>	1.00					
2. Educational level	.03*	1.00				
3. Age	-.02	0.2	1.00			
4. Parental divorce <sup>2</sup>	-.01	-.11***	.04**	1.00		
5. Emotional problems	.35***	.06***	.09***	.06***	1.00	
6. Conflict at home	.16***	.03*	.10***	.25***	.39***	1.00

*Note.* <sup>1</sup> Reference category = boys. <sup>2</sup> Reference category = Parents together.

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

**Parental divorce, Emotional problems, and Conflict at home as a moderator**

A binary logistic regression analysis was conducted to test the probability of emotional problems among children of divorced and non-divorced parents. Results are summarized in Table 5. First, all control variables were added to step 1 of the regression analyses. All control variables showed to be positively significant, indicating that participants who reported being a girl, following havo/vwo, and being older reported more emotional problems. In the second step, the main predictor, parental divorce, was added to the model and showed to be significant. The Odds Ratio (OR) for parental divorce indicated that having divorced parents predicted a 30.2% increase in the probability of developing emotional problems compared to children of non-divorced parents. In the third step, the direct effect of conflict at home and the interaction term of parental divorce\*conflict at home were added. The interaction term of conflict at home and parental divorce was not significant. However, the direct effect of conflict at home on emotional problems was significant. If a person has conflict at home, the probability of having emotional problems increases.

**Table 3**

*Hierarchical logistic regression analyses on emotional problems (N=5301)*

	b	SE (b)	Exp(B)	95% CI		R <sup>2</sup> <sup>a</sup>
				Lower	Upper	
<i>Model 1: Control variables</i>						
Gender <sup>1</sup>	1.31	0.06	3.69***	3.28	4.14	.13
Educational level	0.12	0.06	1.13*	1.00	1.27	
Age	0.15	0.02	1.16***	1.11	1.21	
<i>Model 2: Predictor Variable</i>						
Gender <sup>1</sup>	1.31	0.06	3.70***	3.30	4.16	.14
Educational level	0.14	0.06	1.16*	1.03	1.30	
Age	0.15	0.02	1.16***	1.11	1.21	
Parental divorce	0.26	0.07	1.30**	1.13	1.50	
<i>Model 3: Moderation variables</i>						
Gender <sup>1</sup>	1.29	0.06	3.49***	3.09	3.94	.20
Educational level	0.15	0.06	1.17*	1.03	1.32	
Age	0.13	0.02	1.14***	1.10	1.19	
Parental divorce	-0.02	0.09	0.98	0.82	1.17	
Conflict at home	1.42	0.11	4.15***	3.38	5.09	
Parental divorce*Conflict at home	1.11	0.17	0.90	0.64	1.26	

Note. <sup>1</sup> Reference category = Boys. <sup>a</sup>= Nagelkerke R Square

\**p* < .05. \*\**p* < .01. \*\*\**p* < .001.

**Descriptive statistics model 2**

Descriptive statistics for the subsample of children with divorced parents (N=801), and for boys and girls separately, can be seen in Table 4. Girls reported significantly higher

on emotional problems, and conflict at home than boys ( $p < .001$ ). However, boys reported significantly higher on resilience than girls ( $p < .001$ ).

Correlations between the variables can be found in Table 5. First, co-parenting was negatively correlated with emotional problems and conflict at home, indicating that participants who reported equal contact with both parents reported less emotional problems and conflict at home. Additionally, co-parenting was positively correlated with resilience, indicating that if participants reported equal contact with both parents, higher resilience levels were reported. Moreover, resilience was negatively correlated with emotional problems, indicating that participants who reported to be more resilient reported less emotional problems. Conflict at home was positively correlated to emotional problems, indicating that participants who reported more conflict at home reported more emotional problems. At last, gender, educational level, and age were correlated to the independent and/or dependent variable and, therefore, used as control variables.

**Table 4**

*Descriptive statistics for the full sample and separately for boys and girls*

	Total	M(SD)	
		(Boys 52%)	Girls (47.9%)
Educational Level (% VMBO/TL)	53.7%	54.3%	53.1%
Co-parenting (% Yes)	39.8%	42.2%	37.0%
Age	14,07 (1.37)	14.07 (1.41)	14.08 (1.34)
Emotional Problems	-1.11 (1.00)	-0.38 (0.74)***	0.42 (1.08)***
Conflict at Home	2.21 (1.18)	1.95 (1.05)***	2.51 (1.25)***
Resilience	3.43 (1.13)	3.68 (1.09)***	3.16 (1.11)***

*Note.* The symbol \* indicates whether boys significantly differ from girls.

