

The influence of interparental conflict on sibling relationship quality in intact and separated families

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Abstract

Background: The central aim of this paper is to explore whether interparental conflict has an effect on sibling relationship quality in intact and separated families. The demand for this research comes from conflicting and dated literature regarding the effects of interparental conflict and family structure on sibling relationship quality, while separation within families has seen an increasing trend over the latest years. *Methods:* The data used for this study comes from cross-sequential research about relationships, parental separation and problem solving skills of adolescents and families. The research exists of six waves from 2006 to 2016. Only the first wave, which includes the concept of the sibling relationship, is used. *Results:* The current study shows that there is no effect of family structure on sibling relationship quality. Another result is a small, negative correlation between interparental conflict and sibling relationship quality. At last, an interaction effect between interparental conflict and family structure on the sibling relationship quality is found. This interaction effect shows that interparental conflict has a negative effect on the sibling relationship in intact families, and no effect on sibling relationship in separated families. *Conclusion:* The significantly more positive effect of interparental conflict on the sibling relationship in separated families indicates that siblings in separated families comfort and support each other more when confronted with interparental conflict. The negative correlation indicates that increases in interparental conflict can be related to decreases in sibling relationship quality.

Keywords: Sibling Relationship; Family Structure; Interparental Conflict; Parental Separation

Introduction

According to the family systems theory, individuals must be studied as a part of their family in order to understand them, since family members are naturally intensely and emotionally connected (Titelman, 2014). The sibling relationship is an important relationship in family systems, because it lasts throughout life and is of great value for the individual development (Riggio, 2001). How this relationship develops is utterly varied and complex. Siblings create each other's identities and affect the course of each other's lives in infinitely different ways (Bank & Kahn, 1997; Sheehan, Darlington, Noller, & Feeney, 2004). There are various factors that can influence sibling relationship quality, such as birth order, gender, family structure, and parenting styles (Bank & Kahn, 1997). In this paper, the influence of two factors on the quality of sibling relationships is studied: family structure and interparental conflict.

Family structure and sibling relationship quality

The factor family structure is chosen because a large number of families is impacted by divorce each year. According to Dutch statistics, the Netherlands have experienced an increase in divorces. In 1950, 6462 marriages ended in divorce. In 1975 this number had risen to 20093, and in 2016 the Netherlands saw a divorce rate of 33414 (Centraal Bureau voor Statistiek, 2017). Since so many children are confronted with parental separation, it is crucial to develop a better understanding of how family structure influences the development of children, and the development of the sibling relationship. A distinction is made between separated and intact families. The term 'separated' rather than 'divorced' parents is used, in order to also include parents who were not married.

The family environment is related to the quality of sibling relationships (Pulakos, 1990). Multiple studies found significant differences between the sibling relationship quality of children from separated and intact families. Young adult siblings from separated families sometimes tend to estrange from one another (Nitzburg, 2012). These siblings appear to have less frequent telephone contact, see each other less often, and report more hostility in their relationship than siblings from intact families (Hetherington, 1988; Pulakos, 1990; Sheehan et al., 2004). Overall, the sibling relationship quality in separated families is lower and characterized with more conflict than the sibling relationship quality in intact families (Hetherington, Cox, & Cox, 1985; MacKinnon, 1989; Sheehan et al., 2004; Wallerstein & Kelly, 1980). However, this is not always true. Sometimes the relationship of siblings from separated families becomes even stronger than the relationship of siblings from intact families, since these siblings use each other as a source of comfort, stability, and support

(Hallberlin, 2015). This means that there are conflicting views on the effect of parental separation on sibling relationship quality.

Interparental conflict and sibling relationship quality

Interparental conflict in intact families can be a cause for divorce or separation (Amato, Loomis, & Booth, 1995). Therefore, interparental conflict, in both intact and separated families, is the second factor studied. Interparental conflict is a well-known risk factor for children's individual development, causing distress and worry (Cummings & Davies, 1994; Grych & Fincham, 1993, in Dunn & Davies, 2001). In addition, marital conflict can have a negative influence on family functioning, including sibling relationship quality (Cummings & Davies, 2002), and can be associated with more conflictual and less loving sibling relationships (Stocker & Youngblade, 1999). Grasping back to the family systems theory, family members can be seen as interdependent and emotionally connected (Jenkins, Simpson, Dunn, Rasbash, & O'Connor, 2005). This reciprocal influence between family members can cause spill-over effects, which means that what is experienced in one relationship, such as the parental relationship, can be carried over to another relationship, such as the sibling relationship (Grych & Fincham, 2001). This leads to the thought that interparental conflict has an effect on sibling relationships, since the sibling relationship and the interparental relationship are both within the same system and will influence each other.

