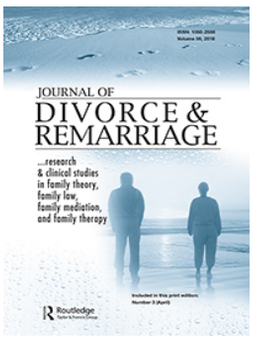

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Journal of Divorce & Remarriage

ISSN: 1050-2556 (Print) 1540-4811 (Online) Journal homepage: https://www.tandfonline.com/loi/wjdr20

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To cite this article: Sondre Aasen Nilsen, Kyrre Breivik, Bente Wold & Tormod Bøe (2018) Divorce and Family Structure in Norway: Associations With Adolescent Mental Health, Journal of Divorce & Remarriage, 59:3, 175-194, DOI: 10.1080/10502556.2017.1402655

To link to this article: https://doi.org/10.1080/10502556.2017.1402655

JOURNAL OF DIVORCE & REMARRIAGE
2018, VOL. 59, NO. 3, 175–194
https://doi.org/10.1080/10502556.2017.1402655

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Divorce and Family Structure in Norway: Associations With Adolescent Mental Health

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ABSTRACT

The aim of this study was to examine the association between family structure and adolecent mental health, after the considerable increase in divorced parents choosing joint physical custody (JPC) in Norway. Data stem from the youth@hordaland study, a population-based survey conducted in Norway in 2012. A total of 7,707 adolescents (47% male) 16 to 19 years old were included in this study. The adolescents were classified into 6 family structures. Mental health was measured using the Strengths and Difficulties Questionnaire (SDQ). No significant differences between nondivorced families (reference) and JPC were observed. Adolescents from single-parent and stepfather families scored significantly higher on all 3 SDQ scales, and adolescents from stepmother families scored significantly higher on the SDQ total and SDQ externalizing scales. In conclusion, the results of this study indicated that adolescents living in JPC did not have more adjustment problems compared to their peers living in nondivorced families.

KEYWORDS

divorce; family structure; joint physical custody; mental health; SDQ; youth@hordaland

The last decades have been marked by prominent shifts in the prevalence of various family forms in several industrialized countries (Sweeney, 2010). High divorce rates in both the United States and Europe (see Amato, 2014) have led to increases in single-parent and stepparent households, creating a more diverse family environment for children. Joint physical custody is the latest trend in family arrangements following divorce, often defined as a living arrangement where the child lives 30% to 50% of its time with each parent (e.g., Baude, Pearson, & Drapeau, 2016; Nielsen, 2014). In Norway, the frequency of joint physical custody has more than tripled from 2002 to 2012, with an estimated increase from 8% to 25%, accompanied by a reduction of children residing in sole mother custody (Lyngstad, Kitterød, & Nymoen, 2014). Similar trends have been reported in other European countries such as Sweden, Belgium, Denmark, and the Netherlands; in some U.S. states; and in Australia (see Nielsen, 2014). Common explanations for this increase are increased involvement of the modern father in their children's

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upbringing (Cancian, Meyer, Brown, & Cook, 2014) and law revisions in several countries that favor an equal sharing of the time that children spend at their parents' homes (e.g., Baude et al., 2016).

The increase in divorced parents choosing joint physical custody has sparked interest among researchers and policymakers about how children and youth adjust in this family structure, compared to those living in single-parent and stepparent families (Nielsen, 2014). In Norway, the last comprehensive attempt at comparing adjustment among children in different post-divorce family structures dates back to Breivik and Olweus (2006a), using data collected in the spring of 1997. The study primarily found more favorable outcomes for youths in joint physical custody compared to those from single-parent and stepfather families. However, the study by Breivik and Olweus (2006a) preceeded the current increase in joint physical custody, and there are reasons to believe that families choosing joint physical custody are more diverse and less selective than previously. A recent report found that joint physical custody is now a more common choice among most types of parents in Norway following divorce; among both parents with high and low income levels, high and low education levels, and high and low levels of conflict (Kitterød, Lidén, Lyngstad, & Wiik, 2016). The lack of empirical studies conducted in Norway the last decade leaves our knowledge of how youth adjust in current postdivorce family structures in Norway limited.

Adjustment in postdivorce family structures

Studies investigating the effects of divorce have usually focused on children residing with a divorced single mother, typically finding an increased risk of externalizing, internalizing, social, and academic problems among these children, compared to those living in a nondivorced, two-parent family (Amato, 2001; Amato & Keith, 1991). Although the majority of divorce research stems from the United States, a recent meta-analysis of 17 European studies found almost identical effect sizes (unweighted = –.39, weighted = –.17) to those found in the United States (Amato, 2014), indicating a small but robust negative effect of divorce on child mental health irrespective of cultural and national characteristics. Contrary to earlier beliefs, the economic welfare systems and liberal attitudes toward divorce in the Scandinavian countries do not seem to mitigate the negative effects of divorce in these countries (see Breivik & Olweus, 2006b).

