

Joint Physical Custody and Communication with Parents: A Cross-National Study of Children in 36 Western Countries

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INTRODUCTION

The children of divorced parents in Western societies generally live with their mothers and visit their nonresident fathers on a regular or irregular basis. Such arrangements are consistent with the traditional division of labor between mothers as caregivers and fathers as providers (Bernard, 1981; Coontz, 2000) and the assumption that strong attachment to a single primary parental figure in a single primary home is crucial for the well-being of children (Kelly, 2007; Moxnes, 2000). However, as fathers have gradually become more involved in child care (Bianchi et al., 2000; Hook, 2006; Juby, Le Bourdais, and Marcil-Graton 2005), they have also become increasingly reluctant to leave their children behind when marriage comes to an end. The growing research literature on the potentially negative effects of divorce and single parenthood on the well-being of children has also affected public perceptions and encouraged parents and policy makers alike to seek alternatives to traditional single-mother households (Kelly, 2007).

Meta-analyses of studies of children of divorce reveal moderate to small effects of divorce on psychological maladjustment, problem behaviors and deteriorated relations with parents (Amato, 2003; Amato and Keith, 2001). Divorced parents may find it difficult to adequately monitor and supervise their children (Buchanan, Maccoby and Dornbusch, 1996; McLanahan and Sandefur, 1994), to discipline them appropriately (Hetherington, Cox and Cox, 1982), and give them sufficient warmth and affection (Forehand, Thomas, Wierson and Brody, 1990; Hetherington and Stanley-Hagan, 1999). Parental time and attention may be less readily available in non-intact families and may therefore contribute to worse outcomes for children of divorced parents (Schiller, Khmelkov and Wang, 2002). Accordingly, Falci (2006) found that degree of closeness between adolescent and parent explained most of the variation in adolescent distress related to divorce.

Parent-child communication is a central aspect of both parental monitoring and parental social support (Bjarnason et al., 2005; Stattin and Kerr, 2000) and impaired communication is associated with internalizing and externalizing problems among children in general (Huebner and Howell, 2003; Moreno et al., 2009; Yu et al., 2006). Children in non-intact families who maintain close relations with their nonresident fathers have in particular been found to be emotionally better adjusted (Amato and Gilbreth, 1999; Barber 1994; King and Sobolewski, 2006) and less likely to engage in various risk behaviors (Coley and Medeiros, 2007; Menning,

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2006; Thomas, Farrell, and Barnes, 1996) than other children in such families. Corresponding research on nonresident mothers is sparse, but King (2007) similarly found close relationships with both resident fathers and nonresident mothers to be associated with less internalizing and externalizing problems among adolescents.

Adolescents living in stepfamilies tend to spend less time at home with their biological resident parent and stepparent, and report the time spent at home to be less enjoyable than do their peers in intact families (Falci, 2006). The communication between the non-residential parent and the child seem to suffer even more following divorce. Adolescents are less likely to identify a non-residential parent as being important in their life and interact significantly less with the non-residential than the residential parent (Furstenberg, 1991; Hetherington, 1989; Munsch, Woodward and Darling, 1995). In her study of 24 countries in North-America and Europe, Laftman (2010) found children to report worse communication with single mothers than married mothers in all countries except Denmark. In all the countries, children living with their single-mothers reported worse communication with their fathers than did children living in intact families.

The demand for continuing involvement of fathers in the lives of their children after divorce has in many countries led to profound changes in both the legal framework of parental custody and actual parenting practices. While sole custody by mothers was the norm up to the 1970s, the authority and responsibility for making important decisions about the lives of children has increasingly become shared by both parents in joint legal custody (Elrod and Dale, 2008). Joint legal custody ensures both parents the right to provide their children with love, guidance, and support, but actual residence nevertheless limits the possibilities of exercising such rights and many non-residential fathers tend to gradually disengage from the lives of their children as time goes by (Cheadle, Amato and King, 2010; Furstenberg, Nord, Peterson and Zill, 1983; Kruk, 1991).

In order to ensure equal involvement of both parents in the lives of their children, an increasing number of parents has opted for joint physical custody where children in effect have two primary homes and live at least one-third of the time with each parent (Kelly 2007). While joint physical custody may in some cases only be a phase in the process of disengagement between divorcing or separating parents, Berger et al. (2008) found joint physical custody to be at least as stable living arrangement as sole mother placement over a three year period following divorce. In a meta-analysis of 33 studies predominantly conducted in the United States, Bauserman (2002) found children in joint physical custody to be similarly adjusted as their counterparts in intact families. Jablonska and Lindberg (2007) reported that Swedish adolescent in single-mother and single-father households had an elevated risk of substance use, victimization and psychological distress whereas adolescents in joint physical custody were not significantly different from their counterparts in two-parent families. In a cross-national study of life satisfaction among children in different family structures, Bjarnason et al. (2010) reported life satisfaction among children in joint physical custody in 36 countries to be significantly lower than among their counterparts in intact families but higher than in any other type of non-intact families.