Family structure, interparental conflict, and sibling relationship quality

There are great differences in sibling relationship quality for siblings in both family structures, and the way sibling relationships develop after exposure to interparental conflict. Research has shown that parental separation can heighten hostility in the sibling relationship, as a result of high exposure to interparental conflict (Brody, 1998; Brody, Stoneman, & McCoy, 1994; Hetherington, 1988; Sheehan et al., 2004). Other researchers confirm that children who are often exposed to interparental conflict have more conflicts with their siblings and can estrange from one another (Hetherington, 1989; Jenkins, Smith, & Graham, 1989; Nitzburg, 2012). On the same note, it appears that the style of conflict resolution between siblings can be more negative and aggressive in divorcing families than in intact families (Noller, Feeney, Sheehan, Darlington, & Rogers, 2008). Other studies have shown however that divorce leads to greater sibling warmth and nurturance (Hallberlin, 2015; Sheehan et al., 2004). Siblings from divorced families rely a lot on one another and tend to become closer than they would have if their parents were not separated (Kier & Lewis, 1998; Wallerstein, 1985). These siblings turn to each other for mutual support and comfort during distressing situations, such as interparental conflict (Sheehan et al., 2004). In yet another study it is mentioned that hostility and nurturance coexist. This is because

the older siblings keep trying to protect and nurture their younger siblings even though these younger siblings tend to resent being 'parented' by their older siblings, causing hostility and conflicts between them (Noller, 2005; Noller et al., 2008).

Pathways of the sibling relationship

Despite the differences in the results, these studies all show that interparental conflict has an important effect on the quality of sibling relationships. The sibling relationships that encounter high levels of interparental conflict are usually inclined to follow two different pathways. One pathway is more supportive and warm, whereas the other is more hostile and aggressive (Amato 2011; Furman & Buhrmester, 1985). These pathways can be explained through either the *stress buffering hypothesis* or the *social learning theory* (Riggio, 2001). The stress buffer hypothesis explains that siblings can provide a buffer for each other during the stressful event of interparental conflict. They can act as protector or supporter, and can take over parts of the parental roles, which may lead to the sibling relationship to become more affectionate and loving (Riggio, 2001). Contradictory, the social learning theory suggests that some children model their parents in conflict and develop a poorer knowledge of healthy relationships. These children can lack in the interpersonal and social skills that are needed to form and maintain fulfilling relationships, which can lead to them experiencing long-term difficulties with interpersonal relationships within their family structure, including their sibling relationship (Riggio, 2001).

In conclusion, research has shown that there are indeed significant differences in sibling relationship quality between siblings from separated and intact families. However, it is not clear whether parental separation influences the sibling relationship positively or negatively, since the findings in this area of research are conflicting. Concerning interparental conflict, literature indicates that this has an effect on the quality of sibling relationship in both intact and separated families. It is however not clear whether interparental conflict has a negative or positive effect on the sibling relationship, since the findings are contradictory. Based on the previous literature, the assumption exists that there might be an interaction effect between interparental conflict and family structure. This is thought because both of these factors have an individual influence on the sibling relationship, and so together they will also have an influence on sibling relationship quality. Perhaps the family structure influences how siblings respond to interparental conflict, or interparental conflict influences how the siblings experience changes in the family structure. This can eventually influence the sibling relationship quality.