Previously, remarriage was believed by some to alleviate the negative effects of growing up with a divorced single mother, as a stepfather would provide both parental and economic resources to the family (Cherlin & Furstenberg, 1994). This assumption has not withstood the test of time, as studies generally find that children growing up with a stepparent have lower academic achievement (Astone & Mclanahan, 1991; Bogenschneider, 1997;

Breivik & Olweus, 2006a) and are more at risk for depression (Zill, Morrison, & Coiro, 1993), emotional problems (Dawson, 1991; Hanson, McLanahan, & Thomson, 1996), and externalizing problems (Breivik & Olweus, 2006a) compared to children growing up with their two biological parents. Compared to children living with a single mother, several studies conclude that the risk for adjustment problems is fairly equal for children living in a stepfather family (Amato & Keith, 1991; Coleman, Ganong, & Fine, 2000). An interpretation of these findings is that possible benefits of introducing a stepparent to the family (e.g., increased economical and parental resources) might be counteracted by the stress related to establishing a new family structure (Breivik & Olweus, 2006a). A comparative study of adjustment in stepfather and stepmother families found higher self-esteem and fewer reported social problems for the latter group (Fine & Kurdek, 1992). Other studies have found that the impact of living in a stepfamily varies with the child's gender, where boys might experience higher adjustment problems in stepmother families, and vice versa for girls (see Amato, 1993). A study of Norwegian adolescents found that a stepmother generally did not make any large difference to adolescents' health-related adjustment, compared to those living only with their father (Ulveseter, Breivik, & Thuen, 2010). Child adjustment in stepmother families still represents a understudied phenomenon.

For children living with a single father, most research has found that they seem to have approximately equal risk of both academic (Downey, 1995; Jonsson & Gahler, 1997) and internalizing problems as their peers in single-mother families (Breivik & Olweus, 2006a; Buchanan, Maccoby, & Dornbusch, 1992; Downey, 1995). However, a growing number of studies indicate that adolescents living in father custody are at an increased risk of health compromising behaviors such as smoking, physical inactivity, alcohol and substance use, and engaging in antisocial activities compared with adolescents from single-mother families (see Coles, 2015; Ulveseter et al., 2010). A proposed explanation of these findings is that fathers monitor their children less, and generally have a more uninvolved parenting style that could increase the risk for externalizing problems (Breivik, Olweus, & Endresen, 2009). A recent report by Kitterød and Lyngstad (2014) concluded that father sole custody was most common in Norway when the mother had health or financial problems, and the father did not have financial problems. Previous studies have further found that father custody might be more likely when the children are older or boys, if the father had resonable financial resources, and if the mother was living with a new partner (Cancian & Meyer, 1998; Juby, Le Bourdais, & Marcil-Gratton, 2005). Such factors might be of importance when understanding adjustment among children and youth in this family structure.

Joint physical custody

Proponents of joint physical custody suggest that among its benefits, the child can maintain relationship with his or her two parents (Baude et al., 2016), coparenting might facilitate child–parent relationships and improve cooperation between the parents (Breivik & Olweus, 2006a), and coparenting might reduce possible negative influence of economic stress for the child (Bauserman, 2002). Opponents often point to the fact that joint physical custody necessarily imposes a constant change of household that could stress the child (Bauserman, 2002). Further, it has been stated that good cooperation and trust between the parents is key for this custody arrangement to benefit the child, and that high level of conflict is a contraindiction (Furstenberg & Cherlin, 1991; Hetherington & Kelly, 2002), although this notion has been heavily challenged (Nielsen, 2013).

In a meta-analysis Bauserman (2002) found that children in joint physical or legal custody displayed better self-esteem and greater emotional and behavioral adjustment than their counterparts from sole custody families. Still, lack of information about who actually lived with their father (Hagquist, 2016; Nielsen, 2011), and the fact that few of the studies used in the meta-analysis have been published in peer-reviewed journals (e.g., Breivik & Olweus, 2006a), might limit the generalizability of their findings. A recent summary of 40 studies examining the effects of joint physical custody concluded that overall, children in this living situation had better outcomes on measures of emotional, behavioral, and psychological well-being, as well as better physical health and better relationships with their fathers and their mothers even in the presence of conflict between their parents (Nielsen, 2014). Further, a recent meta-analysis comparing children in joint physical custody with children in sole custody found better outcomes for children in joint custody, although the effect size was rather small (d = .109; Baude et al., 2016). Positive outcomes were only significant for children living approximately equally with their two parents (i.e., 40%–60% or 50%–50%), but not for those spending less time with one of their parents (i.e., living 30%–70% or 35%–65%). For the Nordic countries, most studies investigating joint pysical custody stem from Sweden. These appear to be in line with other international studies, finding a lower risk of behavior problems (Carlsund, Eriksson, Lofstedt, & Sellstrom, 2013), and psychological complaints (Fransson, Turunen, Hjern, Östberg, & Bergström, 2016) among children in joint physical custody, compared to their counterparts in single-parent families. A recent Swedish study found that children with shared residence by and large tended to have comparable outcomes such as economic and material conditions, relations with parents, and health-related outcomes with those living in a nuclear family (Fransson, Låftman, Östberg, Hjern, & Bergström,

2017), and that psychological complaints were lower among adolescents in joint pysical custody than for those in sole parental care.

