



Factors Associated with the Joint Physical Custody of European Children

Milla Salin¹ · Daniel R. Meyer² · Mia Hakovirta¹ · Eija Lindroos³

Received: 20 October 2023 / Accepted: 26 July 2024
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Abstract

Understanding patterns of children’s living arrangements (physical custody) in separated families and the factors related to joint physical custody are crucial as custody patterns have significant implications for the well-being of children and parents. In this study we use the 2021 European Union Statistics on Income and Living Conditions Survey (EU-SILC) to provide new evidence of children’s post-separation living arrangements in Europe. Our sample (n=7,461) is restricted to children of separated or divorced parents residing in their mother’s household and having another parent residing outside of the household. We analyze both the individual-level socioeconomic, family-and child-related characteristics, and country-level variables to explain variation in children’s joint physical custody arrangements. We find that joint physical custody is higher among boys and children in the age groups 6–10 and 11–15. We also find that children with more socioeconomically advantaged mothers (higher education, employed, higher income, homeowners) are more likely to have joint physical custody. Importantly, controlling for individual-level characteristics, both the legal and the gender equality context shape the prevalence of joint physical custody, suggesting that country-level policies and norms may be important.

✉ Milla Salin
milla.salin@utu.fi

Daniel R. Meyer
drmeyer1@wisc.edu

Mia Hakovirta
miahak@utu.fi

Eija Lindroos
eiili@utu.fi

¹ INVEST Research Flagship Center and Department of Social Research, University of Turku, Turku, Finland

² Institute for Research on Poverty, University of Wisconsin-Madison, Madison, USA

³ INVEST Research Flagship Center, University of Turku, Turku, Finland

Keywords Child custody · Joint physical custody · Shared care · EU-SILC

Introduction

The family structure and living arrangements of children have undergone significant changes over the past few decades. A substantial number of children are now living apart from one of their parents, due in part to well-known increases in divorce, cohabitation dissolution, and non-marital births in which the parents do not co-reside (Andersson et al., 2017; Biegert et al., 2022; Nieuwenhuis & Maldonado, 2018). One area of potential change for these children about which less is known is the shift from post-separation sole care by mothers (sole physical custody) towards joint physical custody arrangements in which children spend significant amounts of time living with both parents. While definitions vary, joint physical custody can include not only children who spend equal time with each parent but also can involve arrangements in which children spend between 25 and 75% of their time with each parent (e.g., Meyer et al., 2017; Smyth, 2017).

Comparative research using data from 2021 show that in Europe one in five children in separated families have joint physical custody (Hakovirta et al., 2023). There is, however, substantial cross-national variation: in the Nordic countries, Belgium, France, Slovenia and Spain, children are most likely to have joint physical custody. While the lack of comparable definitions and data make a determination of trends challenging, there has been a doubling of the prevalence of joint physical custody in less than 20 years (Hakovirta et al., 2023) and high rates of growth are also seen in the United States (Meyer et al., 2022) and Australia (Smyth & Chisholm, 2017).

Although there is research examining levels of joint physical custody and trends, there is no published comparative research of which we are aware that examines factors related to joint physical custody using recent data in a comparative and multivariate context. Understanding patterns of children's physical custody arrangements and the factors related to joint physical custody are important as custody patterns have significant implications for the well-being of children and parents. Although the direction of causation is challenging to ascertain, joint physical custody has been linked with better socioemotional, psychological, and physical well-being of children and adolescents (e.g., Bergström et al., 2013, 2018; Nielsen, 2018; Steinbach, 2019; Turunen, 2017). Moreover, joint physical custody is positively associated with parents' life-satisfaction and parents with joint physical custody have better co-parenting relationships and fewer interparental conflicts (e.g., Augustijn, 2023).

In this paper, we use the European Income and Living Conditions (EU-SILC) data from 2021 to examine children's joint physical custody arrangements in Europe. We make a novel contribution by using recent data to analyze both country-level characteristics and individual socioeconomic, family-and child-related characteristics, and the relationship between these characteristics and whether children in separated families have joint physical custody. This research has the potential to deepen our understanding of how families are organizing themselves

post-separation and to inform policies and interventions that promote children's and parents' well-being in joint physical custody arrangements across diverse contexts.

Background

Legal Framework for Custody Determination

When parents seek a divorce, decisions are needed about the children's living arrangements; family law sets the context for how these decisions are to be made. In some countries, these same rules govern the separation of nonmarital couples. Decisions can be made by judges, especially if the parents do not agree, or they can be made by parents themselves, sometimes with the help of an intermediary. Even when parents make decisions by themselves, though, they often do so in "the shadow of the law" (Mnookin & Kornhauser, 1979), so the legal framework is important even for voluntary or non-court arrangements.

For much of the twentieth century, a key criterion in most countries for determining children's living arrangement after parental separation was the "best interest of the child," and this was typically assumed to mean exclusive care by the mother. Toward the end of the last century, this began to change. One change was a separation between the authority to make educational, religious, and medical decisions for children (legal custody), and the responsibility for providing day-to-day care (physical custody or placement). Parents could share either or both of these domains; both legal and physical custody could be awarded solely to one parent or to both parents jointly. The legal and policy framework can explicitly acknowledge sharing as a possible outcome or go further and make it a presumption, that is, the first option to be considered.

The relationship between changes in the legal framework and parental behavior is not straightforward. Policy change could come about because parents had already begun to share decision-making or physical custody and wanted legal sanction, or changes in the legal context could spur changes in the level of sharing, or both. Parents may agree to one parent having sole responsibility, even if there is a presumption for shared responsibility, and judges typically have freedom to override presumptions in circumstances like domestic violence, the preferences of older children, or other factors. Finally, policy change is not always implemented immediately and changes to norms take time.