While joint physical custody appears to be on a steep rise in Western societies, there is to our knowledge no reliable comparative research on the prevalence of such living arrangements

in different countries. Cross-national and even within-country differences in the official definition and registration of different family arrangements make it impossible to map the prevalence of joint physical custody based on official statistics. Although self-reported living arrangements of children and adolescents are a potentially more promising source of such comparative data, differences in the definition and measurement of joint physical custody, age groups sampled and the reporting of results make it very difficult to generate a coherent picture of joint physical custody across countries from previously published studies. As an example, Jablonska and Lindberg (2007) report that 3.5% of 9th grade students in Stockholm live in 'shared physical custody' while Juby, Le Bourdais and Marcil-Gratton (2005) find that about 1% of 4–15 year old children in Canada 'spend equal amounts of time' with each of their separated parents. While these results might reflect a greater prevalence of joint physical custody in Sweden than Canada, it is impossible to establish the existence or magnitude of such a difference. A coherent account of the prevalence of joint physical custody in Western countries requires standardized, cross-national data collection targeting comparable populations of families with children.

The relative scarcity of studies conducted outside North America as well as methodological differences between studies, different definitions of joint physical custody and a wide variety of outcomes under study also make it difficult to establish to what extent previously reported results are culturally invariant and to what extent they are unique to the time, place, and population under study. The comparative study of joint physical custody, as comparative family studies in general, must disentangle a daunting complexity of legal frameworks, cultural histories, economic challenges and other social configurations facing families in different parts of the world. The current study contributes to this task by addressing three distinct objectives. First, we map the prevalence of joint physical custody compared to other family structures in 36 European, Mediterranean and North-American countries. Second, we explore differences between these countries in perceived difficulties in communicating with residential and non-residential mothers and fathers in joint physical custody compared to other family structures. Third, we establish the main effects of different family structures on impaired parental relations across all 36 countries and the extent to which such main effects vary significantly across countries.

The Current Study

Our sample of almost 200,000 children in 36 Western countries allows us to estimate the prevalence of joint physical custody in different countries and compare the prevalence of impaired parental communication in different living arrangements. The social, legal, and cultural context of non-intact families in general and joint physical custody arrangements in particular varies greatly between the countries under study. Our goal is to estimate the overall patterns of joint physical custody and impaired parental communication across countries and cross-cultural variation in such patterns. The search for country-specific explanations for the patterns observed is an important future task that falls beyond the scope of the current study.

In general, we expect children to communicate more easily with resident parents than nonresident parents. Those who live with a single mother or mother and stepfather can for

instance be expected to experience more difficulties communicating with their biological father than their counterparts living with both biological parents, a single father, or father and stepmother. While prior research has suggested that single mothers spend less time with their children than married mothers (Kendig and Bianchi, 2008), single fathers seem to spend more time with their children than married fathers (Hook and Chalasani, 2008). Fathers with joint physical custody have in particular been found to spend almost twice as much time with their children as fathers in intact families (Richards and Goldenberg, 1986). Based on these considerations we expect impaired communication with mothers to be least prevalent in intact families and most prevalent in families where the mother is absent, with mother-only and joint physical custody families falling in between the two. Impaired communication with fathers is on the other hand expected to be least prevalent in father-only and joint physical custody families and most prevalent in families where the father is absent, with communication with fathers in intact families falling in the middle range.

The presence of a stepparent in the primary household may complicate such patterns and adversely affect relations with the nonresident parent. Relations between nonresident fathers and their children appear to suffer when either the father or the mother remarries (Bray, 1999; Hetherington and Kelly, 2002; Juby, Bilette and Le Bourdais, 2007). Accordingly, we expect the presence of a stepfather or stepmother to be associated with more difficulties communicating with nonresident fathers and nonresident mothers in single residence arrangements. Impaired communication with nonresident fathers may thus be highest when children live with their mother and stepfather and highest for nonresident mothers when children live with their father and stepmother.

DATA AND METHODS

Data Collection

Analyses were based on data from the 2005/06 Health Behaviour in School-aged Children study (HBSC), an international study carried out in collaboration with the World Health Organization WHO (Currie et al., 2008). Candace Currie was the International Coordinator of the 2005/06 survey and Oddrun Samdal was the International Data Bank Manager. The principal investigators in each country were responsible for conducting the survey in accordance with the HBSC protocol and national legal and ethical requirements (for details see www.hbsc.org).