Current research

It is crucial to further investigate how family structure affects the quality of sibling relationships, as parental separation clearly plays a significant role in the development of sibling relationships. In terms of societal relevance, parental separation is very common in today's society (Amato, 2011). Therefore, it is important to better understand how parental separation affects the sibling relationship, and what other factors influence this effect. Regarding interparental conflicts, the effects can be so disadvantageous that the DSM-5 has introduced the diagnostic condition of "child affected by parental relationship distress" (CAPRD) (Harold & Sellers, 2018), which emphasizes the social relevance. Furthermore, there remains a gap in the literature regarding the sibling relationship, because most findings focus on the effect of interparental conflict on individual children, child adjustment, or the parent-child relationship, and less on the sibling relationship. Also, the literature found regarding interparental conflict is relatively dated. The value of researching the effects of interparental conflict also exists because of the relation between interparental conflict and problems in sibling interactions (Stocker & Youngblade, 1999). More knowledge on the effects of interparental conflict on the sibling relationship can help social workers to anticipate on the influences of these factors, so that the possible negative effects can be controlled or maybe even prevented. Interventions like marital therapy programs to reduce marital distress (Markman et al., 1993), which will also decrease the spilled-over negative consequences on sibling relationships, or sibling-relationship focused programs designed to promote positive and reduce negative sibling dynamics (McHale, Updegraff, & Whiteman, 2012), can be helpful. Interventions focussing on constructive co-parent interaction seem to be beneficial for sibling interactions and increase children's well-being after parental separation (Tucker & Finkelhor, 2017).

Considering that multiple studies mark the essential influence of interparental conflict in both family structures, this study will also examine whether the sibling relationship in separated and intact families is differently influenced by interparental conflicts. In other words, the interaction effect between family structure and interparental conflict will be studied.

Methods

To examine the effect of interparental conflict on sibling relationship quality in intact and separated families, a distinction is made between two research questions. The first question studies whether there is a difference in sibling relationship quality between siblings from separated and intact families. The second question studies whether the quality of

sibling relationships is related to interparental conflicts. For the main research question, it is studied whether there is an interaction effect between the two variables.

Regarding the effect of family structure on sibling relationships, the findings in the literature are conflicting. This research question is therefore explorative. However, it is hypothesised that family structure has a significant effect on the quality of sibling relationships, but it is not clear in what direction this effect goes. This is hypothesised because families function as a system, and therefore the structure of this system will influence the individuals and the subsystems within (Jenkins et al., 2005).

Concerning the effect of interparental conflict, there is limited recent research. The existing research suggests that there is indeed an effect of interparental conflict on the quality of sibling relationships, but it remains unclear whether this relationship is positive or negative (Riggio, 2008). It is hypothesised that families with a higher amount of interparental conflict will have a stronger cohesion with the sibling relationship.

Since there is little recent literature, and the existing literature contains conflicting results, it is unclear what relationship the variables family structure and interparental conflicts have with sibling relationship quality. It is hypothesised that the relationship between interparental conflicts and sibling relationships will be different for siblings from intact and separated families. This is expected because both the sibling relationship and the family structure are a part of the family system, which will lead to a reciprocal influence (Jenkins et al., 2005). Perhaps the influence of interparental conflict is less negative in separated families, because it is less likely that children will witness those conflicts (Poortman & Voorpostel, 2009). It is however not hypothesised whether the relationship will be stronger in separated families or in intact families.

Procedure

This study will be based on quantitative data, using several questionnaires. Quantitative data is chosen because it gives the opportunity to study a large population and it will give a more thorough and clear insight regarding the variables and research questions. The data used for this study comes from cross-sequential research existing of six waves from 2006 to 2016. For the current study, only the first wave of questionnaires will be used. These questionnaires specifically focus on the concept of sibling relationships for both children from separated and intact families by including the *Network of Relationship Inventory* (NRI; Furman & Burhmester, 1985) on sibling relationships.

The participants were randomly selected from Dutch schools. The questionnaires have been completed at the schools of the participants. The schools have been randomly approached by students from the University of Utrecht. After approval for participation from

the schools, an informational letter has been sent to the parents. The students visited the schools and only completed the questionnaires with children who gave permission themselves, and had signed approval from their parents.

Sample

The participants derive from the first three years of secondary school. The sample included 1632 adolescents with ages from 12 to 16 years ($M = 13.66$, $SD = 1.01$), (52% male, 48% female). The majority of the participants has a Dutch ethnicity (87%). The participants are students from the following educational levels: 'VMBO-beroeps' (23%), 'VMBO-theoretisch' (21%), 'Havo' (22%), 'VWO' (31%), 'Gymnasium' (4%). The family structure was classified in four categories: married (79%), living together but not married (3%), divorced after marriage (15%), separated after living together (3%).

