Psychosocial effects of homeschooling during the COVID-19 pandemic: Differences between seven European countries and between children with and without mental health conditions

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ABSTRACT

The aim of the present study was to examine parental experiences of homeschooling during the COVID-19 pandemic in families with or without a child with a mental health condition across Europe. The study included 6720 parents (2002 parents with a child with a mental health condition and 4718 without) from seven European countries: the United Kingdom (n=508), Sweden (n=1436), Spain (n=1491), Belgium (n=508), the Netherlands (n=324), Germany (n=1662) and Italy (n=794). Many parents found homeschooling to be of poor quality, with insufficient support from schools and general negative effects on both children and parents. In most countries, online teaching was uncommon, leaving parents with primary responsibility for managing their child's schooling. Parents also reported increased levels of stress, worry, social isolation, and domestic conflict. A small number of parents reported increased parental alcohol/drug use. Some differences were found between countries and some effects were more pronounced in families with a child with a mental health condition. However, group differences were generally small, indicating that negative effects were present in many families across countries. It should also be noted that some parents reported positive effects of homeschooling for their child or themselves. The adverse effects of homeschooling will likely have a long-term impact and contribute to increased inequalities. Given that school closures have been argued to be less effective than other social distancing interventions, policymakers need to carefully consider the negative consequences of homeschooling during a possible second wave of the COVID-19 pandemic and future pandemics.

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The medical consequences of the COVID-19 have been severe, but little is known about the psychosocial consequences for families and children. To reduce COVID-19 transmission, many countries imposed lockdown measures, including school closures. Schools offer many critical services beyond education (e.g., nutrition, exercise, social contact, and mental health services) [1] and school closures may therefore disrupt the everyday functioning of children and their parents. A few recent reviews and commentaries have suggested that social isolation contributes to depression [2] and may contribute to mental health risks for children (e.g., stress, anxiety, family conflict) both during and after the pandemic [3]. There are also empirical data showing that inattention and irritability have been common in children during the pandemic [4] and that homeschooling is one of the activities associated with the strongest negative effects [5]. Nonetheless, there have been no large-scale international studies examining the psychosocial effects of homeschooling during the COVID-19 outbreak.

It has been hypothesized that children with mental health conditions may be especially vulnerable to the consequences of the COVID-19 pandemic [6,7]. Two smaller surveys targeting parents of children with a neurodevelopmental disorder have shown increased problems with managing daily life and aggression [8,9]. However, it has also been suggested [3,10] that children with mental health conditions may experience positive effects of homeschooling – a claim requiring further exploration.

The overall aim of the present study was to investigate parents' experiences of homeschooling during the COVID-19 pandemic. As countries vary with regard to, e.g., restriction levels and schooling organization during the COVID-19 pandemic, which may have different impacts on psychosocial functioning, data from seven different European countries were included. To investigate families that may be particularly vulnerable to the effects of the COVID-19 pandemic, we oversampled families with a child with mental health problems. First, we examined differences between seven European countries with regard to the following research questions: 1) How was homeschooling during the COVID-19 pandemic organized in terms of teaching in general (i.e., on-line teaching, parent-led homeschooling, peer-led homeschooling, self-study) and support for children with special educational needs? 2) What were the negative and positive effects of homeschooling, 3) What changes in daily life functioning (e.g., family conflicts, parental alcohol use) did families experience during the COVID-19 pandemic. Second, we compared families with and without a child with mental health problems

regarding their experiences of effects of homeschooling and effects on daily life functioning during the COVID-19 pandemic.

Methods

Participants

The inclusion criterion for the present study was parent of a child (age 5-19 years) receiving homeschooling due to school closure during the COVID-19 pandemic. If a parent had several children doing homeschooling, they were asked to rate their eldest child. Altogether, the study included 6720 parents from seven countries across Europe: the United Kingdom (UK; n=508), Sweden (n=1432), Spain (n=1491), Belgium (n=508), the Netherlands (n=324), Germany (n=1662), and Italy (n=794). Parents were asked whether their child had received a diagnosis for a mental health condition. If answering “yes”, they were asked to list what diagnosis/diagnoses the child had received. To ensure these families were sufficiently well-represented in the dataset, we advertised the study via support groups and social media forums that cater specifically to families affected by mental health problems in general or neurodevelopmental disorders specifically (i.e. Attention Deficit Hyperactivity Disorder [ADHD] or Autism Spectrum Disorders [ASD]). A total of 2002 parents of children diagnosed with at least one mental health condition (MHC group) and 4718 without a mental health condition (NO-MHC) were included in the study.