The policy framework in some countries has more support for joint legal custody than joint physical custody (e.g., Augustijn, 2022), and some parents share one domain but not the other, when they differ, typically there is joint legal custody but sole physical custody (Chen, 2015; Seltzer, 1990). However, we generally expect rules favoring joint legal custody over sole legal custody to affect not only rates of legal custody (Chen, 2015), but also to be associated with an increase in joint physical custody, as changes in norms about both parents having responsibilities after separation or a child's right to a relationship with both parents could affect both domains.

Prevalence of Joint Physical Custody

Most research on the prevalence of joint physical custody has focused on individual countries, and it is challenging to compare estimates from different countries. Comparability issues include whether children are the unit of analysis or parents, whether only divorce is considered or also cohabitation dissolution, and the threshold used to differentiate joint physical custody from sole physical custody (see, for example, Smyth, 2017).

Three early studies (Bjarnason & Arnasson, 2011; Steinbach et al., 2021; Zilincikova, 2021) have attempted to use consistent measures of joint physical custody across countries, but these studies use data primarily from the early 2000s. Using Health Behaviour in School-aged Children (HBSC) surveys, Bjarnason and Arnarsson highlighted the substantial variation across more than 30 countries in the percentage of 11, 13, and 15 year olds with approximately equal-time joint physical custody, varying from less than 0.5% of children in these age groups in eight Southern and Eastern European countries to 3–4% in Belgium, Denmark, Iceland and Sweden. Some of the cross-country variation was because there is variation in the proportion of children whose parents do not live together. Steinbach et al., (2021) reanalyzed the same data focusing only on children with separated parents and found that 6% had approximately equal-time joint physical custody; their reanalysis also found substantial cross-country variation. Using a different data source (the Generations and Gender Survey), a smaller number of countries, and children of all ages, Zilincikova (2021) also finds substantial cross-country variation, with much higher rates in Sweden than in four Western European countries (Austria, Belgium, France, and Germany), which were much higher than the rates in four Eastern European countries (Bulgaria, Lithuania, Romania, and Russia).

The most recent research uses data from 2021 from 17 countries in the EU-SILC (Hakovirta et al., 2023). Across 17 countries analyzed, around 12.5% of children in separated families have equal-time joint physical custody, and another 8.2% have “unequal” joint physical custody (defined as more than 1/3 time with each parent but not exactly half). Similar to the earlier research, there is significant variation between European countries, with nearly half of Swedish children with separated parents living in joint physical custody, while in Lithuania and Greece joint physical custody is very uncommon.

Individual and Family Characteristics Associated with Joint Physical Custody

A few prior studies have investigated the factors related to joint physical custody arrangements in the context of separation and divorce, nearly always within a single country. These studies are typically more focused on which characteristics are associated with joint physical custody than on why these characteristics might matter. Earlier studies have identified that at the individual-level various child-related characteristics (Bauserman, 2012; Cancian et al., 2014; Meyer

et al., 2017; Steinbach 2019), socioeconomic characteristics (Augustijn, 2022; Bakker & Mulder, 2013; Bartfeld & Chanda, 2020; Bergström et al., 2018), and family-related factors (Fabricius & Luecken, 2007; Haux & Platt, 2021; Kitterød & Wiik, 2017; Sodermans et al., 2013) are linked to child's physical custody arrangements.

Child Characteristics

Because the primary criterion used to determine custody across countries has been the best interest of the child, some characteristics of children (age and gender) have been identified as potential factors related to joint physical custody arrangements. Evidence on the child's age is mixed, but generally most research has shown that joint physical custody arrangements are less common for younger children (Hakovirta et al., 2023; Juby et al., 2005; Meyer et al., 2017; Steinbach, 2019). This may be because very young children may have greater attachment to their primary caregiver and could struggle with the frequent transitions associated with joint physical custody (Nielsen, 2018). In addition, older children's opinion can be required in the custody determination process, and some teens feel that joint physical custody weakens their friend network (Vanassche et al., 2017). In terms of child's gender, some research shows that joint physical custody arrangements are slightly more commonly used for boys than girls (Bauserman, 2012; Cancian et al., 2014) while recent research shows little consistent influence of child's gender on physical custody outcomes (Meyer et al., 2017).

Socioeconomic and Family Characteristics

There is evidence that the socio-demographic profile of parents practicing joint physical custody differs from sole physical custody families. A consistent finding is that parents with more advantaged backgrounds, such as higher education, higher income, and higher levels of employment, are more likely to have joint physical custody (e.g., Augustijn, 2022; Bakker & Mulder, 2013; Bartfeld & Chanda, 2020; Cancian et al., 2014; Garriga et al., 2021; Juby et al., 2005; Meyer et al., 2017, 2022; Poortman & van Gaalen, 2017; Sodermans et al., 2013; Vanassche et al., 2017; Zilincikova, 2021).¹

Home ownership in many countries is associated with more economic resources, so this may also be related to an increased likelihood of joint physical custody (Kurtz & Blossfeld, 2004). One factor contributing to the economic resource-joint physical custody link is that joint physical custody is more expensive than sole physical custody, as parents need to have sufficient resources in both households

¹ Because those with more resources are often more likely to have joint physical custody, this makes identifying the effect of joint physical custody difficult because better outcomes for children with joint physical custody may merely be the result of these additional resources. Nonetheless, some research has shown that joint physical custody may facilitate mothers' employment (e.g. Bonnet et al., 2022), which could then increase the gap in resources experienced by those with joint physical custody and sole physical custody.

