



Joint Physical Custody and Mothers' Well-Being. An Analysis of Life Satisfaction, Depressiveness, and Stress

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Abstract

Although research has shown that separation or divorce can have negative consequences for mothers, only a few empirical studies have explored the association between joint physical custody and mothers' well-being. To close this research gap, this study investigated how child physical custody arrangements (joint physical custody vs. sole physical custody) are related to three dimensions of maternal well-being: life satisfaction, depressiveness, and stress. With data from the Family Models in Germany (FAMOD) survey, OLS regression models were estimated for 996 residential mothers living in post-separation families. The results of the statistical analysis showed that mothers with joint physical custody reported statistically significantly higher levels of life satisfaction as well as lower levels of depressiveness and stress than mothers with sole physical custody. However, when controlling for the mothers' socio-demographic characteristics and family relationships, the differences between mothers in joint and sole physical custody families disappeared, indicating that mothers' post-separation well-being cannot be explained by the physical custody arrangement these mothers practiced. Instead, factors like the mother's partnership status, the mother-child relationship, and the interparental relationship were more strongly related to maternal well-being. When testing interaction effects between the physical custody arrangement and the individual control variables, only one interaction was significant in predicting mothers' levels of life satisfaction and stress: the interaction between the physical custody arrangement and the age of the child living in this arrangement. This finding suggests that having joint physical custody is only beneficial for mothers with older (i.e., school-aged) children.

Keywords Depressiveness · Joint physical custody · Life satisfaction · Maternal well-being · Post-separation families · Stress

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How parents and children adjust to separation or divorce is an issue that has received considerable attention from researchers, with empirical studies repeatedly showing that the dissolution of a family can have negative repercussions for the well-being of its members (Amato, 2000, 2010; Amato & Keith, 1991; Lorenz et al., 2006; Williams & Dunne-Bryant, 2006). Because the majority of children in Western countries continue to live mostly or exclusively with their mother after separation or divorce (Cancian et al., 2014), research on parents' post-separation well-being has concentrated mainly on parents in sole physical custody families; that is, on traditional care arrangements involving a residential mother and a non-residential father (Bauserman, 2012). However, in recent years, there have been significant changes in the frequency of contact between children and their non-residential fathers, with fathers spending more time with their children after family dissolution (Amato et al., 2009; Kalmijn, 2016; Westphal et al., 2014). These changes translated in the rising prevalence of joint physical custody; that is, a new care arrangement in post-separation families in which children live alternately in their parents' households, and spend significant amounts of time with both parents. The threshold for joint physical custody is usually met when children spend at least 30% of the time with each parent (Steinbach, 2019), whereas children with a sole physical custody arrangement live less than 30% of the time with their non-residential parent. Thus, the main distinction between a joint and sole physical custody arrangement is that in the former, the differences in the amounts of time children spend with their residential and their non-residential parent are smaller. Especially in symmetric joint physical custody (i.e., an arrangement with a 50:50 division), in which children have two residential parents with whom they live for equal amounts of time.

Previous research has shown that joint physical custody is either unrelated to or positively related to different dimensions of child well-being. In those studies in which scholars observed significant positive relationships, these were usually weak (for overviews, see Berman & Daneback, 2020; Steinbach, 2019). However, despite the importance that well-being has for individuals and the claim made by advocates of joint physical custody that parents – and particularly mothers – in post-separation families will benefit from this new parental care arrangement (Bauserman, 2012), only a handful of empirical studies have explored parents' well-being in joint physical custody families. The available body of literature is comparatively extensive with respect to Germany, a country in which only few post-separation families practice joint physical custody (Steinbach et al., 2021; Walper et al., 2021). As of the time of writing, five studies from Germany have investigated parental well-being in joint physical custody arrangements, focusing on different dimensions of post-separation well-being (Augustijn, 2022c, d, e; Köppen et al., 2020; Steinbach & Augustijn, 2022b). However, some of these studies suffer from noteworthy limitations: Three used data with which one cannot clearly distinguish between joint and sole physical custody, two did not differentiate between mothers and fathers when examining parental well-being, and one focused exclusively on fathers. This lack of empirical knowledge about mothers' well-being as a function of child physical custody arrangements is unfortunate, given that research has shown that a separation or divorce can have particularly negative consequences for mothers (Bernardi et al., 2018; Dinescu et al., 2018).

The Present Study

The present study makes a significant contribution to the literature on joint physical custody by examining the link between physical custody arrangements in post-separation families and three dimensions of residential mothers' well-being: life satisfaction, depressiveness, and stress. Data for the statistical analyses come from the Family Models in Germany (FAMOD) study, which was carried out between 2019 and 2020. OLS regression models are estimated for 996 residential mothers living in different types of post-separation families. The main goal of the analysis is to investigate potential differences between mothers with joint and sole physical custody, thus answering the following research question: Is joint physical custody related to the well-being of residential mothers? By considering three crucial indicators of maternal well-being, this study aims to give a most comprehensive and nuanced overview of mothers' well-being in post-separation families. However, when analyzing a potential link between joint physical custody and mothers' well-being, it is also important to take into consideration that physical custody arrangements are not independent of other processes and relationships within post-separation families, including the parent-child relationship and the relationship between the separated parents. It has, for instance, been shown that physical custody arrangements are associated with the quality of parent-child communication (Sodermans et al., 2015), and it has been proposed that joint physical custody has the potential to lower the frequency of interparental conflict (Bauserman, 2012). Other studies have, in turn, provided evidence that parent-child relationships (e.g., Nomaguchi, 2012; Shek, 1997) and the interparental relationship (e.g., Lamela et al., 2016; Symoens et al., 2014) are linked to an individual's post-separation well-being. Thus, by extensively controlling for a variety of the mothers' socio-demographic characteristics and family relationships, this study provides important insights into how family processes and family relationships influence each other, and it adds to our knowledge about the relevance of selection processes. Finally, by estimating interaction effects between the physical custody arrangement and the mothers' socio-demographic characteristics and family relationships, this study also addresses the question of which factors moderate the association between the physical custody arrangement and mothers' post-separation well-being.