Materials and procedure

Data were collected from April 28 to June 21, 2020, using an anonymous digital survey distributed to parents via social media, schools, parent networks, and parent support groups. A wide range of schools from diverse socio-economic areas in each country were asked to support the study by sharing the survey with parents. Families with mental health problems were oversampled in all countries, except Germany and Italy. This oversampling was achieved by posting information about the study on various social media forums targeting mental health problems in general or forums or support groups specifically targeting Attention Deficit Hyperactivity Disorder (ADHD) and/or autism spectrum disorders (ASD). The study was approved by the ethics committees in each one of the seven participating countries.

Organization of homeschooling

Organization of homeschooling was first of all measured as the percentage of time spent on the following activities: 1) teacher contact (i.e. on-line teaching), 2) peer contact, 3) self-study and 4) parent contact. Secondly, we asked parents whether their child normally received and special educational support and to what extent extra support was received during homeschooling. For parents whose child did receive extra support during homeschooling, we also asked whether they thought that this support was sufficient and whether the school had been in contact with the family to discuss the need for support during homeschooling.

Negative and positive aspects of homeschooling

Negative and positive aspects of homeschooling focused on the following four domains: 1) quality of homeschooling, 2) general effects, 3) parental worry/stress and 4) child participation in homeschooling. Quality of homeschooling was measured using the following 3 items: “the quality of my child’s homeschooling is very poor”, “The school’s support to students during homeschooling is not sufficient” and “It is impossible to get homeschooling to work well for my child.” General effects included two items each for children (“Homeschooling has had negative/positive effects on my child’s life”) and parents (“Homeschooling has had positive/negative effects on my own life”). The item “I am worried that my child will not be able to handle school as well as he/she normally does because of homeschooling” measured parental worry and the item “I feel stressed because of the extra work that homeschooling demands of me as a parent” measured parental stress. Child participation in homeschooling was measured using the following two items: “Homeschooling puts too high demands on my child to plan his/her own schoolwork” and “My child cannot fully take part in homeschooling and therefore misses some of the school activities.” A 5-point Likert scale ranging from 1 (“strongly disagree”) to 5 (“strongly agree”) was used for all items. However, when analyzing the data, all items were dichotomized and reported as the proportion of parents reporting the two highest scores (i.e., “agree” or “strongly agree”) as this provided a simple metric to compare between countries and between MHC and NO-MHC families.

Effects of the COVID-19 pandemic on daily life functioning

With regard to effects on daily life functioning, we included a number of questions assessing changes during the COVID-19 pandemic compared to before using a 5-point scale (1 = “much less than before” and 5 =

“much more than before”). These questions assessed social isolation, family conflict, alcohol use, child digital media use, parental work problems and financial problems. The specific items included to measure each domain are presented in Table 3. Similarly to the items measuring effects of homeschooling, all items were dichotomized and analyzed as the proportion of parents reporting the two highest scores.

Statistical analyses

First, we used Analyses of Variance (ANOVA) to investigate differences between countries with regard to organization of homeschooling. Effects sizes were calculated using eta squared (η^2), where .14 is considered a large effect, .06 a medium-sized effect, and .01 a small effect).¹¹ Second, used chi-square analyses to study group differences between the seven countries with regard to organization of special educational needs. Effect sizes were calculated using Cramer’s V, where .50 is considered a large effect, .30 a medium effect, and .10 a small effect.¹¹ Third, we used chi-square analyses, to investigate differences between families having a child with (i.e., MHC group) or without (NO-MHC) a mental health condition. We first conducted an overall chi-square analysis for all countries combined and then also chi-square analyses for each pairwise comparison. These group comparisons were also complemented with effects sizes using Cramer’s V. For all analyses, we adjusted the alpha level to $p < .001$ to control for multiple comparisons. To reduce the risk of overemphasizing significant effects with small effect sizes, we also focused on effects of at least medium size.

Results

Table 1 presents descriptive data, including the number of families with a child with or without a condition for each country. A significant medium-sized effect of child age was found. The children of the Swedish participants were older than the children in the other countries, because in Sweden homeschooling was mainly implemented for children ≥ 15 years. There were also large differences between some countries with regard to the proportion of families with a child with mental health problems. This was a result of the fact that families with mental health problems were over-sampled in five of the included countries, but not in Germany and Italy. As mental health problems are likely to affect the experiences of homeschooling, we therefore only included families without mental health problems when examining differences between countries.