Table 1 Demographic, Legal and Gender Equality Context in 17 European Countries Included in This Study

Country	Percentage of children aged 0–17 living with single parent, 2018 ^a	Introduction of joint custody law ^b	Gender equality index 2020 ^c
Austria	11.4	2001	68.8
Belgium	24.9	1995	74.2
Croatia	9.5	2003	60.7
Czech Rep	13.6	1998	57.2
Cyprus	13.6	1990	57.3
Denmark	20.6	1986	77.8
Estonia	14.6	1995	61.0
Finland	14.5	1983	75.4
France	22.5	2002	75.1
Greece	7.4	2021	53.4
Hungary	20.8	1995	54.2
Italy	14.7	2006	65.0
Lithuania	26.9	2000	60.3
Romania	11.0	2004	53.7
Slovenia	12.2	2004	67.5
Spain	15.6	2005	74.6
Sweden	20.7	1976	83.9

^aFrance 2017. Source: OECD (2023)

^bSources: Boheim et al. (2012); de Blasio and Vuri (2019); Escobedo et al. (2012); Fučík (2020); Hakovirta and Eydal (2020); Kraljic (2008); Kullerkupp (2001); Maslauskaitė and Tereškinas (2017); Nicolaou (1996); Resetar and Berdica (2013); Slabu (2019); Stylianidis (2021); Vanassche et al. (2017); Weiss (2000)

^cSource: European Institute for Gender Equality (2023)

to accommodate children being present a substantial portion of time (Bartfeld & Chanda, 2020; Henman & Mitchell, 2001; Melli & Brown, 1994). Another possible explanation for the link between resources and joint physical custody is that families with more traditional gender roles (fathers as primary breadwinners, mothers as primary carers) continue these roles after separation, so mothers who are not employed and have lower personal earnings are more likely to have sole custody (see e.g. Duvander & Jans, 2009; Westphal et al., 2014). Similarly, those with higher levels of education may have more shared parenting during the union, which may then lead to joint physical custody if the union dissolves. While some research shows the socio-demographic differences in joint physical custody have diminished in countries where joint physical custody has gradually become the default option (Kitterød & Wiik, 2017; Sodermans et al., 2013) other research finds no relationship (see Garriga et al., 2021).

In addition to socioeconomic characteristics, other family-level factors may be associated with the prevalence of joint physical custody. The results for the number of children are mixed, with some studies finding no relationship (e.g., Cancian et al.,

2014), and others finding that one-child families are less likely to have joint physical custody than those with more children (e.g., Juby et al., 2005; Zilincikova, 2021). Another family factor is each parent's (new) partnership status; some research suggests that mothers with new partners are more likely to have joint physical custody (e.g., Juby et al., 2005; Zilincikova, 2021), with more mixed results for fathers' partnership status (Juby et al., 2005).

Country-Level Characteristics Associated with Joint Physical Custody

In addition to individual-level characteristics, the likelihood of joint physical custody may be shaped by the country's context. In Table 1 we show three statistics for the countries we study. First, because our focus is on children whose parents do not live together, we show the prevalence of a child living with a single parent, which varies across countries. In Lithuania more than a quarter of children live in single parent families, followed by Belgium, France, Hungary, Sweden and Denmark, where the proportion is about one in five. The lowest proportions are found in Greece and Croatia.

The next two columns show two country-level variables that have been shown to be related to the prevalence of joint physical custody in studies in which countries are the unit of observation. One previous study shows countries that had formally acknowledged joint legal custody earlier had higher rates of joint custody (an index that combined joint legal custody and joint physical custody) (Meyer et al., 2024). In that study, the information on the introduction of joint legal custody had been gathered through a literature search. As the second column shows, there are quite significant differences across countries in the introduction of joint legal custody. Sweden, Finland and Denmark can be described as first wave countries, where joint legal custody was introduced in the 1970s and 1980s. Cyprus, Belgium, the Czech Republic, Estonia and Hungary constitute the second wave by introducing joint legal custody laws during the 1990s. The rest of the countries can be seen as later adopters as joint legal custody was introduced in these countries only in the 2000s. We do not have information on when joint physical custody was acknowledged, nor do we have information on whether joint physical custody is only an option or is presumptive. The limited information available has shown that in Belgium and Norway, legal frameworks prioritize joint physical custody, it is to be considered first to maintain children's right to a relationship with both parents after separation (Kitterød & Wiik, 2017; Vanassche et al., 2017). In contrast, for instance in Germany, the government has not passed any laws or adopted any policies that would encourage parents to opt for joint physical custody. Joint physical custody may require special court orders or agreements between parents, and it must be shown that joint physical custody is more advantageous for the child than sole physical custody (Augustijn, 2023).

The final country-level factor that has been found to be associated with the likelihood of joint physical custody is an index of gender equality; countries with higher levels of gender equality have higher levels of joint physical custody

(Flaquer, 2021). High levels of gender equality and flexible expectations of parental roles may lead to both parents being more involved during the union, which then can lead to higher levels of joint physical custody upon separation (Flaquer, 2021). Also, economic theories suggest that child physical custody arrangements depend on the bargaining power of the parents (Becker, 1981). If men have higher wages, women may take more of a caring role during the union, and this may continue post separation with mothers being awarded sole physical custody. Finally, Steinbach et al., (2021) found that countries with the highest levels of joint physical custody are also countries whose family policies can be categorized coming from a dual earner-carer model, and these policies may also be linked to gender equality. The last column of Table 1 shows a multi-faceted index of gender equality from the European Institute for Gender Equality (2023). It shows that there are quite large differences in gender equality measures across European countries, with Sweden scoring the highest and Greece, Hungary, and Romania the lowest.

Contribution and Hypotheses

The prior research shows some individual- and family-level characteristics that are associated with joint physical custody, but these studies do not contain country-level factors. Other studies show that country-level characteristics are associated with joint physical custody, but these do not include individual-level data. There is little work that looks across countries, making it difficult to understand whether country-level factors are related to joint physical custody when individual and family characteristics are controlled, nor whether the individual and family-level factors would still be related to joint physical custody if country features were controlled. The multi-country research that has been done is based on older data, which is limited in that joint physical custody is a relatively recent and growing phenomenon, and some research suggests that as joint physical custody becomes more common within a country, the differences between joint physical custody and sole physical custody families are less stark. These factors make new research that has comparable information, gathered recently, from multiple countries, particularly important.