Background

Theoretical Considerations: The Relationship between Joint Physical Custody and Mothers' Well-Being

It is well-known that a separation or divorce can have negative effects on a person's well-being, particularly when minor children are involved in the process (Amato, 2000; Leopold, 2018; Leopold & Kalmijn, 2016). In light of this

well-established knowledge, several arguments can be made that having joint physical custody rather than sole physical custody may enhance a mother's well-being. The first argument is that in joint physical custody arrangements, the mother is able to share parenting responsibilities more equally with the father. As residential mothers with sole physical custody "must fulfill all household roles and responsibilities alone" (van der Heijden et al., 2016, p. 469), they are at high risk of being overburdened by the demands that result from having the sole responsibility for parenting (van der Heijden et al., 2016). In contrast, a mother with joint physical custody is not burdened with having the sole responsibility for parenting, because the father is more involved in the children's lives, and thus assumes a greater share of the parenting responsibilities. As a result, mothers practicing joint physical custody should have a lower risk of experiencing stress and feelings of time pressure than residential mothers with more traditional post-separation care arrangements (Bauserman, 2012; Bernardi et al., 2018; van der Heijden et al., 2016).

Given that parents spend more time and energy on child care tasks in relation to how much time they spend with their children (van der Heijden et al., 2016), joint physical custody may also provide mothers with more time that they can use for activities other than childrearing. Bakker and Karsten (2013) have argued that activities of daily life can be divided into separate domains: care, work, and leisure. As individuals have to fulfil a number of social roles in these domains, their commitments compete for time and energy, which forces them to make trade-offs and sacrifices in daily life. Because mothers in joint physical custody families live with their children only "part-time" (Bakker & Karsten, 2013, p. 173) and share parenting responsibilities (i.e., commitments in the care domain) more equally with the father, they have more time to invest in the work domain without experiencing the same levels of stress that mothers with sole physical custody tend to experience. As a result, mothers who practice joint physical custody should find it easier to pursue paid employment, and, once employed, to balance child care and paid employment more effectively. As it is well-established that a divorce can have a negative impact on mothers' economic well-being (for an overview, see Mortelmans, 2020), having joint physical custody should positively affect mothers' overall well-being.

Furthermore, mothers in joint physical custody families may benefit from having more leisure time than mothers in sole physical custody families (Sodermans et al., 2015). Divorce is known to lead to a decline in social contacts, which can negatively affect a person's level of social integration (Kalmijn & van Groenou, 2005). The time mothers with sole physical custody invest in child care not only reduces the time they can invest in the labor market, but also the time that they can otherwise spend on leisure activities, including participating in social or recreational activities. In contrast, mothers with joint physical custody who do not live with their children for as much as half of the time (Sodermans et al., 2015) are burdened with fewer child care tasks, and thus have more time to engage in leisure activities that may contribute to higher levels of well-being.

A related point is that mothers who practice joint physical custody may also benefit from the greater amount of leisure time they gain from this arrangement by having higher chances of repartnering than mothers with sole physical custody

(Vanassche et al. 2015). To understand why physical custody arrangements may affect a mother's likelihood of finding a new partner, two main factors need to be considered, that is, opportunities and attractiveness (e.g., Becker, 1981; Ivanova et al., 2013). The more opportunities a person has, the greater his or her chances of finding a suitable partner (de Graaf & Kalmijn, 2003). As practicing joint physical custody gives mothers more leisure time – and, thus, more time to engage in social activities – having a joint physical custody arrangement may provide mothers with more opportunities to meet a new partner. As well as giving mothers additional opportunities to socialize, practicing joint physical custody may enhance their attractiveness for potential partners. A person's attractiveness is positively related to his or her chances of repartnering, and there is evidence that a woman's attractiveness is significantly reduced if she has residential children from an earlier relationship (de Graaf & Kalmijn, 2003). Consequently, practicing joint physical custody rather than sole physical custody may increase a mother's level of attractiveness, as she is childless for considerable periods of time. In addition, Bauserman (2012) has argued that practicing joint physical custody may benefit mothers' well-being by reducing levels of conflict between the separated or divorced parents. Based on the assumption that family dissolution creates the perception among parents that “one parent must ‘win’ and the other ‘lose’ custody” (Bauserman, 2012, p. 466) when sole physical custody is the likeliest outcome of negotiations regarding the physical custody of their children, the mother and the father sharing physical custody equally may eliminate the parents' incentives to fight over physical custody of their children.

However, practicing joint physical custody may also negatively affect mothers' well-being. For instance, joint physical custody involves more coordination and communication between the parents than sole physical custody (van der Heijden et al., 2016), because the children live alternately in two parental households, and have to move repeatedly from one household to the other. Consequently, joint physical custody requires the separated or divorced parents to have more contact, which may increase the risk of interparental conflicts occurring, or exacerbate the severity of existing conflicts. Thus, living in a joint physical custody family may be a chronic stressor for mothers. In addition, as coordinating their children's household transitions can be “logistically complex” (Smyth et al., 2003, p. 55), extensive planning efforts on the part of the parents may be required (Spruijt & Duindam, 2009). These circumstances can elicit feelings of time pressure in the parents (van der Heijden et al., 2016), which can negatively affect their well-being.

Moreover, Fritzell et al. (2020) have pointed out that joint physical custody may have detrimental effects on maternal well-being precisely because this care arrangement means that mothers are spending less time with their children than they would in a sole physical custody arrangement. Instead of feeling liberated, mothers may see having less time with their children after family dissolution as a loss, and the resulting “sense of loneliness, longing, and of not always knowing how the child fares may translate into worry and/or anxiety” (Fritzell et al., 2020, p. 8). In addition, mothers – and especially mothers who were their children's main caregiver prior to the separation or divorce – may worry about the parenting skills of their former partner, and fear that their children are not being adequately cared for due to, for example, the father's inexperience with the children. These concerns may also

apply to the physical safety of children if the father has problems with substance abuse, depression, or even violent behavior. Furthermore, when the father has a new partner, mothers may be concerned about the parenting skills of this person and the influence she has on the children (Fehlberg et al., 2011). Thus, mothers' concerns about the well-being of their children in joint physical custody arrangements may be particularly acute when interparental conflicts occur frequently.

Empirical Findings: The Relationship between Joint Physical Custody and Mothers' Well-Being

Previous research on parental well-being in joint physical custody arrangements is scarce, and the few findings that exist need to be interpreted with caution, due to, for example, the varying prevalence of joint physical custody across countries, and the different measurements empirical studies used that reduce the generalizability of the findings. However, in line with the theoretical arguments discussed in the previous section, studies have provided some evidence that practicing joint physical custody indirectly increases mothers' well-being by providing them with more time to invest in paid employment, as well as in social and recreational activities. For instance, a study from France demonstrated that having joint physical custody increased mothers' chances of being employed by 16 percentage points compared to those of mothers who had sole physical custody, and that having joint physical custody had particularly strong positive effects on women who were far removed from the labor market (Bonnet et al., 2018). In addition, based on data from the Netherlands, Bakker and Karsten (2013) reported that mothers in joint physical custody arrangements found it easier than single mothers to combine paid employment and child care due to their differing levels of commitment in the two domains.