Measurements

The questions of the survey contain the concepts of both individual and family functioning. The questionnaires are constructed by Dr. E. Spruijt and Dr. I. van der Valk from the Department of Youth & Family from the University of Utrecht. For the current study, the concepts of family structure, interparental conflict and sibling relationships are being measured.

Family structure. This variable is measured by a question regarding the parental relationship (married, divorced, living together, separated after living together, mother or father deceased). There were no children of whom one of the parents were deceased. The independent variable 'family structure' is categorized in two groups: 0 = intact family, 1 = separated family. The first group, the reference group, consists of parents who are married and/or living together. The second group consists of parents who are separated or divorced.

Interparental conflict. This variable is measured by a 5-point Likert scale, regarding the degree and nature of interparental conflict in the current situation for both intact and separated families. The Likert scale measures concepts by using a certain statement, and the possibility to rate the extent of (dis)agreement. The independent variable 'interparental conflict' is measured by the use of 5 questions. Questions such as "How often do your parents argue about money?" and "How often do your parents argue about your upbringing?" are included in the questionnaire. The participants can answer on a scale ranging from 'never' (1) to 'all the time' (5). Cronbach's Alpha for the 5-item 'Interparental Conflict', used for the concept of interparental conflicts, was .80. An alpha of .80 can be considered adequate for research purposes (Allen et al., 2014).

Sibling relationships. The quality of sibling relationships is measured by including a shortened version of the NRI (Furman & Burhmester, 1985). The NRI can be used to

examine a broad array of relationship characteristics across a number of different types of personal relationships. The NRI exists of ten three-item subscales that assess relationship characteristics for different types of relationships (Furman & Burhmester, 1985). Two of the three NRI scales are used: support and conflict. The scales show a Cronbach's Alpha reliability of $\alpha = .90$ for 'support' and $\alpha = .92$ for 'conflict', which can both be considered adequate for research purposes (Allen et al., 2014). This variable is measured by a 5-point Likert scale. The variable 'sibling relationship quality' is measured by the use of 12 questions regarding support, and 6 questions regarding conflict. A question regarding support is "Does your brother/sister admire and respect you?", with the scale ranging from 'never' (1) to 'always' (5). A question regarding conflict is "How often do you and your sibling disagree with each other?", with the scale ranging from 'never' (1) to 'always' (5).

A bivariate Pearson's correlation coefficient (r) was calculated for 'Conflict' and 'Support'. The bivariate correlation between the two variables was negative and strong, $r(1504) = -.48, p < .001$. Therefore, 'Conflict' and 'Support' have been merged within the scale 'Sibling Relationship', after reversing negatively scaled questionnaire items. These negatively scales questionnaire items derive from the subscale 'Conflict'. To create the new scale 'Sibling Relationship', the mean has been computed.

Data analysis

The three research questions will be analysed separately. The first research question, regarding the influence of family structure, will be examined by using an independent t-test with family structure being the independent variable, so that the results will indicate possible differences between intact and separated families. The scale of measurement for family structure is nominal. The means of the different groups of family structure will be compared with each other. The second research question examines the relationship between interparental conflict and sibling relationship quality. The scale of measurement for interparental conflict is interval. The bivariate correlation analysis examines whether there is a coherent relationship between the two variables. The presence of an interaction effect between family structure and interparental conflict will be examined by using a multiple regression analysis. The interaction effect measures the simultaneous effect of the two independent variables (family structure and interparental conflict) on the dependent variable (sibling relationship quality). The scale of measurement for sibling relationship quality is interval. In the current study a p-value of $\alpha = .05$ is maintained.

Ethical responsibility

While the data was collected, the ethical responsibility has been taken into account. Informed consent was received from parents through the use of an informational letter. All

the data was anonymously analysed, the data is not traceable to the participants. Participation was voluntarily and the participants were allowed to quit their partaking at any moment of the study, to prevent and minimize any possible damage. For the current study, only the data with a certain relevance to the study will be used. There will be no unnecessary use of irrelevant data. Participants have been informed that the study is mainly concerned with the research itself and that there will be no compensation for the participants. This has been told prior to the start of the participation, to prevent and avoid conflicting interests.