Drawing on the prior research, we have three hypotheses:

1. We expect the country's legal context to be related to joint physical custody. While some families make their own decisions about joint physical custody outside courtrooms (so the law would have limited direct effect on them), we expect that decisions will be made in the shadow of the law and especially so as changes in norms occur over time. The best available variable to capture the over-time change in norms and the legal context is the length of time a country has had a provision for joint legal custody (cross-country data on joint physical custody laws are not available). We expect a higher probability of joint physical custody in countries in which shared decision-making has been available longer, even controlling for individual and family characteristics.

2. Those in countries with higher levels of gender equality will be more likely to have joint physical custody, even controlling for individual and family characteristics. We expect that norms about equal roles will result in families choosing joint physical custody all else equal.
3. Socioeconomically more advantaged families will be more likely to have joint physical custody, and this relationship will hold even when we control for a country's legal context and level of gender equality. In addition, we presume that various child and family characteristics are related to the likelihood of child having joint physical custody.

Data

Data and Sample

We use microdata from the subject module '*Living arrangements and conditions of children in separated and blended families*', which was collected in 2021 as part of the EU-SILC survey provided by Eurostat. EU-SILC is a large-scale survey that collects data on income, poverty, and social exclusion using comparable questions across countries in Europe. This survey is the basic source for comparable statistics on income distribution and social exclusion in Europe.

The use of commonly accepted questionnaires, primary target variables and concepts promote data comparability. The subject module includes information on family structure and living arrangements of children, including the number of overnights, which we use to create our indicator of joint physical custody. This unique data provides valuable insights into the prevalence and characteristics of joint physical custody arrangements across different European countries.

We use data from the initial release of this topic module (December 2022), which contains information from 25 countries.² We excluded eight countries due to large amounts of missing or discrepant information.³ Our analysis sample includes children aged 0–17 from 17 European countries: Austria (AT), Belgium (BE), Croatia (HR), Cyprus (CY), Czech Republic (CZ), Denmark (DK), Estonia (EE), Finland (FI), France (FR), Greece (EL), Hungary (HU), Italy (IT), Lithuania (LT), Romania (RO), Slovenia (SI), Spain (ES), and Sweden (SE).

We use a child as the unit of analysis and restrict our sample to children whose parents do not live together. Because children in the same household can have varying physical custody arrangements, information on overnights was asked separately for each child of separated or divorced parents. Our data do not provide information on the other parent so we cannot differentiate full siblings and half-siblings. The

² The initial release did not contain data from Iceland, Norway, Poland, Slovakia, Switzerland or Serbia.

³ Germany, Luxembourg, and Latvia do not have information on overnights in the released data, and Bulgaria, Ireland, Malta, the Netherlands, and Portugal have inconsistencies on the information on overnights.

Table 2 Descriptive Statistics of Individual-Level Independent Variables and Countries

Variable	%	n
Age of the child		
0–5 years old	17.85	1332
6–10 years old	27.85	2078
11–15 years old	40.08	2990
16–17 years old	14.22	1061
Gender of the child		
Girl	48.40	3611
Boy	51.60	3850
Age		
35 years or less	25.45	1899
36–46 years old	49.47	3691
46 years and older	25.08	1871
Education		
Low	19.77	1475
Medium	43.44	3241
High	36.79	2745
Labor market status		
Employed	72.16	5384
Unemployed	13.46	1004
Others outside labor markets	14.38	1073
Income		
1st quintile	20.01	1493
2nd quintile	20.06	1497
3rd quintile	19.86	1482
4th quintile	20.23	1509
5th quintile	19.84	1480
Tenure		
Tenant	44.65	3331
Owner	55.35	4130
Number of children		
1 child	37.80	2820
2 children	38.75	2891
3 or more children	23.46	1750
Partner		
Does not have a partner	80.49	6005
Has partner	19.51	1456
Country		
Austria	4.02	300
Belgium	9.11	680
Cyprus	3.22	240
Czech Republic	6.67	498
Denmark	4.72	352
Estonia	4.57	341

Table 2 (continued)

Variable	%	n
Greece	3.73	278
Spain	15.96	1191
Finland	6.19	462
France	14.57	1087
Croatia	1.01	75
Hungary	4.88	364
Italy	9.10	679
Lithuania	2.69	201
Romania	1.05	78
Slovenia	3.26	243
Sweden	5.25	392

main analysis sample begins with the 7647 children of separated or divorced parents who are reported to be a part of their biological or adoptive mother's household, have another parent residing outside of the household,⁴ and for whom we have information on overnights. We then exclude 186 children missing on independent variables (none of which have more than 2% missing), leaving a final sample of 7461. The number of cases per country is shown in Table 2.

In a sensitivity test, we use a broader sample, also including children whose father reports that they are part of his household, that the other parent lives elsewhere, and for whom we have information on overnights and the independent variables. This broader sample includes 8793 children. This is not our main analysis sample because it potentially counts children with joint physical custody twice if they are reported to be members of both households.

Variables

Dependent Variable

Our main interest is the child's living arrangement post-separation, and we measure physical custody by the number of nights the child stayed in the household during a typical month.⁵ In the main analyses we use a 2-category variable separating

⁴ In some countries household relationships were not reported with enough detail to confirm biological or adoptive relation between women and household children. In these cases, we used the "Mother ID"-variable provided by Eurostat to link women to children; in some cases this could be a non-relative who is a guardian for a child.