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ . SD: Standard Deviation.

**Table 5**

*Spearman correlation for the study variables*

	1	2	3	4	5	6	7
1. Gender <sup>1</sup>	1.00						
2. Educational level	.01	1.00					
3. Age	-.00	.03	1.00				
4. Co-parenting <sup>2</sup>	-.09*	.17***	-.11**	1.00			
5. Emotional Problems	.40***	.05	.06	-.08*	1.00		
6. Conflict at Home	.23***	.10**	.07	-.09*	.46***	1.00	
7. Resilience	-.25***	.08*	.01	.11**	-.40***	-.35***	1.00

*Note.* <sup>1</sup> Reference category = Boys. <sup>2</sup> Reference category = non-co-parenting

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

**Co-parenting, Emotional problems, and Conflict at home as a moderator**

A binary logistic regression analysis was conducted to test the probability of emotional problems among divorced parent's children. Results are summarized in Table 6. First, after all control variables were added to the analyses, and only gender was positively significant: being a girl was associated with a higher probability of developing emotional problems than boys. In the second step, the main predictor co-parenting was added but did not show a significant effect. Therefore, equal time spent with both parents did not seem to increase and decrease the probability of developing emotional problems. In the last step, the direct effect of conflict at home was added and the interaction term between co-parenting and conflict at home. The interaction term of conflict at home and co-parenting was not significant. However, the direct effect of conflict at home on emotional problems showed to be significant. If a participant had conflict at home, the probability of having emotional problems increased.

**Table 6***Hierarchical logistic regression analyses on emotional problems (N=801)*

	b	SE(b)	Exp(B)	95% CI		R <sup>2</sup> <sup>a</sup>
				Lower	Upper	
<i>Model 1: Control variables</i>						
Gender <sup>1</sup>	1.39	0.15	4.01***	2.97	5.41	.15
Educational level	0.22	0.15	1.25	0.93	1.69	
Age	0.11	0.06	1.11	1.00	1.24	
<i>Model 2: Predictor Variable</i>						
Gender <sup>1</sup>	1.38	0.15	3.91***	2.94	5.37	.15
Educational level	0.26	0.16	1.30	0.96	1.76	
Age	0.10	0.06	1.11	0.99	1.24	
Co-parenting	-0.19	0.16	0.83	0.60	1.13	
<i>Model 3: Moderation variables</i>						
Gender <sup>1</sup>	1.28	0.16	3.58***	2.62	4.90	.25
Educational level	0.25	0.16	1.29	0.94	1.77	
Age	0.09	0.06	1.09	0.97	1.22	
Co-parenting	0.06	0.22	1.06	0.70	1.62	
Conflict at home	1.49	0.21	4.43***	2.94	6.70	
Co-parenting*Conflict at home	-.54	0.33	0.59	0.31	1.12	
<i>Model 4: Mediation variables</i>						
Gender <sup>1</sup>	1.17	0.16	3.21***	2.34	4.40	.24
Educational Level	0.43	0.17	1.53*	1.11	2.12	
Age	0.11	0.06	1.12	0.99	1.25	
Co-parenting	-.21	0.17	0.81	0.59	1.13	
Resilience	-1.28	0.16	0.28***	0.20	0.38	

Note. <sup>1</sup> Reference category = Boys. <sup>a</sup> = Nagelkerke R Square

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

**Co-parenting, Emotional problems, and Resilience as a mediator**

A binary logistic regression was conducted to test the mediating role of resilience by means of the Baron and Kenny method (1986). As shown in Table 6, co-parenting had no significant association with emotional problems. Co-parenting also had no significant association ( $p=0.944$ ) with resilience (not depicted in Table 6). Thus, the basic assumptions of Baron and Kenny's (1986) that co-parenting would have a main effect on conflict at home and on resilience were not met. However, in the second step of the Baron and Kenny method, the association between resilience and emotional problems was analysed. The analysis showed that resilience had a significant negative association ( $p<.001$ ) with emotional problems, indicating that if a person is resilient, the probability increases with 72.3% that they do not have emotional problems. In the last step, as seen in Table 6, co-parenting was not significantly associated with emotional problems after adding resilience to the analysis.