The international HBSC questionnaire consists of a number of core questions used in all participating countries and optional focus questions that allow participating countries to emphasize particular areas of national interest. In each country a nationally representative random sample of 11, 13 and 15-year old schoolchildren was drawn with recommended minimum sample size of 1,536 students per age group. About 80% of the schools contacted allowed the survey to take place in selected classes and refusals at the student level were very rare. Ethical approval for each national survey was obtained according to the national guidelines in each country. The measures in the current study were used in 36 countries in Europe, North America and Israel, resulting in a net sample of 193,732 students.

Measurement

Impaired communication with parents was measured by two items (King et al., 1996; Currie et al., 2001) asking how easy it is for the respondent to talk to (a) their mother or (b) their father about things that really bother him or her (1: Very easy; 4: Very difficult). Prior research has shown these measures to be associated with a variety of negative outcomes in the theoretically expected direction, including psychological distress (Moreno et al., 2009), substance use (Kuntsche and Silbereisen, 2004), and weight dissatisfaction (Al Sabbah et al., 2009). The measures were dichotomized for the purposes of the current study (1: Difficult or very difficult; 0: Other).

The living arrangements of the children in the study were determined by a series of binary variables derived from three related questions. The first question asks who lives in the home where the respondent lives all or most of the time, including father, mother, stepfather and stepmother. The second question asks if the respondent has another home or another family and how often he or she stays there (half the time, regularly but less than half the time, sometimes, hardly ever). The third question asks who lives in the second home, including father, mother, stepfather and stepmother. Respondents were classified as living in *intact families* if they lived with both biological parents in the primary household. Those who primarily lived with one biological parent were further classified as living with a *single mother* or *single father*, *mother and stepfather*, or *father and stepmother*. Those who lived half the time with their mother in one household and half the time with their father in another household were classified as living in *joint physical custody*. About 0.7% of the respondents lived with neither parent and was omitted from further analysis.

To control the potentially confounding influence of economic affluence on communication between parents and children a measure of *perceived economic status* was included (Currie et al., 2001). The question asks how well off the student thinks his or her family (1: Not at all well off; 5: Very well off). While an objective measure of e.g. parental education or income would have been desirable, this subjective measure of economic status nevertheless does capture the important dimension of perceived deprivation in non-intact families that could confound the association between living arrangements and impaired communication with parents.

Multi-level Modeling

The following data analysis is based on multilevel modelling techniques (Bryk and Raudenbush, 1992), and was conducted by use of the *HLM 6.0* software (Raudenbush et al., 2004). This methodology allows several important theoretical and conceptual issues to be empirically tested. Multi-level modelling involves the estimation of different baseline (intercept) levels of impaired parental communication in different countries and variable slopes for individual-level predictors across countries.

The Bernoulli model for dichotomous dependent variables extends this basic approach by transforming the predicted value into ζ_{ij} by use of the logit link function

$$ij \log \frac{ij}{1 - ij} + \beta_{0j} + \beta_{qj} X_{qij}$$
 The predicted value of a dichotomous

dependent variable is equal to the probability of impaired parental communication, \hat{O}_{ij} for student i in country j and ζ_{ij} is the log of the odds of impaired communication, β_{0j} is the individual-level intercept for each country, β_{qj} the q th individual-level slope for each country j , and X_{qij} is the q th individual-level predictor for student i in country j .

RESULTS

Cross-national Differences in Living Arrangements

Table 1 shows that the percentage of 11–15 year-old students living in intact families ranges from 60% in Romania and the United States to 93% in Macedonia. Giving each country an equal weight yields an average of 76% intact families in these 36 western countries. Countries with more than 80% intact families are majority Roman Catholic (Croatia, Italy, Ireland, Poland, Portugal, Slovakia, Slovenia, Spain, Switzerland), Orthodox (Bulgaria, Greece, Macedonia), Muslim (Turkey) or Jewish (Israel). Most of the countries with less than 70% intact families are on the other hand majority Protestant (Denmark, Estonia, Latvia, United Kingdom, United States), although Orthodox Romania and Russia are also represented in this group of relatively high prevalence of non-intact families.

On average 13% of the respondents lived primarily with their biological mother without a stepfather, ranging from 5% in Macedonia to 36% in Romania. The proportion of respondents living primarily with their biological father without a stepmother was about 1% in 18 countries and about 2% in 16 countries. This percentage was 3% in Canada and the United States. An average of 6% lived primarily with their mother and stepfather, ranging from 1% or less in Turkey, Israel and Macedonia to 13% in Estonia. One percent or less lived primarily with their biological father and stepmother, with the exception of the United States and Canada where 2% lived in such arrangements. Across countries, an average of 1% also lives equally with their mother and father in two households. The proportion of such arrangements was found to be 1% or less in 29 of the 36 countries, about 2% in Norway, the United Kingdom, Canada and the United States, and about 3% in Belgium, Denmark and Iceland. The highest proportion of such joint physical custody was found to be 4% in Sweden.

