Is joint physical custody in the best interests of the child? Parent–child relationships and custodial arrangements

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Hogeschool PXL
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Is Joint Physical Custody in the Best Interests of the Child?
Parent-Child Relationships and Custodial Arrangements.

Kim Bastaits and Inge Pasteels
PXL University College: Social Work-Research
Vilderstraat 5 – E002
3500 Hasselt
Belgium
Abstract

When thinking about custodial arrangements after a divorce, there has been a shift from sole custody (mainly by mothers) to joint physical custody after a divorce. In certain countries, joint physical custody has even become the primary, legal custodial arrangement. Joint physical custody, whether implemented in legislation or not, is believed to be in the best interests of the child, as children can shape a post-divorce relationship with both their mother and father. Nevertheless, many studies on joint physical custody focus only on child outcomes. This study aims to investigate (1) whether custodial arrangements matter in addition to the parental divorce for parent-child relationships and (2) whether joint physical custody provides a better framework for parent-child relationships than sole custody arrangements. The study adds to existing literature by including both the mother-child relationship and the father-child relationship. Moreover, joint physical custody is not only compared to sole maternal custody, but also to sole paternal custody.

Using a dyadic subsample of Belgian parents and children from the Divorce in Flanders (DiF) dataset (N = 623), we compare two indicators of the parent-child relationship (parent-child communication and parenting) for children with married parents, with children in joint physical custody, sole maternal custody and sole paternal custody. The results indicate that (1) the custodial arrangements after divorce affect parent-child relationships, in addition to the divorce, with regard to both open and problematic father-child communications and the support and control of children by mothers and fathers, and (2) joint physical custody, compared with sole custody (either by the mother or father) provides a better framework to shape a post-divorce parent-child relationship with both parents in terms of open communications and support.

Keywords: custodial arrangements, divorce, fathers, joint physical custody, mothers, parent-child relationship
Introduction

Although a separation or divorce ends a partner relationship, if children are involved, it does not end the parental relationships. The relationship between the partners might be over, but they remain in a relationship with each other as parents of their child or children. (Amato & Rezac, 1994; Marquet, 2007). The parental relationships need to be reorganized (Melli, 2000) between the two parents as well as between each parent and the child(ren). The latter need to shape a post-divorce parent-child relationship. This fits within the family process paradigm (Cavanagh, 2008), which states that changes in family structure lead to alterations in family roles and relationships.

An important part of the reorganization involves the division of the time each parent spends with the child. Whereas sole maternal custody after divorce used to be the norm, more emphasis is now placed on spending an (approximately) equal amount of time with each parent (Nielsen, 2015a; Sodermans et al., 2013), known as joint physical custody. This stems from the belief that both parents are equally important for children, and it is believed to be in the child’s best interests to maintain a sufficient level of contact with both parents after a divorce. Joint physical custody is mostly defined as children who spend between 30-35 and 65-70 percent of their time with either parent (Baude et al., 2016; Nielsen, 2014). However, the principle of joint physical custody is not the primary, legal custodial arrangement in many countries. To our knowledge, it is only the case in Belgium, Sweden, Australia, and certain states of America (Carlsund et al., 2013; Smyth & Moloney, 2008; Sodermans et al., 2013).

As this study relies on Belgian data, it is important to understand the background of this legislative change in Belgium. Until 1995, children of parents who got divorced in Belgium usually stayed with the mother as the father was granted visitation rights. But as gender norms have shifted with mothers and fathers both becoming breadwinners as well as important actors in child rearing (Lamb, 2000; Mortelmans, 2008), parents (especially fathers) demanded to stay involved in children’s lives after a divorce. A first step was taken in 1995, with the introduction of joint legal custody in the Belgian divorce legislation (Act of 13 April 1995, Moniteur Belge 24 May 1995), in which both parents share parental responsibilities and should make jointly decisions about their children after divorce (Senaeve, 1995). Additionally, given that “legislators in Belgium seemed to recognize the benefits for children in maintaining a strong relationship with both parents” (Sodermans et al., 2013, p. 824), Belgian divorce legislation introduced the law on joint physical custody in 2006 (Act of 18 July 2006, Moniteur Belge 4 September 2006) as the preferred custodial arrangement for children after a parental divorce (Martens, 2007; Vanbockrijck, 2009). This new law gave legislative legitimacy to the equality of mothers and fathers after divorce. This new legislation “was designed to promote the continuation of the bond between children and both their parents, to enhance the predictability of judicial decisions, and to diminish the number of parenting disputes over children’s matters that went to court” (Vanassche et al., 2017, p.546). So, while the end goal of the Belgian law is to benefit the child, legislation aims to reach
this by means of maintaining a relationship with both parents, which is one of the main protective factors for children’s well-being during and after parental separation (Amato, 2000).

Since the introduction of joint physical custody many scientists have investigated whether it truly is “in the best interests of the child.” These studies started in the 1980s and 1990s and are still ongoing. At certain points in time, several researchers have tried to bring the results of different studies together in overviews or meta-analyses of literature, for example Bauserman (2002, 2012), Nielsen (2011, 2013, 2014, 2015a, 2015b, 2017), and Baude and colleagues (2016). Mainly concentrating on children’s well-being, these overviews and meta-analyses indicate that joint physical custody can be in the best interests of the child (except in certain cases which we will address in the overview of the literature).