A study from Belgium that investigated the link between joint physical custody and parents' social well-being further confirmed the assumption that having joint physical custody has a positive impact by showing that joint physical custody arrangement had a liberating effect on mothers. The findings indicated that mothers with joint physical custody were better able to engage in activities outside of the home and to maintain social relationships than mothers in sole physical custody arrangements (Botterman et al., 2015). Relatedly, research has also found a causal relationship between joint physical custody and mothers' chances of repartnering, with divorced mothers who were the main caregiver of their children being less likely to repartner than women who shared physical custody with the father after family dissolution (Schnor et al., 2017). With respect to psychological well-being, Bergström et al. (2014) found significant differences in the life satisfaction levels of parents in Sweden, with parents in joint physical custody families having higher life satisfaction than parents in sole physical custody families, but lower life satisfaction than parents in nuclear families. Furthermore, evidence from the Netherlands on parents' experiences of stress in different types of post-separation families showed that for mothers, practicing joint physical custody was associated with less time pressure than practicing sole physical custody (van der Heijden et al., 2016).

In contrast to these findings, a study from Sweden that examined the association between physical custody arrangements and mothers' well-being found that practicing joint physical custody was not related to lower levels of worry and anxiety. Indeed, the results seemed to suggest that mothers with joint physical custody arrangements were more likely to experience mental health problems than mothers with sole physical custody arrangements (Fritzell et al., 2020). Similarly, Sodermans et al. (2015) did not detect a significant direct link between physical custody arrangements and parents' subjective well-being in Belgium (measured through an index of depressive feelings, self-esteem, and life satisfaction). However, they found that physical custody arrangements indirectly affected parental well-being. For instance, their analysis showed that mothers in joint physical custody families had less open communication with their children than mothers with sole physical custody, which was associated with a decline in well-being.

Similar to the international body of research, studies from Germany on mothers' well-being in joint physical custody families have reached different conclusions. One study, for example, found that residential mothers who practiced asymmetric joint physical custody had higher economic well-being than their counterparts with sole physical custody. Although mothers with symmetric joint physical custody also reported higher economic well-being than those with sole physical custody, the difference between the two groups was explained by factors other than the physical custody arrangement (Augustijn, 2022c). In another study, Köppen et al. (2020) differentiated between residential parents (i.e., parents whose child was living only with them), parents with a joint physical custody arrangement, and non-residential parents (i.e., parents whose child was living only with the other parent). The results of their analysis showed that after controlling for socio-demographic characteristics, the physical custody arrangement was not significantly related to the parents' satisfaction with their family life and financial situation. Resident parents with asymmetric joint physical custody were also found to report fewer feelings of loneliness than their counterparts with sole physical custody. However, these differences could be fully explained by the observation that joint physical custody parents had more time for friends and were less depressive than sole physical custody parents (Steinbach & Augustijn, 2022b). Finally, a longitudinal study from Germany that examined the well-being of residential parents found no significant relationship between joint physical custody and levels of depressiveness and life satisfaction (Augustijn, 2022e).

Method

Data and Analytical Sample

Statistical analyses draw on data from the Family Models in Germany (FAMOD) study (Steinbach et al., 2020), a quantitative survey designed to investigate health and well-being in joint physical custody families living in Germany. The study is a convenience sample of 1554 nuclear and post-separation families; data was collected between July 2019 and January 2020. The FAMOD study has a multi-actor design that collected data from four participant groups, including a parent with whom a

selected target child younger than 15 was officially registered (*anchor respondent*; interviewed using computer-assisted personal interviewing (CAPI)). To be included in the survey, all anchor respondents had to have at least one biological child who qualified as a target child and who – in the case of a post-separation family – was required to have contact with both biological parents at the time of data collection.

The FAMOD sample is stratified by family model and age of the target child. Based on the respondents' self-assessment of their family model, the FAMOD sample consists of 321 nuclear families, 622 sole physical custody families, and 611 joint physical custody families. In addition, approximately half of the sample is composed of families with children aged 0 to 6, while the other half is composed of families with children aged 7 to 14. If more than one of the respondents' children met the selection criteria for target children, "the selection of the target child was based on two criteria. First, children in joint physical custody were preferred to children in sole physical custody, and children in sole physical custody were preferred to children in nuclear families. Second, the interviewer was supposed to select the youngest child" (Steinbach et al., 2020, p. 3).

Because families who practice joint physical custody are still quite rare in Germany (4–5% of all post-separation families Walper (2016)), these families had to be oversampled. Anchor respondents in the FAMOD study were recruited by professional interviewers from Kantar Public who identified joint physical custody families and used snowball procedures to find rare subgroups among the group of joint physical custody families, for example, families with very young children. Thus, FAMOD is currently the only survey in Germany that includes enough post-separation families that practice joint physical custody while also allowing researchers to clearly differentiate between different types of physical custody arrangements (for more detailed descriptions of the FAMOD study, see Kantar Public, 2020; Steinbach et al., 2020).

All statistical analyses are based on data provided by the anchor respondents. The total number of anchor respondents interviewed in the FAMOD survey was 1554. Because the focus of this analysis is on mothers who practiced either sole or joint physical custody, all nuclear families ($n=321$) and all fathers ($n=154$) were deleted from the analytical sample. In a next step, all female respondents who reported that they did not have any contact with the target child's biological father ($n=42$), or who had never been in a relationship with the father ($n=35$), were excluded from the analysis. Due to the low numbers of mothers who were the target child's non-residential parent, these respondents were likewise excluded from the statistical analysis, on the grounds that the low case numbers do not allow for comparisons ($n=3$). Finally, missing values on the dependent variables were deleted ($n=3$). The few missing values on the covariates ($n=16$) were imputed by means of multiple imputation, using a chained equation procedure with 30 imputations (MICE; missing values are filled in iteratively by using a sequence of univariate imputation methods¹). Hence, the final analytical sample consists of 996 mothers in sole or joint physical custody families. Of these respondents, 47.7% reported to have been legally

¹ For additional information, see STATA manual entry "Impute missing values using chained equations" (<https://www.google.de/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwiX8NnGn6P6AhXXgv0HHaqSCL8QFnOECaWQAQ&url=https%3A%2F%2Fwww.stata.com%2Fmanuals%2Fmimputechained.pdf&usq=AOvYaw14SafTeWezqPtz5zU9ChL2>).

married to the target child's biological father, whereas 52.3% had never been married to the father of their child. The longest relationship between the biological parents lasted 29 years, with an average duration of 9.1 years (for all respondents); the average duration of marriage was 10.9 years. The time since the parents separated or divorced ranged between 0 and 15 years, with an average of 3.9 years.