This study

The main objective of this research was to compare mental health among adolescents in six different family structures in Norway. To our knowledge, no other studies in Europe have attempted a similar comparison. We hypothesized that adolescents living in joint physical custody and adolescents living in a nondivorced two-parent family would have fewer symptoms of mental health problems compared to those living in either single-parent or stepparent households. No or small differences between the other postdivorce family structures were expected, except in relation to externalizing problems, where adolescents living in a single-father family were hypothesized to display the highest levels of adjustment problems.

Method

Procedure

The data for this article were collected in Hordaland County, Norway, from January to May 2012, and stem from the youth@hordaland survey, a population-based cross-sectional study of adolescents and students attending secondary education during spring 2012. The aim of the youth@hordaland-survey was to assess mental health, lifestyle, school performance, and health service use in adolescents. The fourth wave of the Bergen Child Study (BCS) is nested within youth@hordaland. For information about youth@hordaland, BCS, and related publications, see uni.no/en/uni-health/rkbu-vest/the-bergen-child-study/. In collaboration with Hordaland County, the BCS research group at the Regional Center for Child and Youth Mental Health and Child Welfare, Uni Research Health, invited all adolescents born between 1993 and 1995 (16–19 years old) to participate in the study. The adolescents received information about the study through their official school e-mail, and approximately 45 min during regular school hours were allocated for them to complete the Internet-based questionnaire. A teacher was present to organize the data collection and to ensure confidentiality. The questionnaire could be completed at their own convenience if they were not present at school that day, and some schools arranged catch-up days. Participation for children in hospitals or institutions during the study period was arranged for. Those who wished to participate were presented with a consent form on the first page of the electronic survey, where they indicated whether they consented to complete the entire survey or selected parts of it. The adolescents themselves consented to participate in the study, as Norwegian regulations

state that individuals 16 years and older are required to consent themselves. Their parents were informed about the study. The study was approved by the Regional Committee for Medical and Health Research Ethics in Western Norway.

Sample

A total of 19,439 adolescents born between 1993 and 1995 were invited to participate in the survey and 10,254 agreed, yielding a participation rate of 53%. In this article, a subsample of the youth@hordaland consisting of youths who sufficiently completed the items assesing parental divorce and living arrangement were examined (n = 7,707). The age (M = 17.40, SD = 0.84) and gender (53.5% female) distribution in this subsample were quite similar compared to the age (M = 17.42, SD = 0.84) and gender (52.7% female) distribution in the total sample.

Measurement

Family structure

Five main items were used to determine family structure: The respondents were asked (a) if their biological parents lived together (*yes, no*), (b) if their biological parents were divorced or separated (*yes, no*), (c) who they completely or partially lived with most of the time (*both, biological mother*, or *biological father*), (d) where they presently lived (*parents or guardians, foster parents, residential care, bedsit/dorm/collective apartment, own apartment*, or *other*), and (d) who they presently lived with (including *biological parents, stepparents, foster parents*, and *adoptive parents*). Based on these items, six groups were classified: nondivorced, two-parent family (n = 5,457, 52% girls), joint physical custody (n = 398, 49% girls), single mother (n = 1,011, 58% girls), stepfather (n = 543, 63% girls), single father (n = 212, 44% girls), and stepmother families (n = 86, 59% girls). See supplementary Figure 1 for a flowchart of this categorization.

The nondivorced, two-parent family group consisted of adolescents who reported that (a) their biological parents lived together, and (b) they presently lived with their parents (i.e., did not live with foster parents, in residential care, bedsit/dorm/collective apartment, etc.). The joint physical custody group consisted of adolescents who reported that (a) their biological parents did not live together, (b) their parents were divorced or separated, (c) they lived completely or partially most of the time with both their parents, and (d) they presently lived with their parents (i.e., did not live with foster parents, in residential care, bedsit/dorm/collective apartment, etc.). The inclusion criteria for the single-mother group were (a) the respondent's biological parents were divorced or separated, (b) they completely or partially

lived with their biological mother most of the time, (c) they presently lived with their parents (i.e., did not live with foster parents, in residential care, bedsit/dorm/collective apartment, etc.), and (d) did not live with their mother's new partner. The same logic was used for the-single father group, except here the adolescents responded that they completely or partially lived with their biological father most of the time, and they did not live with the father's new partner. Finally, the respondents were classified in the stepfather or stepmother group if they affirmed the criteria for the single-mother or single-father group, and specified that they also lived with their mother's or father's new partner.