Difficulties in Communication with Parents by Living Arrangements

Table 2 shows the percentage of respondents living in different family arrangements that find it difficult or very difficult to talk to their father about things that really bother them.

On average 32% of the respondents living in intact families have such problems communicating with the father. In single mother families this proportion is ten percentage points higher or 42%. Children living in single mother families are found to have significantly more difficulties communicating with their father in 31 of the 36 countries. In four of the five remaining countries the same pattern is non-significant at the .05 level.

Table 1.

Percentage of 11, 13 and 15 years Old Students Living in Different Family Arrangements in 36 Western Countries, 2005/2006.

	<i>Intact families</i>	<i>Single mother</i>	<i>Single father</i>	<i>Mother and step father</i>	<i>Father and step mother</i>	<i>Joint physical custody</i>
Austria	79	13	1	5	1	1
Belgium	74	13	2	8	1	3
Bulgaria	83	11	2	2	1	4
Canada	71	14	3	7	2	2
Croatia	89	7	1	2	4	2
Czech Republic	72	14	2	11	1	1
Denmark	69	15	2	9	1	3
Estonia	66	17	1	13	1	1
Finland	73	13	2	10	1	1
France	76	13	2	8	1	1
Germany	76	14	2	7	1	1
Greece	87	10	1	2	4	4
Hungary	75	14	2	7	1	1
Iceland	72	13	2	9	1	3
Ireland	82	11	1	4	3	1
Israel	88	9	1	1	4	1
Italy	89	7	1	2	3	1
Latvia	67	21	2	8	1	1
Lithuania	73	17	1	7	1	1
Luxembourg	78	12	2	6	1	1
Macedonia	93	5	1	1	3	2
Netherlands	80	11	1	6	1	1
Norway	77	13	2	5	1	2
Poland	85	11	1	2	4	3
Portugal	84	9	1	4	1	1
Romania	60	36	2	2	4	2
Russia	69	21	1	8	1	1
Slovakia	84	10	1	3	4	1
Slovenia	86	9	1	3	1	1
Spain	85	10	1	3	4	1
Sweden	76	10	2	6	1	4
Switzerland	82	11	1	5	1	1
Turkey	89	9	2	0.2	3	1
Ukraine	75	17	1	6	1	3
United Kingdom	70	15	2	9	1	2
United States	60	22	3	11	2	2
Average	76	13	2	6	1	1
<i>N</i>	148,177	25,578	3,125	11,705	1,561	2,206

Note: 1380 students (0.7%) are living in other arrangements and are omitted from further analysis

Table 2.

Percentage of 11, 13 and 15 years Old Students in 36 Countries that Find it Difficult or Very Difficult to Talk to Their Father About Things That Really Bothers Them.

	<i>Intact families</i>	<i>Single mother</i>	<i>Single father</i>	<i>Mother and step father</i>	<i>Father and step mother</i>	<i>Joint physical custody</i>
Austria	31	42	39	42	55	30
Belgium	40	50	44	51	50	42
Bulgaria	31	41	29	40	44	25
Canada	35	45	31	49	43	32
Croatia	31	36	29	37	17	11
Czech Republic	39	48	39	48	33	19
Denmark	34	47	40	40	23	26
Estonia	28	40	25	36	45	26
Finland	30	41	30	33	31	36
France	46	54	35	51	46	37
Germany	35	43	38	46	38	15
Greece	36	41	37	51	23	29
Hungary	22	34	32	33	27	33
Iceland	23	35	29	35	25	26
Ireland	32	43	30	36	15	31
Israel	22	41	23	41	18	21
Italy	41	47	41	50	55	14
Latvia	33	41	29	47	28	22
Lithuania	40	49	39	53	46	35
Luxembourg	42	54	51	53	42	35
Netherlands	19	32	16	30	31	13
Norway	32	43	34	51	48	27
Poland	28	34	24	33	33	40
Portugal	40	46	23	48	43	29
Romania	23	31	24	25	17	29
Russia	32	41	30	38	33	19
Slovakia	32	44	16	47	47	34
Slovenia	18	26	13	35	40	15
Spain	34	43	30	39	44	25
Sweden	25	40	29	40	33	23
Switzerland	38	47	40	43	37	25
Turkey	45	42	46	33	47	25
Ukraine	25	36	23	29	33	15
Macedonia	22	33	15	27	38	29
United Kingdom	35	50	33	45	46	31
United States	43	49	43	53	51	45
Average	32	42	33	43	39	29

Percentages that are significantly different from intact families ($p < .05$) are **bold**.