Differences between countries

Organization of homeschooling

On average, children spent about 50% of their time on self-studies and about 30% in contact with a parent (Table 2). Thus, the time spent in contact with a teacher or with peers was very limited. For time in teacher contact, a number of medium-to-large effect sizes were found. Percentages were the lowest in UK and Germany (about 5% each), and these percentages differed from Spain, Belgium and the Netherlands (11.83-13.93%), which in turn differed from Italy and Sweden (24.38% and 30.12%, respectively). For peer contact, students in Sweden (12.87%) and Belgium (12.43%) students spent more time studying with peers compared to students in the UK (3.06%). Students in Italy (35.16%) spent less time with self-study compared to students in Belgium (54.07%) and Germany (54.53%). Finally, students in Sweden (15.28%) spent less time studying with a parent compared to students in all other countries (30.19 – 45.18%).

Except for self-study, significant medium-to-large-sized effects of age group were found, $F > 225.58$, $p < .001$. Time spent in contact with teachers and peers increased with age, whereas the opposite pattern was found for time spent with parents. However, even among teenagers, the average percentage for teacher contact was as low as 4.42% in the UK and 6.90% in Germany, but 34.16% in Sweden and 36.22% in Italy.

With regard to special educational needs, 7.4% of the parents in the NO-MHC group and 60.3% of the parents in the MHC group reported that their child had special education needs (SEN). Most children with such needs (78.4%) received extra educational support during homeschooling, with similar percentages across countries (Table 2). However, a majority (65.3%) did not feel this support was sufficient, and many schools (29.0-55.7%) had not been in contact with parents to discuss the need for extra educational support during homeschooling. No significant differences between countries of at least medium effect size were found for special education.

Positive and negative effects of homeschooling

A significant effect of country was found for all variables related to positive and negative effects of homeschooling (see Table 2, NO-MHC group). The proportion of parents reporting “the quality of my child’s homeschooling is very poor” was, on average 19.2%. Significant group differences with a medium effect size were found on this variable between Belgium and Sweden (both about 8%) and Spain (31.3%). A relatively large proportion of parents (18-45%) reported that schools’ support to students during homeschooling had been

insufficient, with no medium-sized effects when comparing different countries. On average, 16.7% of the parents reported that “it is impossible to get homeschooling to work well.” This proportion differed between countries with lower percentages in Belgium and Sweden (<5%) compared to Spain (23.7%) and Italy (26.6%).

With regard to general negative effects of homeschooling, parents frequently reported adverse effects on both their child (17.4-27.6%) and on themselves (11.1-41.3%). In all countries except Sweden, parents reported more adverse effects on themselves compared to their child (see Figure 1). Differences between countries were generally small, except that the proportion of parents reporting negative effects of homeschooling for parents were lower in Sweden (11.1%) compared to all other countries except the Netherlands (33.5-41.3%).

A substantial proportion of parents also reported positive effects of homeschooling on children (11.1-38.0%) and themselves (6.3 – 31.1%). As can be seen in Figure 1, the proportion of parents in the NO-MHC group reporting positive effects of homeschooling were actually somewhat higher compared to those reporting negative effects in both Sweden and the Netherlands, but not in the other five countries. For positive effects on children, differences between countries with medium-sized effects were found between Italy (11.1%) and the Netherlands (38.0%). For positive effect of homeschooling on parents themselves, there was a difference between Italy (6.3%) and the Netherlands (38.6%).

For parental worry and stress, the proportions exceeded 40% in many countries. Medium-size effects were found for both parental worry and stress when comparing Sweden (18.1% and 14.2%) with Spain and Italy (48.0-56.8%).

Across countries, about one third (33.8%) of parents felt homeschooling put too high demands on children. Some parents (11.6%) also reported that their child was unable to fully participate in homeschooling. More parents in Belgium (31.4%) than in Sweden, the Netherlands, Germany, and Italy (5.3-8.8%) reported that their child could not fully participate in homeschooling.