⁵ The number of overnights is considered to be a common threshold in determining child support obligations. Nevertheless, some countries use alternative measures such as the number of days with each parent or the percent of time (Claessens & Mortelmans, 2018; Hakovirta & Skinner, 2021; Oldham & Venohr, 2020).

children who are in: (1) sole physical custody (0 to 9 or 21 to 31⁶ nights per month with the parent residing outside of the household), or in (2) joint physical custody (10 to 20 nights per month with the parent residing outside of the household). Thus, the criterion for joint physical custody is set to about 33% of nights, which is in line with many prior studies (e.g., Hakovirta et al., 2023; Smyth, 2017; Steinbach, 2019). We were not able to separate unequal and equal joint physical custody because the number of cases for unequal joint physical custody was too low for multivariate analyses; below we describe a sensitivity test in which we consider only those with 15 nights (i.e., only equal joint physical custody) as having joint physical custody.

Independent Variables

As factors related to a child's joint physical custody, we include independent variables both at the individual/family-and at the country-levels. As child-related individual-level characteristics we consider the child's age (whether the child is 0–5, 6–10, 11–15 or 16–17 years old) as well as the child's gender (boy or girl). The categorization of a child's age was done to enable comparisons with earlier studies (e.g. Steinbach et al., 2021). Alternative age categorizations yield similar results.

As socioeconomic characteristics at the individual-level we take into account mother's age (separating those who are 35 years old and less, 36–45 years old, and those who are 46 years old or older), mother's education (differentiating low, medium and high education), mother's labor market status (whether mother is employed, unemployed or otherwise outside the labor market), and mother's personal income (cash or near cash income in quintiles).⁷ We also include tenure status (tenant or homeowner). As family-related individual-level characteristics we include total number of children in the household (separating those with one, two, and three or more children) as well as whether the child's mother has a partner living in the same household. Descriptive statistics of individual-level independent variables are presented in Table 2.

⁶ Our primary interest is in whether there is joint physical custody or sole physical custody, and as a result we do not differentiate between sole physical custody with the mother from the father. Our main sample includes some children ($n=450$) who spend only 0–9 nights per month in the same household with their mother even though they were reported to be a member of the mother's household. Thus, in these cases the mother does not have sole physical custody, the father does. Unfortunately, our data do not include any information on the father's characteristics for these children. Because of these cases, in all analyses our control variables for parental characteristics relate to the mother, rather than to the resident parent. We did a robustness check by excluding these children from analyses and the main results are very similar to the ones where these children are included. In the sensitivity test in which we include children reported to be in the father's household, the parallel situation occurs in which some fathers report the child is a member of their household but only spends 0–9 overnights with him, so these children are treated as mother sole custody. Moreover, the independent variables are related to the father's characteristics, not the mother's. We briefly discuss the results of our analyses with this broader sample along with the other sensitivity tests.

⁷ We checked several other income variables and different ways of calculating quintiles, and these yielded the same conclusions.

As country-level characteristics we assess the role of two factors: legal context and gender equality context. Legal context is measured as the number of years since joint legal custody became legally possible for separated parents. Our legal context variable has two potential weaknesses. First, as we have noted above, legal custody is not necessarily decided by courts if parents make their own arrangements. But even in these cases, their decisions are made in the shadow of the existing legal system (Mnookin & Kornhauser, 1979) and in the context of what other ex-couples have done, so the year when legal custody changed is potentially relevant. Second, as our data have information on neither the timing of parents' separation nor when the decision of child' physical custody arrangement is made, the legal context variable does not capture the time between when joint legal custody became available and when the decision of child's physical custody arrangement was made. Nonetheless, it is the best available variable for the legal context. The gender equality context is measured with the gender equality index from the European Institute for Gender Equality (2023). This multi-faceted measure is comprised of 31 indicators, including, for example, gender segregation in employment, inequality in income, women in parliament, and gender differences in life expectancy.

Methods and Analysis

To examine the factors related to joint physical custody, we employ multi-level logistic regression analysis. When data are nested, multi-level modelling is an appropriate method (e.g. Hox, 2002); in our case individual respondents are nested into countries. Logistic multi-level regression was chosen as our dependent variable is dichotomous. The cross-sectional nature of our data does not allow us to infer causality.

We take a sequential approach to our multi-level analysis. We start with an empty model for which we report country variance and the variance partition coefficient that tells how much variance in child's physical custody arrangements is located at the country-level. We then move on to a random intercept model with individual-level independent variables to examine which socioeconomic, family-and child-related characteristics are related to joint physical custody. We then add country-level independent variables to the random intercept model to analyze whether the time since joint legal custody has been available and the level of general gender equality are related to the probability of child having joint physical custody.⁸ In the random intercept models, we focus on marginal effects.

We present three sensitivity tests. In the first, we include only those who spend 15 nights with the parent residing outside of the household as having joint physical

⁸ The introduction of joint legal custody and the level of gender equality can be interrelated phenomena: i.e. countries with higher gender equality level may be the ones that introduced joint legal custody earlier. Thus, as sensitivity analysis, we also considered models with only one country-level independent variable at a time. Marginal effects of both legal context and gender equality are higher when only one country-level variable is included in the model. Nevertheless, this did not change the basic interpretation of results.

custody. With this criterion, none of the children in Croatia, Greece and Romania have joint physical custody, and in Austria, Cyprus, Hungary and Lithuania there are less than 10 children with joint physical custody. Second, we expand our sample to also include those reported by their father as being in his household but the other parent lives elsewhere. For these cases, we use the father's characteristics for the independent variables. Third, we use a different method, presenting a basic logistic regression analysis including individual-level independent variables and fixed effects for countries (country dummies) to assess at the general level the importance of country-context to child's physical custody arrangements. In this test, we take into account that there can be more than one child from the same household by clustering standard errors.

The relatively small number of macro-level units—i.e., the number of countries—is a minor limitation in our study, but this should be taken into account when considering the conclusions of our study. While we cannot add countries to our sample, we can explore whether excluding countries with few children with joint physical custody leads to different conclusions. We reran our basic logistic regression analysis on the subset of countries in which the share of children having joint physical custody is 10% or more. This excluded eight countries: Austria, Croatia, Cyprus, Greece, Hungary, Italy, Lithuania and Romania. The conclusions again were similar to our base results.