Overall, children living with a single father are found to have a similar level of difficulty communicating with their father as their counterparts in intact families. In individual countries the difference between these two groups is also non-significant in all countries except France and Portugal where significantly less problems in communicating with fathers are reported in single father families than intact families.

Children living with their mother and stepfather are found to have significantly more problems communicating with their biological father across the participating countries. This pattern is found in 35 of the 36 participating countries, although it is only statistically significant at the .05 level in 19 countries. Overall, children living with their father and stepmother are also found to have significantly more problems communicating with their father. This pattern is however relatively modest and does only reach statistical significance at the .05 level in 6 countries. In Denmark children in such circumstances experience significantly less problems communicating with their father than children in intact families.

On average 29% of all children in joint physical custody find it difficult or very difficult to talk to their father about things that really bother them. This is three percentage points lower than for intact families and statistically significant at the .05 level. Given the low prevalence of joint physical custody this difference is too subtle to be identified in most countries. Significantly less difficulties communicating with father are however found in four of the participating countries.

Table 3 shows the percentage of respondents living in different family arrangements that find it difficult or very difficult to talk to their mother about things that really bothers them.

On average 15% of the respondents living in intact families have such problems communicating with their mother. In single mother families this proportion is five percentage points higher or 20%. Children living in single mother families are also found to have significantly more difficulties communicating with their father in 23 of the 36 countries. In eleven of the thirteen remaining countries the same pattern is found, albeit non-significant at the .05 level.

Across the participating countries 28% of all children living with a single father are found to have difficulties communicating with their mother. This is a significantly higher prevalence than the 15% found in intact families. In individual countries the difference between these two groups of children is also significant in sixteen countries. The same pattern is also found in all but three of the remaining countries but is not significant at the .05 level.

Children living with their mother and stepfather are found to have significantly more problems communicating with their mother than their counterparts in intact families across the participating countries. This pattern is found in 32 of the 36 participating countries, although it is only statistically significant at the .05 level in 17 countries. Children living with their father and stepmother are also found to have significantly more problems communicating with their biological mother across the participating countries. Due to the relative scarcity of such families in most countries this pattern does however only reach statistical significance at the .05 level in four countries.

Table 3.

Percentage of 11, 13 and 15 years Old Students in 36 Countries that Find it Difficult or Very Difficult to Talk to Their Mother About Things That Really Bothers Them.

	<i>Intact families</i>	<i>Single mother</i>	<i>Single father</i>	<i>Mother and step father</i>	<i>Father and step mother</i>	<i>Joint physical custody</i>
Austria	14	15	34	15	25	17
Belgium	22	29	41	26	37	22
Bulgaria	12	16	14	22	19	20
Canada	18	26	30	22	34	21
Croatia	13	19	13	15	20	33
Czech Republic	20	25	31	20	32	26
Denmark	17	20	29	24	13	16
Estonia	11	16	12	15	22	9
Finland	14	17	20	14	22	15
France	25	30	22	29	38	25
Germany	15	21	33	19	34	8
Greece	14	14	29	17	50	21
Hungary	9	18	23	16	21	5
Iceland	13	17	20	16	13	12
Ireland	17	21	56	18	29	20
Israel	9	14	25	7	17	12
Italy	19	26	31	21	50	14
Latvia	17	19	28	19	6	18
Lithuania	18	23	35	24	18	29
Luxembourg	21	25	48	33	38	30
Netherlands	8	13	23	12	18	13
Norway	18	25	37	28	27	16
Poland	11	15	18	22	21	23
Portugal	20	27	31	20	43	11
Romania	7	9	18	8	13	14
Russia	16	19	31	17	25	16
Slovakia	14	17	29	16	0	22
Slovenia	8	10	29	15	24	8
Spain	15	20	14	22	15	15
Sweden	13	17	31	18	24	13
Switzerland	18	25	40	28	38	18
Turkey	16	17	21	18	11	0
Ukraine	9	13	18	12	22	20
Macedonia	10	10	15	21	0	0
United Kingdom	17	21	24	23	31	16
United States	26	32	32	32	32	26
Average	15	20	28	21	26	17

On average 17% of all children in joint physical custody find it difficult or very difficult to talk to their mother about things that really bother them. This is only two percentage points higher than for intact families and does not reach statistical significance at the .05 level. Given the low prevalence of joint physical custody in most countries this difference is also too subtle to be identified in most countries. Significantly less difficulties communicating with father are however found in four of the participating countries.