The relationship of the child with both parents is less frequently the topic of scientific research regarding joint physical custody. Indicators that are used often refer to conflicts of loyalty or attachment (Baude et al., 2016). Different authors have emphasized the need for further studies on the parent-child relationships in joint physical custody (Baude et al., 2016; Nielsen, 2014). Therefore, the current study focuses on communication (both open and problematic) as well as support and control as indicators of the parent-child relationships in different custodial arrangements, compared with parent-child relationships in families where parents are still married, and between joint physical custody and sole custody arrangements. Moreover, we adopt a gender inclusive perspective, by investigating aspects of both the mother-child relationship and the father-child relationship. In addition, we concentrate not only on sole maternal custody, but also on sole paternal custody. This goes beyond previous research that mainly treats sole maternal or joint physical custody as a dichotomy.

We aim to answer two research questions in this study: (1) Does the custodial arrangement have an impact on parent-child relationships in addition to the parental divorce? (2) Does joint physical custody provide a better framework for parent-child relationships than sole custody arrangements? To this end, data from the multi-actor1 Divorce in Flanders (DiF) survey is analyzed. This dataset is ideally suited to addressing our research questions, as divorce rates in Belgium (of which Flanders is the Dutch speaking part) are amongst the highest of all European countries (Eurostat, 2015) and Belgium has also had a legal preference for joint physical custody since 2006 (Sodermans et al., 2013), as mentioned before. Therefore, a substantial number of joint physical custody families are included in the dataset. Moreover, a comparison with families that are still married can be made, since intact families also participated in the survey. A dyadic approach is possible due to the available data of both parents and children.

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1 Multi-actor data refer to data that are collected with different actors, in this specific dataset different actors from the same family scheme, i.e. parents, grandparents, children, stepparents,...
Joint Physical Custody and the Parent-Child Relationship

Although early research on parent-child relationships after divorce—and especially father-child relationships—extensively concentrates on the contact between parent and child, research in recent decades indicates that it might not be the frequency or quantity of contact that is important for the child, but rather how parents and children spend their time together (e.g. Bastaitis et al., 2012; Holt, 2016; King & Sobolewski, 2006). Nevertheless, both the prevalence of contact and the time spent together remain necessary conditions to shape the post-divorce parent-child relationship. This is illustrated by different studies on parental time and its impact on parent-child relationships (e.g. Cashmore et al., 2008; Fabricius et al., 2012). The association between the amount of time spent together and shaping the parent-child relationship can be explained by the parental resource theory (Thomson, Hanson, & McLanahan, 1994), which states that parents have two resources to give their children: money and time. Money allows parents to sustain their children, whereas time allows them to be involved with their children and build strong parent-child relationships.

There is still an ongoing debate—both in civil society and the scientific community—about how much time is sufficient to shape a post-divorce parent-child relationship. This is where the custodial arrangement becomes of note. When making decisions on how much time the child should spend with a parent, this is intrinsically linked to both parent-child relationships, as shown by the parental resource theory (Thomson, Hanson, & McLanahan, 1994). Although the majority of the studies regarding custodial arrangements concentrate on the well-being and adjustment of the child, some recent research has focused on the parent-child relationship using relatively large and representative samples. These studies focus on various indicators of the parent-child relationship. First, there are studies that concentrate on the overall evaluation of the parent-child relationship by using the overall evaluation of the quality of this relationship. A second type of studies concentrate on indicators of parenting, often starting from the theoretical framework of Baumrind (1991). She considers parenting as two dimensions: offering support (i.e. love affection,...) and control (i.e. boundary setting). Based on those two dimensions, she defines four parenting styles: authoritative parenting with high support and high control, authoritarian parenting with low support both high control, permissive parenting with high support but low control and uninvolved patenting with low support and low control. A third indicator is parent-child communication. Although most studies only consider the difficulties in communication, Barnes and Olson (1982) stress the importance of measuring both open and problematic communication as these are two different sides of communication. Open communication refers to how easy children can open up to their parents whereas problematic communication refers to the level of conflict communication between the parent and the child.