**Discussion**

This study aimed to gain more insight into the possible association between parental divorce and co-parenting after divorce on the one hand and adolescents' emotional problems on the other hand. The results showed that adolescents of divorced parents were more likely to develop emotional problems than adolescents of non-divorced families. In addition, conflict at home did not strengthen the increasing effect of divorce on emotional problems. However, conflict at home was directly associated with having more emotional problems. Moreover, adolescents of co-parenting families after divorce did not display more emotional problems compared to adolescents of non-co-parenting families. At last, resilience was directly associated with fewer emotional problems.

In line with hypothesis 1, having divorced parents was associated with higher emotional problems among adolescents of divorced parents. This finding is consistent with previous research (e.g., Rattay, von der Lippe, Lampert, 2014; Balistreri, Alvira-Hammond, 2016; Paclikova, et al, 2019), indicating that children of divorced parents have higher chances of developing emotional problems.

In contrast with hypothesis 2, co-parenting was not associated with emotional problems. Earlier findings, however, indicated that, after divorce, children of co-parenting families display less emotional problems than children of non-co-parenting families (Amato and Gilbert, 1999; Bauserman, 2002; Nilsen, Breivik, Wold, and Boe, 2017). An explanation for these differences in outcomes may be found in the studies methodologies. The study of

Nilsen, Breivik, Wold, and Boe (2017) used internalizing problems such as emotional problems as a continuous variable, whereas the current study dichotomized emotional problems. Another difference is the number of questions about emotional problems since Bauserman (2002) used multiple questionnaires (e.g., Children's depression inventory, internalizing subscale from the CBCL), whereas this study used only 1 questionnaire with 5 questions. Furthermore, the current study only used one question about living conditions, while other studies (Bauserman, 2002; Nilsen, Breivik, Wold, and Boe 2017) asked multiple questions about living arrangements. Bauserman (2002) also distinguished two types of joint custody, the first type is shared physical custody (e.g., physical living situation), and the second type is shared legal custody (e.g., decision making). Thus, the current study is limited in the number of questions and not using continuous variables compared to other studies. Therefore, future research should focus on multiple methodological aspects and should distinguish multiple joint custody levels such as physical co-parenting and legal co-parenting.

Another explanation for the unconfirmed hypothesis 2 may be provided by the implementation of the parenting plan in 2009 in the Netherlands, which forces parents to plan their children's living conditions, and which promotes co-parenting (NJB, 2009; Rijksoverheid, 2020). Berends & Buimer, (2020) reviewed multiple studies and found that parents may think of co-parenting as their personal right because of such a law. Thus, parents often think from their own perspective instead of the best interests of the child. In addition, forced co-parenting may negatively affect the child's well-being (Geurts, 2017; Berends & Buimer, 2020). As a result of the forced parenting plan parents can be forced to co-parent with the other parent while they wanted for example full custody themselves. Parents can also demand more time with the child than they usually did spend before divorce. Thus, future studies should distinguish legal co-parenting, national context, national law enforcement and different types of time spent with parents.

In contrast to earlier expectations, hypothesis 3 was not supported by the data. Conflict at home did not enhance the association between divorce and emotional problems among children. However, conflict at home itself did predict more emotional problems. Results of the study of Booth and Amato (2001) found that low conflict at home was a risk factor for the psychological well-being of children after divorce. A difference between the current study and Booth and Amato (2001) is that their study was longitudinal instead of cross-sectional, which enabled using pre-divorced data. Therefore, future research should preferably be longitudinal and use continuous variables if possible. Examining longitudinal

data should create the possibility to distinguish conflict at home in divorced families or non-divorced family's overtime since, for example, in a second or third wave, parents may be divorced who were not divorced during the first or second wave.