With regard to effects of age, no significant effects were found for negative or positive effects on children or positive effects on parents. For all other homeschooling-related variables, parents of younger children reported significantly more problems compared to parents of older children, all $F > 20.07$, $p < .001$. However, effect sizes were small (all $\eta < .06$), except for a large effect of age for parental stress.

Effects of COVID-19 on daily life functioning

Questions related to daily functioning asked participants to evaluate their current situation with the situation before the COVID-19 pandemic. Thus, these effects were not meant to capture effects of homeschooling specifically, but rather effects of the COVID-19 pandemic more in general. In most countries, a large proportion of parents (most often 50% or above) reported that they and their child felt more isolated and that the child used digital media more often for things besides schoolwork (Table 2, NO-MHC group). Differences between countries were significant, although effect sizes were generally small, except for medium-size effects showing that fewer children in Sweden (35.9%) increased their digital media use compared to children in the UK, Spain and Belgium (68.7-75.8%). Concerning potentially more serious negative effects, a relatively large proportion of parents reported more conflicts with the child (11.0-41.3%) and between adults (6.8-22.5%). A smaller proportion of parents (on average 5%) also reported increased levels of parental alcohol/drug use, with medium-sized effects when comparing the UK (19.1%) with Sweden, Spain and Italy (> 3%). A substantial proportion of parents also reported work-related problems (10.9-29.9%) or financial problems (7.4-20.0%) due to the COVID-19 pandemic, with none of the difference between countries reaching a medium effect size.

No significant age effects were found for parental alcohol/drug use, increased conflicts between adults or financial problems. For all other variables related to effects on daily life functioning, parents of younger children reported significantly more problems compared to parents of older children, all $F > 5.24$, $p < .001$, though effect sizes were small ($\eta^2 < .02$).

Differences between families with or without a child with a mental health condition

As seen in Table 4, differences between the MHC and the NO-MHC group were significant for all variables related to parental experience of homeschooling. However, the effect size for these differences were mostly small. Medium effect sizes were only found between the MHC and the NO-MHC group in the UK and Sweden for the question on parental worry and the two variables related to child participation in homeschooling. In addition, there were differences of medium effect sizes in Sweden for parental stress and negative effects of homeschooling for the parent. Regarding effects on daily life functioning (see Table 3), the proportions reporting adverse effects were very similar in the MHC and NO-MHC group. The only significant

difference was found for “child feels socially isolated,” but the effect size was small and no medium-sized effects were found when comparing the MHC group and the NO-MHC groups separately for each country.

Discussion

This is, to our knowledge, the first large-scale international study assessing the psychosocial effects of homeschooling on European families during the COVID-19 pandemic, as well as identifying areas of greater impact for families with a child with a mental health condition. Results indicate adverse effects on parents and children across Europe, including increases in domestic conflict, parental alcohol/drug use and poor-quality homeschooling, resulting in some children being unable to participate in homeschooling and potentially falling behind academically. The majority of parents of children in need of extra educational support reported receiving no or insufficient support during homeschooling. Parents of children with mental health conditions reported significantly more adverse effects of homeschooling, but not on overall daily life functioning. However, most effect sizes were small, with parents of a child with a mental health condition primarily reporting more worry, stress and greater difficulties with child participation in homeschooling in some countries. Some parents also reported positive effects of homeschooling on both themselves and their child.

With regard to organization of homeschooling, results indicated that schools in most countries did not adjust to online teaching during school closures during the COVID-19 pandemic. In Sweden and Italy, digital platforms and online teaching were available for teenagers. However, in the UK and Germany, parents reported that children of all ages had no or marginal contact with teachers during homeschooling, and online teaching was reported to be very limited in the other countries as well. Thus, parents have been primarily responsible for schooling in many European countries during school closures, which may ultimately lead to increased disparities in educational progress. In addition, children of low socioeconomic status may be exposed to other negative effects not investigated in the present study. Previous research has shown that, even during summer vacation, children’s well-being can be compromised regarding access to healthy food, personal safety, and emotional support [12]. Thus, we may have to prepare for additional long-term negative effects connected to the COVID-19 pandemic’s general impact on society as a whole. Increased differences in students’ knowledge will pose challenges for teachers regarding meeting the needs of individual children when schools re-open.

A relatively large proportion of parents also reported that homeschooling was of low quality, with low levels of support from schools and general negative effects of homeschooling on both children and parents.