Shapiro and Lambert (1999) investigated the father-child relationship between non-resident and co-resident fathers using a large national sample of fathers in the U.S. This relationship was measured at
time 1 and time 2, and the results indicate that fathers who divorced between the two time points and shared residential child care, had a better relationship with their child at time 2 than fathers who divorced between the two time points and became the non-residential parent. Campana and colleagues (2008) concentrated on parenting styles and the custodial arrangement, using information for 518 children between 10 and 18 years old. They found that mothers with sole custody and mothers in joint physical custody arrangements are more likely to be authoritative, whereas mothers with non-residential custody are more likely to be permissive. Fathers with sole custody are also more likely to be authoritative, whereas non-resident fathers and those sharing joint physical custody are more likely to be permissive. Bastais and colleagues (2014, 2015) also concentrated on parenting styles, but only those of divorced fathers, again using information for children between 10 and 18 years old. Their findings reveal that fathers with joint physical custody or sole custody are more likely to be authoritative or authoritarian, whereas non-residential fathers are more likely to be permissive or uninvolved. Bjarnasson and Arnarsson (2011) used a large sample of children from different Western European countries to compare parent-child communication (for both mothers and fathers) between different custodial arrangements, using children from married families as the reference category. Their results indicate that children find it more difficult to communicate with the non-resident parent (mainly the father) than with the resident parent. By contrast, children in joint physical custody have no more difficulties communicating with their mother and only a small risk of having more difficulties communicating with their father compared with children from married families. Carlsund and colleagues (2013) also studied parent-child communication in relation to custodial arrangements for Swedish children between 11 and 15 years old. Their bivariate results indicate that the mother-child communication and the father-child communication barely differ between children from two-parent homes and children in joint physical custody, whereas they do differ for children in sole custody, who reported more unsatisfying parent-child communication. Bergström and colleagues (2013) used a Swedish national sample of children between 12 and 15 years old and found that the parent-child relationship in both joint physical custody and sole custody was always worse than in nuclear families.

As these empirical studies provide results for numerous indicators, various authors have brought these (and other) results together in literature reviews or meta-analyses. Although they mainly focus on the well-being of the child, the parent-child relationships are also included, but to a lesser extent. A meta-analysis by Bauserman (2012) concentrated specifically on the father-child relationship, and indicates that children in joint custody (both legal and physical) have better relationships with their father and have more involved fathers than children in sole custody. The meta-analysis of Baude and colleagues (2016) focused on a broader range of family relationship indicators (e.g. loyalty conflict and attachment) but shows no significant difference between joint physical custody and sole custody (mostly sole maternal custody), probably due to heterogeneous sub-indicators. In a literature review of the research on custodial arrangements, Nielsen (2014) reports that children from joint physical custody families
have better relationships with their parents than those with sole maternal custody. Moreover, the parent-child relationships of children in joint physical custody are found to be similar to those of children from intact families.

Nevertheless, these literature reviews and meta-analyses have not resulted in sufficient clarity, as the results of the relevant studies are somewhat mixed and scattered. Whereas some studies compare joint physical custody families with intact families, others compare them with sole custody families, mostly sole maternal custody. Some studies focus on indicators of the father-child relationship, some on indicators of the mother-child relationship, some on indicators of both, and for some others, it is not clear where the focus lies. Moreover, none of these studies, to our knowledge, formally test whether the custodial arrangement has an additional impact on the parent-child relationships, next to the parental divorce. Given that divorce is a stressful family transition (Amato, 2000), it might always affect both parent-child relationships negatively. Therefore, it might be that the divorce is what matters, and not necessarily the custodial arrangement. Consequently, this should be tested first. Whether it is a selection mechanism or a causation mechanism (Amato, 2000) that ensures children of still married parents have a stronger relationship with both their mother and their father does not really matter. If the relationship of children with both parents who are still married is equivalent to the relationship of children with both parents who are divorced, regardless of the custodial arrangements, then there are no grounds to prefer one custodial arrangement or the other. Therefore, the first part of this study aims to formally test whether custodial arrangements differ regarding the mother-child and the father-child relationship compared with still married families. We hypothesize (H1) that the custodial arrangement will have an effect in addition to the divorce, given the importance of the amount of contact that stems from the parental resource theory (Thomson, Hanson, & McLanahan, 1994).

The second step in this research, if the first hypothesis holds, is to examine which custodial arrangement provides the best framework to maintain a relationship with both parents. If custodial arrangements are shown to differ from each other regarding the parent-child relationships, it is important to examine how much time spent with parents is enough for a child to maintain a relationship with them. Therefore, the second aim of this study is to investigate whether joint physical custody does indeed provide a better framework for children to maintain a relationship with both their mother and father compared with sole custody arrangements; as is theoretically and legally assumed. Again based on the importance of the amount of contact (Thomson, Hanson, & McLanahan, 1994) and the importance of the number of overnight stays (Cashmore et al., 2008; Fabricius et al., 2012) we hypothesize (H2) that joint physical custody does provide a better framework than sole custody arrangements.

Although we hypothesize that joint physical custody might provide a better framework for mother-child and father-child relationships, we clearly want to state that it might not be appropriate in every situation and for all children after a parental divorce. As pointed out by Warshak (2014), when there is a “history
of partner violence, credible risk of neglect, physical abuse, sexual abuse, psychological abuse toward a child, manifestations of restrictive gatekeeping such as persistent and unwarranted interference with parenting time” (Warshak, 2014, p. 24). Moreover, one might also consider other custodial arrangements for children with special needs. Smyth and colleagues (2003) list a number of conditions that might shape joint physical custody arrangements into a better framework for children after a divorce. These include “geographical proximity, child-focused arrangements, a commitment by everyone to make joint physical custody work, family friendly work practice and an ability to maintain a ‘business-like’ functioning relationship with the other parent” (Smyth et al., 2003, p. 55). Lowenstein (2002, p. 103) also indicates that joint physical custody can be most effective when “parents communicate, co-operate and consider the welfare of the children first.” However, Nielsen (2017) points out that parents with joint physical custody do not necessarily have less conflict and cooperate more than those with sole custody. The findings in her review indicate that conflict in joint physical custody does not affect children any more adversely than in sole custody. Moreover, a good parent-child relationship can mediate the negative impact of parental conflict on children’s well-being. A study by Fabricius and Luecken (2007) has even revealed that no interaction between time spend with the father and parental conflict could be found, indicating that spending time with the father is beneficial for the father-child relationship in both high-conflict and low-conflict families.