Multilevel Analysis of Difficulties in Communication with Parents by Living Arrangements

Table 4 shows that there are no significant gender differences in communication with mothers across all participating countries. However, daughters have 2.2 times greater odds of having difficulties talking with their fathers about things that worry them. The association between gender and impaired communication with both mother and father are found to vary significantly between countries. Such difficulties in communication with both mothers and fathers increase with age by a factor of 1.6–1.7 between the ages of 11 and 13 and by a factor of 2.2–2.4 between the ages of 11 and 15. The association between age and difficulties in parental communication does however vary significantly between countries, indicating cultural as well as developmental processes at work. In other words, children in general have more difficulties talking to their parents as they grow older, but this tendency is significantly more pronounced in some countries than others. In the context of the current study we simply control for these differences by age across countries but they warrant further study.

Controlling for differences by gender, age and living arrangements, children are found to have increased difficulties talking to both mother and father by a factor of about .7 for each unit increase on the four-point measure of perceived economic problems. In other words, those who believe their families are among those worst off have more than twice the odds of difficulties communicating with parents, compared to those best off. However, the strength of this effect varies significantly between countries.

As predicted, children find it more difficult to communicate with nonresident parents than resident parents. Children living with single mothers or mothers and stepfathers have about 1.4 times the odds of difficulties in communicating with their father, corresponding to a Cohen's *d* of 0.18–0.20 (for method of conversion see Chinn, 2000). The magnitude of this association varies significantly across countries in the case of single mothers, but is found to be invariant in the case of mother-stepfather families. As previously shown (Table 2) the difference in communicating with father between intact families and single mother families tends to be greater in Northern European countries and less in Southern European countries and the United States.

Conversely, children living with their father only or with father or stepmother have 1.7–1.9 times greater odds of experiencing problems in communicating with their mother, corresponding to a Cohen's *d* of 0.29–0.36. In this case the strength of the association varies significantly between countries for father-stepmother families but appears to be invariant for single father families. As shown above (Table 3), children in father-stepmother families tend to have worse relations with their mother than do children in intact families. These differences vary in size between countries but are in most cases too small to be statistically significant, given the relative rarity of this family structure. In a handful of countries in different parts of

Table 4.

Multi-level Analysis of Impaired Parental Communication in Different Family Structures Among 11 to 15 Year-Old Students in 36 Countries, HBSC 2005–2006.

	Mother			Father		
	OR	95% CI	Variance	OR	95% CI	Variance
Country-level						
<i>Intercept</i>	.16***	.14–.19	***	.46***	.41–.52	***
Individual-level						
<i>Gender</i>						
- Male	contrast			contrast		
- Female	1.02 ^{ns}	.97–1.08	***	2.22***	2.10–2.36	***
<i>Age group</i>						
- 11 year old	contrast			contrast		
- 13 year old	1.64***	1.51–1.78	***	1.67***	1.57–1.78	***
- 15 year old	2.36***	2.12–2.62	***	2.24***	2.03–2.48	***
<i>Perceived family affluence</i>						
- Family well off	.72***	.70–.75	***	.71***	.69–.72	***
<i>Primary home</i>						
- Intact family	contrast			contrast		
- Mother only	1.13***	1.08–1.19	n.s.	1.44***	1.36–1.52	**
- Father only	1.91***	1.65–2.23	*	.97 ^{ns}	.87–1.09	n.s.
- Mother and stepfather	1.24***	1.14–1.34	*	1.38***	1.31–1.45	n.s.
- Father and stepmother	1.69***	1.45–1.97	n.s.	1.21**	1.05–1.39	n.s.
- Joint physical custody	1.04 ^{ns}	.92–1.18	n.s.	.77***	.66–.91	*
Explained variance						
<i>Nagelkerke pseudo-R²</i>	.08			.14		

ns non-significant * $p < .05$ ** $p < .01$ *** $p < .001$

Bernoulli models with dichotomous dependent variables, coefficients are odds ratios with 95% confidence intervals.

Europe no difference or even a small, non-significant positive difference is observed (Denmark, Iceland, Lithuania, Macedonia, Slovakia, Spain, and Turkey).

Children living with single mothers or mothers and stepfathers also have 1.1–1.2 times greater odds of difficulties in communicating with their mother compared to intact families, corresponding to a Cohen's d of 0.07–0.12. This association varies significantly between countries in the case of mother-stepfather families but not single mother families. As previously shown (Table 3), statistically significant differences are found in eighteen of the thirty-six countries, in six of these countries the difference was ten percentage points or more (Luxembourg, Poland, Macedonia, Bulgaria, Norway, Switzerland).