Parents also reported increases in parental stress/worry and domestic conflict during the COVID-19 pandemic. Our results are in line with previous commentaries,^{2,3} as well as some smaller empirical studies,^{4,5} emphasizing that the COVID-19 pandemic is likely to have major psychosocial effects on children.

With mostly small, although significant, effects being found between countries, our findings indicate that homeschooling had adverse effects for many families in all countries that participated in the study. With regard to the few medium-size differences found between countries, adverse effects were generally stronger for younger compared to older children, which could explain why Swedish parents, who primarily had children ≥ 15 years at home, reported lower levels of general negative effects on parents, as well as lower levels of parental worry and stress, compared to parents in several other countries. Sweden has also not experienced the same shutdown of society during the COVID-19 pandemic that the other countries included in the study have.

Regarding families with a child with mental health problems, previous commentaries [6,7] as well as some smaller empirical studies [8,9] have suggested that homeschooling is more challenging for them. This may be because homeschooling increases demands on executive functioning, which involves skills associated with mental health problems, especially neurodevelopmental disorders [13]. Surprisingly, our results showed mostly small effect sizes when comparing the MHC and the NO-MHC group. Thus, adverse effects were generally reported in families both with and without children with mental health problems. However, a larger proportion of children with a mental health condition was unable to fully participate in homeschooling, implying that children in the MHC group received less schooling than the other students during the many weeks of homeschooling. In addition, 63% of the children with a mental health condition were in need of special education support, and the majority of parents reported that extra support during homeschooling had either been non-existent or insufficient. These children are therefore at risk of falling further behind their peers academically, and previous studies have also shown that academic failure mediates the relation between ADHD and depression [14].

Furthermore, serious concerns have been raised that the COVID-19 pandemic will lead to inadequate treatment for children with mental health problems (e.g., canceled treatments, delays in titration and optimization of medication) [15,16]. Thus, the negative effects of homeschooling on children with mental health problems found in the present study further exacerbate the increased burden these families are experiencing during the COVID-19 pandemic.

With regard to potential positive effects of homeschooling, previous research [3,11] has suggested that children troubled by school due to bullying or other stressors may experience homeschooling as a relief. Interestingly, our results showed that while parents of children with mental health conditions reported overall more negative effects of homeschooling, they also reported more positive effects. We believe that this may be a result of the fact that for children with mental health problems, homeschooling may result in fewer disturbances and more flexibility in organizing schoolwork.

Strengths and limitations

The present study has the advantage of including a large sample from several European countries. Moreover, the assessments were made during school shutdowns rather than relying on retrospective reports. Furthermore, oversampling parents of children with mental health problems allowed us to examine the effect of COVID-19 on vulnerable groups, as emphasized in prior research [17].

Because we used anonymous surveys distributed through social media, we lack information on the characteristics and selection of the sampled population. However, families with a low level of parental education and immigrant background were clearly underrepresented. This was despite attempts to recruit via schools in a range of socio-economic areas in each country, suggesting that parents from lower socio-economic groups chose not to participate in the study. Also, the participants with immigrant background were mainly from other European countries. As it has been argued that families with low socioeconomic backgrounds are especially vulnerable to the negative consequences of COVID-19 [18], the present study may have underestimated the negative effects of homeschooling. Furthermore, the results of the study mainly apply to non-immigrant families with parents of medium to high levels of education and are therefore limited in their generalizability to other sectors of the population in each country. Relying on parental reports, we are unable to validate whether children met the full diagnostic criteria of a mental disorder. Furthermore, in this short survey, we were unable to assess a broader range of factors contributing to negative psychosocial outcomes of homeschooling (e.g., parental psychopathology, long-term effects of homeschooling) and information from several sources (e.g. adolescents and teachers).

Conclusions

Using school closures as a means to reduce the spread of COVID-19 has been questioned, as recent reports have suggested that children are unlikely to be the main drivers of the pandemic [19]. Thus, compared to other forms of social distancing, school closures likely have more limited effects on transmission of COVID-19 [20]. The present results clearly show that homeschooling has adverse effects on both parents and children, although some positive effects were also reported. The lack of online teaching has likely increased inequalities between children, further exposing those with a low socioeconomic background to adverse effects, although further research is needed to examine more fully the role of socio-economic status on the impact of homeschooling. It is crucial that policymakers balance potential benefits and negative effects before imposing new school lockdowns during later phases of the COVID-19 pandemic or future pandemics.

Conflict of interest statement

None of the authors have any conflicts of interests to report.