Results

Descriptives

The sample sizes, the means and the standard deviations of the three variables are shown in Table 1. The variables interparental conflict and sibling relationship quality are specified for both family structures.

Table 1

Descriptive statistics for intact and separated families on concepts of interparental conflict and sibling quality

	Intact			Separated			Total		
	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>
Interparental conflict	1333	1.75	0.58	274	2.12	0.92	1607	1.80	0.66
Sibling quality	1258	3.23	0.61	246	3.27	0.63	1504	3.23	0.61

Family structure and sibling relationship quality

An independent samples *t* test was used to compare the differences of both family structures on the sibling relationship quality. Prior to interpreting the results of the independent samples *t* test, several assumptions were evaluated. First, the assumption of scales of measurement is met, since the dependent variable of sibling relationship quality has an interval scale of measurement. Second, an inspection of the descriptives indicated that the assumption of normality was not violated with a Skewness score of 0.167 and a Kurtosis score of -0.562, which are both relatively close to zero. A visual inspection of the

Histograms further confirms that each group of scores is approximately normally distributed. Normal probability plot of standardized residuals, as well as the scatterplot of the standardized residuals against the standardized predicted values and a histogram with a normal distribution curve, indicated that the assumption of normality, linearity and homoscedasticity was not violated. Third, Levene's test indicated that the assumption of Homogeneity of Variance was not violated. Levene's test was non-significant ($F = 1.26, p > .05$), thus equal variances can be assumed. Last, the assumption of independence has also been met because the participants did not influence one another.

The t test was non-significant. The intact families ($M = 3.23, SD = 0.61$) did not significantly differ from the separated families ($M = 3.27, SD = 0.63$) on the mean of sibling relationship quality, $t(1502) = -1.02, p = .309$, two-tailed, $d = -0.07$, 95% CI of the mean difference $[-0.13, 0.04]$.

Interparental conflict and sibling relationship quality

A bivariate correlation analysis was used to establish the relationship between interparental conflict and sibling relationship quality. Prior to interpreting the results of the bivariate correlation analysis, several assumptions were evaluated. First, inspection of the normal probability plot of standardized residuals, as well as the scatterplot of the standardized residuals against the standardized predicted values and a histogram with a normal distribution curve, indicated that the assumption of normality, linearity and homoscedasticity was not violated. Second, there is an independence of error terms since only the first wave of questionnaires has been used. Additionally, no use has been made of repeated measures or other measures that could influence the independence of error terms.

A significant, negative correlation was found, $r(1502) = -.098, p < .01$, two tailed. The effect of r is considered small. This correlation indicates that interparental conflict has a negative relationship with sibling relationship quality.

Interparental conflict and family structure on sibling relationship quality

To estimate the influence of interparental conflict in intact and separated families on sibling relationship quality, a standard multiple regression analysis (MRA) with interaction effect was performed. Prior to interpreting the results of the MRA, several assumptions were evaluated. First, according to Tabachnick and Fidell (2013), the sample size used should at least contain $104 + k$, where k is the number of independent variables. With a sample size of $N = 1632$, this assumption is met. Second, stem-and-leaf plots and boxplots indicated that each variable in the regression was normally distributed, and free from univariate outliers. Third, relatively high tolerances for both predictors in the regression model indicated that multicollinearity would not interfere with our ability to interpret the outcome

of the MRA. Fourth, a visual inspection of the Histograms and Scatterplots further confirms that each group of scores is approximately normally distributed. Normal probability plot of standardized residuals, as well as the scatterplot of the standardized residuals against the standardized predicted values and a histogram with a normal distribution curve, indicated that the assumption of normality, linearity and homoscedasticity was not violated.