Measures

Dependent Variables

The three dependent variables are the mothers' life satisfaction, depressiveness, and stress perception. To measure levels of general *life satisfaction* in the mothers, a global 11-point rating scale (see, for example, Schimmack et al., 2010) – adapted from the German Socio-Economic Panel (SOEP) – was used: “All in all, how satisfied are you with your life at the moment?” The response categories for this item ranged from *very dissatisfied* (1) to *very satisfied* (11), with higher values indicating higher life satisfaction. Using a single item to assess levels of life satisfaction seems appropriate given that these measures “are a reasonably valid and common way to measure general life satisfaction” (Richter et al., 2017, p. 20). For an assessment of the mothers' levels of *depressiveness*, this analysis uses the State-Trait-Depression Scales (STDS; Spaderna et al., 2002), a scale that consists of five items that measure negative mood and five items that measure positive mood. These items include statements like: “My mood is melancholy;” “I am depressed;” and “I feel secure.” The response format for each item ranged from *almost never* (1) to *almost always* (4). For the purposes of this study, a mean scale was computed, with higher values indicating higher levels of depressiveness (Cronbach's $\alpha=0.84$). The mothers' experiences of *stress* were assessed by seven items: “I can get a proper sleep;” “I am under time pressure;” “I wish to have more time for myself;” “I feel that others put me under time pressure;” “I cannot deal with important issues properly due to lack of time;” “I cannot recover properly from illness due to lack of time;” and “I am under so much time pressure that my health suffers.” The response categories for each item ranged from *completely agree* (1) to *completely disagree* (5). All seven items were combined to a mean scale that measured increasing levels of stress (Cronbach's $\alpha=0.85$).

Independent Variable

The independent variable – the *physical custody arrangement* – was assessed through a residential calendar that covered a typical month (see Sodermans et al., 2014). One advantage of using a residential calendar is that it makes it possible to discern between sole and joint physical custody arrangements with high certainty and without relying completely on the parents' self-assessment of their physical custody type. In a first step, the anchor respondents were asked to indicate with the help of a two-week calendar how much time the target child was living with the biological mother and the biological father (i.e., Monday/day, Monday/night, Tuesday/day,

etc.). Was the pattern in the first two weeks not the same as in the last two weeks of the month, the respondents were asked to fill out a second calendar that displayed two additional weeks.² If the selected target child was living between 0% and 29% of the time with the father over the course of a typical month, the family was having a *sole physical custody arrangement* (0). By contrast, if a target child was spending 30% to 50% of the time with the father, the family was having a *joint physical custody arrangement* (1). In the few cases in which the physical custody arrangement could not be determined with the help of the residential calendar (e.g., because the respondents did not fill out the calendar properly), the respondents' self-assessment was used ($n = 37$). To establish whether a family had sole or joint physical custody, the anchor respondents were asked the following question: "Where does [child] currently live?" The response categories were *exclusively with me (at least 70% of the time)* (1); *mainly with me, but also at least 30% of the time with the other biological parent* (2); *approximately the same amount of time with me and the other biological parent (about 50:50)* (3); *mainly with the other biological parent, but also at least 30% of the time with me* (4); *exclusively with the other biological parent (at least 70% of the time)* (5); *somewhere else* (6); and *child is deceased* (7). Because the analytical sample consists exclusively of residential mothers, a family was having a sole physical custody arrangement if the mother indicated that the child was living exclusively with her. Correspondingly, a child was living in a joint physical custody arrangement if the mother indicated that the child was living either mainly with her or approximately the same amount of time with both parents.

Covariates

The covariates include a variety of socio-demographic and family-related variables that previous research has shown to be important when examining the association between physical custody arrangements and mothers' well-being. The *mother's age* ranged between 20 and 58 years. Based on information about each mother's general school-leaving certificate, respondents were divided into two groups measuring the *mother's educational level*. Respondents with no school-leaving certificate, the lowest formal qualification of Germany's tripartite secondary school system, or an intermediary secondary qualification were having a *low/medium educational level* (0). Respondents who had, at minimum, earned a certificate fulfilling the entrance requirements for a university of applied sciences were having a *high educational level* (1). Furthermore, the *mother's partnership status* was measured with the question: "Do you currently have a partner?" The responses were *no partner* (0) and *partner* (1). The *mother's working hours* were assessed with the question: "What are, on average, your real weekly working hours, including overtime?" The mothers

² Although there are no official definitions of physical custody arrangements, most studies use a threshold of 30% spent with each parent to differentiate between sole and joint physical custody (Steinbach, 2019), including studies from Germany (see, e.g., Augustijn, 2022a, c; Steinbach & Augustijn, 2022a). In addition, the legal system in Germany appears to rely on a 30% threshold to differentiate between physical custody types (e.g., Salzgeber, 2014).

reported working between zero and 50 hours per week. The *age of the target child* ranged from zero to 14 years. The *quality of the mother-child relationship* with respect to the target child was evaluated through the question: "How would you generally describe your relationship with [target child]?" The responses for this item ranged from *very poor* (1) to *excellent* (10). *Coparenting support* on the part of the target child's father was measured using six items: "When the biological father is with your child, he acts like the father you want for your child;" "The biological father can be trusted to take good care of your child;" "The biological father respects the schedules and rules you make for your child;" "The biological father supports you in the way you want to raise the child;" "You and the biological father can talk about problems that come up with raising your child;" and "You can count on the biological father for help when you need someone to look after your child for a few hours." Each item had response categories that ranged from *never* (1) to *very often* (5). For the analysis, all six items were combined to a mean scale, with higher scores suggesting better coparenting support (Cronbach's $\alpha=0.92$). *Interparental conflicts* between the respondent and the target child's father were assessed through five items that measured the frequency of conflicts: "There are tensions or differences of opinion between you and the other biological parent;" "There are heated discussions between you and the other biological parent;" "One of you strongly blames the other;" "You don't want to talk with each other for a while;" and "Arguments get out of hand." The response categories for these items ranged from *never* (1) to *very often* (5). For the analysis, a mean scale was calculated, with higher values indicating higher levels of conflict (Cronbach's $\alpha=0.88$). The descriptive sample statistics for these variables are shown in Table 1.