Methods

Data

To answer our research questions, we analyze a subsample of the Divorce in Flanders (DiF) dataset. This stands out from other Belgian datasets due to its multi-actor, multi-method design. It includes information on partners (both still married and divorced), the parents of the partners, the partners’ children aged 10 and above (if any), and in the case of divorce, any new partners. The partners in the (former) marriage (1/3 were still married and 2/3 were divorced) were contacted after random selection from the National Register. They served as the primary actors and provided contact information for the secondary actors: Parents, children, and new partners (where applicable). All these actors were interviewed: Partners and children in a face-to-face computer assisted interview, and parents and new partners using a paper and pencil questionnaire or a web survey. Data collection took place between October 2009 and December 2010. The overall response rate was 42.2% (N = 6365), which is in line with that of other European multi-actor surveys (Arránz Becker et al., 2012; Dykstra et al., 2005). Specific response rates were 39.5 percent for partners and 43.4 percent for ex-partners. For resident children, response rates of 71.6 percent in intact marriages and 51.8 percent in non-intact marriages were obtained (Pasteels et al., 2011).
We selected a subsample of residential children between 10 and 18 years old (following the example of McLeod et al., 2007) and their parents (the either still married or divorced partners/primary actors). If multiple children were suited to engage in the survey, one child was selected at random (Pasteels et al., 2011). The responding parent was either the mother or the father and was in all cases the biological or adoptive parent. This resulted in a dyadic subsample with information of both the parents and the children. Several restrictions were made for this specific subsample. As we examine the parent-child relationships as the dependent variable, contact between the parents and the child is a necessary condition. Therefore, we excluded all children who did not have any contact with either their mother (n = 7) or their father (n = 46). Furthermore, as the custodial arrangement is the other characteristic of interest, we also excluded all parent-child dyads in which information on the custodial arrangement was missing (n = 23) or invalid (n = 8). Further, children who were not effectively residential with either parent (33 percent or fewer overnight stays with each parent) and lived somewhere else the majority of the time, were also excluded from the subsample due to the small number (n = 10). This resulted in an analytic subsample of 623 parents and children, with parents reporting on the custodial arrangement and the background characteristics, and children reporting on the parent-child relationships.

Measurements

Indicators of the parent-child relationship. For our purposes, two different indicators of the parent-child relationship are included, based on information provided by the children. First, parent-child communication is measured using both subscales of the Parent-Adolescent Communication Scale designed by Barnes and Olson (1982). These subscales measure two latent concepts: Open communication and problematic communication. Example items for open communication are “I find it easy to discuss problems with my mother/father” and “It is very easy for me to express all my true feelings to my mother/father.” Example items for problematic communication are “My mother/father has a tendency to say things to me that would be better left unsaid” and “My mother/father insults me when she/he is angry with me.” Children rated each set of items on a seven-point scale ranging from 1 (strongly disagree) to 7 (strongly agree), for mothers and fathers separately. For the five-item open communication subscale, four items were retained after a confirmatory factor analysis. The same items were retained for mothers and fathers, with good factor loadings (between 0.58 and 0.85 for mothers and between 0.66 and 0.91 for fathers). The confirmatory factor analysis for open communication revealed a good fit ($\chi^2(18) = 77.15$; RMSEA = 0.07; CFI = 0.96; SRMR = 0.04), after an error covariance was freed between one similarly worded indicator in the latent construct of mothers and fathers. For the four-item problematic communication subscale, three items were retained after a confirmatory factor analysis. These three items were the same for mothers and fathers, and had good factor loadings (between 0.65 and 0.82 for mothers and between 0.60 and 0.88 for fathers). The confirmatory factor analysis for problematic communication showed a good fit ($\chi^2(7) = 22.07$; RMSEA = 0.06; CFI = 0.98;
SRMR = 0.02), after an error covariance was freed between one similarly worded indicator in the latent construct of mothers and fathers.