While performing the multiple regression analysis, the interaction effect between interparental conflict and family structure has also been computed. The variables 'interparental conflict' and 'family structure', together with the interaction effect between these two variables, accounted for a significant 2% of the variability in sibling relationship quality, $R^2 = .02$, adjusted $R^2 = .01$, $F(3, 1482) = 7.80$, $p < .001$. The effect of $R^2 = .02$ is considered small. Unstandardised (B) and standardised (β) regression coefficients, and squared semi-partial correlations (sr^2) for each predictor in the regression model are reported in Table 2.

Table 2

Unstandardised (B) and Standardised (β) Regression Coefficients, and Squared Semi-Partial Correlations (sr^2) for Each Predictor in a Regression Model Predicting Sibling Relationship Quality

Variable	B [95% CI]	β	sr^2
Family Structure	0.06 [-0.03, 0.15]	0.04	.00
Interparental Conflict	-0.12 [-0.17, -0.07]**	-0.13	.01
Structure * Conflict	0.12 [0.02, 0.22]*	0.06	.00

Note. $N = 1486$. CI = confidence interval.

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

The main effect of the variable 'family structure' shows a slightly higher sibling relationship quality in separated families, however this result is non-significant ($B = 0.06$, $p = .188$). The main effect of the variable 'interparental conflict' shows that there is a significant negative effect of interparental conflict on sibling relationship quality in intact families ($B = -0.12$, $p < .01$). Last, the interaction effect between family structure and interparental conflict shows that the effect of interparental conflict on the sibling relationship

quality is significantly more positive in separated families ($B = 0.12, p < .05$). Only in intact families there is a negative relationship between interparental conflict and sibling relationship quality. It seems that in separated families there is no relationship between interparental conflict and sibling relationship quality. Since the interaction effect is significant, it can be assumed that there is indeed an interaction effect between family structure and interparental conflict on sibling relationship quality. This interaction effect is visible in Figure 1.

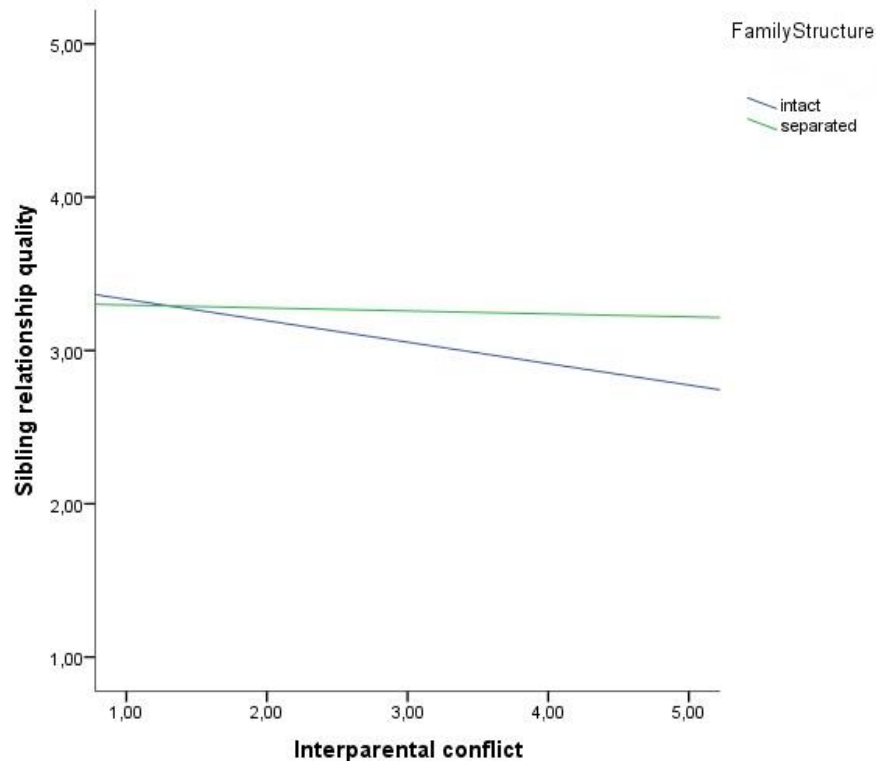


Figure 1. Scatterplot with interparental conflict and sibling relationship quality, with regression lines for intact and separated families.