Children living with their father and stepmother have 1.2 times greater odds of difficulties in talking to their father about important issues, corresponding to a Cohen's *d* of 0.11. This effect does not vary significantly between countries. In contrast, children who live with their father only are no different from their counterparts in intact families when it comes to communicating with their father. This effect does also not vary significantly between countries.

Joint physical custody is associated with less risk (OR .77) of difficulties communicating with their father than living in intact families, corresponding to a Cohen's *d* of -0.14. The odds of having problems communicating with one's mother are the same in intact families and joint physical custody but significantly lower than in other family types. These effects do not vary significantly between countries.

DISCUSSION

Our findings reveal a clear overall pattern and substantial variation in family arrangements across the 36 European, Mediterranean and North American countries under study. The vast majority of children in these countries live in some arrangement with their biological mother. The combined proportion of children living their mothers in an intact family, single parent family, mother-stepfather family, or in joint physical custody ranges from 94% to 99% between countries. The proportion living without their biological father however varies substantially between countries with the lowest rate of 6% in Macedonia and the highest 38% in Romania. Out of the twelve countries with the highest rate of children living in intact families, ten were Southern European or Mediterranean countries. Conversely, out of the twelve countries with the lowest rate of intact families, ten were Northern European or North American countries.

Joint physical custody is still quite rare in all the countries participating in the study, or similar to the prevalence of both single father and father-stepmother families. Prevalence rates of virtually zero were found in ten countries and rates around one percent were found in eighteen other countries. In the remaining eight countries, rates of 2–4% were found in two North American countries (Canada and the United States), four Nordic countries (Denmark, Iceland, Norway, and Sweden), and two other Northern European countries (Belgium and the United Kingdom). Due to the large sample size of over 192 thousand respondents our results are nevertheless based the responses of about 2,200 students in joint physical custody and allows some general conclusions to be drawn regarding parental communication in such family arrangements.

Difficulties communicating with parents were found to vary substantially across countries as well by age, gender and different family structures. Difficulties communicating with both father and mother increased significantly between eleven year old and thirteen year old students, and again between thirteen year old and fifteen year old students. It should however be noted that our conclusions regarding the association between family structure and difficulties communicating with parents are limited to older children and may not apply to children under the age of eleven. Future research must explore the extent to which these conclusions can be generalized to younger children.

Boys and girls were overall found to be equally likely to experience difficulties communicating with their mothers. It should however be noted that boys had more difficulties than girls

communicating with mothers in some countries but less difficulties in other countries without any clear geographical pattern to such gender differences. In contrast, girls were overall more than twice as likely as boys to experience difficulties communicating with their fathers, regardless of living arrangements. This is consistent with prior research indicating that fathers are much more involved with sons than daughters while mothers tend to be equally supportive of sons and daughters (Aldous, Mulligan and Bjarnason, 1998; Raley and Bianchi, 2006; Starrels, 1994). However, the strength of this difference again differed significantly across countries. The possible social and cultural roots of such gender differences in communication with fathers and mothers should be explored in future research.

Our measure of family affluence is based on children's perceptions of their family's economic situation compared to other households and should therefore be considered a rather weak measure of the actual social socio-economic status of the family. It could however be argued that such a general subjective perception of affluence or deprivation is more important to interpersonal relationships than more objective measures of socio-economic status. This standard subjective measure is also limited by asking the respondent how well off his or her 'family' is. Children living equally in two homes must therefore choose a single (or average) description of two households with potentially different socio-economic statuses. Regardless of these limitations we find perceived family affluence to predict a significantly higher risk of impaired communication with both mother and father. This finding is in line with previous studies showing that children in families suffering from economic hardship report worse social relations than children that belong to more affluent families (Bolger, Patterson, Thompson and Kupersmidt, 1995; Olsson, 2007). This measure can therefore be considered an adequate control for the potentially confounding effect of economic hardship on the relationship between family structure and parental relations.

Controlling for the beneficial effects of family affluence on parental communication our results indicate that children living in non-intact families generally find it more difficult to talk to their mothers than do their counterparts in intact families. This is particularly true when children do not live with their mother, but a small, statistically significant effect in the same direction is also found among children who live with a single mother or mother and stepfather. This is consistent with our expectations and prior research suggesting that the increased demand on the time of divorced mothers leads to less involvement with their children (Kendig and Bianchi, 2008). Contrary to expectations and some earlier research findings (Bray, 1999; Hetherington and Kelly, 2002; Juby, Bilette and Le Bourdais, 2007), however, the presence of a stepfather does not appear to be associated with impaired communication with either resident or nonresident mother.