Perceived economic well-being

Perceived economic well-being was measured by a single item where the adolescents were asked to rate their perceived economic well-being compared to most others on a three-level rating scale: (a) poorer than others, (b) equal to others, and (c) better than others. There is some suggestion that a perceived measurement of economic well-being is more strongly linked to mental health than merely asking respondents about their own or their family's factual income, because it might function as a cognitive average over several sosioeconomic indicators (Singh-Manoux, Adler, & Marmot, 2003).

Mental health problems

Mental health problems was defined according to the adolescents' self-reported scores on the Strengths and Difficulties Questionnaire (SDQ). The SDQ is a screening questionnaire for children 4 to 17 years old, including 25 items describing positive and negative attributes of children. The 25 items on the SDQ are allocated to five subscales with five items each: emotional symptoms, conduct problems, hyperactivity and inattention problems, peer relationship problems, and prosocial behavior. Each subscale is scored on a 3-point scale: *not true, somewhat true*, and *certainly true*, with each subscale score ranging from 0 to 10. In this article the total problems score and the internalizing and externalizing problems scales of the SDQ were used as measures of mental health, and were scored according to the SPSS syntax available at the SDQ Web site (www.sdqinfo.org/).

The total problem score is based on the sum of 20 items from all subscales except the subscale measuring prosocial behaviors. The internalizing scale is created by combining the peer problems and emotional problems subscales together, and the externalizing scale by combining the conduct problems and hyperactivity and inattention subscales. This division of the SDQ was recommended by Goodman, Lamping, and Ploubidis (2010) for conducting analyses in low-risk epidemiological samples. The SDQ has been validated in several countries including Norway (Rønning, Handegaard, Sourander, & Morch, 2004), and a review of 48 studies found the psychometric properties of the SDQ to be strong

(Stone, Otten, Engels, Vermulst, & Janssens, 2010). A recent psychometric study of the SDQ on the youth@hordaland sample also confirmed the utility of the SDQ among older adolescents (Bøe, Hysing, Skogen, & Breivik, 2016).

Gender and age

Gender and date of birth were identified through personal identity number in the Norwegian National Population Register. Exact age was calculated from the date of participation and date of birth.

Statistical analyses

SPSS version 24 for Windows was used for all statistical analyses. Chi-square tests were used to examine differences between adolescents in the different family structures with regard to demographic variables. To assess the relationship between family structure and mental health, three multiple regression analyses were conducted using family structure as a predictor and the SDQ total, SDQ internalizing, and SDQ externalizing scales as dependent variables. Given the nominal nature of the family structure variable, a dummy coding system was applied as detailed in Cohen, Cohen, West, and Aiken (2003, pp. 301–320). Adolescents living in a nuclear family were chosen as a reference group, as it was expected that this group would have the lowest scores on the SDQ scales. The regression analyses were organized in a similar manner: In Model 1 the dummy-coded family structure variables were entered to assess their univariate associations with the outcome measure; gender and perceived economic well-being were further added as covariates in Model 2. The ordinal perceived economic well-being variable was also dummy coded, using the *equal to others* category as the reference group. To estimate effect sizes, the mean scores on the SDQ scales were standardized, setting the grand mean to zero and the standard deviation to one. The standard deviation units would therefore correspond roughly to Cohen's *d* (Cohen, 1988) when comparing the different postdivorce family structures to those living in a nuclear family. Preliminary analyses indicated that there were no interaction effects between gender and family structure on the outcome measures, so analyses were collapsed over gender.

Missing data

Missing data points on some of the variables used to determine family structure were allowed, given that the remaining were sufficient in placing the adolescents into either of the family structures. For example, adolescents with divorced parents who had missing information on who they lived with most of the time were still included if they stated that they presently lived with either mother or father. Respondents specifying that they presently lived

with both were dropped, because it was impossible to determine if they lived equally with both parents (i.e., joint physical custody) or if they only occasionally stayed with one of the parents. Respondents with missing values that did not allow categorization into a family structure were omitted from the analysis.

For the regression analysis, missing data points (n = 115) were fairly low across the family structures. The majority (n = 81) pertained to adolescents living in a nuclear family, 4 pertained to those living in joint physical custody, 17 to the single-mother group, 6 for the stepfather group, 1 for the single-father group, and 2 for the stepmother group. These were removed from the regression analysis by listwise deletion.

Results

Sociodemographic characteristics across the family structures are shown in Table 1. There were some differences in gender distribution across the single-parent and stepparent families, mostly marked for adolescents living in a stepmother family where 62.6% were girls. The majority of adolescents in all family structures rated their perceived economic well-being as equal to others (range = 61.9%–72.3%). However, adolescents living with a single mother were about six times more likely to rate their economic well-being to be poorer than others (20.5%), and about half as likely to report it to be better than others (16.0%), compared to adolescents living in a nuclear family (3.2% and 28.8%, respectively). Chi-square tests revealed that there were differences between the family structures on gender, $\chi^2(5, 7707) = 39.02$, $p < .001$; and perceived economic well-being, $\chi^2(10, 7596) = 492.91$, $p < .001$, making it meaningful to add these as covariates in the further multiple regression analysis. The gender distribution and the rated perceived economic well-being between adolescents living in joint physical custody and those living in a nuclear family appeared quite similar.