Analytical Method

All statistical analyses were conducted with STATA version 17. A correlation matrix for all variables can be found in Table 2. To investigate the association between physical custody arrangements and mothers' well-being, OLS regression models were estimated. Table 3 presents the results for mothers' levels of life satisfaction, their feelings of depressiveness, and their experiences of stress. In the FAMOD survey, only one of the anchor respondents' children was selected as a target child over the course of the anchor interview. Correspondingly, FAMOD provides detailed information about only one child in each family, including detailed information about the child's physical custody arrangement from the residential calendar. Given that a single anchor respondent may have had other children living in physical custody arrangements that differed from that of the target child, robustness checks with three subsamples were carried out to account for the possibility that the relationship between the physical custody arrangement of the target child and the mother's well-being may have been distorted by other types of care arrangements. These subsamples consisted of respondents with only one child ($n=568$), respondents with only one child living in a post-separation care arrangement ($n=733$), and respondents who were practicing only one type of physical custody arrangement ($n=984$). Comparing the results of the linear regression models for these three subsamples with the

Table 1 Descriptive sample statistics: percentages or means (standard deviation)

	All post-separation families	Sole physical custody	Joint physical custody
Mother's levels of life satisfaction (1: very dissatisfied - 11: very satisfied)	8.9 (0.1)	8.8 (0.1)	9.1 (0.1)
Mother's levels of depressiveness (1: almost never - 4: almost always)	1.6 (0.0)	1.6 (0.0)	1.5 (0.0)
Mother's levels of stress (1: completely agree - 5: completely disagree)	2.4 (0.0)	2.4 (0.0)	2.2 (0.0)
Physical custody arrangement		61.6	38.4
Mother's age (20-58 years)	36.9 (0.2)	37.0 (0.3)	36.8 (0.3)
Mother's educational level			
Low/medium educational level	57.5	60.1	53.4
High educational level	42.5	39.9	46.6
Mother's partnership status			
No partner	50.4	51.7	48.3
Partner	49.6	48.3	51.7
Mother's working hours (0-50 hours)	27.1 (0.4)	26.5 (0.5)	27.9 (0.6)
Age of target child (0-14 years)	7.7 (0.1)	7.5 (0.1)	7.9 (0.2)
Quality of mother-child relationship (1: very poor - 10: excellent)	9.2 (0.0)	9.2 (0.0)	9.3 (0.0)
Coparenting support (1: never - 5: very often)	3.5 (0.0)	3.3 (0.0)	4.0 (0.0)
Interparental conflicts (1: never - 5: very often)	1.8 (0.0)	1.9 (0.0)	1.7 (0.0)
N	996	614	382

Family Models in Germany (FAMOD)

results for the total analytical sample revealed that the relationship between physical custody arrangements and mothers' well-being did not differ (results are not shown here, but are available upon request); a finding that greatly strengthens the conclusions of this analysis.

Results

The first models in Table 3 show the bivariate relationship between the physical custody arrangement and the respective dimension of maternal well-being (Model 1). The results of these regression models indicate that when examining only the correlation between the physical custody arrangement and the mothers' well-being, residential mothers with joint physical custody reported statistically significantly higher levels of life satisfaction ($\beta=0.11$; $p<0.01$), lower levels of depressiveness ($\beta=-0.11$; $p<0.001$), and fewer experiences of stress ($\beta=-0.13$; $p<0.001$) than

Table 2 Correlation matrix (N=996)

	LS	DP	S	PCA	MA	ME	MPS	MWH	ATC	MCR	CS	IC
Life satisfaction	1.0											
Depressiveness	-0.59	1.0										
Stress	-0.50	0.55	1.0									
Physical custody arrangement	0.11	-0.11	-0.13	1.0								
Mother's age	-0.03	-0.02	0.07	-0.01	1.0							
Mother's educational level	0.02	0.03	0.03	0.07	0.08	1.0						
Mother's partnership status	0.29	-0.22	-0.11	0.03	0.02	-0.06	1.0					
Mother's working hours	0.11	-0.07	0.02	0.06	0.13	0.13	-0.17	1.0				
Age of the target child	-0.06	0.01	0.09	0.05	0.59	-0.01	0.05	0.18	1.0			
Mother-child relationship	0.37	-0.30	-0.31	0.05	-0.09	-0.04	0.04	-0.02	-0.10	1.0		
Coparenting support	0.32	-0.29	-0.34	0.39	-0.08	0.09	0.00	0.14	-0.06	0.17	1.0	
Interparental conflicts	-0.28	0.30	0.33	-0.14	-0.08	-0.04	-0.05	-0.15	-0.10	-0.13	-0.42	1.0

Family Models in Germany (FAMOD); LS life satisfaction, DP depressiveness, S stress, PCA physical custody arrangement, MA mother's age, ME mother's educational level, MPS mother's partnership status, MWH mother's working hours, ATC age of target child, MCR mother-child relationship, CS co-parenting support, IC interparental conflicts

Table 3 OLS regression models: physical custody arrangements and mothers' well-being in post-separation families (standardized coefficients; $N = 996$)