We also find that children have more difficulties talking to their father about important issues if the father does not live in the household. Drawing upon previous research showing that single fathers spend more time with their children than married fathers (Hook and Chalasani, 2008), we expected children to have less problems communicating with single fathers than with fathers in intact families. However, children that live with a single father are found to have equally good communication with their fathers as those in intact families. Rather unexpectedly we also find significantly more impaired communication with fathers in father-stepmother families than intact families. Furthermore, the level of impaired communication with the father in father-stepmother families was not significantly different from absent-

father families (i.e. single mother or mother-stepfather families). Future research should further examine this increase in impaired communication with the resident father when a stepmother lives in the household.

A major conclusion of the present study is that children living in joint physical custody have equal or less problems communicating with their parents than their counterparts in intact families and less such problems than children in other types of non-intact families. Children living in joint physical custody are equally able as children in intact families to talk with their mothers about important matters and they are better able to talk with their fathers about such matters than those living in intact families. Given the cross-sectional design of the study these important findings cannot be interpreted causally, i.e. the study does not show that joint physical custody preserves relations with mothers or improves relations with fathers. There are at least three distinct processes that may have contributed these results.

First, joint physical custody may result in better communication with both biological parents by mitigating divorce-related stress factors such as the economic hardship and time constraints associated with single parenthood. The actual cost of supporting a child is likely more equally divided between the parents in joint physical custody than when the non-residential parent pays child support to the residential parent (Bender, 1994). As a result economic strain and perceived economic injustice is less likely to affect the relationship between children and their parents. Joint physical custody also offers opportunities for sharing parental responsibilities and having regular discussions with the other parent on the challenges of raising a child (Pleck and Masciadrelli, 2004). Regular communication between the parents and a joint strategy for parenting may well contribute to easier communication between the child and both parents. Single parents with joint physical custody also have more opportunities than single parents with sole custody to be 'single' as well as a 'single parent'. The social and psychological benefits of more degrees of freedom for single parents with joint physical custody may well contribute to better relations with their children.

Second, although the child only spends half of his or her time in the home of each parent, the quantity and quality of time actually spent together may increase in joint physical custody. Arnarsson and Bjarnason (2008) found that children spend significantly more time with their fathers in joint physical custody than in intact families, more than making up for the time lost by the mother. Joint physical custody may lead to increased paternal involvement in parenting, as well as the sharing of tasks and responsibilities between parents (Kline, Tschann, Johnston and Wallerstein, 1989). Fathers in joint physical custody arrangements may thus be more firmly established in their parental role than either fathers in intact families or 'weekend dads' that may be more in the role of entertaining their children. Joint physical custody may thus help ensure that both parents remain a fixed feature in their children's lives and that lines of communication remain open.

Third, children are not randomly selected into joint physical custody. Studies have consistently shown that high levels of conflict between parents may have long-lasting negative effects on children's adjustment following divorce (Amato, 1993; Davies and Cummings, 1994; Grych and Fincham, 1990; Hetherington, Bridges and Insabella, 1998). As a result there have been some concerns that joint physical custody may expose children to more parental conflict (Johnston, 1995; Twaite and Luchow, 1996) and that such arrangements

may in themselves be a source of friction between parents (Braver and Griffin, 2000; Pleck and Masciadrelli, 2004). This may in particular be a risk when joint physical custody is court-ordered rather than freely chosen by the parents. However, in his meta-analysis of studies on joint physical custody Bauserman (2002) found on average less conflict and better cooperation between parents choosing joint physical custody than between parents choosing some form of sole physical custody. Fathers seeking joint physical custody are also likely to be more involved with their children prior to divorce and have less difficulties communicating with them. Conversely, mothers agreeing to joint physical custody are likely to believe that the fathers are willing and able to maintain such an arrangement in a manner that benefits the child. The selection of parents into joint physical custody may therefore account for a significant portion of the relative ease with which children in such arrangements communicate with their parents in general and with their fathers in particular.

It is likely that factors such as less economic hardship and fewer time constraints, regular communication between parents, greater quality and quantity of time children spend with fathers in particular, and social selection into joint physical custody all contribute to better communication between parents and their children in such living arrangements. Further studies must disentangle these factors and attempt to establish any causal mechanisms at work and establish to what extent they are culturally invariant. Nevertheless, our results strongly suggest that parents willing to share physical custody do not need to fear a negative impact on their relations with their children. Impaired communication with the mother is no more likely in such living arrangements than in intact families and the lowest prevalence of impaired communication with father is found in joint physical custody. While this may in part reflect patterns of communication prior to divorce, children in joint physical custody have on average at least as good communication with their parents as their counterparts in intact families.

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