The mean self-reported symptom scores with 95% confidence intervals for each of the SDQ scales are portrayed across each family structure in Figure 1. A pattern emerged for each of the SDQ scales, indicating that self-reported symptoms were higher for the single-parent and stepparent families than for nuclear and joint physical custody families. This was further investigated in the multiple regression analysis.

Results from the multiple regression analysis for each of the SDQ scales are presented in Table 2. In the unadjusted models (Model 1) adolescents living in a single-parent or stepparent family scored statistically significantly higher than adolescents living in a nuclear family across the SDQ scales. One exception was that those living in a stepmother family did not significantly differ (B = 0.67, p = .064) on the SDQ internalizing scale. Adolescents living in a stepfather family had the highest SDQ total score (B = 1.87, $p < .001$),

Table 1. Sociodemographic Characteristics by Family Structure (N = 7,707).

	Nuclear family[a]		Joint physical custody[b]		Single mother[c]		Stepfather[d]		Single father[e]		Stepmother[f]		
Family structure	%	*n*	%	*n*	%	*n*	%	*n*	%	*n*	%	*n*	*p value*
Gender													< .000
Girl	52.4%	2,860	49.0%	195	57.6%	582	62.6%	340	44.3%	94	59.3%	51	
Boy	47.6%	2,597	51.0%	203	42.4%	429	37.4%	203	55.7%	118	40.7%	35	
Age													
M	17.4		17.3		17.5		17.4		17.5		17.4		
SD	0.84		0.80		0.84		0.82		0.86		0.79		
Perceived economic well-being													< .000
Poorer than others	3.2%	172	5.8%	23	20.5%	204	8.8%	47	11.8%	25	11.9%	10	
Equal to others	68.0%	3,655	69.3%	273	63.5%	631	72.3%	388	69.2%	146	61.9%	52	
Better than others	28.8%	1,549	24.9%	98	16.0%	159	19.0%	102	19.0%	40	26.2%	22	

Note. *p* value indicates significant differences between adolescents across the family structures. The *p* values are derived from chi-square tests.
[a]n = 5,457. [b]n = 398. [c]n = 1,011. [d]n = 543. [e]n = 212. [f]n = 86.