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Fig 1

Percentage of parents reporting general negative and positive effects of homeschooling on their child and themselves, presented separately for the MHC group and the NO-MHC group

Table 1

Descriptive statistics for background variables and results of chi-square analyses and effects sizes (ES) for differences between countries

	TOTAL	UK	Sweden	Spain	Belgium	Netherlands	Germany	Italy	χ^2 (ES)
Number of participants, n	6720	509	1432	1491	508	324	1662	794	
Child age									2260.94* (.34)
5-8 years, %	21.1	29.4	3.7	29.3	27.1	24.5	19.6	29.2	
9-12 years, %	34.7	37.4	10.8	41.1	36.1	48.6	41.0	43.5	
13-16 years, %	28.3	31.8	31.4	23.5	28.0	23.2	33.4	20.9	
17-19 years, %	16.0	1.4	54.1	6.0	8.8	3.8	6.0	6.5	
Child sex, % females	46.8	38.9	47.8	47.5	47.6	46.4	48.0	45.5	14.80 (.05)
Rater sex, % females	88.5	94.1	88.3	87.9	87.8	87.8	85.8	93.1	45.30* (.08)
Immigrant background, %	4.3	1.2	4.4	7.1	5.5	2.3	3.6	2.2	55.00* (.09)
Parental education, %									
Secondary school or less		5.7	0.8	12.1	0.4	0.0	1.8	6.1	
High school or equivalent		19.5	16.6	23.4	13.8	29.6	19.7	34.7	
University		74.8	82.6	64.5	85.8	68.8	78.3	59.3	
Parental occupation, %									1132.52* (.24)
Working full-time	48.5	36.9	69.3	50.0	55.5	27.5	33.8	50.8	
Working part-time	29.8	41.8	13.6	13.7	33.3	53.1	49.9	27.4	
Unemployed (looking for employment)	4.1	1.9	1.5	10.9	1.4	3.7	1.8	4.7	
Other (e.g., housewife, retired)	17.5	19.7	15.5	25.4	9.8	15.7	14.5	17.1	
Child mental health condition, %^b	29.4	37.4	45.6	31.4	35.4	48.8	10.8	18.6	587.15* (.30)
Attention deficit hyperactivity disorder	12.3	17.9	25.7	7.9	14.4	16.7	5.3	4.3	
Autism spectrum disorder	6.8	9.8	17.3	1.5	8.1	18.2	1.7	0.8	
Dyslexia	9.8	10.4	10.4	18.3	13.2	16.4	0.4	7.3	
Depression/anxiety	5.2	8.3	12.9	2.7	2.6	3.7	2.5	2.0	
Other (e.g., social phobia, language disorder, anorexia, obsessive compulsive disorder)	8.3	11.2	10.4	8.2	12.8	19.4	3.1	6.7	

^a The percentages add up to more than 100%, as a relatively large proportion of children with mental health conditions had several diagnoses.

* Significant at $p < .001$

Table 2

Results for organization of homeschooling as well as results of ANOVAs and effects sizes (ES) for differences between countries

	TOTAL	UK	Sweden	Spain	Belgium	Netherlands	Germany	Italy	F (ES)
Percentage of time spent (SD) on different activities during homeschooling **									
Contact with teacher (e.g., live webinars)	13.71 (17.64)	4.41 ^c (9.54)	30.12 ^a (22.27)	12.58 ^b (15.49)	11.83 ^b (11.47)	13.93 ^b (14.09)	5.16 ^c (8.49)	24.38 ^a (19.68)	326.62* (.29)
Contact with peers (e.g., working in small groups)	7.68 (11.25)	3.06 ^b (7.44)	12.87 ^a (11.70)	11.70 (12.43)	12.43 ^a (8.73)	6.96 (10.58)	6.28 (10.82)	7.36 (19.67)	48.00 (.06)
Self-study (e.g., individual assignments)	47.52 (26.95)	48.44 (34.36)	43.26 (22.83)	43.62 (28.26)	54.07 ^a (25.62)	47.27 (25.45)	54.53 ^a (25.54)	35.16 ^b (23.01)	51.41 (.06)
Contact with parent (e.g., assisting in schoolwork)	29.85 (29.58)	45.18 ^a (35.21)	15.28 ^b (22.99)	37.25 ^a (31.20)	30.19 ^a (27.46)	33.33 ^a (27.81)	33.99 ^a (27.32)	35.24 ^a (29.85)	66.91 (.08)
Special educational needs (SEN)									χ^2
Percentage of children with SEN									
MHC group	63.0	60.3	76.3	58.4	58.9	56.7	35.6	66.4	117.26* (.24)
NO-MHC group	7.4	3.8	7.3	11.9	6.1	18.1	6.3	2.8	86.86* (.14)
Children with SEN who also receive special education support during homeschooling	78.4	79.4	79.9	79.4	80.2	79.8	71.3	73.2	7.86 (.07)
Children receiving extra support during homeschooling whose parents feel that this support is not sufficient	65.3	72.5	62.1	66.4	74.6	69.2	61.3	49.1	15.97 (.12)
Children with SEN, where the school has not been in contact with the family to discuss homeschooling	45.5	33.6	55.7	29.0	48.8	35.0	60.1	51.8	92.15* (.24)