Moreover, hypothesis 4 was not supported by the results. Conflict at home did not change the strength of the association between co-parenting and divorce. However, conflict at home was directly associated with more emotional problems. In contrast to the current study, the study of Maher, O'Hara, Sandler, and Wolchik (2018) found that high conflict during co-parenting after divorce was linked to more emotional problems. Co-parenting and conflict were in the review study measured longitudinal and with more questions in multiple studies (Maher, O'Hara, Sandler, and Wolchik 2018). Therefore, future research should expand questions about co-parenting and perceived conflict at home to create a full picture.

In contrast with hypothesis 5, resilience was not an underlying mechanism for the relationship between co-parenting and emotional problems. Earlier research did find a mediating effect of resilience in the relationship between divorce and emotional problems (Schaan and Vogele, 2016), but did not address the relationship between family composition or co-parenting after divorce and emotional problems. The current study indicates that family composition does not significantly affect adolescent's resilience within divorced families. An explanation for the absence of an association between co-parenting and resilience may be the limited number of questions about resilience. In the current study, only 1 question was used to measure resilience, while the study Schaan and Vogele (2016) assessed resilience with the validated 13-item inventory of Leppert, Koch, Braehler, and Strauss (2008). Both the current study and the research of Schaan and Vogele (2016) were cross-sectional research.

Finally, the current results showed a difference between boys and girls in emotional problems. This is in line with earlier research that found that girls experience more emotional problems during middle adolescence than boys compared to early adolescent girls (Oldehinkel, Ormel, Veenstra, Winter, Verhulst, 2008).

### **Strength and Limitations**

One of this study's strengths is the large sample size since this increases the generalizability to the population. The current study is also one of the few studies, by our knowledge, that examined the mediating role of resilience in the relationship between co-parenting and emotional problems.

This research, however, also has some limitations. First, it is a cross-sectional study, which means that all concepts are measured at one moment. If participants had a good

day/month, this might influence their perception of their mental health. With cross-sectional research, it is also not possible to examine causal relationships between different events.

Another limitation is the dichotomization of the relevant variables emotional problems, co-parenting, conflict at home, and resilience. Dichotomization was necessary because continuous variables did not meet the linear regression analyses requirements and therefore an alternative analysis with dichotomous variables was used. However, making continuous variables dichotomous may have resulted in losing relevant information since only 2 answer possibilities remained.

The last limitation is that the used divorce/separation questions did not ask how old children were when their parents divorced, and it is also unclear how long parents were divorced. Previous research found that the age of onset of divorce was not related to emotional problems, but emotional problems after divorce increased during middle and late adolescence (Oldehinkel, Ormel, Veenstra, Winter, 2008). Another research, which was longitudinal, found differences resulting from children's age during divorce and later developed emotional problems, but only among women (Kravdal and Grundy, 2018). Therefore, it would be interesting that future research is longitudinal and examines if long-term effects differ among children with different onsets of divorce.

### **Conclusion**

In conclusion, having divorced parents is related to having more emotional problems, while having co-parenting parents was not related to emotional problems. Moreover, conflict at home was related to an increased chance of emotional problems, but this effect was found independent of co-parenting versus non-co-parenting. Therefore, if developing a prevention strategy for emotional problems it is important to focus on the parents and reducing conflict at home. In addition, it is important to point out to parents the importance of the child's well-being instead of thinking from their own perspective and in their own interest during and after divorce. At last, the prevention strategy should focus on factors that would increase adolescents' resilience since resilience was associated with lower levels of emotional problems.

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## **Appendices**

### **Appendix 1, Interdisciplinarity**

To write a good research paper it is important to use research from multiple scientific disciplines and perspectives. Approaching a problem only from one perspective or discipline does not show the entire picture. Therefore, this research focuses on multiple perspectives and is interdisciplinary. The research question has different levels like distal and proximal, but also different disciplines, such as for example psychology and sociology. However, it is important to consider that this research is a piece of the bigger picture, because there are still other possible disciplines or perspectives that could be examined.

In this research there is one outcome factor, emotional problems due to divorce and co-parenting. The proximal factor in this research is resilience, which is hypothesized to be a mediator between co-parenting and emotional problems. Emotional problems also belong to the proximal factors. Co-parenting is one of the distal factors just like the mediator/moderator conflict at home.

In conclusion this research is from an interdisciplinary nature. However, it is important to consider that multiple more perspectives or disciplines could be examined. This would be very interesting, but this research would become too complex.