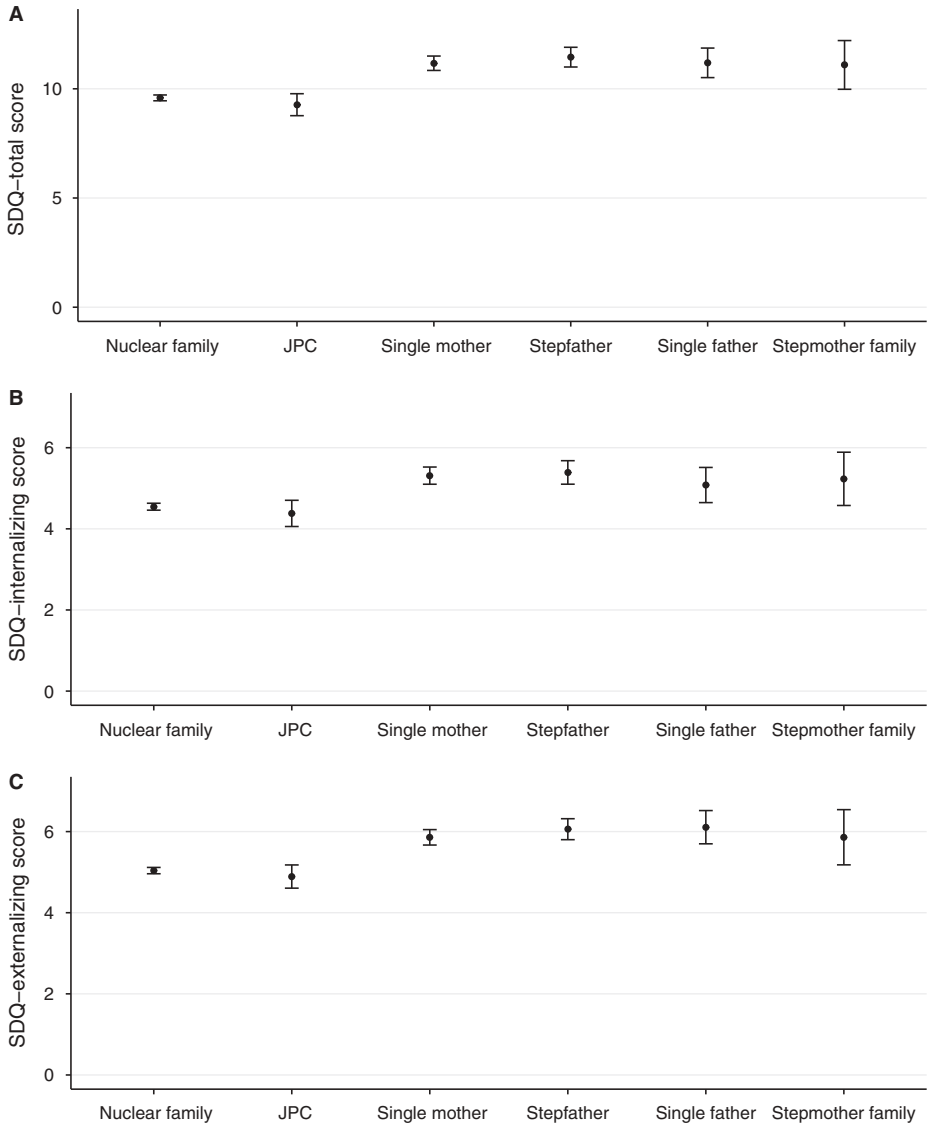

Figure 1. Mean Strengths and Difficulties Questionnaire (SDQ) symptom scores as a function of family structure. Error bars represent 95% confidence intervals of the mean. JPC = joint physical custody.

whereas adolescents living in a single-father and a stepfather family had the highest SDQ externalizing scores (B = 1.02, p < .001).

Those living in joint physical custody scored somewhat lower than those living in a nuclear family across all three scales, but this difference was not statistically significant (SDQ total: B = −0.27, p = .310; SDQ internalizing: B = −0.14, p = .408; SDQ externalizing: B = −0.13, p = .404).

In the adjusted models (Model 2), adjusting for gender and perceived economic well-being reduced the difference between those living in a nuclear

Table 2. Linear regression models of the SDQ-scales by family structure, gender and perceived economic well-being

		SDQ-total		SDQ-internalizing		SDQ-externalizing	
		Model 1[a]	Model 2[b]	Model 1[a]	Model 2[b]	Model 1[a]	Model 2[b]
		b (eff. size)	b (eff. size)	b (eff. size)	b (eff. size)	b (eff. size)	b (eff. size)
Family Structure	Nuclear family	ref	ref	ref	ref	ref	ref
	Joint physical custody	−0.27 (−0.05)	−0.29 (−0.06)	−0.14 (−0.04)	−0.14 (−0.04)	−0.13 (−0.04)	−0.15 (−0.05)
	Single mother	1.60 (0.31)**	1.01 (0.20)**	0.77 (0.23)**	0.36 (0.11)*	0.83 (0.28)**	0.65 (0.22)**
	Stepfather	1.87 (0.36)**	1.51 (0.29)**	0.85 (0.26)**	0.55 (0.17)**	1.02 (0.34)**	0.95 (0.32)**
	Single father	1.57 (0.31)**	1.47 (0.29)**	0.55 (0.17)*	0.51 (0.16)*	1.02 (0.34)**	0.96 (0.32)**
	Stepmother	1.54 (0.30)**	1.18 (0.23)**	0.67 (0.20)	0.42 (0.13)	0.87 (0.29)*	0.77 (0.26)*
Gender	Girl	–	ref	–	ref	–	ref
	Boy	–	−1.89**	–	−1.70**	–	−0.19*
PEW*	Equal to others	–	ref	–	ref	–	ref
	Poorer than others	–	2.75**	–	1.63**	–	1.13**
	Better than others	–	-0.09	–	-0.26*	–	0.17*
Model R^2		0.020	0.070	0.010	0.095	0.018	0.026

Note: Results are presented in unstandardized beta coefficients with effect sizes expressed in standard deviation units in parenthesis.

[a]Model 1 is unadjusted; family structure as a predictor was entered individually to assess its univariate association to the outcome measure ($N = 7592$).

[b]Model 2 is adjusted for gender and perceived economic well-being; all categories of predictors were entered in a single step to assess their multivariate associations to the outcome measure ($N = 7592$).

PEW = Perceived economic well-being. $p < 0.05$; ** $p < 0.001$.

family and those living in single-parent and stepparent families. The reduction was most marked for adolescents living in a single-mother family across all three scales. Still, the differences remained significant across all three scales, except for adolescents living in a stepmother family, who also in Model 2 did not score significantly higher on the SDQ internalizing scale. The range of the estimated effect sizes for the single-parent and stepparent families was higher for the SDQ externalizing scale (0.22–0.32) than for the SDQ internalizing scale (0.11–0.17). For both scales, those living in a single-mother family had the lowest effect size, whereas those living in a single-father or a stepfather family were in the higher end.

The multiple regression analyses were rerun using joint physical custody as a reference group. This yielded quite similar results. The only difference was that the stepmother group was statistically significantly different compared to those living in joint physical custody for the unadjusted model on the SDQ internalizing scale.