	Life satisfaction			Depressiveness			Stress		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
Joint physical custody (ref.: sole physical custody)	0.11** (0.11)	-0.02 (0.10)	-0.40 (1.31)	-0.11*** (0.03)	0.01 (0.03)	-0.42 (0.34)	-0.13*** (0.05)	-0.01 (0.05)	0.33 (0.60)
Mother's age		0.02 (0.01)	0.02 (0.01)		-0.05 (0.00)	-0.07 (0.00)		0.00 (0.00)	0.02 (0.01)
Mother has a high educational level (ref.: low/medium)		0.01 (0.09)	0.01 (0.12)		0.04 (0.02)	0.02 (0.03)		0.04 (0.04)	0.05 (0.06)
Mother has a partner (ref.: no partner)		0.30*** (0.09)	0.31*** (0.12)		-0.22*** (0.02)	-0.23*** (0.03)		-0.08** (0.04)	-0.08* (0.05)
Mother's working hours		0.13*** (0.00)	0.15*** (0.00)		-0.07* (0.00)	-0.09* (0.00)		0.04 (0.00)	0.05 (0.00)
Age of target child		-0.07* (0.02)	-0.13** (0.02)		0.05 (0.00)	0.10* (0.01)		0.08* (0.01)	0.15** (0.01)
Quality of mother-child relationship		0.31*** (0.05)	0.29*** (0.06)		-0.24*** (0.01)	-0.24*** (0.01)		-0.23*** (0.02)	-0.23*** (0.03)
Coparenting support		0.19*** (0.06)	0.18*** (0.07)		-0.16*** (0.02)	-0.18*** (0.02)		-0.21*** (0.03)	-0.21*** (0.03)
Interparental conflicts		-0.14*** (0.07)	-0.14*** (0.08)		0.19*** (0.02)	0.16*** (0.02)		0.22*** (0.03)	0.23*** (0.04)
Interaction effects									
PCA x mother's age			-0.01 (0.02)			0.06 (0.00)			-0.26 (0.01)
PCA x mother's educational level			0.00 (0.20)			0.05 (0.05)			-0.03 (0.09)
PCA x mother's partnership status			-0.01 (0.20)			0.02 (0.05)			0.00 (0.09)
PCA x mother's working hours			-0.10 (0.01)			0.10 (0.00)			0.03 (0.00)

Table 3 (continued)

	Life satisfaction			Depressiveness			Stress		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
PCA x age of target child			0.18* (0.03)			-0.17 (0.01)			-0.21* (0.03)
PCA x quality of mother-child relationship			0.26 (0.10)			0.04 (0.03)			-0.03 (0.04)
PCA x coparenting support			0.08 (0.15)			0.22 (0.04)			0.12 (0.07)
PCA x interparental conflicts			0.01 (0.16)			0.12 (0.04)			0.00 (0.07)
Constant	8.76*** (0.07)	2.45*** (0.60)	2.94*** (0.73)	1.63*** (0.02)	2.83*** (0.16)	2.91*** (0.19)	2.43*** (0.03)	3.99*** (0.28)	3.75*** (0.34)
Adjusted R ²	0.01	0.31	0.31	0.01	0.23	0.23	0.02	0.23	0.24

Family Models in Germany (FAMOD); *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$; PCA physical custody arrangement

those with sole physical custody. However, after adding all controls to the multivariate regression models (Model 2), the differences between mothers depending on whether they were practicing joint or sole physical custody disappeared, and mothers in post-separation families no longer differed in terms of their life satisfaction ($\beta = -0.02$; $p \geq 0.05$), depressiveness ($\beta = 0.01$; $p \geq 0.05$), and stress perceptions ($\beta = -0.01$; $p \geq 0.05$). Consequently, the results of the analyses demonstrate that the higher levels of well-being observed in mothers who were practicing joint physical custody did not result directly from the physical custody arrangement they were practicing.

Instead, it appears that the mother's partnership status, the quality of the mother-child relationship, and her relationship with the child's father largely explained the observed differences in the well-being of mothers depending on their physical custody arrangement. Mothers with a new partner had higher levels of life satisfaction ($\beta = 0.30$; $p < 0.001$) as well as lower levels of depressiveness ($\beta = -0.22$; $p < 0.001$) and stress ($\beta = -0.08$; $p < 0.01$). A similar pattern can be observed with regard to the quality of the mother-child relationship. A better relationship between the mother and the target child was related to higher levels of maternal life satisfaction ($\beta = 0.31$; $p < 0.001$), lower levels of depressiveness ($\beta = -0.24$; $p < 0.001$), and fewer experiences of stress ($\beta = -0.23$; $p < 0.001$). The results also show that the relationship with the target child's father was significantly related to the mothers' well-being. The more coparenting support on the part of the father, the higher the mothers' life satisfaction ($\beta = 0.19$; $p < 0.001$) and the lower their levels of depressiveness ($\beta = -0.16$; $p < 0.001$) and stress ($\beta = -0.21$; $p < 0.001$). Furthermore, the higher the levels of interparental conflict between the separated or divorced parents, the lower the mothers' life satisfaction ($\beta = -0.14$; $p < 0.001$) and the higher their levels of depressiveness ($\beta = 0.19$; $p < 0.001$) and stress ($\beta = 0.22$; $p < 0.001$).

With regard to the associations between the other covariates and the respondents' well-being, the results show that the mothers' working hours did not predict their experiences of stress, but that they were positively related to their life satisfaction ($\beta = 0.13$; $p < 0.001$) and negatively related to symptoms of depressiveness ($\beta = -0.07$; $p < 0.05$). In addition, the age of the target child was negatively related to the mothers' life satisfaction ($\beta = -0.07$; $p < 0.05$), and positively to their stress levels ($\beta = 0.08$; $p < 0.05$). However, no link was found between the target child's age and the mothers' levels of depressiveness ($\beta = 0.05$; $p \geq 0.05$). Furthermore, no significant association was found between the mothers' well-being and their age, or between the mothers' well-being and their educational levels.

The third models show interactions between the physical custody arrangement and all covariates to determine if the mothers' socio-demographic characteristics and family relationships moderated a potential association between joint physical custody and maternal well-being (Model 3). As we can see, only the interaction between the physical custody arrangement and the age of the target child was statistically significant – and only in predicting mothers' levels of life satisfaction ($\beta = 0.18$; $p < 0.05$) and stress perceptions ($\beta = -0.21$; $p < 0.05$). Figure 1 plots the two significant interactions and helps interpret these findings. The results can be interpreted as follows: When the target child is young (i.e., younger than nine), residential mothers with a joint physical custody arrangement had lower life satisfaction