Note. The letters a and b indicate a significant difference between countries with an effect size of at least medium size ($V \geq .30$), with the letter a always indicating a larger proportion compared to countries marked with the letter b, and c the lowest proportion

* Significant at $p < .001$

** With regard to homeschooling organization, we had some technical problems with the survey, resulting in loss of data in all countries except Germany. For these analyses, the number of participants for these analyses is therefore lower. UK: $n = 509$; Sweden: $N = 1432$; Spain: $n = 1491$; Belgium: $n = 508$; Netherlands: $n = 324$; Germany: $n = 1662$; Italy: $n = 794$. However, the sample with missing data for this question did not differ significantly from the remaining sample with regard to any of the background variables.

Table 3

Effects of homeschooling in families with a child with a mental health condition (MHC) and without a mental health condition (NO-MHC), results of chi-square and effect size for the differences between countries and effect sizes for the comparison between the MHC group and the NO-MHC group. Numbers indicate percentage of parents reporting a score of 4 or 5 ("more" or "much more")

		TOTAL	UK	Sweden	Spain	Belgium	Netherlands	Germany	Italy	Country differences χ^2 (ES)	NO-MHC vs MHC group χ^2 (ES)
Quality of homeschooling											
1. Quality of homeschooling very poor	MHC	24.1	30.5	14.7	37.6	17.2	17.2	26.1	28.1	214.11* (.21)	20.21* (.06)
	NO-MHC	19.2	14.6	8.1 ^b	31.3 ^a	8.2 ^b	12.1	17.9	26.1		
2. School's support is not sufficient	MHC	45.1	36.0	39.7	55.6	40.6	45.6	51.7	44.5	225.70* (.22)	40.71* (.08)
	NO-MHC	36.8	22.0	18.2	42.2	28.7	31.5	45.2	43.7		
3. Impossible to get homeschooling to work well	MHC	26.9	38.8	18.8	36.9	7.2	29.1	25.6	38.8	210.63* (.21)	90.78* (.12)
	NO-MHC	16.7	17.9	4.4 ^b	23.7 ^a	3.0 ^b	19.4	16.7	26.6 ^a		
General effects											
4. Negative effects on the child's life	MHC	33.1	33.3	34.0	32.4	31.7	23.4	37.2	38.5	33.50 (.08)	63.29* (.10)
	NO-MHC	24.6	22.2	17.4	23.4	24.7	18.1	27.6	24.6		
5. Negative effects on the parent's life	MHC	56.2	56.6	32.8	48.8	48.3	33.5	53.9	52.7	215.45* (.21)	71.04* (.10)
	NO-MHC	32.9	36.8 ^a	11.1 ^b	38.5 ^a	33.5 ^a	27.7	36.6 ^a	41.3 ^a		
6. Positive effects on the child's life	MHC	34.9	39.4	38.9	31.5	31.1	51.0	26.1	19.9	126.92* (.16)	91.94* (.12)
	NO-MHC	23.4	27.2	32.6	25.8	23.8	38.0 ^a	19.8	11.1 ^b		
7. Positive effects on the parent's life	MHC	23.9	25.9	25.6	23.5	22.8	36.3	16.1	12.1	163.08* (.19)	15.37* (.05)
	NO-MHC	19.6	31.3	25.0	21.7	19.2	38.6 ^a	16.5	6.3 ^b		
Parental worry/stress											
8. Parental worry about child performing worse	MHC	51.6	60.5	42.9	64.5	52.2	30.6	47.2	64.9	317.49* (.26)	112.28* (.13)
	NO-MHC	37.6	29.8	18.1 ^b	55.3 ^a	40.5	29.7	33.1	48.0 ^a		
9. Parental stress due to extra workload	MHC	57.6	69.5	40.1	71.2	67.8	50.0	62.2	66.2	471.13* (.32)	36.33* (.07)
	NO-MHC	49.5	58.5	14.2 ^b	56.8 ^a	57.6	47.6	57.2	54.9 ^a		
Childs ability to participate in homeschooling											
10. Too high demands on planning own schoolwork	MHC	53.0	54.0	50.7	59.5	51.1	47.5	54.4	48.3	98.22* (.14)	216.39* (.18)
	NO-MHC	33.8	24.2	21.5	38.6	35.4	33.7	39.4	32.1		
11. Cannot fully participate in homeschooling	MHC	27.7	44.4	23.3	29.9	48.9	12.7	18.9	18.9	219.10* (.22)	264.80* (.20)
	NO-MHC	11.6	19.3	5.3 ^b	15.5	31.4 ^a	5.4 ^b	8.0 ^b	8.8 ^b		