Second, parental support and control, both dimensions of parenting, are included in the analysis. Children rated the five-item subscale on support and the five-item subscale on control—taken from the Parenting Style Inventory II (Darling & Toyokawa, 1997)—on a five-point scale ranging from 1 (strongly disagree) to 5 (strongly agree), for mothers and fathers separately. “I can count on my mother/father to help me out if I have a problem” and “My mother/father and I do things that are fun together” are example items of the subscale of support. For the subscale of control, example items are “If I don’t behave myself, my mother/father will punish me” and “My mother/father points out ways I could do better”. After excluding one item for both mothers and fathers, a confirmatory factor analysis for the subscale of support showed good factor loadings (between 0.53 and 0.83 for mothers and between 0.55 and 0.81 for fathers) as well as a good fit ($\chi^2(19) = 47.80$; RMSEA = 0.05; CFI = 0.98; SRMR = 0.03). For the five-item control subscale, three items were retained and showed adequate factor loadings (between 0.47 and 0.96 for mothers and between 0.59 and 0.94 for fathers). These three items were the same for mothers and fathers. After an error covariance was freed between one similarly worded indicator in the latent construct of mothers and fathers, the confirmatory factor analysis of control revealed a good fit ($\chi^2(7) = 14.75$; RMSEA = 0.04; CFI = 0.99; SRMR = 0.03).

**Custodial arrangements.** We assigned each child in this study to a specific custodial arrangement based on a double custodial calendar filled out by the parent. In this calendar, the parent indicated all of the days and nights that the child stayed with him or her, as well as all of the days and nights that the child stayed with the other parent, based on a normal month (i.e., no holidays). In line with previous studies using the DiF dataset (Bastaits et al., 2014; Bastaits et al., 2015; Pasteels et al., 2015; Sodermans et al., 2013), we distinguish three custody arrangements based on overnight stays: Sole maternal custody (the child stays more than 66% of the nights with the mother and 33% or fewer of the nights with the father; n = 234), sole paternal custody (the child stays more than 66% of the nights with father and 33% or fewer of the nights with mother; n = 30), and joint physical custody\(^2\) (the child stays at least 34% and at most 66% of the nights with either parent; n = 138). Children whose parents were still married, are assigned to the reference category of married parents (n = 221).

**Control variables.** Characteristics of the child, the mother, and the father are included as control variables. We use information provided by the parents for all the characteristics. For children, age (mean age = 14.32) and gender (50.24% boys) are included in the analysis as control variables. For mothers, both age (mean age = 42.48) and educational level (11.97% lower-secondary or lower, 41.59% upper-secondary & 46.44% higher education) are included. For fathers, also age (mean age = 42.48) and educational level (17.43% lower-secondary or lower, 47.23% upper-secondary & 35.34% higher

\(^2\) These cut-off points also fall between those used by Baude et al. (2016) in their meta-analysis.
education) are included. We selected these control variables, since the divorce-stress-adjustment theory of Amato (2000) and corresponding literature review states that these are important moderators, mainly for children’s well-being, but also for the parent-child relationship. Other factors could of course play a role, but as this is a cross-sectional dataset, it is difficult to rule out reciprocal relationships between the dependent variables and control variables like parental conflict, parental well-being, child well-being, ...

**Analytic Strategy**

To answer our research questions, we use structural equation modelling (SEM). As our data includes both children and parents, it was organized in a dyadic manner (Pasteels, 2015), as proposed by Kenny and colleagues (2006). Therefore, each data line represents a dyad, containing information on both the parent and the child. This dyadic dataset is used for the estimation of the SEM models with MLR (Maximum Likelihood Robust for non-normal data) as an estimator (Brown, 2006).

Statistical analysis using Mplus 6 software (Muthén & Muthén, 2010) was carried out in four stages. First, confirmatory factor analyses were conducted for all dependent, latent constructs. The results for these confirmatory factor analyses are presented in the measurements section. Second, measurement models of all the latent constructs were estimated, in order to investigate the relationships between them.

The results of these measurement models are presented in the first part of the results section. Third, nested structural equation models were constructed in order to estimate the impact of the divorce and possible additional impact of the custodial arrangements on the parent-child relationships (see hypothesis 1). Four different models were estimated in order to investigate parental gender differences:

- In model 1a, all paths between the custodial arrangements and the latent constructs of the mother-child relationship as well as the father-child relationship are set equal (= the custodial arrangement does not matter in addition to divorce, for either the mother-child or the father-child relationship);
- In model 1b, only paths between the custodial arrangements and the latent constructs of the mother-child relationship are set equal (= the custodial arrangement does not matter in addition to the divorce for the mother-child relationship);
- In model 1c, only paths between the custodial arrangements and the latent constructs of the father-child relationship are set equal (= the custodial arrangement does not matter in addition to the divorce for the father-child relationship).
- In model 2, paths between the custodial arrangements and all the latent constructs of the parent-child relationship—both maternal and paternal—are estimated freely (= the custodial arrangement matters in addition to the divorce, for both the mother-child and the father-child relationship). A statistical comparison between all model 1 and model 2 types was carried out using the Satorra and Bentler chi-square difference test (Muthén & Muthén, 2005).

Lastly, structural equation models for only the children of divorced parents in different custodial arrangements were estimated in order to examine hypothesis 2.