Results

Characteristics Related to Joint Physical Custody

Results of our multi-level logistic regression analyses are presented in Table 3. Model 0 is an empty model without any independent variables. The variance partition coefficient tells us that around 27% of the variance in children's physical custody arrangements is found at the country-level. This is consistent with previous research showing substantial cross-country differences (e.g., Bjarnasson & Arnasson, 2011; Hakovirta et al., 2023; Steinbach et al., 2021; Zilincikova, 2021).

Model 1 examines whether our individual/family-level independent variables are related to a child's physical custody arrangement. Both the age and gender of the child (our two child-oriented variables) are related to the child's physical custody arrangement. Joint physical custody is more prevalent among children belonging to the middle age groups: compared to those in the oldest age group (16–17-years old), the probability of joint physical custody is about 3 percentage points higher for those aged 11–15, and nearly 6 percentage points higher for those aged 6–10. Those aged 0–5 have about the same probability of joint physical custody as those 16–17 years old. Girls have a lower probability of being in joint physical custody than boys, by about 1 percentage point.

Table 3 Factors Related to Joint Physical Custody in 17 European Countries, Average Marginal Effects (Standard Errors in Parentheses)

Variable	Model 0	Model 1	Model 2
Age of the child (ref = 16–17 years old)			
0–5 years old		0.018 (0.012)	0.024 [†] (0.014)
6–10 years old		0.058 ^{***} (0.015)	0.072 ^{***} (0.013)
11–15 years old		0.032 ^{**} (0.011)	0.042 ^{***} (0.011)
Gender of the child (ref = boy)			
Girl		– 0.011 [†] (0.007)	– 0.014 [†] (0.008)
Age (ref = 46 years and older)			
35 years or less		0.026 [*] (0.012)	0.033 [*] (0.013)
36–46 years old		0.023 ^{**} (0.009)	0.029 ^{**} (0.010)
Education (ref = high)			
Low		– 0.074 ^{***} (0.018)	– 0.093 ^{***} (0.014)
Medium		– 0.050 ^{***} (0.013)	– 0.061 ^{***} (0.010)
Labor market status (ref = employed)			
Unemployed		– 0.036 ^{**} (0.013)	– 0.047 ^{***} (0.014)
Others outside labor markets		– 0.026 [*] (0.012)	– 0.032 [*] (0.014)
Income (ref = 5th quintile)			
1st quintile		– 0.077 ^{***} (0.020)	– 0.099 ^{***} (0.017)
2nd quintile		– 0.053 ^{***} (0.016)	– 0.067 ^{***} (0.015)
3rd quintile		– 0.028 [*] (0.013)	– 0.035 [*] (0.014)
4th quintile		– 0.028 [*] (0.012)	– 0.034 ^{**} (0.013)
Tenure (ref = owner)			
Tenant		– 0.017 [*] (0.007)	– 0.021 [*] (0.009)
Number of children (ref = 3 or more children)			
1 child		– 0.018 [†] (0.009)	– 0.023 [*] (0.011)
2 children		0.003 (0.009)	0.004 (0.010)
Partner (ref = has partner)			
does not have a partner		0.007 (0.008)	0.008 (0.010)
Joint legal custody			
Time joint legal custody has been available			0.004 ^{**} (0.001)
General gender equality			
Gender equality index			0.008 ^{***} (0.002)
Constant	0.107 ^{***} (0.027)		
N	7461	7461	7461
Country variance	1.224	1.274	0.173
Variance partition coefficient	0.271		
Chi-square		360.5	414.9
BIC	6214.5	5963.6	5954.8

[†] $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Socioeconomic characteristics play a significant role. Joint physical custody is less likely if the mother is older, but the differences are not particularly large: when mothers belong to the oldest age group, their child's probability to have joint physical custody is around 2 percentage points lower than when she belongs to the younger age groups. The relationship between joint physical custody and education is strong: compared to children whose mother has high education, children of mothers with medium education have 5 and children of mothers with low education have 7 percentage points lower probability of having joint physical custody. Also, a mother's labor market status is related to her child's physical custody arrangement; if the mother is employed, the child's probability to have joint physical custody is 3–4 percentage points higher than if she is unemployed or otherwise outside the labor market. However, with cross-sectional data, we cannot differentiate between labor market status affecting joint physical custody or joint physical custody affecting labor market status; our results show a relationship but not the causal ordering. The mother's income is associated with the child's joint physical custody: the lower the income quintile of the mother, the lower a child's probability to have joint physical custody; the difference between highest and lowest quintiles is nearly 8 percentage points. Nonetheless, nearly 8% in the lowest quintile have joint physical custody (not on table), so joint physical custody is not only experienced by children whose mothers have moderate and high incomes. Again, the causal direction cannot be inferred. Finally, the probability of a child having joint physical custody is nearly 2 percentage points lower if the family rents compared to a child whose family owns their dwelling.

Of the family-related characteristics, the number of children is associated with joint physical custody, but partnership status is not. Joint physical custody is more prevalent in households with more children: compared to children living in households with 3 or more children, the probability of joint physical custody is nearly 2 percentage points lower for children in households in which they are the only child.

Model 2 adds the two country-level characteristics. Both the legal context and the gender equality context are associated with the physical custody arrangements of children. The time since joint legal custody has been available is associated with an increase in the prevalence of joint physical custody: every year that joint legal custody has been available is related to an increase in a child's probability to have joint physical custody by 0.4 percentage points. The gender equality context is also related to joint physical custody. A one-point increase in the gender equality index (which has a scale of 1–100) is associated with an increase in the probability of child's joint physical custody of nearly 1 percentage point.