Note. The letters a and b indicate a significant difference between countries with an effect size of at least medium size ($V \geq .30$), with the letter a always indicating a larger proportion compared to countries marked with the letter b

* Significant at $p < .001$

Table 4

Experiences on daily life functioning in families with a child with a mental health condition (MHC) and without a mental health condition (NO-MHC), results of chi-square and effect size for the differences between countries and effect sizes for the comparison between the MHC group and the NO-MHC group. Numbers indicate percentage of parents reporting a score of 4 or 5 ("more" or "much more")

		TOTAL	UK	Sweden	Spain	Belgium	Netherlands	Germany	Italy	Country differences χ^2 (ES)	NO-MHC vs MHC group χ^2 (ES)
1. Child feels socially isolated	MHC	55.4	66.0	53.5	44.1	69.7	52.2	66.3	57.6	156.32* (.18)	14.52* (.05)
	NO-MHC	60.4	67.3	55.7	47.8	76.9	48.2	67.3	61.3		
2. Parent feels socially isolated	MHC	57.0	69.2	56.0	46.3	69.3	63.7	61.2	50.7	103.15* (.15)	0.06 (.00)
	NO-MHC	57.2	67.2	53.2	47.9	72.7	54.9	62.0	53.4		
3. Adults drink alcohol/use other drugs	MHC	5.0	16.0	1.3	2.9 ^b	14.1	3.9	6.1	1.7 ^b	176.62* (.20)	0.01 (.00)
	NO-MHC	5.0	19.1 ^a	2.1 ^b	2.5 ^b	9.1	5.0	5.7	1.5 ^b		
4. Conflicts with the child	MHC	30.7	40.4	23.8	30.8	35.2	30.4	45.8	24.1	266.51* (.24)	2.08 (.02)
	NO-MHC	28.9	38.4	11.0	27.4	28.1	25.0	41.3	20.8		
5. Conflicts between adults	MHC	14.6	18.8	10.3	15.9	14.9	9.0	28.7	12.3	132.65* (.17)	0.04 (.00)
	NO-MHC	14.8	18.7	6.8	12.8	13.2	6.2	22.5	10.4		
6. Digital media use, not including schoolwork	MHC	60.9	74.5	48.8	66.7	75.8	60.1	57.1	65.8	286.72* (.25)	0.31 (.00)
	NO-MHC	60.2	75.0 ^a	35.9 ^b	68.7 ^a	73.7 ^a	51.2	59.8	64.7		
7. Work-related problems	MHC	24.1	33.0	13.4	34.4	15.3	21.4	32.6	33.1	102.13* (.15)	2.32 (.02)
	NO-MHC	22.3	28.1	10.9	27.5	17.4	19.9	22.0	29.9		
8. Financial problems	MHC	17.8	16.5	13.1	24.0	10.2	13.5	26.5	26.2	82.74* (.14)	7.58 (.04)
	NO-MHC	15.0	14.3	7.4	20.0	8.4	7.4	16.5	19.5		

Note. The letters a and b indicate a significant difference between countries with an effect size of at least medium size ($V \geq .30$), with the letter a always indicating a larger proportion compared to countries marked with the letter b

* Significant at $p < .001$