Studies on nonresponse bias showed that women, the higher educated and divorcees with better post-divorce relationships with their ex-partner are more likely to participate (Pasteels, 2015). Consequently,
in our analyses we used the most appropriate weighting coefficients to adjust for this bias. All models were weighted using information about gender, marital year and year of divorce available in the sampling frame. Individual characteristics as age and gender of children or educational level of parents could not be used in the calculation of the weighting coefficients for the DiF-dataset since auxiliary information was not available for the target population of married and divorced people of the DiF-study (Pasteels, 2015).

**Results**

**Measurement Models**

Figure 1 shows the measurement model for parent-child communication, including both open and problematic communication with mothers and fathers. In line with the confirmatory factor analyses for open and problematic communication, paths between the latent constructs and their indicators are consistently high (≥0.59). As mentioned in the measurements section, two error covariances were freed between similarly worded items for mothers and fathers. The open communication constructs for mothers respectively fathers are significantly and positively correlated with each other, as are the problematic communication constructs for mothers respectively fathers. In contrast, the open communication constructs are significantly but negatively correlated to the problematic communication constructs for both mothers and fathers, as open and problematic communication are two opposite concepts. A small negative (but still significant) correlation can be found between the open communication construct for fathers and the problematic communication construct for mothers. This measurement model shows an adequate fit (RMSEA = 0.06; CFI < 0.09; SRMR < 0.08).

**Figure 1: Measurement model for parent-child communication**
The measurement model for parental support and control for both mothers and fathers is shown in Figure 2. In this model, paths between the latent constructs and their indicators are sufficiently high (≥0.47). An error covariance between the same item for mothers and fathers of the control construct was freed, as mentioned in the measurements section. Significant and positive correlations between maternal support and paternal support, as well as between maternal control and paternal control, can be found. Furthermore, a small (but significant) positive correlation between maternal support and paternal control is revealed. This measurement model fits the data well (RMSEA < 0.06; CFI < 0.09; SRMR < 0.08).

**Figure 2: Measurement model for parental support and control**

Structural Equation Models

In the first part, structural equation models with children and parents from married families as the reference category were carried out in order to investigate the first hypothesis: whether the custodial arrangement affects the parent-child relationship of both mothers and fathers in addition to the divorce. Therefore, nested models were estimated. These models were estimated for parent-child communication and parental support, and controlled separately. The children and parents in still married families are always used as the reference group.

The results of the comparison of the nested structural equation models regarding parent-child communication are shown in Table 1. The chi-square difference tests reveal that setting only the parameters of father-child communication free (model 1b) is the best fitting model. This indicates that the custodial arrangement does not matter in addition to the divorce for mother-child communication,
but does matter for father-child communication after divorce. In comparison with children of still married fathers, children in sole maternal custody have significant less open communication with their father, whereas children in sole paternal custody have significant more open communication with their father. No differences for joint physical custody or problematic father-child communication were found.

The results of comparing the nested structural equation models for parental support and control in order to test hypothesis 1 are shown in Table 2. The chi-square difference tests reveal that the free model (model 2) is the preferred one. Therefore, the custodial arrangement matters with regard to the support and control of both mothers and fathers, in addition to the divorce. This model reveals that children living in sole maternal custody experience less paternal support and control than children living in married families. Children living in joint physical custody arrangements experience less maternal and paternal control compared with children in married families. Children living in sole paternal custody experience less support from the mother but more support from the father, compared with children living in married families.

In the second part, we only focus on the children of divorced parents in order to investigate which custodial arrangement provides a better framework for post-divorce parent-child relationships. We hypothesized that joint physical custody would provide the best framework, compared with sole paternal or maternal custody (hypothesis 2). From the previous results, we already know that for communication and support, joint physical custody families do not differ significantly from married families, except that they receive less control from both their mother and their father. As we did not compare joint physical custody with other custodial arrangements, we take this next step and estimate structural equation models for children of divorced families only, using children in joint physical custody as the reference category. The results for parent-child communication are shown in Table 3. Significant differences are only found for open parent-child communication. Children living in sole maternal custody communicate less openly with their (non-residential) father, in comparison with children in joint physical custody. Children in sole paternal custody communicate less openly with their (non-residential) mother, but more openly with their (residential) father in comparison with children in joint physical custody families. The model shows a good fit.

For parental support and control, significant differences are only found for parental support, as shown in Table 4. The same pattern is visible as for parent-child communication. Children in sole maternal custody receive less support from their (non-residential) father, whereas children in sole paternal custody receive less support from their (non-residential) mother, in comparison with children in joint physical custody. Furthermore, children in sole paternal custody receive more support from this (residential) father than children in joint physical custody families. This model also shows a good fit.
Table 1: Satorra and Bentler chi-square difference tests for models of parent-child communication

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<tr>
<th>Baseline model</th>
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<th>Trd</th>
<th>Adf</th>
<th>p-value</th>
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<td>Model 1a</td>
<td>Model 2</td>
<td>49.20</td>
<td>8</td>
<td>&lt;.001</td>
<td>Model 2 Free model</td>
</tr>
<tr>
<td>Fully constrained</td>
<td>Free model</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model 1b</td>
<td>Model 2</td>
<td>8.27</td>
<td>4</td>
<td>.082</td>
<td>Model 1b Mothers constrained</td>
</tr>
<tr>
<td>Mothers constrained</td>
<td>Free model</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model 1c</td>
<td>Model 2</td>
<td>35.62</td>
<td>4</td>
<td>&lt;.001</td>
<td>Model 2 Free model</td>
</tr>
<tr>
<td>Fathers constrained</td>
<td>Free model</td>
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<td></td>
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</tbody>
</table>