Discussion

The aim of this population-based study was to examine the adjustment of adolescents in different family structures in Norway. In accordance with previous research (e.g., Amato, 2001; Amato & Keith, 1991; Breivik & Olweus, 2006a), the findings suggested that adolescents living in single-parent and stepfather families following divorce displayed higher adjustment problems compared to their peers living in a nuclear family. Overall, the groups scored higher on externalizing problems compared to internalizing problems.

When comparing adolescents in single-parent and stepparent families, a certain pattern emerged across all three SDQ scales in the adjusted analyses Adolescents in stepfather and single-father families displayed the highest SDQ scores, whereas adolescents living with a single mother had the lowest SDQ scores. These differences should not be exaggerated, however, given that the mean differences were small, indicating that the groups were fairly similar across all three scales. The results of this study therefore support findings from previous studies indicating small differences in adjustment problems between those living in a single-mother versus a stepfather family (e.g., Coleman et al., 2000). Absence of positive stepfather effects, despite the fact that children in stepfather families often benefit from increased economic resources (e.g., Sweeney, 2010), have led contemporary researchers to focus more on the relationship quality between stepfathers and stepchildren, rather than the presence of stepfathers per se (King, Amato, & Lindstrom, 2015).

Although adolescents living with a single father had the highest score on the SDQ externalizing scale, this score did not deviate substantially from

those in single-mother and stepparent families. Thus, this study cannot firmly conclude as other Norwegian (Breivik & Olweus, 2006a; Naevdal & Thuen, 2004) and international studies (see Coles, 2015) have that adolescents living with a single father have an additional risk for externalizing problems following divorce. For example, Breivik and Olweus (2006a) found that adolescents from single-father families in Norway had an average score on antisocial behavior that was 0.75 *SD* units higher than those living in a nuclear family, and approximately 0.3 and 0.4 *SD* units higher than those in single-mother and stepfather families, respectively. In our study, the difference on the SDQ externalizing scale between these groups was considerably lower, with 0.32 *SD* units higher compared to those in a nuclear family, and 0.11 *SD* units higher than those in a single-mother family, and the difference between single-father and stepfather families was negligible. This could be due to differences in measurements, or that the SDQ externalizing scale does not sufficiently capture antisocial tendencies among older aldolescents. On the other hand, these results could be a reflection of positive changes in parenting practices. Alternatively, a possible explanation could be that the selection mechanisms that select youth into this family arrangement have been altered. For example, it has been found that father custody is more likely to be a result of a problematic family environment such as high interparental conflict (Buchanan et al., 1992). If such selection factors no longer operate, it could explain why adolescents in single-father families did not substantially deviate in relation to externalizing problems. The design of this study did not permit examination of such alternative explanations, making any conclusion speculative. It would be interesting for future studies to investigate if there is a decline in externalizing problems among youths in single-father families.

Adolescents living in a stepmother family did not score significantly higher on the SDQ internalizing scale compared to those living in a nuclear family. The results did, however, go in the expected direction, and the stepmother group did actually have a higher score than those living in a single-mother family. It has been argued that the effects of living in a stepfamily could depend on the interaction between the child's and the stepparent's gender (see Amato, 1993). Our results did not indicate that gender effects were present, however. The little knowledge of characteristics of this family structure does encourage caution when interpreting these results. It could be that certain factors within stepmother families somehow moderate the risks of developing internalizing problems, but the nonsignificant results are more likely due to a of lack of statistical power, as the sample size of the stepmother group was small compared to the other family structures.

In line with a growing body of studies (see Baude et al., 2016; Nielsen, 2014), adolescents in joint physical custody were better adjusted than their counterparts in single-parent and stepparent families. Although adjusting for

perceived economic well-being reduced the difference, this factor did not alone explain the better adjustment of adolescents in this family structure. In fact, adolescents living in joint physical custody actually scored slightly lower across all three SDQ scales than adolescents living in a nuclear family. These results concur with studies that have found that children and youth in joint physical custody appear more similar to those living in a nuclear family, relative to those living in single-parent or stepparent families (Bauserman, 2002; Breivik & Olweus, 2006a). Compared to the recent meta-analysis by Baude et al. (2016), this study obtained somewhat higher effect sizes for the difference between joint physical custody and single-parent families (SDQ total for the single mother group = 0.25, compared to the overall effect size in the meta-analysis = 0.109). The results appear, however, quite similar to a recent Swedish study that obtained an effect size of 0.24 for the difference between joint physical custody and sole parental care on measures of psychological complaints (Fransson et al., 2017). This is perhaps not surprising, as the majority of the studies in the meta-analysis stem from North America, whereas the Swedish context generally is assumed to be quite similar to the Norwegian context.