Inclusion of country-level factors does not have a large impact on the marginal effects of the individual-level characteristics. One relatively small change is the relationship between child's age and joint physical custody. With the inclusion of country-level factors, the probability of having joint physical custody is 2 percentage points higher for children who are 0–5 years old than those aged 16–17, a difference that was not statistically significant without the country-level variables.

Sensitivity Tests

In our first test we change the definition of joint physical custody to be 15 overnights (equal time). Results (see Appendix Table 1) showed similar results to Table 3. However, there were two differences. For Model 1, considering only equal-time joint physical custody led to diminished relationships between child's gender, mother's age, and tenure status on child's physical custody arrangement. For Model 2, using 15 nights criteria weakened the statistical significance of both joint legal custody year and general gender equality on child's physical custody arrangement.

In our second test, we used the broader sample including also children reported by their father. In this sample, the proportion of children in joint physical custody increases from 15 to 20%, perhaps reflecting double-counting or reflecting that fathers are more likely to report joint physical custody than mothers (Meyer et al., 2022).⁹ Results, shown in Appendix Table 2, are similar to our main results. The variance partition coefficient in Model 0 continues to show that a substantial proportion of the variance is related to the country. Models 1 and 2 lead to similar conclusions to Table 3: the legal context and the gender equality index are related to the likelihood of joint physical custody, even controlling for individual- and family-level characteristics, and those who are more socioeconomically advantaged are more likely to have joint physical custody, even controlling for country differences.

In our third test, we assessed the importance of the general country context to child's physical custody arrangements by employing basic logistic regression analysis including individual-level independent variables and country fixed effects; this model uses clustered standard-errors (Table 4). This analysis further strengthens the result of Model 2 in our main analysis, that in addition to individual-level characteristics, the country-context does play an important role in explaining a child's physical custody arrangements. Results of this additional analysis also underline the specific position of Sweden when it comes to the prevalence of joint physical custody. In all other countries a child's probability to have joint physical custody is significantly lower than in Sweden. Denmark comes closest with 5.6 percentage points lower probability, whereas in six countries (Lithuania, Greece, Romania, Italy, Croatia and Hungary) the probability is more than 30 percentage points lower than in Sweden. The results also suggest that individual-level characteristics have similar relationships to joint physical custody whether the method of analysis explicitly incorporates the nested nature of the data.

⁹ Father sole custody is more likely, as expected, since our base analysis only includes father sole custody if a child is reported in the mother's household but only spends 0–9 overnights there. Overall, the proportion of children in sole father custody increases from 8 to 13% and is above 20% only in Romania (25%). Even with these additions, the vast majority of those children living in sole custody are with their mothers, rather than fathers (84%).

Table 4 Binary logistic regression analysis with individual-level independent variables and country fixed effects, average marginal effects (clustered standard errors in parentheses)

Variable	Average marginal effects
Age of the child (ref= 16–17 years old)	
0–5 years old	0.025 (0.016)
6–10 years old	0.077*** (0.013)
11–15 years old	0.044** (0.011)
Gender of the child (ref = boy)	
Girl	– 0.015† (0.008)
Age (ref = 46 years and older)	
35 years or less	0.035* (0.016)
36–46 years old	0.031* (0.012)
Education (ref = high)	
Low	– 0.100*** (0.016)
Medium	– 0.065*** (0.013)
Labor market status (ref = employed)	
Unemployed	– 0.049** (0.019)
Others outside labor markets	– 0.034† (0.018)
Income (ref = 5th quintile)	
1st quintile	– 0.104*** (0.020)
2nd quintile	– 0.070*** (0.019)
3rd quintile	– 0.036* (0.018)
4th quintile	– 0.036* (0.016)
Tenure (ref = owner)	
Tenant	– 0.023† (0.012)
Number of children (ref = 3 or more children)	
1 child	– 0.023 (0.015)
2 children	0.004 (0.016)
Partner (ref = has partner)	
Does not have a partner	0.009 (0.013)
Country (ref = Sweden)	
Austria	– 0.237*** (0.031)
Belgium	– 0.140*** (0.021)
Cyprus	– 0.275*** (0.041)
Czech Republic	– 0.227*** (0.027)
Denmark	– 0.056* (0.024)
Estonia	– 0.192*** (0.030)
Greece	– 0.496*** (0.076)
Spain	– 0.169*** (0.020)
Finland	– 0.142*** (0.024)
France	– 0.150*** (0.021)
Croatia	– 0.336*** (0.068)
Hungary	– 0.314*** (0.044)
Italy	– 0.339*** (0.030)
Lithuania	– 0.559*** (0.086)

Table 4 (continued)

Variable	Average marginal effects
Romania	− 0.426*** (0.088)
Slovenia	− 0.204*** (0.031)
N	7461
Pseudo R ²	0.153
BIC	6018.2

† $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Discussion and Conclusion

Using the new EU-SILC module from 2021, we examined factors related to joint physical custody across 17 European countries, considering various socioeconomic, child- and family-related characteristics as well as the country-context shaping the probability of joint physical custody. Our study contributes to the scant tradition of previous cross-national research by using more recent data and examining independent variables associated with joint physical custody at both the individual and country levels. Thus, our results provide topical and comparative evidence of children's physical custody arrangements post-separation across European countries. Comparing our results to our hypotheses and to prior research, two major conclusions can be drawn.