Conclusion and Discussion

Based on previous studies, high conflict marriages seem to be more common (Amato, 2011), with an increase of the probability of divorce in the Netherlands specifically (De Graaf & Kalmijn, 2006). It is also scientifically proven that interparental conflict in both intact and separated families can form a risk-factor for children's development (Cummings & Davies, 1994; Grych & Fincham, 1993). The results from the literature study were conflicting, so it remained unclear whether the effect of interparental conflict and family structure on the sibling relationship was positive or negative. Therefore, the current study

examined the influence of these factors on sibling relationship quality by the use of multiple statistical analyses.

First, the results from the current study show that there is no significant difference in sibling relationship quality between siblings from intact and separated families. This means that the sibling relationship is not significantly higher in support or lower in conflict in either family structure. This result was not expected forehand. This result is also in conflict with several studies. Literature shows that parental separation can have different effects on the sibling relationship. For one, the sibling relationship quality in separated families seems to be lower and is characterized with more conflict than the sibling relationship quality in intact families (Hetherington, Cox, & Cox, 1985; MacKinnon, 1989; Sheehan et al., 2004; Wallerstein & Kelly, 1980). Other studies indicate however that sometimes the sibling relationship becomes stronger after parental separation (Hallberlin, 2015). The current result, indicating no to little difference between the structures, has not been mentioned or found in previous research. An explanation for the division between the literature and the current study can be found in the stress buffering hypothesis and the social learning theory (Riggio, 2001). Sibling relationships seem to follow two different pathways, one being more loving and affectionate (the stress buffering hypothesis) and the other resulting in long-term difficulties in maintaining interpersonal relationships, including the sibling relationship (social learning theory). If, for instance, one half of the siblings in the sample followed the stress buffering hypothesis and the other half of the siblings followed the social learning theory, it makes senses that no effect is found because the contradicting effects of the pathways even each other out. Another explanation for the result of no effect is that there are more participants from intact families ($n = 1339$) than from separated families ($n = 293$) in the current sample. A consequence of this unequal distribution can be that the sibling relationship quality in intact families is of greater value than the quality in separated families, causing that the effect of separation on sibling relationship quality is not measured properly. The current result cannot be explained by different ages of the siblings during interparental conflict. The previous mentioned studies had an age range of 10 to 16 years old, approximately 10 years old and 6 to 18 years old during the divorce. The current study had an age range from 12 to 16 years. Therefore, the different studies and the current study did examine developmental levels about relatively the same age.

Second, the bivariate correlation analysis has shown that there is a significant, negative correlation between interparental conflict and sibling relationship quality. This indicates that increases in interparental conflict can be related to decreases in sibling relationship quality. This is in accordance with the expectation of a significant effect. These

findings are somewhat in agreement with the found literature, which states that interparental conflict can have a negative effect on sibling relationships (Cummings & Davies, 2002). This negative effect can be explained with the spillover effect: a negative effect in one relationship, like conflict, can be carried over to other relationships within the family structure, such as the sibling relationship. This means that conflict between parents can have a negative effect on sibling relationships, and can lead to conflict between siblings (Grych & Fincham, 2001). Contradictory, other research shows that interparental conflict can lead to more warmth and nurturance in the sibling relationship (Hallberlin, 2015; Sheehan et al., 2004). The fact that the correlation is relatively small may be blamed to the age of the participants. The participants ages range from 12 to 16 years, which are the years of puberty. Puberty can lead to a weakening of the sibling bond, because the adolescent is trying to develop an autonomous identity outside his or her family structure (Burhmester, 1992). Therefore, the presence of conflict may have a smaller effect on the sibling bond, because the individual is less invested in the sibling bond in this age period.