Table 2: Satorra and Bentler chi-square difference tests for models of parental support and control

<table>
<thead>
<tr>
<th>Baseline model</th>
<th>Other model</th>
<th>Trd</th>
<th>Adf</th>
<th>p-value</th>
<th>Preferred model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model 1a</td>
<td>Model 2</td>
<td>65.51</td>
<td>8</td>
<td>&lt;0.001</td>
<td>Model 2 Free model</td>
</tr>
<tr>
<td>Fully constrained</td>
<td>Free model</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model 1b</td>
<td>Model 2</td>
<td>18.34</td>
<td>4</td>
<td>0.001</td>
<td>Model 2 Free model</td>
</tr>
<tr>
<td>Mothers constrained</td>
<td>Free model</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model 1c</td>
<td>Model 2</td>
<td>46.38</td>
<td>4</td>
<td>&lt;0.001</td>
<td>Model 2 Free model</td>
</tr>
<tr>
<td>Fathers constrained</td>
<td>Free model</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>
Table 3: Structural equation model for parent-child communication – divorced families only

<table>
<thead>
<tr>
<th></th>
<th>Open mother-child communication</th>
<th>Open father-child communication</th>
<th>Problematic mother-child communication</th>
<th>Problematic father-child communication</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>SE</td>
<td>B</td>
<td>SE</td>
</tr>
<tr>
<td>Custody (ref: Joint physical custody)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sole mother custody</td>
<td>-0.02</td>
<td>0.10</td>
<td>-0.50</td>
<td>0.14</td>
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<tr>
<td>Sole father custody</td>
<td>-0.52</td>
<td>0.26</td>
<td>0.57</td>
<td>0.20</td>
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<tr>
<td>Gender of child (ref: boy)</td>
<td>0.03</td>
<td>0.09</td>
<td>-0.29</td>
<td>0.12</td>
</tr>
<tr>
<td>Age of child</td>
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<td>0.02</td>
<td>-0.06</td>
<td>0.03</td>
</tr>
<tr>
<td>Age of mother</td>
<td>-0.00</td>
<td>0.02</td>
<td>-0.02</td>
<td>0.02</td>
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<tr>
<td>Education level of mother (ref: upper-secondary)</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Lower-secondary or lower</td>
<td>0.20</td>
<td>0.16</td>
<td>0.13</td>
<td>0.19</td>
</tr>
<tr>
<td>Higher education</td>
<td>-0.22</td>
<td>0.10</td>
<td>0.03</td>
<td>0.14</td>
</tr>
<tr>
<td>Age of father</td>
<td>-0.02</td>
<td>0.01</td>
<td>0.01</td>
<td>0.02</td>
</tr>
<tr>
<td>Education level of father (ref: upper-secondary)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lower-secondary or lower</td>
<td>-0.11</td>
<td>0.12</td>
<td>0.20</td>
<td>0.17</td>
</tr>
<tr>
<td>Higher education</td>
<td>0.13</td>
<td>0.11</td>
<td>0.25</td>
<td>0.15</td>
</tr>
<tr>
<td>Goodness of fit</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RMSEA</td>
<td>0.05</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>CFI</td>
<td>0.94</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>SRMR</td>
<td></td>
<td>0.04</td>
<td></td>
<td></td>
</tr>
<tr>
<td>( \chi^2(169) )</td>
<td></td>
<td>312.50</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p<.05  **p<.01  ***p<.001
### Table 4: Structural equation model for parental support and control – divorced families only

<table>
<thead>
<tr>
<th></th>
<th>Maternal support</th>
<th>Paternal support</th>
<th>Maternal control</th>
<th>Paternal control</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>SE</td>
<td>B</td>
<td>SE</td>
</tr>
<tr>
<td>Custody (ref: Joint physical custody)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sole mother custody</td>
<td>0.02</td>
<td>0.06</td>
<td>-0.25</td>
<td>0.07</td>
</tr>
<tr>
<td>Sole father custody</td>
<td>-0.40</td>
<td>0.18</td>
<td>*</td>
<td>0.33</td>
</tr>
<tr>
<td>Gender of child (ref: boy)</td>
<td>0.06</td>
<td>0.05</td>
<td>*</td>
<td>-0.12</td>
</tr>
<tr>
<td>Age of child</td>
<td>-0.04</td>
<td>0.01</td>
<td>**</td>
<td>-0.03</td>
</tr>
<tr>
<td>Age of mother</td>
<td>0.00</td>
<td>0.01</td>
<td>-0.01</td>
<td>0.01</td>
</tr>
<tr>
<td>Education level of mother (ref: upper-secondary)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lower-secondary or lower</td>
<td>0.01</td>
<td>0.09</td>
<td>-0.04</td>
<td>0.11</td>
</tr>
<tr>
<td>Higher education</td>
<td>-0.10</td>
<td>0.06</td>
<td>0.01</td>
<td>0.07</td>
</tr>
<tr>
<td>Age of father</td>
<td>0.00</td>
<td>0.01</td>
<td>0.00</td>
<td>0.01</td>
</tr>
<tr>
<td>Education level of father (ref: upper-secondary)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lower-secondary or lower</td>
<td>-0.10</td>
<td>0.07</td>
<td>0.04</td>
<td>0.10</td>
</tr>
<tr>
<td>Higher education</td>
<td>0.04</td>
<td>0.06</td>
<td>0.17</td>
<td>0.08</td>
</tr>
<tr>
<td>Goodness of fit</td>
<td>RMSEA = 0.04</td>
<td>CFI = 0.95</td>
<td>SRMR = 0.04</td>
<td>$\chi^2$(170) = 257.41</td>
</tr>
</tbody>
</table>