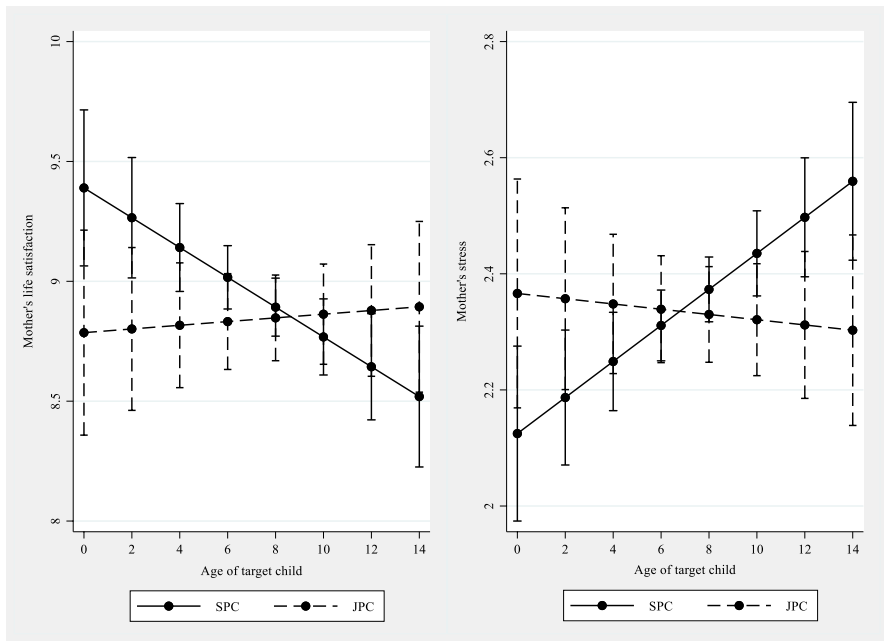


Fig. 1 Interaction Between the Physical Custody Arrangement and the Target Child's Age in Predicting Mother's Life Satisfaction and Stress Perception (95% Confidence Intervals). *Note:* Family Models in Germany (FAMOD); SPC = sole physical custody, JPC = joint physical custody

than their counterparts with a sole physical custody arrangement. However, this pattern changed depending on the age of the child. That is, joint physical custody mothers with a target child that was ten years or older reported higher life satisfaction than sole physical custody mothers. A similar (though reversed) pattern can be observed with respect to mothers' stress perception. Mothers with a joint physical custody arrangement experienced more stress than mothers with a sole physical custody arrangement when their child was younger than seven. Yet, joint physical custody mothers with older children reported fewer experiences of stress than their counterparts with sole physical custody.

Discussion

Although mothers' well-being after separation or divorce has been the focus of numerous studies, most of this research has concentrated on traditional post-separation care arrangements in which the mother is the residential parent and the father the non-residential parent. However, with fathers taking on a more active role in the lives and upbringing of their children after family dissolution (Kalmijn, 2016), the prevalence of joint physical custody has increased in many societies throughout the West (Melli & Brown, 2008; Spruijt & Duindam, 2009). In light of these developments and the small body of literature on this topic, the purpose of the present

study was to fill a research lacuna by examining the link between physical custody arrangements and three dimensions of maternal well-being: life satisfaction, depressiveness, and stress.

The results of the OLS regression models showed that mothers who practiced joint physical custody had significantly higher levels of life satisfaction, lower levels of depressiveness, as well as fewer experiences of stress than mothers with sole physical custody of their children. However, after introducing the mothers' socio-demographic characteristics and various family-related characteristics to the regression models, the previously found differences between mothers with joint physical custody and sole physical custody arrangements did no longer exist. Instead, factors like the mother's partnership status, her relationship with her child, and her relationship with the child's father (i.e., coparenting support and interparental conflict) were more strongly related to the mother's well-being than the physical custody arrangement she practiced in the post-separation period. When estimating interaction effects between the physical custody arrangement and all covariates, we saw that the interaction with the age of the target child was statistically significant – albeit only in predicting mothers' life satisfaction and stress perception, not their symptoms of depressiveness. These findings suggest that mothers who practiced joint physical custody for a young child had lower life satisfaction and higher stress levels than their counterparts with sole physical custody. However, these associations reversed as the age of the target child increased, and mothers who had an older child living in a joint physical custody arrangement seemed to benefit from their care arrangement in terms of well-being (more precisely, their life satisfaction and stress perceptions). Based on these results, it appears that having a joint physical custody arrangement is only beneficial for mothers when the child who is living in this arrangement is older; that is, approximately school-aged.

The findings of the bivariate regression analyses are in line with the findings of previous research, which showed that mothers with joint physical custody tend to have higher levels of well-being than their counterparts with sole physical custody in terms of life satisfaction levels (Bergström et al., 2014) and experiences of stress/time pressure (van der Heijden et al., 2016). However, the present study differs from these earlier studies by showing that the differences between mothers with sole physical custody and joint physical custody disappeared after controlling for a set of family-related factors, including the mother-child relationship and the interparental relationship. Although the results of the individual studies appear to contradict each other, this discrepancy may result from the usage of different sets of control variables, or it may be due to specific social contexts and different shares of joint physical custody families in the countries examined (i.e., Sweden, the Netherlands, and Germany).

However, the results of this study confirm the findings of previous research from Germany, which showed that the relationship between physical custody arrangements and parental well-being can – either fully or partially – be explained by factors other than the physical custody arrangement a post-separation family practices (Augustijn, 2022c; Köppen et al., 2020). Thus, this study indicates that other family processes are more important factors to consider when investigating life satisfaction, depressiveness, and stress among separated or divorced mothers than the

question of whether the mother practices sole or joint physical custody. It remains unresolved, though, as to whether practicing joint physical custody affects family-related factors like the parent-child relationship and the interparental relationship. Previous research by Sodermans et al. (2015), however, suggests that physical custody arrangements are indirectly related to parental well-being by being associated with the quality of parent-child communication.

Strengths and Limitations

This study has several strengths, including the employment of a residential calendar that allowed to distinguish clearly between physical custody arrangements. By using such an instrument to measure physical custody arrangements, scholars can avoid having to rely entirely on how the respondents assess their child's care arrangement. Additionally, by considering three important dimensions of maternal well-being in the statistical analysis, this study was able to provide a comprehensive overview of the association between joint physical custody and mothers' well-being in different types of post-separation families. Finally, the FAMOD study included a comparatively high number of families who were practicing joint physical custody. Thus, the sample size was much larger than those used by several other analyses of this new physical custody arrangement.