First, in support of our first and second hypothesis, results clearly demonstrate that the country's context is an important factor related to a child's physical custody arrangements. The sensitivity test using a country fixed-effect model tells us that countries are important, but do not provide information on why. The multi-level model (our main model) does provide information on two country-level factors that are important. The longer joint legal custody has been available, the more likely it is that a child will have joint physical custody. This finding does not necessarily imply the direction of causality: it could be that countries that have growing levels of joint physical custody are then more likely to change their family law to accommodate post-separation sharing of various responsibilities. Further, it is possible that some other characteristic of a country leads to both policy change and higher levels of joint physical custody. A likely candidate in line with previous research (Flaquer, 2021) is the level of gender equality, which could be linked to both the likelihood of joint physical custody and the year joint legal custody was acknowledged. In contrast to a perspective that this is merely about gender equality, we find that joint physical custody is more likely when joint legal custody is acknowledged, even controlling for gender equality. The legal context may influence custody outcomes even if individuals are negotiating over intensely personal decisions, like their child's living situation post-separation: in a classic article, Mnookin and Kornhauser (1979) argue that at least in the US, policy sets the context, and individuals pursuing divorce bargain "in the shadow of the law".

In support of our second hypothesis and some prior research (Flaquer, 2021), children in countries with higher gender equality are more likely to have joint physical

custody. This may be because in these countries both parents consider themselves to be responsible for both earning and caring even within unions. When unions dissolve, the caring role in terms of time with each parent, is more likely to be shared (see e.g. Duvander & Jans., 2009; Westphal et al., 2014). Similarly, in these countries, a variety of supports for both parents to work, or for joint physical custody itself, may exist, making joint physical custody more feasible.

Both of these country-level variables are significantly related to joint physical custody even when individual characteristics are controlled. The single-country models that have comprised the large majority of the work on factors associated with joint physical custody have considered the role of policy changes and static cultural and institutional factors. Nevertheless, they could not examine whether country-level variables are important; thus, the combination of country-level and individual-level variables is a key contribution of this research. Nevertheless, further research is needed, especially from a comparative perspective, to better understand how societal norms, custody legislation and other family policies are related to children's post separation living arrangements.

Second, we hypothesized that socioeconomically more advantaged families would be more likely to have joint physical custody even when we control for the country context. Our results strongly support this hypothesis, whether we control for the country context in the hierarchical model (Table 3) or using country fixed effects (Table 4). Children whose mothers have higher education, are employed, have higher personal income, and are homeowners are all more likely to have joint physical custody. Our analysis here, like the prior cross-sectional research, cannot determine whether these factors cause joint physical custody or are the result of them. The results do imply that the financial situation of parents may be an important structural component that is relevant when considering children's physical custody arrangements, and research that disentangles the direction of causality would be useful.

Our results on individual-level characteristics are in many respects in line with earlier studies (e.g. Augustijn, 2022; Cancian et al., 2014; Juby et al., 2005; Meyer et al., 2017, 2022; Sodermans et al., 2013; Vanassche et al., 2017) even though the vast share of previous research is based on single-country analyses, and the scant tradition of earlier comparative studies is dated. Hence, our results suggest the commonality of individual-level factors related to joint physical custody across countries, at least in the European perspective.

The data used in this paper is not without limitations. First, we were not able to cover all European countries as the data did not include information from all countries, and some countries had to be excluded due to missing or discrepant information. Second, linking physical custody arrangements to the characteristics of both parents is not possible with our data. Thus, we were not able to analyze the role that characteristics of non-resident parents (often the father) have to the probability of joint physical custody, nor are we able to conduct a couple-based analysis similar to some previous single-country studies (e.g., Cancian et al., 2014). Third, we have no information on a variety of variables that may be related to joint physical custody, including, for example, parental conflict (Turunen, 2017), the distance between parents, or depressive symptoms (Juby, et al., 2005). Fourth, having a

relatively small number of countries (17) limits the country-level variables that can be explored simultaneously. Thus, in addition to legal and gender equality context there are many other country-level factors that are potentially relevant for children's physical custody arrangements, such as the prevalence of union dissolution, parental leave arrangements and housing availability. In addition, to be able to include this many countries in a comparative analysis means that important details of the institutions involved and other features of the policy context within each country cannot be considered. Finally, we are unable to measure characteristics of parents at the point of separation, so cannot separate characteristics that may cause joint physical custody from those that are the result of joint physical custody.

Despite these limitations, our results have policy implications. First, there is some evidence that joint physical custody has gradually spread across all social groups (Bergström et al., 2018; Garriga et al., 2021; Meyer et al., 2017), and our results show that even though those more economically advantaged have a higher likelihood of joint physical custody, some children in the lowest income quintile do have joint physical custody. Therefore, it is important to consider how welfare states support these new family arrangements to enable parents from low socioeconomic background to attain shared parental responsibilities post-separation (see Hakovirta et al., 2024).

Second, our findings on the importance of the legal context may have policy implications. To the extent that countries want to support joint physical custody (perhaps because it has been linked to a variety of positive outcomes for children and parents), a review of the policy context in which separating parents make custody decisions could be useful. A country could examine not just the legal custody options for children in separating families, but also whether joint physical custody is merely allowed vs. encouraged, or even presumed as the first option. Moreover, countries may consider offering mediation or other supports to separating parents to help them choose living arrangements best suited to their needs and capabilities. As we noted, a review of income support and housing policies could further support families choosing joint physical custody.

Overall, our paper deepens understanding of the factors related to children's post-separation living arrangements in Europe by using up-to-date data and a multi-level analysis. Our results highlight that to better understand the characteristics explaining children's physical custody arrangements from a comparative perspective, one must consider various multi-level dynamics behind the phenomena. However, our examination was only the first attempt to capture these multi-level dynamics, and further work is needed.

Supplementary Information The online version contains supplementary material available at <https://doi.org/10.1007/s11113-024-09909-z>.

Funding Open Access funding provided by University of Turku (including Turku University Central Hospital). This research has received funding from the Academy of Finland under Grant Agreement No. 338282, PI: Mia Hakovirta. This research was also partially supported by the INVEST Research Flagship Funding No. 345546.

Declarations

Conflict of interest The authors have no relevant financial or non-financial interests to disclose.

Ethical Approval This study was performed in line with the principles of the Declaration of Helsinki.

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