Last, the multiple regression analysis shows that there is a significant interaction effect of family structure and interparental conflict on sibling relationship quality. This interaction effect indicates that the effect of interparental conflict on sibling relationship quality is significantly more positive in separated families. This is in accordance with another study, where it is found that parental separation improves the sibling relationship in high-conflict families (Poortman & Voorpostel, 2009). So in high-conflict families, the effect of parental separation on sibling relationship quality would be significantly more positive, like in this study. This could be because parental separation can be interpreted as some sort of relief, as an end to the many interparental conflicts, and in high-conflict intact families, the interparental conflicts will continue to negatively influence the relationships within the family system (Poortman & Voorpostel, 2009). The results of the current study also indicate that in intact families there is a negative relationship between interparental conflict and sibling relationship quality, and in separated families there is no relationship between these variables. The presence of this interaction effect corresponds with the hypothesis that there is indeed an interaction effect between the two independent variables. A possible explanation for this effect can be that all variables (family structure, interparental conflict, and sibling relationships) are a part of the family system (Jenkins et al., 2005). Within this system, the different subsystems influence one another. Therefore, it makes sense that the variables family structure and interparental conflict combined have a significant effect on the sibling relationship, and that they reciprocally reinforce one another. An explanation for the direction of this interaction effect is that parental separation can lead to more sibling

warmth, comfort, support and stability (Hallberlin, 2015; Sheehan et al., 2004). The current study shows that this kind of sibling support is steady in separated families, regardless of the amount of interparental conflicts. However, in intact families the sibling relationship quality is negatively influenced by interparental conflict, which means that sibling support in intact families might not be as steady.

To summarize, the current study has shown that interparental conflict has no effect on the sibling relationship in separated families. In intact families, interparental conflicts have a small, negative effect on sibling relationship quality. While comparing both family structures, there is no difference in sibling relationship quality when interparental conflict is not included. Interparental conflict itself seems to have a negative effect on sibling relationship quality, when family structure is not included.

All the conclusions and statements made in the current study are based on data randomly collected from schools throughout the Netherlands, with a large sample of $N = 1632$. Therefore, the external validity is adequate for generalising the results to different populations or samples in the Netherlands. However, the data used for the current study was retrieved in 2006 and is relatively dated for research purposes. So, the generalisation must be done with caution.

There are multiple factors that can be taken into account for future research. First, the nature of interparental conflict (for example: financial conflict, conflict regarding upbringing) is not included in this study, since the current study only focused on the amount of interparental conflict in general. The nature may or may not be of influence on the effect interparental conflict has on sibling relationship quality, because different types of conflict may be experienced differently by the children involved. This is not studied in the current study, so no conclusions can be drawn. Future research concerning this concept can deepen the scientific knowledge regarding the influence of interparental conflict on sibling relationship quality. Another recommendation for future research is that the influence of interparental conflict with stepparents can be included. Children may or may not experience conflict between parent and stepparent differently than when it is between both biological parents. One study has found that there is no significant effect between children's perception of interparental conflict for stepfamilies and intact families (Amato, 1987). This result is relatively dated, so it might be valuable to examine this effect again. A final recommendation for future research is the inclusion of birth order in the analyses. Research has already stated that older siblings can act as surrogate parents, and that younger siblings are more agreeable (Sulloway, 2001). This effect of birth order might influence the

response of siblings to parental separation and interparental conflict. This is not studied in the current research, so no conclusions can be drawn.

Unfortunately, this study also contains some limitations. The conclusions are based on relatively small effect sizes. The cohesion between interparental conflict and sibling relationship quality must be interpreted with caution. This also applies for the interaction effect of interparental conflict and family structure on sibling relationship quality. The small effect sizes limit the external validity for the current research. Also, the distribution of groups was not equal, with the intact families being a larger group than the separated families. Another limitation is the fact that a rather dated dataset has been used for the study. The data was collected in 2006. It may be possible that a recent set of data would lead to different results, due to cognitive changes in individual development and overall changes in beliefs, thoughts and opinions about conflict and sibling relationships. This can be influenced by the increase of separation of parents, which may be experienced as less inflicting and more normal over the years.

However, the strengths of the study are also worth mentioning. All the assumptions of the analysis were met, and a large sample has been used. This increases the power of the study. The large sample sizes also increases the reliability of the research. The current study indicated that interparental conflict has a negative influence on sibling relationship quality in intact families. Thanks to the current findings, it is now known that previous mentioned preventive interventions should probably focus on reducing interparental distress in intact families, to decrease the spilled-over negative consequences on the sibling relationship. Subsequently, the data has been collected from different types of secondary schools throughout the Netherlands. This increases the generalizability of the current study and its results. This also makes the current study more representative concerning the perceptions, regarding the research variables, of siblings who did not participate in the study.

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