*p<.05  **p<.01  ***p<.001
Discussion

The current research aimed to establish (1) whether the custodial arrangement has an impact in addition to the parental divorce and (2) if joint physical custody does provide the best framework for shaping and maintaining both parent-child relationships after divorce. As such, it adopted a gender inclusive perspective, focusing on indicators of both the mother-child relationship and the father-child relationship and comparing joint physical custody with married families, sole maternal, and sole paternal custody.

With regard to the first aim, the results indicate that the custodial arrangement does indeed affect the parent-child relationship, in addition to the divorce. This is true for parental support and control for both mothers and fathers, as well as for open and problematic father-child communication. These results are mainly in line with the parental resource theory (Thomson, Hanson, & McLanahan, 1994), as they indicate that contact and time spent with a parent clearly affects the parent-child relationship. Moreover, these findings also illustrate that, in addition to the possibly stressful divorce process, the custodial arrangement has a unique impact on the parent-child relationship.

For the second aim, the results indicate that joint physical custody, in comparison with sole (maternal or paternal) custody provides a better framework for post-divorce parent-child relationships with both parents in terms of open communication and support. In situations of sole custody, open communication with and support of the non-residential parent are always significantly worse. The open communication with and support of the residential parent in sole maternal custody arrangements is comparable with that of mothers in joint physical custody, but for sole paternal custody arrangements, the open communication with and support from fathers is better than for fathers in joint physical custody. No significant differences are found for problematic parent-child communication and parental control. Nevertheless, these results indicate that while sole custody can affect the relationship with the residential parent positively, it also affects the relationship with the non-residential parent negatively. As such, these findings provide support for the assumption that joint physical custody provides a better framework than sole custody to shape and maintain a post-divorce parent-child relationship with both the mother and father.

Of course the results of this study should be considered in the light of its limitations. First, our results are based on a cross-sectional dataset. Only a snapshot of the parent-child relationships at a certain point in time is provided, rather than a description of the evolution of these relationships and the role of the custodial arrangements in this. This means that causal conclusions about the impact of a specific custodial arrangement on parent-child relationships could not be drawn, only associations between custodial arrangement on the one hand and outcomes on specific indicators of the parent-child relationship on the other hand were explored. Future research could adopt a longitudinal approach to overcome this limitation. Second, custodial arrangements that are rather rare stay out of the picture because their prevalence is still too low although the DiF-study is among the largest European surveys.
about divorce of last decade. For example, we could not include “bird’s nest” custody (where children remain in the same house, with parents alternatively staying there). These alternative arrangements might be worth studying. A research design with a targeted sample could overcome this shortcoming. Third, the association between the custodial arrangement and the parent-child relationship might differ by age of the child. As our age groups were often too small to stratify our analysis by age of the child, it was not possible to address possible differences between a group of younger and older children respectively in the association we explored. Fourth, the DiF sample only includes (formerly) married parents, leaving (formerly) cohabiting parents out of the equation. So, no information on parents that separate after a non-married cohabitation was available in the DiF dataset and no other Belgian dataset was suited for this study. Still, with cohabitation on the rise in Western societies, separation after cohabitation has also become a reality. Future research could focus on custody arrangements and the parent-child relationship for this specific group of separated parents.

Despite these limitations, this study provides additional insight into child custody arrangements after divorce and how they are related to the parent-child relationship with both the mother and father. The results show that the custodial arrangement has an impact on the mother-child relationship (for some indicators) and especially the father-child relationship (for all indicators). Therefore, a change in the family structure can lead to a change in family roles, in which time division plays an important role. Moreover, the results also indicate that joint physical custody provides the best framework to shape and maintain a relationship with both the mother and father. This does not mean that all parents and children in a joint physical custody arrangement will automatically have strong relationships or that joint physical custody is a “one size fits all” solution for all families (e.g. the exceptions mentioned in the literature review). The results merely indicate that the chances of maintaining a parent-child relationship with both the mother and father are higher in joint physical custody, and comparable with those of children in married families. Overall, this research sheds light on the complex relation between quantity of contact and the parent-child relationship.
References