In light of the recent increase of joint physical custody families, the results of this study could be interpreted in several ways. Parents choosing joint physical custody following divorce in Norway today appear to be a more heterogenous group. Following the selection perspective (see Amato, 2000), a hypothesis could therefore be that youth in joint physical custody today would display higher levels of adjustment problems than when this custody arrangement was less frequent and primarily chosen by a selection of high-socioeconomic status and /low-conflict parents. Implicit in this line of reasoning, although levels of income, education, and conflict might be less important factors in selecting children and youth into joint physical custody today, these factors are still important in determining child adjustment. The results of this study found favorable outcomes for children in joint physical custody, largely similar to a previous Norwegian study counducted before the marked increase of joint physical custody arrangements in Norway (i.e., Breivik & Olweus, 2006a). These results could therefore imply that it is the inherent qualities of this custody arrangement, and not selection based on preexisting factors (e.g., income, education, and levels of conflict), that lead to the apparent better adjustment of children in this custody arrangement. Nielsen (2014) reached a similar conclusion in her summary of 40 studies examining the effects of shared parenting, noting that while shared parenting couples tended to have higher incomes and less inter-parental conflict than other parents, these factors alone did not explain the better outcomes for the children.

Several possible positive qualities with joint physical custody have been proposed, such as better child–parent relationships, improved parental

cooperation, and better economic resources (Bauserman, 2002; Breivik & Olweus, 2006a). Another possible mechanism could be that of parenting style. A recent study found that fathers in joint physical custody arrangements are more likely than other divorced fathers to have an authoritative parenting style, which is linked to better child adjustment (Bastaits, Ponnet, Van Peer, & Mortelmans, 2015). Although such studies give reason to belive that there exist positive features of joint physical custody that might be less prominent in other postdivorce family arrangements, it is still too early to dismiss the selection perspective altogether. The cross-sectional nature of the majority of studies investigating the effects on family structure on child adjustment prohibit strong causal conclusions to be reached. Although parents choosing joint physical custody in Norway now appear to be a more heterogenous group, there is still a majority of both mothers and fathers with high levels of education and low levels of conflict who choose this custody arrangement (Kitterød et al., 2016). It is also important to emphasize that postdivorce family arrangements are not static enteties as children switch postdivorce family structure to a rather large extent (Clarke-Stewart & Brentano, 2006). Thus children might be more likely to be selected into certain family arrangements based on how they adjust to the postdivorce process, a tendency that might turn out to be particularly important for samples with rather old adolescents such as those in this study (16–19 years old). This, combined with the amount of other factors that have the potential to influence child adjustment both before and after the divorce (e.g., genetics, parental factors, child factors), makes it necessary to apply caution when drawing casual inferences about effects of living in various family sturctures such as joint physical custody.

Strengths and limitations

A major strength of this study was the use of a large population-based sample that made it possible to distinguish and examine both frequent and less frequent family arrangements following divorce with relatively good statistical power. Another strength was the use of a well-validated measure of mental health, and the inclusion of gender and socioeconomic status as covariates. Although a large sample, the participation rate was only 53% and adolescents in schools were overrepresented. Attrition from survey studies is increasing (Morton, Bandara, Robinson, & Carr, 2012), and nonresponse is found to be related to socioeconomic status (Galea & Tracy, 2007), which might influence the generalizability of the findings. Previous research from earlier waves of this study have also found psychological problems to be a predictor for nonparticipation (Stormark, Heiervang, Heimann, Lundervold, & Gillberg, 2008). Furthermore, the sample size of the stepmother group was relatively small compared to the others. This could

limit the ability of this study to draw conclusions for this group. Another limitation of this study was not adjusting for other factors linked to adolescents' adjustment, such as age, parental education, levels of parental conflict before and after divorce, time since divorce, family transitions, and parent–child relationships. The fact that family structure is not a static entity, but dynamic as parents remarry, new children are born, and living arrangements change, could make the family structures differ in complex ways not explored in this study. The cross-sectional nature of the study also precludes any inferences of causality.

Conclusion

Our main finding in this population-based study of Norwegian adolescents was that adolescents living in joint physical custody did not have higher levels of adjustment problems compared to their peers living in a nuclear family. The results of this study therefore do not give any clear reasons to worry about the rapid increase in families choosing joint physical custody in Norway. To further elucidate the associations between family structure and child adjustment, there is a great need for longitudinal studies on this topic. Further, it would be interesting for future studies to investigate a broader scope of characteristics (i.e., beyond that of education, income, and conflict levels) of both parents and children in different custody arrangements following divorce. The term *family complexity* represents a new perspective that widens the scope of researchers investigating family structure, highlighting the importance of not only focusing on children's family structure as defined by the parental adult(s) with whom they share a home, but also children's relationships to siblings, step-siblings, and family members outside the household (Brown, Manning, & Stykes, 2015). As such, integrating family structure with family complexity, preferably using longitudinal designs, could be the next step toward a greater understanding of how children and adolescents adjust in different post-divorce family structures.

Funding

This project has been made possible by the Norwegian ExtraFoundation for Health and Rehabilitation.

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