But like any other empirical study, this work also has some limitations that should be discussed in some detail. First, the FAMOD survey is a convenience sample, which means that the findings of the present study might not be representative of post-separation families in Germany. The anchor respondents in the FAMOD survey may, for example, be a self-selected group of parents who have several characteristics that positively distinguish them from the general population of parents. However, Steinbach et al. (2020) showed that the anchor respondents who participated in the FAMOD study were quite comparable to parental respondents who participated in national surveys that were representative for the German population of parents regarding some of their socio-demographic characteristics, including health and age, which increases the generalizability of the results. Second, because the FAMOD study was designed as a cross-sectional survey, the causal link between physical custody arrangements and mothers' well-being could not be determined. Third, although a comparison of the bivariate and multivariate regression models suggested that factors like the mother's partnership status, the mother-child relationship, and the interparental relationship may account for differences in well-being between resident mothers with sole or joint physical custody, this study did not carry out mediation analysis to test this assumption and to determine the degree to which these variables mediate the relationship given that such an analysis would have gone beyond the scope of the present study. Thus, future empirical studies are needed to investigate this issue further. Fourth, the number of non-residential mothers in the FAMOD sample was very low. Therefore, this study was only able to investigate the well-being of residential mothers with joint and sole physical custody. However, it would be a significant advance if future studies not only included sufficient numbers of non-residential mothers in their analysis, but also investigated the well-being

of both residential and non-residential fathers with joint physical custody arrangements, as practicing joint physical custody may affect the well-being of fathers, as well as of mothers. For instance, research has shown that in situations in which the mother has sole physical custody, the well-being of the non-residential father can be affected if he loses contact with his children, or if he worries that he will not be able to maintain as much contact with his children as he would like (Bauserman, 2012; Leopold, 2018; Maslauskaitė & Steinbach, 2020).

Furthermore, when examining mothers' well-being in different physical custody arrangements, researchers must always bear in mind that parents with joint physical custody are likely a positively selected group of parents. Previous empirical studies have repeatedly found that parents with joint physical custody have several positive characteristics that parents who practice sole physical custody do not have – particularly in countries with a low prevalence of joint physical custody and with no legal requirements that promote this new post-separation care arrangement (Emery et al., 2005; Poortman & van Gaalen, 2017). For instance, parents in joint physical custody families tend to hold more egalitarian gender role attitudes (Kitterød & Lyngstad, 2012; Poortman & van Gaalen, 2017), have higher educational levels (Juby et al., 2005), and higher incomes (Cancian et al., 2014; Cashmore et al., 2010; Meyer et al., 2017) than parents in sole physical custody families. A positive relationship between joint physical custody and mothers' well-being may, therefore, be the result of self-selection processes among separated or divorced parents – a finding that was to some extent corroborated by the results of the statistical analysis.

Concluding Remarks

In sum, the findings of this study showed that mothers in joint physical custody families who shared parenting responsibilities more equally with their child's father benefited from higher levels of life satisfaction and lower levels of depressiveness and stress. However, the analysis also demonstrated that the conditions under which a certain physical custody arrangement was practiced had more relevance for the mothers' well-being than the physical custody arrangement itself; even though physical custody arrangements likely have an influence on these conditions, and particularly on the quality of family relationships in post-separation families. Moreover, it seems plausible that the association between physical custody arrangements and family-related characteristics like the parent-child relationship and the quality of coparenting support is rather complex, with physical custody arrangements and family relationships mutually influencing each other. Because previous research has shown that parents transmit well-being both directly and indirectly to their children through processes of intergenerational transmission (Augustijn, 2022b; Headey et al., 2014), and that poor well-being in the parents can contribute to a living environment that is harmful for their children's development and well-being (Mensah & Kiernan, 2010; Van Loon et al., 2014), one conclusion scholars can draw from this study is that research should not focus exclusively on how joint physical custody may affect the well-being of children, but should also consider the effects of this arrangement on the well-being of the parents.

Given that the respondents in the FAMOD study were not selected randomly, the findings of this study should be interpreted cautiously, particularly when it comes to guidelines for policy makers and legal practitioners. Despite this limitation, the present study sheds some light on the well-being of resident mothers with joint physical custody in Germany, and has implications with respect to the improvement of mothers' post-separation quality of life. Similar to studies that investigated the relationship between joint physical custody and different dimensions of child well-being (for the German context, see, e.g., Augustijn, 2021a, b; Steinbach & Augustijn, 2022a), this study showed that sharing parenting responsibilities with the father does not seem to harm mothers' well-being, and that joint physical custody should not be rejected automatically as an alternative to more traditional post-separation care arrangements. However, given that parents practicing joint physical custody in Germany may have self-selected themselves into this post-separation care arrangement, the question arises whether joint physical custody is a suitable alternative for all or most post-separation families.

Regardless of the issue of selectivity, the finding that high-quality family relationships – in this particular case, positive mother-child and mother-father relationships – were associated with higher maternal well-being has policy implications with respect to the quality of life in post-separation families more broadly. Based on the assumption that family relationships affect mothers' (and, possibly, fathers' and children's) well-being, policies and interventions should be aimed at improving family relationships in all separated or divorced families. This goal may be achieved by offering parents a broader range of high-quality parental counseling, family counseling, and family therapy. In this respect, Norway may function as a role model for Germany and other countries. In Norway, all separating or divorcing parents with children under the age of 16 have to attend a one-hour-long mediation aimed at, among others, helping parents find a custody arrangement that is suitable for the individual family (Thørnblad & Strandbu, 2018). Adopting similar or extensive measures in Germany may positively affect family relationships and, thereby, improve the quality of life in all post-separation families significantly.

Nevertheless, additional studies on parents' well-being in joint physical custody families are urgently needed to further improve our knowledge about this new physical custody arrangement. This includes studies that conduct mediation analyses to determine more clearly if and how physical custody arrangements affect family relationships and how these relationships may, in turn, affect the well-being of mothers and fathers (or residential and non-residential parents). Moreover, studies are needed to identify other factors that may explain or change the relationship between joint physical custody and parental well-being, and to examine more closely the conditions under which practicing joint physical custody is in the best interest of both parents and children. As for Germany, several research questions remain open, including if and how the parents' socio-economic status moderates the association between physical custody arrangements and the well-being of parents and children, respectively. Another research question that has not been answered sufficiently is what role the parent's and the child's sex – or combinations thereof – play for well-being in post-separation families.

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Data Availability The data that support the findings of this study are openly available at GESIS Data Archive (https://search.gesis.org/research_data/ZA6849; <https://doi.org/10.4232/1.13571>).

Declarations

The study was not presented to a research ethics committee, because an approval was not requested by the German Research Foundation (DFG) due to the de-identified and public nature of the data.

Informed Consent Informed consent was obtained from all individual participants included in the study.

Conflict of Interest The author has no conflicts of interest to declare that are relevant to the content of this article.

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